UNITED STATES
INTERNATIONAL TRADE COMMISSION

In the Matter of:	)	Investigation No.
CERTAIN VAPORIZER DEVICES,	)	337-TA-1372
CARTRIDGES USED THEREWITH, AND	)	
COMPONENTS THEREOF	)	

OPEN SESSIONS

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UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

BEFORE THE HONORABLE DORIS JOHNSON HINES

Administrative Law Judge

In the Matter of:	)	Investigation No.
CERTAIN VAPORIZER DEVICES,	)	337-TA-1372
CARTRIDGES USED THEREWITH, AND	)	
COMPONENTS THEREOF	)	

International Trade Commission

500 E Street, S.W.

Washington, D.C.

Wednesday, June 5, 2024

EVIDENTIARY HEARING - VOLUME I

The Hearing commenced in Courtroom A, pursuant to the notice of the Judge, at 9:48 Eastern.

Reported by: Karen Brynteson, RMR, CRR, FAPR

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P R O C E E D I N G S

(9:48 a.m.)

MR. DESAI: Your Honor, may I approach?

JUDGE JOHNSON HINES: Yes. Thank you.

Good morning.

MR. DESAI: Good morning, Your Honor.

JUDGE JOHNSON HINES: Before you start, I want to highlight one thing, which is I would like to keep as much of the hearing on the public record as possible. I understand not everything can be, but to the extent the hearing can be public, it should be. So I would like to point that out to both parties before we begin.

MR. DESAI: Understood, Your Honor.

JUDGE JOHNSON HINES: Thank you.

MR. DESAI: Anish Desai for the Complainant, NJOY. And, Your Honor, we're back to cover NJOY's case against JLI.

Now, in the last case, we heard about JLI's development of nicotine salts and social media marketing that led to commercial success after JUUL launched in 2015. But JLI did not invent the cartomizer type e-vapor device. That's a cartridge that includes both the liquid solution and the atomizer. JLI did not invent certain key aspects of a cartomizer device that you will see in all of the major e-vapor devices on the market today.

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The '864 and '881 patents are now owned by NJOY. They cover inventions that were made in 2009 by a small company called Fuma. It's what I would say were the earlier days of the e-vapor cigarette market.

Your Honor will see that the Fuma inventions are being used by the major e-vapor devices on the market; NJOY ACE, JUUL, JUUL2, Vuse Alto, and Vuse Solo.

Now, these e-vapor devices, they may come in different shapes and sizes now, and they include other advancements like ceramic wicks and various other advancements, nicotine salts, et cetera. But they are still all using a core invention that Fuma came up with in 2009 and that is covered by these patents.

And as we'll show, there is infringement, there is domestic industry, and an exclusion order should be issued in this case.

Now, to understand the inventions in this case -- I'm on slide 2 -- we need to go back and look at the state of e-cigarettes in 2009. That's 15 years ago. And at the time, there were cartomizers that would get attached to a battery portion, and that cartomizer, some of those cartomizers had both a heating element and a solution holding medium. You'll see two examples of those here, Red Dragon and Wang '554.

But common to this type of cartomizer was that

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there was a longitudinal heating element that was directly in contact with the solution holding medium, this type of batting material. And, again, you have these two examples here examples here, Red Dragon and Wang '554.

For Red Dragon, it's a CT scan of an actual device. And we have put those -- if you take away those -- in the actual exhibit, you will see that there are little dots, and those are the coil that's going around in a longitudinal direction, okay? And then you see that, I think, quite clearly in Wang '554.

This was a problematic design. Now, you're going to see -- I'm on slide 3 now -- there was another type of e-cigarette design that existed. This is the NJOY NPRO. Now, to be clear, Your Honor, the NJOY NPRO that we're going to talk about in this case is not the same as the one we talked about in the previous case.

This one is an earlier version, an even earlier version of the NPRO. This was a three-piece design. If you recall the previous one we talked about was actually a two-piece design. This is a three-piece design. And you have a first cartridge with an atomizer, and then you have a second cartridge with a solution that slides over that. Okay? And then both of those would then be attached to a battery portion, which is why it's called a three-piece design.

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This is very different than what you'll see in the Fuma patents, which have a single cartridge that has both the atomizer heating element and the liquid solution. And you can also see in this CT scan here of the NPRO that it doesn't have the central and axial airflow passageway from a first aperture to second aperture. The airflow goes on the periphery. It comes in on the sides, goes up, then it goes around on the sides. This is very different than what you'll see in the Fuma patents and what you'll see in the products.

There is also the Xia '610 reference, which is actually quite similar to the NPRO. It's effectively the patent that is describing the NPRO.

And that's where Fuma comes in -- and we're on slide 4 -- and what you'll see on this slide, this is Fuma's invention in 2009. Greg Conley and Dan Hillenbrandt, along with Rebecca Moore, are the founders of Fuma. They're from Medina, Ohio. And in the first half of 2009, they were selling an e-cigarette device called Smoke Fifty-One that they purchased from another company. They did not design Smoke Fifty-One. Smoke Fifty-One is like the Red Dragon device I just showed you on one of the previous slides, with the longitudinal type of heating element that's indirectly in contact with the batting material.

And put frankly, as you will hear from Dan

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Hillenbrandt, Smoke Fifty-One did not work well. It produced a burnt taste. It was hard to draw on. It was not a satisfying experience. Mr. Hillenbrandt himself will testify about this.

Mr. Conley and Mr. Hillenbrandt came up with a new cartomizer design that solved these problems. This was not an obvious combination of prior art. This was an invention.

And unlike the three-piece design, the Fuma cartomizer includes both the atomizer and the solution holding medium, and it has the central and axial airflow passageway. And unlike Red Dragon and Smoke Fifty-One and Wang '554, the heating element is mounted transversely to the longitudinal axis. You can see that in this CT scan. And you can see those dots, those little dots. That's the coil wrapping around and going transversely, as opposed to along a longitudinal axis.

This is not a simple switch. They had to mount this. They had to come up with a new design to achieve this, including having a wicking material that draws the solution from the medium to the heating element. Okay?

The asserted patents in this case, the '864 and the '881 patents, Mr. Conley and Mr. Hillenbrandt are the named inventors. Both patents are entitled to the July 27th, 2010 priority filing date of the '917 application that

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I've highlighted here.

Dr. Vallee will show you where in the '917 application the claimed inventions are disclosed. The relevant text and figures in the '864 and '881 patents are all in the '917 application. Frankly, there really should be no basis for Respondent disputing that the July 2010 priority date applies.

I'm on slide 6. Your Honor may recall these figures from the Markman hearing. They were discussed in the Markman order and also, I believe, in the summary judgment order.

These are the key figures of the patent. They disclose the cartomizer having a solution holding medium and the heating element. The cartomizer electrically couples to a power source. And in Figure 2, we've annotated some of the claimed features, the key ones, the two apertures that permit airflow through the housing, central and axial airflow passageway, the transverse heating element, the solution holding medium. And, actually, we forgot to annotate here, but there are the electrical contacts that allow the cartridge to be electrically coupled to the power source.

Now, Your Honor, these are the devices today that are using Fuma's patented invention. And these are the products you're going to hear about from Dr. Vallee and

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certain witnesses, fact witnesses in this case. The DI products. NJOY ACE and ACE 2.0, and then licensee RJR's products, Vuse Solo and Vuse Alto. And then we have JLI's infringing products, JUUL and JUUL2.

This represents the major e-vapor devices on the market today. ACE and Solo have received marketing granted orders from FDA. Alto, JUUL, and JUUL2 have pending PMTAs.

Now, on slide 8, I think this is -- hopefully will be a helpful slide for Your Honor that allows you to see how the claims are being asserted against these various devices.

And I would like to explain that the '864 patent has three sets of claims. They have a lot of overlap, okay? And the key difference between these three sets is how they claim the airflow passageway or, alternatively, an airflow path with airflow portions.

The first set, claim 1 and dependent claim 2 -- and claim 1 is grayed out because it's not asserted, but dependent claim 2 is. That's a claim that claims central and axial airflow passageway. And that's infringed by JUUL and JUUL2. We're not asserting that for DI.

The next set we have is independent claim 9 and its dependents. And this is a claim set that is claiming portions of an airflow path that are central and axial. And for this, for the most part it's infringement by JUUL and

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JUUL2, and DI is ACE, ACE 2.0, and Vuse Alto.

And then again, third, we have another set, independent claim 25 and dependent claim 26. And this is only asserted as infringement for JUUL. And this is a claim -- it's a little bit narrower than claim 1 in the sense that it has a straight airflow passageway and it specifies that the only obstruction is the heating element.

And then we have the '881 patent. And in that case for the '881 patent, the DI product is Solo being asserted for claim 1, and infringement is just the JUUL device for claims 16, 18, 19, and 26.

Dr. Vallee is going to cover all of this, claim by claim, element by element, obviously simplifying for overlap. For the opening, I'm going to walk through the basic nature of these devices and infringement and how the claims are mapped to these devices. And I will address JLI's counter-arguments for infringement, which then carry over because these devices are similar with respect to how the case is applied.

So I'm going to start with infringement by JUUL, and I'm going to use claim 1 as the exemplary claim. Basic to all of the claims in this case are a cartridge that couples to a power source. We have the JUUL device and we have the JUULpod that are the power source and the cartridge.

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The claimed cartridge has a housing. The housing has a first end and a second end opposite each other. It has an interior, it has a solution holding medium to hold a solution, and it has a first and second aperture proximate each end. Okay?

The JUULpod has this claimed housing. The tank and tank cap and electrical contacts form the housing. And it has an interior. There are opposite ends labeled first end and second end. There is a defined location that stores solution. That is the solution holding medium. The tank and the tank cap have apertures at each end, and I will show those in more detail in later slides.

Next, the claims also require a first end of the housing is adapted to electrically couple to the power source. You can see very clearly that the first end of the JUULpod housing has the electrical contacts that couple to the JUUL device, which is the power source. That's shown very clearly here on slide 10.

I'm on slide 11. The claims require that the first aperture and second aperture are in communication to permit air flow through the housing. On the right is the JUUL PMTA figure that very clearly identifies that air flows in through air inlet holes at the first end and goes out the second aperture in the tank cap at the second end.

And the CAD image on the left annotates those

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first and second apertures. The bottom aperture is being -- is on the tank. It's a central one. And then at the top, there is the aperture in the tank cap.

On slide 12, the claims require the heating element extending transversely to the longitudinal axis. Again, the CAD images of the JUUL clearly show you have a JUUL coil and wick assembly that extends transversely to the central longitudinal axis that's shown here on slide 12. And the PMTA also shows us that the JUUL heating element is exposed to the airflow through the housing.

Now moving to slide 13, the claims require that the heating element is configured to vaporize at least a portion of the solution for oral provision to an individual, and then the heating element responds to electrical power. Of course, the heating coil, we know, gets hot in response to electrical power from the power source. And the PMTA here explains that air is drawn from the bottom of the JUULpod into the atomizer, it flows across the wick and coil, where it supports e-liquid vaporization.

So the heating element in the JUUL device is configured to vaporize a portion of the solution. And that is all provided to the user ultimately at the other end of the device.

I'm on slide 14 now. And this is where we get to the limitation of a central and axial airflow passageway

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that extends from the first aperture to the second aperture. The airflow in the JUUL goes through a passageway that is colored in blue here on the right. And it's formed by the walls of the wick housing and the airflow tube. It begins at the first aperture, which we've shown on both sides of the slide, and it ends, extends all the way to the second aperture on the tank cap. That's the airflow passageway. And it's clearly central and axial in the JUUL device.

Now, I mentioned that claim 9 -- so I've been going through claim 1. I'm going to talk about the slight difference with claim 9 and how it differs. Here it requires an airflow that follows an airflow path, and it's talking about two portions that are central and axial of the airflow path. You have the first portion proximate to the first aperture and the second portion proximate to the second aperture.

A difference is claim 1 is claiming the airflow passageway as a whole being central and axial. This is talking about the airflow path portions being central and axial. JUUL infringes this as well. Near the first aperture at the bottom the air will be traveling substantially, essentially, and axially until it reaches the coil wick assembly and then it will flow around the coil wick assembly. Near the second aperture at the top, the air will be traveling substantially and centrally and axially

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through the airflow path tube.

Now, that's infringement by JUUL for the general infringement case here. Now, JUUL's response, JLI's response is really to throw a lot of mud and hope something sticks. But what you'll see, as I'll go through, is that every one of their arguments can be dismissed based on looking at the patent disclosure itself and showing how their argument is inconsistent with the patent disclosure.

So let me start with the first argument. I'm on slide 16. JLI says, well, look, there's a mouthpiece. We have this mouthpiece. And that must be part of the claimed housing. And so if we add the mouthpiece as part of the claimed housing, the second end of the housing is really the end of the mouthpiece, and your case falls apart, okay?

But there is nothing in the claim that requires that the second end of the housing be coextensive with the end of the cartridge. The housing is part of the cartridge. It does not have to be all of the cartridge.

The specification confirms this and directly contradicts JLI's argument. The text at columns 3, 46 to 49, tells us that the second end of the cartridge does not have to be a portion of the housing. And then even more specifically, column 5, lines 39 to 41, the specification contemplates that a mouthpiece, which it refers to as a wood tip, can be placed upon the second end.

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And we've taken the figure in the patent and illustrated, putting a mouthpiece on the second end. Right? That's exactly what we have in the JUULpod. We have a housing with a second end, and they attach a mouthpiece to it. That doesn't eliminate the housing. And it doesn't make the mouthpiece part of the housing.

The next argument that JLI makes is that -- and we're on slide 19 -- is that it's improper to include the tank cap as part of the housing. And I'm showing you that tank cap here on this slide. And that gets plugged on top of the tank to seal it.

Again, the specification directly contradicts JLI. The housing does not have to be a single piece. And the specification at column 3 and column 5 confirms that the housing can have one or two end caps. And that's exactly what we have in the JUULpod. We have an end cap on the housing. So it's completely proper for us to include the tank cap as part of the housing.

All right. I'm on slide 21. Next, JLI argues that the housing does not have a first end of the housing that electrically couples because the electrical contacts of the JUULpod are interior, okay? So you see on Figure 7 -- this is from the PMTA. I've shown you the electrical contacts there.

Again, this argument doesn't make sense in view

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of the patent specification. At column 6, it actually tells us that a conductive element 216, that's one of the electrical contacts, a portion of that can reside in the interior of the housing. It's okay for a portion of it to be interior.

And then the patent also tells us that the first end may be at least partially constructed of a conductive material, okay? And that's so you can have part of the first end is what electrically couples. Of course, there's other parts of the patent that talk about how the first end can be made of other materials that are not conductive. The point being the first end of the housing can be formed of conductive material and other types of material.

And, again, that's exactly what we see in the JUUL device, which I've shown on the left. You have the conductive element. A portion of it is on the interior, right? You can see that. We have shown that in blue. But there's the portion that's at the first end that electrically couples. And you can see that first end of the housing is formed at least partially by conductive material. And then there's other parts of it that are other materials. It's absolutely consistent with the patent.

The next argument that JLI makes -- I'm on slide 23 -- is that it is improper to include the wick as part of the heating element. Okay? And I've annotated here on the

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PMTA figure the wick-coil assembly that's in the JUUL device.

Again, the patent says the exact opposite. Okay? It's the patent that dictates what it wants to call what, right? And it says here at column 5, lines 39 to 41, "the heating element can comprise wicking material that draws the liquid solution from the absorbent material towards the heating element."

And then they have claims that specifically say the heating element includes wicking material for the purpose of drawing solution towards it. And that's exactly what we have in the JUUL device. We have a heating element, and that heating element also includes wicking material. Okay?

All right. Moving on, JLI argues that the airflow passageway in the JUULpod is only that circular air path tube that I've annotated, okay? They want to say let's look at this JUULpod and, well, the airflow passageway is only that tube, okay? And because they limit it only to that tube, they're going to argue that, well, the air doesn't go from the first aperture, there's no pathway that goes from the first aperture to the second aperture because that tube doesn't extend the whole way, right?

But there's no basis for saying that the airflow passageway is only the tube. The PMTA shows us how air

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flows through the device. It comes in at the bottom. It goes through the portion that's in square, that's made by the wick housing, all right? That's a sealed area where air is flowing. It flows from there, and then it goes into the air path tube. All of that is an airflow passageway.

There's no reason for arguing that only the circular portion is the airflow passageway. And there's certainly nothing in the patent or the claims that requires a uniform cross-section for the airflow passageway. And, actually, what you'll see is Figure 2 of the patent actually shows that the airflow passageway doesn't have to have a uniform cross-section. You can see it. It goes from a skinnier portion to a wider portion in Figure 2.

Now, JUUL has the inverse. It goes from a wider area to a narrow area, but nothing in the claim precludes either one of these. So there's really no basis for JUUL saying, well, we're going to restrict the airflow passageway to just the air path tube. That doesn't make any sense.

Okay. Now, this is just for claim 9. JUUL argues that they don't have the first central and axial airflow portion, okay? And they have this drawing in their prehearing brief where they show squiggly arrows with air coming in, in kind of odd directions.

There is no expert that will put this drawing up for you. There is no expert that put this drawing in their

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expert report. And there is no JUUL document that will support this drawing. Dr. Vallee will explain how the very basic nature of this device is the air is going to come in straight through the holes, it's going to go around the wick and coil, and then it's going to continue on a straight path through the airflow tube.

JLI's airflow simulations confirmed there is infringement. And, Your Honor, that is why JLI doesn't want to talk about those simulations. And I think that's why they actually tried to move to exclude them from this case. They support the fact that air is going to come through straight, substantially central and axial, go around the wick and coil, and then continue substantially central and axial as it exits.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

MR. DESAI: So JUUL2 has a cartridge and a power source. And it has the housing that's claimed. The housing has the first end and the second end. There is the tank. There is an atomizer cover that is an end cap. It's on the bottom this time as opposed to the top. And the first end, the atomizer end cap has the electrical contacts that couple to the power source. And then there's the location in the housing for storing the solution.

JUUL2 has the heating element that extends transversely to the central longitudinal axis. We've annotated that here on this slide. That's the heating element with the wicking material that draws the solution toward the heating element.

I'm on slide 32. JUUL2 has an airflow passageway that extends centrally and axially -- it's annotated in blue here -- from the first aperture to the second aperture. Again, nothing in the claim requires that the airflow passageway has to have a uniform cross-section. It has to be central and axial, but it doesn't have to have a uniform cross-section.

And then if we go to slide 33, this is for claim 9, you have the two central and -- substantially central and axial airflow portions proximate, the first aperture and the second aperture. And Dr. Vallee will show you the airflow

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simulations for JUUL2 that show those central and axial airflow portions. We've also got the PMTA that supports that those portions are substantially central and axial, and claim 9 is going to be infringed and its dependents.

Now, I'm going to turn to DI. And again the mapping here is very similar for what I just covered for JUUL and JUUL2. The one distinction, though, is for NJOY ACE and for Vuse Alto, we're only using claim 9 and its dependents, 10, 12, 13, 15, and 20.

Again, but, generally speaking, NJOY ACE -- Your Honor is I think familiar with this at this point -- has the power source and the cartridge. The cartridge has a housing, okay? We have the first end and the second end shown. There is a tank and a bottom cover. That's an end cap. Okay? Again, the end cap here is on the bottom as opposed to the top. And the first end includes the electrical contacts that electrically couple to the power source. And there is a location, the reservoir for storing the solution, that's the solution holding medium.

NJOY ACE has a different type of heating element than JUUL, but it still extends transversely to the central longitudinal axis. The heating element includes this porous ceramic, which is a wicking material. And then you have that S-trace that together and the S-trace itself extend transversely to that longitudinal axis.

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Slide 36, this is the airflow path shown in the PMTA of the NJOY ACE. And it has those two central -- substantially central and axial portions. On the left side of the device where the air is coming in, the air is going to come in through a small tube that, through that tube, the air will be central and axial, substantially.

And then it's going to exit through a tube as well after it goes around the wick and coil, the ceramic wick and coil. It's going to go back into a tube. And as it exits, that's going to be substantially central and axial portion. And this is going to meet the requirements of claim 9.

Your Honor, ACE 2.0 is a product in development. The PMTA for ACE 2.0 was recently filed. ACE 2.0 is effectively identical to ACE for purposes of this case. The major difference is the introduction of Bluetooth for age verification. That's not relevant to the claims here. So ACE 2.0 is going to practice for the same exact reasons I just described. There is one difference of note, ACE 2.0, the electrical contacts in that bottom cover are slightly recessed, and that's to prevent backwards compatibility with the original ACE device. But that's not a difference that's going to matter for these claims.

Okay. I'm going to -- for the next slide I think we will have to -- I'm not going to show them on the screen

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so we can take that -- we're going to skip slides -- Your Honor can view them on the paper, but I'm not going to put them up on the screen. And that's because these include -- the pictures, some of the pictures are confidential with respect to third party, RJR.

But slide 37, this is the Vuse Alto product. It's a product sold by licensee R.J. Reynolds. The sort of shape and aesthetic design are slightly different, but what you'll see, Your Honor, is it is effectively identical to NJOY ACE for purposes of the '864 patent. And it practices the same exact claims. So I'm not going to spend a lot of time on this because it is effectively the same case.

If you go to slide 38, Alto uses the same type of heating element as NJOY ACE. It's the wire trace with the ceramic. Again, it extends transversely. If we look at slide 39, that's the PMTA for Alto, and it shows the same central and axial airflow portions proximate the first and second apertures that we saw in NJOY ACE. That's a figure from the Alto PMTA.

And then on slide 40, this is the Vuse Solo device. This is another e-vapor device sold by licensee R.J. Reynolds. RJR relied on Vuse Solo to establish a domestic industry in the 1199 investigation and I think is doing so again in the 1381 investigation. We're asserting that Solo practices claim 1 of the '881 patent. Dr. Vallee

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will go through that in detail.

But just -- you can see the general nature of Solo on these slides. It has the power source and a cartridge. The cartridge has a housing. It has the tank. The second end has an end cap, again, so the end cap is on top here. And the first end is adapted to electrically couple. There's a solution holding medium to hold the solution that gets vaporized.

If we go to slide 41, you'll see the central and axial airflow passageway in Solo and the heating element that extends transversely. There are also the apertures on each end that permit airflow through the housing.

So that's the DI and infringement case, Your Honor. It will, obviously, take quite some time for Dr. Vallee to go through all the limitations, but we will cover all of them.

Now, let me turn to the issue of validity. And I think we've done our best in this opening to try and figure out what it is JLI is going to put on. But I will say they do not have a clear and convincing case. I think Your Honor even said it. Their case is not even clear as to what they're alleging. And that's why they have put forward countless combinations and ambiguity with knowledge of a POSA because they just don't have the goods here.

On slide 43, there's a timeline of Fuma events.

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And the purpose of this is to establish a reduction to practice in 2009. I already talked about the priority filing date and how we'll establish that there's the 112 support in the '917 application.

This is a different issue about showing reduction to practice in the fall of 2009. And that's going to eliminate a prior art reference that JLI is asserting. That's the Han '364 reference is going to be eliminated by these facts here.

There is strong evidence of reduction to practice. There's testimony from Mr. Hillenbrandt, testimony from Ms. Moore, corroborated by documentation and samples. In July 2009 and August 2009, we have sketches of the design, ordering of prototypes, demonstrating prototypes at a convention. And then in August 2009, Mr. Hillenbrandt himself drafted tolerance diagrams, and an order was placed for a commercial run from their contract manufacturer.

The commercial run was completed, and the products were sold. They are invoices. There are invoices with the contract manufacturer. There are invoices with the customers who ended up purchasing these. There's the actual sample of the Fuma device. And Mr. Hillenbrandt's testimony, there was a reduction to practice in the fall of 2009. Han '364 is not going to be prior art.

JUDGE JOHNSON HINES: What's the date of Han

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'364?

MR. DESAI: It's in 2010. So it's -- as long as we have a reduction to practice in the fall of 2009, we're fine.

Now, I've already previewed some of this prior art. And I'm going to cover a bit of it here. Slide 44, this is the Red Dragon device, commercial prior art product. It has got that longitudinal heating element. Again, you can see that on the left side in the CT scan. It's missing a whole bunch of other claim limitations, but I think importantly -- I'll focus on the transverse heating element. It's missing that.

And I don't really know what they're proposing as the combination, but I will say it's not going to be obvious to modify this to device to use a transverse heating element. That is not a simple substitution. That is effectively a complete redesign of the internal structure of this device.

You know, I think we heard in the last case about how it would be allegedly too complicated to, for example, add like a charger contact at the base of a device. And here we have JLI talking about reconfiguring the internal structure of the most complex part of these devices, the heating element, the liquid storage, and the airflow. Okay? And a POSITA in 2009 would not have recognized any benefit

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to redesigning Red Dragon. This is classic hindsight. It's driven by what Fuma did, not by what a POSITA would have done based on their knowledge.

I'm on slide 45. This is the NPRO prior art and Xia '610. These are basically the same. Three-piece devices, okay? You have the separate liquid cartridge, you have the separate atomizer cartridge, and then you have the power source. This is not what is claimed in the '864 and '881 patents. The Fuma patents are claiming a cartridge that has a housing that has both the liquid solution and the heater. This is different.

Also missing is the central and axial airflow passageway and the central and axial airflow portion at the first end. The air is coming in from the sides here and going diagonally into the device. And then it's going to go around the periphery and then come back. This does not meet what's in the claims of the '864 and '881 patent.

And then JLI has what we believe is an obviousness argument here. Again, not clear what they're going to be combining, but on the right, this is their proposed redesign of Xia and NPRO. And, I mean, the colors look similar, but it's a complete redesign of the device.

And you won't hear JLI talk about this, but we will, is that by doing this, they are eliminating virtually all of the critical aspects of the Xia reference. There's a

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liquid blocking tank at the top. That purpose is to prevent the wet vapor from entering a user's mouth because of the way that the Xia device operates. They've taken that out. There's a vortex chamber that you see that we've identified, and they've opened that up.

But the point of that vortex chamber is to catch unvaporized droplets and push them back down and recirculate them into the mesh. But they've opened up that vortex chamber so you're going to have wet droplets going where they're not supposed to.

They eliminate the liquid blocking plate at the bottom. The point of that is to prevent droplets from going to the battery. They eliminate the vibrating diaphragm that is used to activate the device. And they eliminate the side air inlets. This is a complete overhaul of the device. This is not an obvious change.

The next piece of prior art we have is Fang '044. Now, this is sort of a third category of device here. And what you have here is you have a battery portion and you have a liquid cartridge, but in this design, there is a thin film heating wire, and that's included in the battery portion. So it's not included in the cartridge that holds the liquid.

And the reason for this in Fang is because that electric thin film heating wire is sort of a more expensive

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type of heating wire and it's not intended to be replaced, right? It's not like a cheap heating coil that needs to be replaced frequently. So the point is it remains part of the battery portion and it's reused.

There's also no disclosure at all in Fang '044 of apertures that permit airflow through the device. You can read this prior art over and over again and you will not know how air enters this device and where it's going. It just doesn't say it. It's not there.

Now -- and that's why it's missing a variety of these limitations here. And if -- again, we have what we believe is JLI proposing another substantial change to the device. Not clear exactly what the combination is, but what we believe they're proposing is that the battery portion of Fang '044 would get split into two pieces, okay?

And this is, again, another substantial change to this device. It would require a threaded connection and a new electrical connection, and there's a pressure sensor where they're trying to make this new interface. And as you will hear from Dr. Vallee, that's going to -- their new interface there is going to disrupt that pressure sensor.

There's also no apparent benefit to doing this. Fang '044 uses that expensive thin film heating element. It's intended to be reused, right, with the battery portion. There's no reason to split the battery portion into two.

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And even if you make those changes, we're now in the land of a three-piece device, which we've talked about, doesn't meet the claims anyway. And there's still no disclosure of how the air flows into this device. Again, it's just not there.

Objective indicia: I think, unlike the 1368 case, where there was a complete lack of nexus for secondary considerations, we believe there is praise, commercial success, and copying that is tied directly to the patented invention here. Okay?

And let me start with praise. In 2010, R.J. Reynolds, which is a major player in the e-vapor industry, was in communication with Fuma and received product samples. And this was an e-mail written by RJR internally, and let me read what they said about Fuma. "As claimed, the product is unique in design and operation to the e-cigarette designs based on the Chinese models we have previously seen. Taste/flavor, operating ritual, and smoking experience are also different. Significant is the absence of the sweet aftertaste commonly associated with e-cigarette and the Ploom product. Overall, the Fuma product is simple, clean, and very close to intuitive to use. Personally I see more potential in this product design than any of others we have assessed to date."

Okay? This is talking about Fuma's invention.

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The Fuma device is the Fuma invention.

There's also a case here for commercial success, tied specifically to the innovations that Fuma made at the time, okay?

Now, I think we're used to, in some of these cases we're seeing commercial success in terms of billions of dollars, but that doesn't have to be the case, right? Context is important.

And the context here is this was a small company that was owned by three individuals and they were selling virtually nothing in 2009, okay? They made a major innovation to the product, and their sales went through the roof for them, for what they were doing. And you can see there was a dramatic increase in their sales tied directly to their design, a new Fuma device that they put out in the market.

What you also see is you will see the sales are starting to decline in 2012. And Rebecca Conley will talk about that. And it's not because the device was unsuccessful. It's because the market became flooded with other devices that copied Fuma's design, okay? These copycat devices started to eat away at Fuma's sales. And you'll hear from Dr. Vallee about this as well.

And I'm on slide 52. And this is what we believe is direct evidence of copying. Okay? The devices on the

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market before the Fuma product, Red Dragon, NPRO, three-piece design, longitudinal heating element, different from the Fuma product. Dr. Vallee will show you a consulting report from 2013 that identifies dozens of devices that came onto the market after the Fuma product that directly copied the Fuma patented design of having the -- the central and axial airflow passageway, the cartomizer that has both the solution and the atomizer, and also the transverse heating element. You're going to see that with hard evidence. And all of this objective indicia go to the fact that there is just not clear and convincing evidence of an obviousness case here.

Your Honor, that covers infringement and validity. NJOY will show that the domestic -- let me turn just quickly to the domestic industry, economic prong. And again I'm going to not put the slides up because there's a few numbers on some of these slides that are confidential.

And, Your Honor, for NJOY, you will hear evidence that NJOY had or was establishing a domestic industry in the ACE Products as of the filing of the complaint. E-liquid, a critical component of ACE pods, is manufactured entirely in Maryland and Florida, in the United States. NJOY also has offices across the U.S., including engineering and R&D facilities in Wisconsin. NJOY has been responsible for engineering and R&D since acquiring the ACE design back in

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2018.

Your Honor will hear from Mr. Jose Bonet about the engineering work and R&D work and regulatory work that goes on there. Since 2018, NJOY has spent the millions of dollars you see on that slide on domestic labor and capital to support the ACE products. You'll hear from Ms. Lynn Winch regarding these domestic investments. And you will hear from Dr. Vander Veen regarding their significance.

Slide 55, Your Honor, that's RJR, our licensee. RJR established a domestic industry in the Vuse Alto -- Solo product in the 1199 investigation based on the millions of dollars in domestic plant and equipment and millions of dollars in labor and capital.

Vuse Solo received a marketing granted order in 2021, and Reynolds is continuing to sell and invest and make investments. This is a continuing domestic industry case for Solo and Alto.

Your Honor, the elements of a violation will be shown here, and an exclusion order should issue for JUUL and JUUL2. We talked about the public interest in the previous case. I'd like to quickly cover the public interest in this case.

The critical issue in this proceeding and in 1368 is what types of products could be considered as substitutes. Both accused products, JUUL here in this case,

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and NJOY ACE in 1368, are pod-based e-vapor devices, e-cigarette devices that compete directly against each other. Our view is that the analysis of what products are substitutes should be the same in both cases, 1368 and 1372, but JUUL is, in our view, taking fundamentally different contradictory positions in the two cases.

You heard an expert, Dr. Murrelle, in the previous case tell Your Honor that any product that delivers nicotine without burning tobacco should be considered a substitute. He would -- this is JUUL's expert -- he would not include just e-cigarettes but totally different types of products, smokeless products, oral pouches, nicotine replacement therapies, as substitutes in the 1368 case.

In this case, what you're going to hear from JUUL, they're going to bring different experts who are going to say those products are not substitutes. And they have significant limitations that make them not appealing as substitutes. So the complete opposite.

And JUUL will go even further and argue that its product is so special that not even the other pods that compete against it should be considered like or directly competitive. But, Your Honor, in 1368, we argued, NJOY argued, that the pod category is unique and so only pods should be considered as substitutes. If Your Honor agrees with us, you should apply the same analysis here and look

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only at other pods as substitutes.

There are pods that can fill any gap if JUUL were excluded. First is NJOY ACE. It is a pod -- it is the only pod that has been authorized to be sold as appropriate for the protection of the public health by the FDA.

Second is the Vuse Alto, which has a higher market share than JUUL. And JUUL argued in 1368 that Vuse Alto should be considered as a substitute even though it doesn't yet have FDA authorization. If Your Honor agrees with JUUL on that point, then Vuse Alto is an acceptable substitute in this case, if JUUL is excluded.

And, finally, if Your Honor agrees with JUUL in the 1368 case that all non-combustible products, the ones we've shown here on this slide, on the market would be available substitutes, then, again, there's no basis for invoking the public interest in this case with respect to exclusion of JUUL.

Thank you very much, Your Honor.

JUDGE JOHNSON HINES: Thank you.

All right. Why don't we take our morning break and we'll reconvene at 11:00.

(A recess was taken at 10:41 a.m., after which the proceedings resumed at 11:01 a.m.)

JUDGE JOHNSON HINES: Thank you. Please be seated.

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Good morning.

MR. RENAUD: Good morning, Your Honor, Mike Renaud on behalf of JUUL Labs.

Please may I proceed?

JUDGE JOHNSON HINES: Please.

OPENING STATEMENT

MR. RENAUD: I am going to share a different perspective, Your Honor, from what you have just heard. Let me start off by kind of resetting the table a bit.

So JUUL redefined an entire industry. They created a product, the innovative JUUL1, in 2015, that basically revolutionized the entire e-cigarette space.

Now, in contrast, NJOY and their parent company, Altria, had repeatedly tried to succeed in the marketplace with their own e-cigarette offerings. Ultimately, they were forced to do a copycat product, the ACE 1, because they couldn't otherwise achieve market success.

Now, NJOY cannot -- sorry -- NJOY cannot even show any U.S. investments in the design or manufacture of the ACE product, which they started selling in 2018. Now, the Fuma patents themselves, Your Honor, which are being asserted, are acquired from a company whose own product failed in the marketplace, and is based at best on small incremental improvements over the then art. And it's actually a copy -- it was based on the design of a product

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that was being sold by Fuma at the time of the filing.

So why are we here at the ITC, Your Honor? This lawsuit is nothing more than a reaction to the JUUL complaint that was filed in the 1368 investigation. So let's go back, Your Honor, if we could, to last year when Altria acquired -- acknowledged that -- Altria had acknowledged previously the value of the JUUL IP, but they wanted to opportunistically exit that business relationship. So Altria withdrew, Your Honor, from its $12.8 billion investment in JUUL on June 23rd -- June of 2023, Your Honor.

Meanwhile, Fuma, the previous owner of the patents, had asserted these patents against Altria. And they asserted it for patent infringement in May of last year. Now, the Fuma lawsuit, Your Honor, just finishing the timeline, was just a few days before Altria acquired NJOY in an effort to compete with JUUL. Again, they did that to acquire the ACE 1 to create a pod-based system to compete with JUUL with a copycat device.

Now, Fuma, seeing Altria acquire NJOY, turned around and added NJOY to the case that they had already filed. And on June 8th, they had an amended complaint that was filed against both NJOY and Altria. So this is the setup for the acquisition of these Fuma patents.

Now, when Fuma was looking for -- I'm sorry, when NJOY was looking for patents, Your Honor, they don't have

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any patents they can assert from the Altria or NJOY portfolios. So they have to look outside the business. They have to acquire technology.

So they looked around and said: Why don't we buy the patents that are being asserted against our business. And why don't we use them. So as a part of the settlement, they acquired the patents and that case that Fuma had filed goes away, and NJOY becomes the new owner. And then within 11 days, it sues JUUL in what will become this 1372 investigation.

Now, what's important to note here, Your Honor, is you will hear evidence that the Fuma patents have nothing to do with the JUUL products that are the subject of this investigation and instead NJOY stretches the claims beyond their bounds to try to find a match for infringement against a completely different product design, the revolutionary JUUL1 and 2.

Now, you will see, Your Honor, a series of inconsistent infringement positions, an ever-changing lens to apply against the infringement, domestic industry, and validity, and one of the reasons why there is so many prior art combinations, so many prior art references, Your Honor, is NJOY couldn't keep its story straight and changed its infringement reads in its validity story throughout the case.

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So I am going to get into those inconsistent positions, Your Honor, in due course. But that's the setup for why we're here today.

Now, moving on to the party and the product overview, Your Honor heard quite a bit about the innovative pod design in the 1368 investigation. So I am only going to highlight some of it here, Your Honor, because I think you're already well-versed in many of the details.

Now, Adam Bowen and James Monsees are an American innovation story. They successfully created an entire new industry around, again, this revolutionary pod design. And it's not just an incremental improvement, Your Honor, so the e-cigarettes that were then in the market, the so-called cig-a-like products, but they reimagined the entire concept and everybody loves a good idea and everybody followed.

Let's talk a little bit briefly about what that idea was. So JUUL's novel pod design is an innovative design, Your Honor, which is nothing like what has called the cig-a-like form factor. And that's the form factor that looks like a conventional cigarette.

In fact, the new internal architecture and functionality were critical to this innovation, as well as a novel nicotine delivery system that enabled smokers to switch from combustible cigarettes. So let's take a quick look at what was going on in the marketplace, Your Honor,

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when JUUL showed up.

So before JUUL, remember, we have got the cig-a-like products. They had products that mimicked traditional cigarette factor, a form factor, and they were constrained by that design. Because of the form factor constraints, these cig-a-like products had specific attributes, including narrow end-to-end passageways, and certain coupling mechanisms to tie the separate battery and cartridge components together.

So after JUUL introduces, you see here in the center of slide 9, Your Honor, the revolutionary JUUL1 device, the entire market begins to copy JUUL pods and they moved away from all the commercially successful products, moved away from the cig-a-like form factor. Here you see on the right-hand side all of the copycats, including the ACE 1.

That's circled in red. So let's jump into the patents, Your Honor.

So the '881 and the '864, what exactly happened with these patents? So, first, patents were filed by Fuma. And they were based on the Smoke Fifty-One cig-a-like product, which has a screw-in cartridge. You see that on the top of slide 11, Your Honor.

Fuma filed these patents based upon that Smoke Fifty-One product, which the inventors were tellingly

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already distributing in the United States before they filed those patents. You're going to hear from Fuma's general counsel, former general counsel, Mr. Steiger, that Fuma had no prototype design of its own and that Fuma just based the design on the Smoke Fifty-One product.

Let's go to the patents and see if we can figure out what the innovation is here. So what's the novelty of these patents, Your Honor? It's a shifting point, by the way, Your Honor. You're going to see that there's multiple arguments here as to what the novelty is.

The only purported invention in8 the disclosure that -- so one of the arguments is that the cartridge for liquid solution and heating element. That's one of the arguments here you heard, the cartridge for liquid solution and heating element.

Well, the only purported invention in the disclosure that describes a cartridge that holds liquid heating and solution are in very narrow locations. So let's look at two passages here, Your Honor. I have got them in slide 12.

If you look at these two passages from the disclosure of the '864, and it is the same for the '881, on the left the disclosure states "the conventional design includes a battery, a heating element, and a mouthpiece. And that the mouthpiece includes the liquid solution.

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Now, on the right-hand side there is a passage from the '864, Your Honor, that suggests the patent is directed to a cartridge that includes a heating element and a solution. All right. So let's take a look at what that means.

So if we look at the prior art, and we match it up against Figure 1, I am going to use Smoke Fifty-One to make it simple, the cartridge was well-known. Here is the famous Figure 1 on the right-hand side, it is the liquid solution and the heating element sitting in a single cartridge, okay? This type of cartridge was clearly known. It was part of the Smoke Fifty-One design that the inventors themselves were actually selling and distributing in the United States.

What the patent does describe is being able to separate cartridges each from the other so you can have a separate cartridge for the battery and another for the heating element and the liquid solution.

Now, separating the cartridge from the battery was a well-known part of the art and the Smoke Fifty-One device itself, which they were selling, has that attribute.

So let's go and quest a little further of what the exact invention is. Maybe the best place to try to find that is in the file history, Your Honor.

So because the cartridge wasn't novel, they said

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what could we do? So during the prosecution of this family of patents, Your Honor, the Fuma patents, the claims were actually limited to an aspect -- a limitation, the central and axial airflow passageway, okay?

What you see here in Figure 2, Your Honor, from the patent, this is the same figure in '861 -- in '864 and '881, I have highlighted in yellow the central and axial passageway that goes from one aperture at the bottom, that's labeled 212, to a second aperture 220.

And you will hear JUUL's invalidity expert, Mr. Leinsing, who will tell you that this aspect of the invention is not, in fact, novel.

Now, they had to pivot from the central and axial housing, Your Honor, to find a piece of novelty. And where they do that is in their prehearing brief. So they pivot to a single cartridge but it doesn't save validity.

In their prehearing brief, and you heard in their opening, that they are now alleging the patents are directed to a single-piece cartridge that has the liquid solution and the heating element and they are calling this a cartomizer. All right?

But there are some real problems with this new argument, Your Honor. The cartomizer never appears anywhere in the claims or the specification.

There are no limitations in the claims that are

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directed to the concept of a single-piece cartridge or cartomizer. None. What's worse for NJOY, Your Honor, and I have actually included a piece of the specification here, it's column 1, lines 37 through 48 of the '864 and '881 patents, they expressly disclose that the cartridge that is described and claimed can be either a single assembly or a multi-piece assembly. And as you see here, it's clearly supported by the spec.

So the oddity here is the claims themselves make -- all of the asserted claims make no distinction between whether you have a single cartridge or multiple pieces of an assembly. And what's important to note, responding in part to their opening, is Fuma not only didn't invent the cartomizer, it wasn't mentioned anywhere in the patent.

So it's simply not novel, Your Honor, and it is a red-herring. So moving on, let's talk about why the patents are not valid in more detail.

Simply, since there is simply no novelty in these patents, Your Honor, you'll hear JLI's invalidity expert, Mr. Leinsing, go into great detail about the various references. And, again, since their positions are moving, there are references that will be more on point depending upon which of these arguments they are going to be advancing at trial. But he will testify about many references.

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I'm just going to focus on two of them, Your Honor, for purposes of highlighting things today. So on slide 19, Your Honor, I have an excerpt from the disclosure of the Xia '610. That's X-I-A -- I hope I am saying it right -- the Xia '610 reference that Mr. Leinsing will testify about.

And you'll see here in this reference, Your Honor, it includes on the left a battery section marked with a 1 and it has a cartridge section marked with a 2. This is exactly the cartomizer design that NJOY is suggesting was the point of novelty of these patents.

The cartomizer or cartridge of Xia has a solution holding medium and a heating element in one cartridge. You see it annotated there. It is annotated version of Figure 2 from Xia, Your Honor.

Now, NJOY tries to suggest that the concept of a transverse heating element, this is another variation of their argument -- in a cartomizer is now the point of novelty. You see the statement from the prehearing brief where they suggest the cartomizer-type cigarettes only employed axial heating elements.

As you can see from just looking at this one reference, the Xia '610, that's simply not accurate. Xia '610 discloses a cartomizer. And it has a transverse heating element, which I have now labeled in red.

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So what do they do in search of novelty, Your Honor? To try to get around this reference, the Xia '610 reference, and this problem exists across many references, but let's just focus on Xia.

NJOY modifies the disclosure of Xia and it breaks that cartomizer up into parts. The figure from the disclosure at the top of the screen, Your Honor, you see clearly has two sections that are threaded together to form an e-cigarette. The figure at the bottom, Your Honor, is a modified version that NJOY relies on in their briefing. That's from their prehearing brief at 1373.

This figure as modified and annotated by NJOY does not exist anywhere in the disclosure. Instead NJOY breaks up the cartomizer in their modified and annotated version to suggest there's a first cartridge that has a heating element and a second that has the solution. They are taking apart so that they don't have them -- the heating -- the heating element, Your Honor, and the solution in a single cartridge.

But as you'll see from the actual figure above, both components are included in the single cartridge. Now I am going to go to Fang, Your Honor. Again, just a second example of some of the challenges faced with the validity arguments.

And, again, these validity arguments are arising

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from the fact that you're trying to apply a read on the JUUL, which isn't part of the cig-a-like community of technologies, but Your Honor will hear from Mr. Leinsing, again, the invalidity expert for JUUL, talk about the Fang reference, which is also an e-cigarette.

NJOY tries to distinguish over this reference on the basis that you can't separate the cartridge from the battery section. But as you will hear Mr. Leinsing testify -- Mr. Leinsing testify, separating the Fang into two cartridges was well-known in the art and would have been an obvious variant.

Now, looking at slide 22, Your Honor, you will see that the structure of Fang would line up closely with the alleged infringing functionality of JUUL. So it is nearly impossible to read these claims on JUUL successfully, even if all of their infringement arguments are successful, without running right into Fang and a whole bunch of other references. And you will hear the experts testify about that.

The juxtaposition on 22, Your Honor, shows, you know, the central airflow passages in blue, it shows the heating element in red and, of course, shows the liquid-holding medium or the solution in yellow. So why don't we move into the infringement and domestic industry issues, Your Honor.

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In this instance, none of the accused products in the domestic industry products practice the '864 or the '881 and I don't have the time to go through all the non-infringement arguments so I have picked a subset, Your Honor. And on slide 24, I have identified the five non-infringement arguments that I'm going to try to move through relatively quickly but they are all substantial non-infringement arguments.

So the first is the housing. And we're talking about, Your Honor, the housing of the cartridge.

As Your Honor noted in the summary determination decision, there is a claim construction issue here in regard to the word "housing" which shows up in all the asserted claims. And the dispute ultimately is whether the housing is the housing of the cartridge, Your Honor, or some other housing.

So on slide 26, we've got the JUUL device as the cartridge on top and the device body on the bottom. Let's look more closely at the cartridge, Your Honor.

And for purposes of this demonstrative on slide 27, I have removed some of the device internals at the bottom of the tank. I have removed the electrical contacts, the heating coil, and the wick. But we're going to be focusing on the mouthpiece, Your Honor.

So I have drawn a center line along the central

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axis of the housing and what you'll see is that there are two non-central and non-axial air passageways in the housing. On the left of the central axis you see one, Your Honor, and then you see on the right a second non-central airflow passageway.

These passageways result in non-central airflow paths. NJOY realizes this. So what do they do? They completely ignore the mouthpiece. And they exclude it. They pretend it's not there and it isn't part of the housing.

By the way, Your Honor, they do the same thing with the accused Luna products. But this doesn't square with the earlier statements that they have made. So why don't we take a look at some of those inconsistent statements that are being made about -- let's take a look at what they did say about housing, Your Honor.

So during the IPR, NJOY took a position as to the plain and ordinary meaning of housing. And they said, Your Honor, it's outside structure containing the device internals.

Now, these statements in the IPR, Your Honor -- and that was just recently. As Your Honor is probably aware, I think that this is just less than two weeks ago that the IPR Decision to Institute came about, although these statements, I believe, were made earlier in time than

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that.

But NJOY's statement in the IPRs regarding the meaning of the housing is part of the intrinsic record. It is part of the file history. And it's a clear and unambiguous disclaimer of any other meaning of housing.

Now, the mouthpiece is certainly -- let's apply that definition from the IPR, Your Honor, NJOY's definition. The mouthpiece is certainly a portion of the outside structure containing the device internals. It's connected to the tank. It forms the exterior of the housing. And the mouthpiece also protects the internals of the device.

So let's turn to what Dr. Vallee, their infringement invalidity expert says. He has taken positions that dictate the housing of the JUUL devices must include the integrated mouthpiece. He has agreed that in his opinion, "anything connected to the exterior of the housing" should be part of the housing.

He also agreed in his opinion that the claimed housing -- he also agreed that it is his opinion that the claimed housing is the housing of the cartridge. So while NJOY hasn't provided a definition of the term housing that would support excluding the integrated mouthpiece of the JUUL device, they certainly have taken a position in regard to what the definition should be.

When you apply those definitions that they

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provided, they walk right back into the mouthpiece being a requirement for the claimed housing. So how does NJOY try to get out of this box? Well, what they do, Your Honor, when they try to map the housing against the actual product, NJOY resorts to making a modification to the JUUL product by removing part of the housing. They actually break off the mouthpiece.

So you see the housing -- sorry, you see the housing as sold on the left, Your Honor, and then you see the modifications on the right. Now, what's important is the JUUL1 and the Luna products are imported, sold, and used in the United States with the integrated mouthpiece by design.

And as you will hear, this mouthpiece has multiple functions. It's not just ornamental. It's not just a paper or a wax mouthpiece. The purposes -- it has multiple functional purposes including serving to protect the device's internals, including the liquid tank and the cap.

And as you'll see on the right-hand side, and this is from Dr. Vallee's opening report, Your Honor, at paragraph 739, once the mouthpiece is broken off, the housing is compromised. It results in a deformed tank gasket, e-liquid leakage in excessive air bubbles. So they simply have a real problem with the housing, Your Honor.

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Moving to the next claim limitation, airflow path, Your Honor, I am going to focus here on slide 32 just on claim 9 for a moment. And I have highlighted some of the relevant language from this limitation.

The limitation of claim 9, Your Honor, requires an airflow path, a first portion of the airflow path proximate to the first aperture being defined substantially centrally and axially with respect to the central longitudinal axis of the housing.

Now, this limitation is not met for at least two reasons, Your Honor. NJOY is arbitrarily mapping to the first and second portions. And Your Honor will see I didn't highlight the second portion, but it's really the same language as the first. It mirrors it.

And NJOY has a failure of proof, Your Honor. They can't actually demonstrate what the airflow path is in the sections that they have selected. So let's take a look at what they have selected, Your Honor.

So as the evidence comes in, Your Honor, you will see that instead of performing any actual airflow path analysis, NJOY just points to overly simplified figures showing straight lines. That's not how air travels. And that's not what the airflow paths are in these devices.

So on slide 33, Your Honor, I have got a picture from the PMTA of the JUUL1 and the JUUL2. Now, these

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annotations, Your Honor, are NJOY's annotations, which show the sections they have accused of being the first portion and the second portion.

And there doesn't seem to be any rhyme or reason in how they made the selections; different for different devices. But you will see, even in these simplified diagrams, the airflow goes around at least the atomizer chamber, which is the heating element in each device, and that is proximate to the first aperture at the bottom.

So they just try to exclude this portion of the device in order to assist in their selection of potentially infringing portions. Now, Dr. Dahm, the infringement -- non-infringement expert for JUUL, Your Honor, will explain that they did not consider the basic airflow dynamics of these devices.

Air doesn't travel in these oversimplified straight lines. There is turbulence that is caused by features in these devices, Your Honor, and it's by design.

And what I'm showing here in the right, Your Honor, is a reference model. Dr. Dahm will explain that simulates how air will travel in the JUUL2 device as but one example of how the actual devices work.

So let's move from the JUUL-accused devices, Your Honor, to the airflow path limitations applied to the ACE 1. NJOY has the same problems here, Your Honor. If we take a

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close look at the portion they have selected as the first portion limitation, even in their own overly simplified diagram, the airflow path is neither central nor axial. And all the annotations on this slide 35 are from NJOY.

Now, let's zoom in, Your Honor, on slide 35 to get to the zoom in on 36. Now, in this enlarged view, Your Honor, you will see these blue arrows inside that red box. Again, this is from their PMTA.

And there notably are six arrows in there, only two of which appear to be straight. This is the proof that NJOY's relying on, this annotated figure to support their infringement or their domestic industry on the ACE 1.

Now, these blue arrows as Your Honor can see both converge and diverge relative to the central longitudinal axis. The airflow is neither central -- is not central or axial to the central longitudinal axis of the housing of this claim and it's not substantially central and axial.

Now, what is interesting is in the opening, Your Honor, on slide 36, I found a curiosity here. They were pointing to the evidence that they are going to be using to support their meeting of the substantially central and axial limitation. And what I found was curious is they shrunk the box.

The box you see here, which is from their prehearing brief at page 1205, only, the box on the slide 36

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includes six arrows that are purportedly showing airflow. The box you're going you see on slide 36 of their opening has been shrunk.

And I can't tell whether it only includes those two straight lines, Your Honor, or if maybe it includes the two that are coming in, but, in any event, it's a different portion that they are now focusing on.

This could just have been an error, but as the best I can see, this might be a new position. And I think the reason why they have done this is because they realized that if they include all six arrows, even in this oversimplified view, there is clearly convergence and divergence from the central longitudinal axis.

So we will wait to see how they put their case on, but I thought that was a notable departure from what both their expert and their prehearing brief covered.

Let's move to the central and axial airflow passageway, Your Honor.

Now, I will touch on the central and axial airflow passageway limitation, and more specifically, this issue of obstructed versus an unobstructed passageway. I think Your Honor is going to hear a lot about that. So let me try to set the table a little bit.

The whole concept of a central and axial airflow passageway originates from the prosecution of these patents.

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The inventors made statements to the Patent Office in regard to the prior art and which had obstructed passageways that they said did not disclose their invention. They effectively disclose that the language central and axial passageway requires an unobstructed passageway. Our experts will present evidence in support of that.

Now, those statements are really problematic for NJOY. They run away from those statements when conducting their infringement and domestic industry tech prong analysis, but they use those statements to defend against validity.

This has forced NJOY to take inconsistent positions. And, again, it's one of the reasons why there's so many prior art references because their position has not maintained a constant bearing.

Now let's take a look a little more closely at some of the inconsistent positions that they have taken, Your Honor. Again, during prosecution, to try to preserve validity in this case, they argued that the claimed passageways cannot include a heating element and a wick obstruction. Okay? That's pretty clear.

What do we do when we're doing DI tech prong and infringement? Well, in that instance, they say the claimed passageways can include a heating element and a wick as an obstruction. Okay.

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Now, in a separate portion, when arguing validity, NJOY says a passageway cannot extend the entire width of the housing.

But, again, when doing DI, tech prong, and infringement they say the passageway can span the entire width of the housing. They simply can't have it both ways. Again, we will see what their expert does when he gets on the stand, but I'm going to move into a couple of express examples, Your Honor, so you can see the juxtaposition that's created by some of these inconsistencies.

So on slide 39, you have got the DI product on the left-hand side. One of the DI products, Your Honor, is the Vuse Solo. That one we can't show; is that right?

So that one, Your Honor, since it's an RJR device of Vuse Solo, my understanding is that they have not given permission to share the information so I am going to just go through the slides, Your Honor, and keep it off the monitor.

JUDGE JOHNSON HINES: Thank you.

MR. RENAUD: I will do the same with the next slide, Your Honor, slide 40, which also has the Vuse Solo, so we can stay on the public record.

JUDGE JOHNSON HINES: Thank you.

MR. RENAUD: So the Vuse Solo is on the left-hand portion, Your Honor, of slide 39. And NJOY argues the passageway can include these big obstructions, which you see

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in green and they are circled in red.

But when they distinguish over prior art like the Xia '610 reference that you heard about earlier that's on the right-hand side of slide 39, they say you can't have these obstructions in the passageways. Again, Your Honor, they can't have it both ways.

If they are going to walk away from the positions the inventors took during prosecution, they are going to walk right back into the prior art. And, again, this is just another example of the ever-changing positions but let's take another look on slide 40.

If we turn to slide 40, Your Honor, again it is the Vuse Solo on the side, left-hand side which is one of the DI products. And it says that you can have a passageway that extends the entire width of the housing. You see the red arrow showing it's going all the way across.

But for validity, Dr. Vallee, he is their expert on both infringement and validity, says you can't have a passage that extends the entire width of the housing because importantly it would render the claim limitation of central and axial airflow passageway meaningless.

Well, he has to pick a position one way or the other. Now, we're not the only ones who have identified this as a problem, Your Honor, or recognized the inconsistency. The USPTO said as much in their IPR

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Institution decision, which as Your Honor knows issued recently. And they said we recognize that this construction may be inconsistent with the arguments made by the Patent Owner during prosecution to distinguish over the Han reference.

And what they are referring to there, Your Honor, is comments made in regard to whether obstructions are permitted in the airflow passageway. So they got a real problem on their hands there. But let's move on to the airflow passageway extends from the first aperture to the second aperture.

Now, the key language there, Your Honor, is extends. Let's go to the Figure 2 again. And what you will see in this annotated version of Figure 2, Your Honor, is -- and this is what has been disclosed and relied upon by NJOY, is it shows a structure that extends from the first aperture at the bottom to the top. So the first aperture is 212 and the top is 210.

And you will see that structure occupies the entire -- that central and axial airflow passageway occupies the entire first aperture. It extends from it in a fulsome fashion.

Now, let's go see what they do when they are applying it to the JUUL device. And I am on slide 44.

And this is the JUUL1, Your Honor. Not only are

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the air passageways and airflow pass not central and axial but they don't extend from the identified aperture.

So on the bottom left, Your Honor, you see a cross-section of the JUUL device, the JUUL1 device, and it has those multiple microperforations that you saw in NJOY's opening.

And I've gone ahead and identified in pink what they have picked as the first aperture. On the view on the right, Your Honor, that right there is the front view and I went ahead and picked the same aperture as you can see its location.

Now, if we zoom in, Your Honor, you will see that literally nothing extends from this first aperture. There is just an open void at the bottom of the chimney.

So even if we consider the bottom area part of the passageway, Your Honor, it doesn't extend from the first aperture. And notably based upon the testimony you will hear from NJOY's own 30(b)(6) witness, there is no structure extending from the first aperture in either the JUUL1 or the ACE DI products.

Now, in slide 14 of the opening brief, opening statement of NJOY, they actually show a picture that confirms this. They literally show a structure in which there is no air central and axial airflow passageway in their own diagram.

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Now, if we look at slide 27 of their opening, Your Honor, they try to confuse the issue here with whether something extends from the first aperture by saying it's related to uniform cross-section. That's not the case.

This focus on airflow passageway and whether it needs to be a uniform cross-section is a red-herring in this instance. What's important is that the passageway has to extend from the first aperture and Figure 2, upper left-hand corner on slide 45, shows that it does, whereas the JUUL device, which you see on 45, does not.

So they have got a real problem there, Your Honor. And it will be interesting to see how they try to solve it.

Let's go to the coupling of the housing, Your Honor. It will be the final non-infringement issue I cover. And you have got the '881, Your Honor, importantly has -- if we go back one -- the '881 importantly has electrically and mechanically coupled; whereas you see on slide 46 that the '864 just has electrically coupled. So they are different in that important instance.

Now, the claim language is very straightforward on the '881. You need an electrically conductive portion that both -- that's a key word -- mechanically and electrically coupled to the electrically conductive portion of the power source.

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So in addition to the plain language, this makes sense in terms of the state of the art, Your Honor, which these patents are part of, in that the devices at the time were metal tubes that were attached by metal screws as connectors, they were cigarette-like products. That's what the context was in which these were filed. And that's reflected in every single claim.

Now, the JUUL housing is plastic. They have got a real problem there. No part of that is electrically conductive. So let's go through some of the other problems with this infringement theory.

The first problem is, one of the first problems is that NJOY maps to a different portion of the housing for the electrical and mechanical coupling. You can't do that. Claim language doesn't permit it.

The part that they are pointing to for the mechanical coupling, Your Honor, is a piece of plastic. And it doesn't allow for any electrical coupling.

The second problem with the mechanical coupling is that it's on the side. They realize this problem so they try to map to one of the corners of the device, but that's not even the right mechanical coupling. Even if it were, it is not at the end of the housing.

And the third problem, Your Honor, is the electrical contacts, which show up here in slide 48 in

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yellow. They aren't at the end of the housing. They are not even part of the housing at all.

The electrical contacts are internal to the housing itself and just protrude from an opening in the housing. And just to make sure that I hit the figure here that's on page 48, and the comments are made by JUUL, in blue you see that -- where the actual mechanical coupling is. The red circle goes to what NJOY is alleging the mechanical coupling feature is. And then of course, you know, it's not on the end. They have alleged a different end in the end of the product.

So let's go ahead and move to the '864, Your Honor. And, again, it has language that's different in an important way, but all the asserted claims from the '864 patent require the first end of the housing is adapted to electrically couple to the power source.

Because the claim requires an actual end part of the housing be adapted to electrically couple, Dr. Vallee accused the contacts as being part of the housing. The electrical contacts are not part of the housing. They don't house anything.

Dr. Vallee's only justification for doing this was the basis that the electrical contacts are connected to the exterior of the housing. But even if the electrical contacts could be part -- considered part of the housing,

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Your Honor, which they are not, they don't even satisfy Dr. Vallee's contrived definition. Let's see how this works.

To see the how the contacts are connected, I have an animation, Your Honor, which shows how the contacts actually pass through the tank of the accused product. This is created from the manufacturing CAD files that are in evidence, Your Honor.

As you can see, these contacts themselves are attached to the internal heating element inside the housing. They are not attached to the tank or any part of the housing at all.

After the contacts pass through the housing, they are folded over outside of a recessed area external to the housing as shown in here. So, again, there are other arguments about non-infringement and I think the principal challenge that they are going to have is they keep changing their positions. They run into each other on validity and infringement and they are unable to make all of it hold together.

And it rises clearly from the fact that the cig-a-like product, the Smoke Fifty-One that was the basis of these patents, isn't the JUUL form factor. And ultimately these electrical connections are arising as an example directly from that form factor.

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So let's move to the lack of domestic industry. And I will be quick with this, Your Honor.

In summary, NJOY had only -- only had these patents for 11 days. Their inventions don't line up with the patents and their investments aren't tied to the domestic industry.

And as you will hear testimony, Your Honor, NJOY's investments are simply not significant. Now, as to the ACE 2, the PMTA was literally just filed and there is no basis to suggest there is a domestic industry for that device. NJOY has, in any event, not apportioned between the ACE 1 and the ACE 2, and we will have a real evidentiary issue with that.

Now, moving to the RJR product, Your Honor, as best I can tell, it looks like RJR is what has been characterized in the past as an unwilling licensee. In any event, NJOY has admitted to Your Honor that it has insufficient evidence to attempt an allocation of any of the investments directed to the RJR DI products. And, in any case, none of the investments -- many of the investments are not from just before the filing date. This is because NJOY relies on an RJR submittal in a different ITC case, which is not relevant to this case and is certainly not part of this record in a complete way that would support their DI case.

So moving on to public interest, Your Honor. And

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I promise, again, to be very brief. JUUL is the undisputed market leader in this space. JUUL is the most effective product in getting people to stop smoking combustible cigarettes, which account for 480,000 deaths in the U.S. alone.

The JUUL system already and has been robustly adopted by the U.S. marketplace. So we believe the Commission should decline to implement a remedial order or in the alternative allow time for alternative products to come to the market.

With that, Your Honor, I thank you for your time and look forward to introducing our witnesses and presenting our case.

JUDGE JOHNSON HINES: Thank you very much.

Mr. Bui?

MR. BUI: Your Honor, before I give my opening statement, may I raise a housekeeping matter?

JUDGE JOHNSON HINES: Please.

MR. BUI: So during the break, the parties informed me that they thought it was quite warm in the courtroom and I tend to agree. I have checked with the court reporter, who also agrees.

I just wonder if Your Honor and your staff are comfortable with the current temperature. If not, I can easily with your permission put in a request to Facilities

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to bring down the temperature a little bit.

JUDGE JOHNSON HINES: I always like it colder, so colder is fine with me.

MR. BUI: Okay.

JUDGE JOHNSON HINES: At the lunch break, we can figure out what to do on that.

MR. BUI: I can put in the request right now.

JUDGE JOHNSON HINES: Okay.

MR. BUI: Thank you, Your Honor.

May I proceed?

JUDGE JOHNSON HINES: Yes.

OPENING STATEMENT

MR. BUI: As Your Honor heard this morning at issue in this investigation are two patents, the '881 patent and the '864 patent. And even though the private parties' prehearing briefs totalled over 3,000 pages, this investigation is essentially a one-patent case involving technology that is not overly complex and products that are not overly complicated.

Now, why do I say that? Well, the '881 patent and the '864 patent are related patents which claim priority to the same patent application, the '917 application and, as a result, share a common patent specification.

Of course the claims of the '881 patent and the '864 patent differ as they must, but the parties' dispute

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centers on claim limitations and the arguments with respect to those claim limitations largely overlap between the two patents.

Your Honor will hear, for example, testimony from the private parties' experts about the claimed housing having a first end and a second end in both patents. As another example, Your Honor will hear testimony from the experts about the claimed airflow passageway, extending centrally and axially with respect to the housing, again, in both patents at issue.

As yet another example, Your Honor will hear testimony from the experts about the claimed heating element being configured to vaporize solution for oral provision to an individual, yet again in both patents at issue.

Before turning to the issue of infringement, I would like to touch upon claim construction, Your Honor. Now, previously during the claim construction phase of the investigation, the private parties' experts opined about the proper meaning of claim terms in dispute. And now at the evidentiary hearing, the experts will opine once more about the proper meaning of certain claim terms.

But why now? Your Honor already conducted a claim construction proceeding. And Your Honor already issued an order construing disputed claim terms.

Without a doubt, the parties have benefitted from

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both participating in that claim construction hearing and from receiving Your Honor's claim construction order. Indeed, there are certain disputes that have been resolved and then there is other disputes over claim terms that have been narrowed. However, as in other investigations, when one door closes; another door opens.

Currently the parties' dispute centers on the proper meaning of claim terms that were not addressed or were not fully addressed during the claim construction phase of the investigation, to be clear, the parties' dispute, the proper interpretation and application of Your Honor's claim construction, as well as the plain and ordinary meaning of the words of the claims, which brings me back to the common specification of the '881 patent and the '864 patent.

The private parties' experts are expected to testify about their understanding of the claim terms now in dispute from the perspective of a person of ordinary skill in the art. And in the Staff's view, the testimony that is consistent with the intrinsic evidence, particularly with the teachings of the specification, should be credited. And that testimony, which is inconsistent and ignores those teachings should be rejected.

As Your Honor listens to the testimony from the experts on the issues to be decided, whether it's from Complainant's expert, Dr. Vallee, or from Respondent's

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expert, Dr. Dahm and Mr. Leinsing, there is one item in particular that is worth keeping in mind. What is that item? It's the level of skill in the art of the patents at issue.

Now, in your claim construction order, Your Honor adopted Respondent's proposed level of skill in the art, which is a B.S. degree in mechanical engineering, electrical engineering, or an equivalent degree and either at least two years of experience with electromechanical technologies or an advanced degree in mechanical engineering, electrical engineering, or an equivalent field and at least one year of similar experience.

In the Staff's view, keeping in mind the level of skill is important, particularly with considering the differences in opinions provided by the experts, whether addressing infringement or invalidity.

Ultimately, properly applying Your Honor's claim construction, as well as the plain and ordinary meaning of the words of the claims, the Staff expects the evidence to show that there is no violation of Section 337 in the importation into the United States, sale for importation, or sale in the United States after importation of Respondent's accused products.

On the issue of infringement, Your Honor, the Staff does not expect the evidence to show that Respondent's

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accused products infringe any of the asserted claims of the asserted patents. With regard to the '881 patent, the Staff expects the evidence to show that Respondent's accused products do not meet claim limitations requiring a first end, an airflow passageway and second aperture, and a heating element.

With regard to the '864 patent, the Staff expects the evidence to show that Respondents' accused products also do not meet claim limitations requiring a first end, an airflow passageway and second aperture, a heating element, and an airflow path, which is a limitation that is not present in the '881 patent.

Turning to the technical prong of the domestic industry requirement, the Staff also does not expect the evidence to demonstrate that the alleged domestic industry products practice at least one claim of the asserted patents.

Similar to the accused products, the evidence is expected to show that the alleged domestic industry products also do not meet claim elements requiring a first end, a heating element, an airflow passageway, or an airflow path.

With respect to the economic prong of the domestic industry requirement, the Staff does not expect Complainant to meet its burden of showing that an industry in the United States exists or is in the process of being

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established.

Now, to support its allegation that there is a domestic industry in existence, Complainant is expected to rely upon investments and activities, including those that were not made at the time of the filing of the complaint and those that are not specific to products at issue in this investigation. When considering the relevant information, the relevant investments and activities, the Staff does not expect Complainant to make the requisite showing of significance or substantiality for demonstrating a domestic industry.

Now, to support its allegations that an industry in the United States is in the process of being established, Complainant is expected to rely upon investments and activities relating to its ACE 2.0 system. But that evidence is not expected to show, however, that Complainant is taking the necessary tangible steps to establish an industry in the United States or that there is a significant likelihood that there will be a domestic industry in the future.

Turning to Respondents' allegations of invalidity, Your Honor, the Staff does not expect there to be clear and convincing evidence showing that the asserted claims of the asserted patents are anticipated or rendered obvious by the asserted prior art, whatever that may be.

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Complainant's expert, Dr. Vallee, is expected to provide credible testimony that the asserted prior art either alone or in combination with other prior art does not disclose each and every element at issue. Similarly, the Staff also does not expect the evidence to show clearly and convincingly that the asserted patents are invalid for a lack of written description or for lack of enablement.

Here too, Complainant's expert, Dr. Vallee, is expected to credibly testify about the relevant disclosures in the specification.

Lastly, remedy, Your Honor. Should a violation of Section 337 be found, the Staff is of the view that the appropriate remedy will be the issuance of a limited exclusion order and a cease and desist order. Such remedial orders should issue without delay because the evidence is expected to show that their issuance will not adversely affect the public interest.

Respondent is expected to present testimonies from its experts, Dr. Madl and Dr. Seth explaining that the exclusion of its products would negatively impact the public interest, primarily U.S. consumers of its products. However that testimony, when considered in proper context and against other evidence, is not expected to support either declining or delaying issuance of a limited exclusion order, whether it is the 12 to 18 months or the 24 to 36 months

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that has been requested by Respondent.

Notably, the public interest is not limited to current smokers of combustible cigarettes or current consumers of the accused products. Additionally the evidence is expected to show that there are like or directly competitive products in the ENDS market, in the electronic nicotine delivery system market segment. And the evidence is expected to further show that there are other alternatives outside of the ENDS market segment.

In other words, the evidence is expected to show that consumers have a choice. Thus, the Staff is of the view that the statutory public interest factors do not support declining or delaying the issuance of remedial orders in this investigation.

As discussed at the beginning of this opening statement, however, the Staff does not expect the testimony, the evidence to show that there is a violation of Section 337.

Thank you, Your Honor.

JUDGE JOHNSON HINES: All right. Thank you very much.

All right. We can take the lunch break now and then start with witnesses. One thing I would like the parties to consider and let me know their views on is what if any -- is there any impact on this investigation of the

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judicial enforcement of the RJR subpoena and what your views are on that, whether there is an impact, whether there should be, and if there is, what that is.

So I will let you cogitate on that a little bit and maybe we can talk about that later this afternoon, but I did want to put that out there to get the parties' views on that.

So we will adjourn and we can come back at 1:00.

(Whereupon, at 11:54 a.m., a lunch recess was taken.)

NJOY Exhibit 2014.0080
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A F T E R N O O N S E S S I O N

(1:01 p.m.)

JUDGE JOHNSON HINES: Thank you. Be seated.

All right. Is there anything we should talk about before NJOY calls its first witness?

(No response.)

JUDGE JOHNSON HINES: All right. Seeing nothing, can you call your first witness, please.

MS. BOHANON: Thank you, Your Honor. Alysha Bohanon for Complainant. She's on her way down the hallway.

JUDGE JOHNSON HINES: Okay, great. Are there demonstratives?

MS. BOHANON: Oh, thank you.

JUDGE JOHNSON HINES: Good afternoon. Can you raise your right hand, please.

Whereupon--

SHANNON LEISTRA,

having been first duly sworn/affirmed, was examined and testified as follows:

THE WITNESS: I do, yes.

JUDGE JOHNSON HINES: Thank you very much. Be seated and welcome.

THE REPORTER: Could you turn your microphones on, please?

THE WITNESS: Thank you.

NJOY Exhibit 2014.0081
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DIRECT EXAMINATION

BY MS. BOHANON:

Q. Good afternoon, Ms. Leistra.

A. Good afternoon.

Q. Could you please introduce yourself to the Court.

A. My name is Shannon Leistra. I am the president and CEO of NJOY.

Q. And what is the relationship between NJOY and Altria?

A. Altria is the parent company of NJOY. They own NJOY.

Q. And when did Altria acquire NJOY?

A. In June of 2023.

Q. Before you became CEO, did you work at Altria?

A. Yes. I've been at Altria for approximately 20 years.

Q. Is NJOY a U.S. company?

A. Yes, it is.

Q. Where are NJOY's employees located?

A. In the U.S., Richmond, different areas throughout the United States.

Q. The Court has heard about NJOY's ACE product. Can you briefly tell us about the ACE?

A. NJOY ACE is a pod-based vapor product. It is the only pod-based product with a market granted order.

NJOY Exhibit 2014.0082
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Q. I want to spend just a few minutes talking about what that means. As CEO, do you have a general understanding of the regulatory landscape for e-vapor products?

A. I do. I have a general understanding. I'm not an expert, but I certainly need to be aware, for my role as the president and CEO.

Q. At a general level, could you explain how ACE received FDA authorization?

A. In order to receive FDA authorization, NJOY provided an application to the FDA. That application needed to contain science to demonstrate that smokers would switch to NJOY ACE, that non-tobacco users would not be interested in the product platform, that NJOY ACE was less harmful than combustible cigarettes so that ultimately the FDA could deem that the product was appropriate for the protection of public health.

We submitted, NJOY submitted, that application and received approval for that application.

Q. Thank you. Does FDA issue a document explaining the basis of its decision to authorize a product?

A. Yes, they do.

Q. Let's look at it. If you turn to tab 1 in your binder, please. This is CX-1386.

Are you familiar with this document, Ms. Leistra?

NJOY Exhibit 2014.0083
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A. Yes, I am.
Q. What is it?
A. This was a document that was produced by the FDA in April of 2022. And it would share the findings related to the science that NJOY provided as part of its premarket tobacco application.
Q. Thank you. What specifically did FDA authorize for the ACE product?
A. The FDA authorized the device for the ACE product, as well as a -- rich and classic tobacco flavors in different milligram strengths.
Q. Are there other products of NJOY ACE on the market today?
A. There are, yes.
Q. And what flavors are those?
A. There are menthol products that are on the marketplace today as well.
Q. What's the regulatory status of those products?
A. NJOY filed an application to the FDA for those products, and we are waiting for the decision from the FDA.
Q. Very generally, looking at this document, what did FDA conclude?
A. So the FDA concluded that the science that NJOY provided reinforced that smokers were interested in converting to the product and that the NJOY ACE product was

NJOY Exhibit 2014.0084
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less harmful than combustible cigarettes, ultimately granting the order showing that it was appropriate for the protection of public health.

Q. Thank you. Let's zoom out a little and talk about the market.

Can you explain the state of the pod market from your perspective as CEO?

A. Yes. There are three primary competitors in the pod market in the U.S. The marketplace leader is Vuse Alto. They have been the marketplace leader for a number of years. The second largest size pod-based product is JUUL. They lost a leadership position several years ago, are the second, and have been declining in market share. And the third would be NJOY ACE, which has been in the marketplace but, prior to Altria's acquisition, had relatively limited distribution. And it is a brand that is growing based on the investments that Altria has been making.

Q. Are there similarities between these are three products?

A. There are. They are all pod-based products, and they all have nicotine salts and offer a 5 percent variant for consumers.

Q. Who is ACE's biggest competitor in the pod market?

A. ACE's biggest competitor is Vuse Alto, which is

NJOY Exhibit 2014.0085
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the largest pod-based vapor product in the marketplace.

Q. Do you think that JUUL is the undisputed market leader in this area?

A. Absolutely not. That would be incorrect. They are not the largest from a market share percentage or from a volume standpoint. Vuse is clearly the largest and has been the largest for several years.

Q. Now, you mentioned the NJOY ACE market granted order. Do the other pod products have that? Does JUUL have a PMTA authorization today?

A. It does not.

Q. Thank you.

MS. BOHANON: Your Honor, I need to go on the NJOY confidential record at this time.

JUDGE JOHNSON HINES: All right. We'll go on the NJOY confidential record. Thank you.

(Whereupon, the hearing proceeded in confidential session.)

NJOY Exhibit 2014.0086
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O P E N S E S S I O N

CROSS-EXAMINATION

BY MS. HERNDON:

Q. Good afternoon, Ms. Leistra.

A. Hello.

Q. You testified that -- you testified that you were employed by -- you have worked for Altria for about 20 years; is that correct?

A. That's correct.

Q. And you started at Altria in 2003 as an intern; is that correct?

A. That is.

Q. And you joined Altria full time in 2004 as a -- or as an employee, in an entry-level sales position, correct?

A. Yes.

Q. And you've worked in various positions over your 20 years at Altria?

A. I have, yes.

Q. You were the director at Marlboro Cigarettes, correct?

A. Yes.

Q. And cigarettes are one of Altria's smokeable products, correct?

A. That is correct.

NJOY Exhibit 2014.0087
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Q. Your first leadership position with Altria was president and CEO of U.S. Smokeless Tobacco Company, correct?

A. Yes.

Q. And U.S. Smokeless Tobacco Company produces oral tobacco products?

A. That is correct.

Q. And you had testified that you became president and CEO of NJOY in June 2023, correct?

A. Yes.

Q. And Altria is NJOY's parent company, right?

A. Correct.

Q. Do you recall in your deposition we discussed Altria's 2023 revenue?

A. I vaguely do, yes.

Q. If you would turn to tab -- do you have an understanding of Altria's 2023 net revenues?

A. At a high level. I would certainly need to see documents that we easily have available on our investor -- to get exact specificity.

Q. Okay. Great. Let's take a look at a document. If you turn to tab -- it's labeled 1340. And this was Exhibit 10 to your deposition.

Do you recognize this document?

A. Yes.

NJOY Exhibit 2014.0088
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Q. And what is this document?
A. This is a document that Altria issued to report 2023 quarter 4 results and full-year results for Altria.
Q. And --
A. For 2023.
Q. Pardon me. Sorry. Can you turn to page 19. Just let me know when you're there.
A. I'm there.
Q. Do you see at the top of page 19 shows Altria's 2022 and 2023 net revenues, correct?
A. Yes.
Q. And there are three categories of products listed there, smokeable products, oral tobacco products, and all other, correct?
A. That is correct.
Q. And NJOY would go into the "all other" category, correct?
A. Yes.
Q. The revenue for smokeable products was over 2.7 -- or, I'm sorry, $21.7 billion, correct, for 2023?
A. Yes.
Q. Revenues for oral products were nearly 2.6 billion in 2023, correct?
A. Correct.
Q. And revenues for all others were 60 million for

NJOY Exhibit 2014.0089
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2023, correct?

A. Yes.

Q. And Altria's total revenues for 2023 were nearly $24.5 billion, correct?

A. That is correct.

Q. We can take that down. Thank you.

You testified that Altria acquired NJOY in June 2021, correct?

A. 2023.

Q. I'm sorry. 2023. Thank you.

And that was for $2.9 billion?

A. I believe it was 2.7.

Q. Altria divested from JLI in March 2023, correct?

A. The timing sounds -- sounds about accurate. I was not involved in that, so I do not know the exact timing, but it sounds reasonable.

Q. Subsequently, JLI sued NJOY and Altria for patent infringement in the International Trade Commission, correct?

A. Yes.

Q. And after that, NJOY sued JLI for patent infringement in the International Trade Commission, correct?

A. Yes.

Q. But NJOY didn't sue JLI with patents it owned before June of 2023, correct?

A. I wouldn't know the exact date, but I do believe

NJOY Exhibit 2014.0090
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that's correct.

Q. Instead, NJOY purchased patents from Fuma on August 11th, 2023, correct?

A. That is correct.

Q. And then filed this case against JUUL -- against JLI, excuse me, 11 days later with the patents it bought from Fuma, correct?

A. I do not know the exact date, but we did file, as you mentioned.

Q. Would you like -- would you like me to refresh your recollection as to the date?

A. I just wouldn't know the exact date, that it was 11 dates -- 11 days, but that sounds generally accurate to me.

Q. If we could go -- if we go back -- back to your direct binder, the last tab, tab 6. This is CX-2987C. And at page 25 --

A. I'm sorry, I'm not following. My last tab only has an exhibit placeholder.

Q. Oh. I'm sorry, in the -- in your direct examination binder, the one that you worked with your counsel.

A. Oh, excuse me. Sorry.

THE REPORTER: Counsel, I'm sorry, do we need to be on the confidential record?

NJOY Exhibit 2014.0091
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MS. HERNDON: Oh, I'm so sorry. Actually, yes, we do, the NJOY confidential record.

JUDGE JOHNSON HINES: All right. Thank you.

(Whereupon, the hearing proceeded in confidential session.)

NJOY Exhibit 2014.0092
Juul v. NJOY
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O P E N S E S S I O N

MS. HERNDON: Your Honor, I have three questions on the public record, and then we'll go back to the confidential record.

JUDGE JOHNSON HINES: Okay.

MS. HERNDON: Unless you would like me to stay on the confidential record for these.

JUDGE JOHNSON HINES: No. Go ahead.

BY MS. HERNDON:

Q. Ms. Leistra, you testified that NJOY ACE is the only pod-based ENDS product with a marketing grant order, correct?

A. Yes.

Q. But not all ACE products have received authorization, correct?

A. That is correct. I shared the tobacco variants have the application but that the menthol -- or the market granted but that the menthol did not. That's correct.

Q. So the menthol PMTA is still pending, correct?

A. Yes.

Q. And NJOY received a marketing denial order for the watermelon and blueberry ACE pods, correct?

A. Yes.

Q. And then you also testified that last month, on May 20th, 2024, NJOY submitted PMTAs for the ACE 2.0 in

NJOY Exhibit 2014.0093
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watermelon and blueberry flavors; is that correct?

A. Last month we submitted a supplement for the watermelon -- watermelon and blueberry with the age verification technology, yes.

Q. And no other flavored pods were included in the PMTA filings for the ACE 2.0, correct?

A. For the original application, I do not believe that they were.

Q. And ACE 2.0 one?

A. For the 2.0, just watermelon and blueberry.

Q. To date, the FDA has not granted marketing authorization for any non-tobacco flavored e-vapor products, correct?

A. That is my understanding.

Q. And the ACE 2.0 is not currently on the market yet, correct?

A. No, it is not.

MS. HERNDON: And, Your Honor, if we could go back on the NJOY confidential record.

JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential session.)

NJOY Exhibit 2014.0094
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O P E N S E S S I O N

JUDGE JOHNSON HINES: All right. So then we can go on the public record. Thank you.

MR. BUI: Thank you, Your Honor.

EXAMINATION BY COUNSEL FOR ITC STAFF

BY MR. BUI:

Q. Good afternoon, Ms. Leistra. How are you?

A. I'm doing well, thank you.

Q. My name is Vu Bui. I am the Commission investigative attorney assigned to this investigation. Thank you very much for appearing today to testify.

A. Nice to meet you.

Q. Could you turn to your direct examination binder, specifically tab 4, please.

A. Tab 4?

Q. Tab 4, please.

MR. BUI: And, Your Honor, I recognize this is a document that has been marked CBI, but I'm going to try to keep my questions at a high level so that I can stay on the public record.

JUDGE JOHNSON HINES: All right. So we'll keep it off the projector. And --

BY MR. BUI:

Q. Ms. Leistra, you provided testimony with respect to market share. Do you recall that?

NJOY Exhibit 2014.0095
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A. Yes.
Q. And in analyzing market share, NJOY considers various sources of data, correct?
A. That is correct.
Q. One source of data would be the Circana data, correct?
A. That is correct.
Q. In addition to Circana data, another source of data would be STARS data, correct?
A. That is correct.
Q. And what is STARS data?
A. STARS data is the purchases from retail, of product from wholesale.
Q. Thank you. In addition to Circana data and STARS data, there's at least one additional source of data that NJOY analyzes in determining market share, correct?
A. Yes.
Q. And are you familiar with point-of-sale data?
A. I am, yes.
Q. And what is point-of-sale data?
A. Point-of-sale data is data that a retailer would provide Altria that is their consumer transactions, so product that was sold from, as an example, Sheetz to a consumer that Sheetz would then provide us.
Q. And turning your attention back to tab 4 in your

NJOY Exhibit 2014.0096
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direct examination binder, which is JX-80C, are you familiar with whether the market share data in this exhibit was based on STARS data, Circana data, point-of-sale data, or some other data?

A. Could you share what page number again? I apologize.

Q. Sure.

MR. BUI: Your Honor, I apologize. I need to go on the confidential record.

JUDGE JOHNSON HINES: All right. And that would be the NJOY confidential record?

MR. BUI: Yes.

JUDGE JOHNSON HINES: Yeah.

(Whereupon, the hearing proceeded in confidential session.)

NJOY Exhibit 2014.0097
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O P E N S E S S I O N

BY MR. BUI:

Q. Now, in addition to pod-based vapor products, there are alternatives to combustible cigarettes, correct?

A. Yes.

Q. Okay. And can you give me some examples?

A. Other examples of alternatives that I'm assuming you're referring to from a non-combustible standpoint --

Q. Correct.

A. -- would be things like dip products or nicotine pouch products.

Q. And does NJOY market -- monitor the market share of those particular products?

A. I do not specifically, but Altria certainly does.

Q. Okay. Thank you.

Earlier you provided some testimony with respect to the ACE 2.0 system. Do you recall that?

A. Yes.

Q. Okay. And I believe one of the things you mentioned with respect to the ACE 2.0 system was the age verification technology. Do you recall that?

A. I do.

Q. Okay. And do you consider the age verification technology to be a defining difference between the ACE 2.0 system and the original ACE system?

NJOY Exhibit 2014.0098
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A. I think it is an evolution of the 1.0 device that offers that additional security features to provide flavors that adult smokers are interested in, while preventing youth from being able to access it.

Q. Other than the age verification technology that you referenced for the ACE 2.0 system, are there any other relevant differences between the ACE 2.0 system and the ACE 1.0 system?

A. At a high level, no. There are certainly some technical differences to -- to make sure that the pods only work with the approved pods, but in terms of kind of core technology, it's really the age verification that is a very innovative piece and difference in that product design.

MR. BUI: Thank you very much for your time, today, Ms. Leistra.

THE WITNESS: Thank you.

MR. BUI: Thank you, Your Honor.

JUDGE JOHNSON HINES: Thank you.

Ms. Bohanon?

MS. BOHANON: Nothing further from NJOY, Your Honor.

JUDGE JOHNSON HINES: All right.

MS. HERNDON: Nothing further from Respondents, Your Honor.

JUDGE JOHNSON HINES: Thank you.

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Thank you for your time. You are excused.
THE WITNESS: Thank you very much.
(The witness stood down.)
MR. PEPE: Good afternoon, Your Honor.
JUDGE JOHNSON HINES: Good afternoon, Mr. Pepe.
MR. PEPE: We're going to be calling Lynn Winch to testify.
JUDGE JOHNSON HINES: All right. Good afternoon.
THE WITNESS: Good afternoon.
JUDGE JOHNSON HINES: Before you sit down, would you raise your right hand, please.
Whereupon--
LYNN WINCH,
having been first duly sworn/affirmed, was examined and testified as follows:
THE WITNESS: Yes, I do.
JUDGE JOHNSON HINES: Thank you very much. You may be seated and welcome.
MR. PEPE: Your Honor, before I begin, I did give you binders, but we're going to be looking at some voluminous spreadsheets, so we didn't print out everything --
JUDGE JOHNSON HINES: Thank you.
MR. PEPE: -- on the spreadsheet. So I think we're going to be mostly working with the computer screen.

NJOY Exhibit 2014.0100
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JUDGE JOHNSON HINES: Okay.

MR. PEPE: May I proceed?

JUDGE JOHNSON HINES: Please.

DIRECT EXAMINATION

BY MR. PEPE:

Q. Good afternoon. Can you please introduce yourself?

A. Sure. Good afternoon. My name is Lynn Winch.

Q. All right. And where are you currently employed?

A. I am currently employed with Altria Client Services.

Q. And what is your role at Altria?

A. I am a senior director in the finance organization.

Q. And when did you first join Altria?

A. I started my combined career with Altria about 30 years ago. I started working for a subsidiary, U.S. Smokeless Tobacco Company, prior to the acquisition in 2009, and then transitioned to an Altria Client Service employee.

Q. All right. And what are your current job responsibilities at Altria?

A. I lead the financial planning and analysis team for oral tobacco businesses, as well as NJOY.

Q. Okay. And do you hold any positions at NJOY currently?

NJOY Exhibit 2014.0101
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A. Yes, I do. I'm vice president and treasurer.
Q. All right. And how long have you held that title at NJOY?
A. Since the acquisition.
Q. Now, as part of taking on responsibilities for NJOY's business, did you familiarize yourself with the company's historical financials and recordkeeping practices?
A. Yes, we did. We traveled, actually, to their corporate headquarters in Arizona, post-acquisition, to familiarize ourselves with their books and records, their financial planning process, and we met with every individual to learn a little bit more -- the Finance Department, excuse me, to learn a little bit more about what each person did, as well as to understand fit for Altria.
Q. All right. And why did you do that?
A. As I mentioned, we were trying to learn more about their financial planning process, how they recorded things in their books and records, as well as to get a better understanding of each employee's skill sets and responsibilities and roles.
Q. All right. So can you explain at a high level how NJOY has historically tracked its expenditures?
A. Sure. They historically track them, I would say, by department, by account, similar to the way most companies do. They do not track them specifically by product, but, in

NJOY Exhibit 2014.0102
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general, it's similar accounting categories that we use in most large public companies.

Q. All right. Ms. Winch, I'd like to pull up Exhibit JX-588C. I think that will be displayed on your computer screen soon.

MR. PEPE: Your Honor, actually, at this time, we do need to go on the NJOY confidential record.

JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential session.)

NJOY Exhibit 2014.0103
Juul v. NJOY
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O P E N S E S S I O N

BY MR. PEPE:

Q. I just have a few more questions for you, Ms. Winch.

A. Sure.

Q. And I think we touched on some of this earlier, but does NJOY have engineering facilities in the U.S. where work is performed related to NJOY ACE?

A. Yes, it does.

Q. Okay. And where are those facilities?

A. In Wisconsin.

Q. Okay. And does NJOY have facilities in the U.S. where regulatory work is performed?

A. Yes, they do.

Q. Okay. And do you know where those are?

A. Those are in Florida.

Q. Okay. And where is NJOY's headquarters located?

A. Arizona.

Q. All right. Thank you.

MR. PEPE: I pass the witness.

JUDGE JOHNSON HINES: Thank you very much.

MR. KARAMBELAS: I think the first few questions, Your Honor, could be on the public record.

JUDGE JOHNSON HINES: All right. Actually, can you hold on one second?

NJOY Exhibit 2014.0104
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MR. KARAMBELAS: Absolutely.

JUDGE JOHNSON HINES: Thank you.

CROSS-EXAMINATION

BY MR. KARAMBELAS:

Q. Good afternoon, Ms. Winch.

A. Good afternoon.

Q. Prior to joining NJOY, you worked at Altria, correct?

A. Correct.

Q. In that role at Altria, you supported smokeable operations, correct?

A. At one point in my career, I have supported smokeable, but it has been probably close to about ten years now.

Q. You also supported Altria's oral tobacco businesses, correct?

A. Correct, yes, I have.

Q. NJOY became part of your responsibilities in June 2023, correct?

A. Correct, yes.

Q. You didn't have any access to NJOY's financial data before June 1st, 2023, correct?

A. No, I did not.

Q. You're familiar with the current ACE products currently on the market, as well as the ACE 2.0 products not

NJOY Exhibit 2014.0105
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yet on the market, correct?

A. Generally familiar, I would say, yes.

Q. You signed a declaration in this case on August 21st, 2023, the same day the complaint was filed, correct?

A. I don't recall the specific date it was signed. I would have to look at the actual declaration to confirm that.

Q. In your declaration, you provided certain expenses, some actual and some projected, correct?

A. For my declaration specifically, we were basing that from projected expenses.

Q. And the declaration also included some actual expenses for 2023, correct?

A. From my -- from what I recall, no. We used actual expenses as a basis for what we were projecting going forward, but we were projecting it, all of the data was projected. It did not include any actual data at that point in time.

Q. The data that you're referring to in reference to your declaration, you did not actually prepare that data, correct?

A. I did not myself. No, I did not.

Q. That was Phillie Silverman?

A. Yes. Phillie Silverman and her team were responsible for preparing that.

NJOY Exhibit 2014.0106
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Q. And she provided a separate declaration the same day as the complaint, correct?

A. I believe so, yes.

MR. KARAMBELAS: Your Honor, at this time, we'll need to go on the NJOY CBI record.

JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential session.)

NJOY Exhibit 2014.0107
Juul v. NJOY
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O P E N S E S S I O N

EXAMINATION BY COUNSEL FOR ITC STAFF

BY MR. BUI:

Q. All right. So welcome back, Ms. Winch. My name is Vu Bui and I am the Commission investigative attorney assigned to this investigation. Thank you for appearing today to testify.

Ms. Winch, as part of your duties, you perform market forecasts, correct? Financial forecasts?

A. I prepare financial forecasts, correct.

Q. And in preparing those financial forecasts, do you take into account, with respect to the R&D investments and activities, whether or not a particular product such as the ACE 1.0 versus the ACE 2.0 product is taken into account?

A. So I would say, in terms of how those costs are incurred at Altria, they are incurred by our Altria Client Services teams, and then they would be allocated to the corresponding operating companies via several allocation methodologies, one of them being net revenue, one being direct charge, and then a third -- well, I would say direct charge would be how we would receive those costs, correct.

Q. Thank you. But none of those allocations would be by product line; is that correct?

A. Generally, no, they are not.

NJOY Exhibit 2014.0108
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Q. Okay. And, Ms. Winch, are you familiar generally with the differences between the ACE 1.0 product and the ACE 2.0 product?

A. I would say at a very high level, I understand them to be fairly identical with the addition of Bluetooth in the ACE 2.0.

Q. Okay. And when you say Bluetooth, are there any specific Bluetooth features that you're referring to in the ACE 2.0 product?

A. I wouldn't be able to speak to specific features. I would just say sort of a Bluetooth capability in general.

Q. Okay. Do you know who at NJOY would be familiar with respect to the Bluetooth features in the ACE 2.0 product?

A. I would recommend Jose Bonet as the person to speak to on that.

Q. Okay. Anyone other than Jose Bonet?

A. I could not name anybody else. That would be who I would recommend.

Q. Okay. And are you familiar with any age verification technology?

A. I would say, as a general term, related to the Bluetooth technology, that's what I understand the purpose of that to be for, but beyond that, I would -- I just have a general understanding.

NJOY Exhibit 2014.0109
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Q. Thank you, Ms. Winch.

A. I would say.

Q. Am I correct in understanding that you are not familiar with respect to whether there is any ongoing R&D activities for the ACE 1.0 product or the ACE 2.0 product?

A. I would say that, as part of our financial planning forecast, as I mentioned, we do get information from the corresponding Altria Client Services groups to get an understanding -- I would say a general understanding of anticipated hours they're working on activities specific to our business. So that would be kind of part of a general conversation we would have related to that.

Q. I see. And based on that general conversation, would you have an understanding with respect to whether there's any breakdown that could be performed on, for example, a monthly basis?

A. So we do record our expenses on a monthly basis, similar to the way NJOY did, and then they get allocated over to our business. So it gets incurred for Altria Client Services but then allocated to us.

Q. Thank you, Ms. Winch.

MR. BUI: Thank you, Your Honor.

JUDGE JOHNSON HINES: Thank you.

Mr. Pepe, anything else?

MR. PEPE: Nothing further, Your Honor.

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JUDGE JOHNSON HINES: All right. You are now excused.

THE WITNESS: I can officially get up now? Thank you.

(The witness stood down.)

MR. DESAI: Your Honor, NJOY calls Jose Bonet.

JUDGE JOHNSON HINES: Thank you.

Good afternoon.

THE WITNESS: Good afternoon.

JUDGE JOHNSON HINES: Before you sit down, could you raise your right hand.

Whereupon--

JOSE BONET,

having been first duly sworn/affirmed, was examined and testified as follows:

THE WITNESS: I do.

JUDGE JOHNSON HINES: Thank you very much. Please be seated and welcome.

DIRECT EXAMINATION

BY MR. DESAI:

Q. Good afternoon. Could you please introduce yourself.

A. My name is Jose Bonet.

Q. Mr. Bonet, where are you currently employed?

A. Altria.

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Q. And what is your role there?
A. I am senior director, vapor design.
Q. And when did you become an Altria employee?
A. Officially on January 1st, 2024.
Q. And in your role at Altria, do you work on the NJOY ACE product line?
A. I do.
Q. And where were you employed before Altria?
A. At NJOY.
Q. And what was your role at NJOY before you became an Altria employee?
A. When I joined NJOY, I was vice president of engineering, and by the time of the acquisition, I was senior vice president of engineering.
Q. When did you join NJOY?
A. July 2019.
Q. Could you tell us what your responsibilities were at NJOY between your joining in 2019 and until you became an employee of Altria?
A. So my responsibilities are for all of the product design, product development, product engineering.
Q. And what products were those?
A. For the NJOY ACE and the NJOY Daily.
Q. You mentioned those two products. What percentage of the Engineering Department's resources have

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been dedicated to the ACE product line relative to the Daily product line since you joined in 2019?

A. So over 80 percent.

Q. Okay. And how do you know that?

A. Just based on the engineering resources and our budget allocation.

Q. And would that include both labor and non-labor resources?

A. It would.

Q. And why has so much more time and resources been devoted to ACE relative to Daily?

A. So the ACE is the primary product line for NJOY. It generates the vast majority of the revenue for the business, and that's why we spend a proportionate amount of time on R&D and engineering.

Q. And has that been true since you -- since you joined the group in 2019?

A. It has been.

Q. Okay. Now, since you joined NJOY in 2019, what percentage of the employees in the Engineering Department have been based in the United States?

A. 100 percent.

Q. And how many engineers and scientists has NJOY employed in the Engineering Department since 2019?

A. So when I joined the company, the headcount in

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engineering was roughly 7 headcount. We peaked around 20 headcount in 2020, 2021. And since then, it has stabilized at about an average of 15 to 16 headcount.

Q. Okay. Was NJOY ACE already on the market when you joined NJOY in 2019?

A. Yes, it was.

Q. Okay. And what company was responsible for the initial design and development of NJOY ACE?

A. That would be Smoore in Shenzhen, China.

Q. Now, did NJOY acquire the ACE design from Smoore?

A. We did. In late 2018.

Q. Okay. And what company has been responsible for the engineering and R&D related to NJOY ACE since NJOY acquired the design from Smoore?

A. NJOY has been responsible for the design and development.

Q. And have the individuals in the Engineering Department at NJOY engaged in R&D and engineering work directed towards ACE since you joined in 2019?

A. Yes, we have.

Q. Now, what are the main R&D and engineering projects that your department has worked on with respect to ACE since you joined in 2019?

A. So the main engineering projects since 2019 were the completion and submission of the ACE 1.0 PMTA

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application; manufacturing support, which includes investigation and resolution of manufacturing issues, it includes the startup of the Malaysia manufacturing facility, includes the qualification of roughly 40 new alternate component suppliers. We also have developed new e-liquid formulations. We have developed product cost reduction designs based on the ACE. And we support the customer complaint process with the quality team.

Most recently, we have just completed the design and development of the ACE 2.0 Bluetooth-enabled product, and we just recently submitted the PMTA for that product.

Q. Okay. You mentioned manufacturing support. Can you explain what kind of manufacturing support the Engineering Department at NJOY has performed since 2019?

A. So, primarily, it varies -- it touches a lot of different areas. A lot of it is manufacturing support, so when there's production line issues, downtime issues, scrap-related issues in manufacturing, incoming supplier quality issues, my engineering team will support the investigation and resolution of those -- of those issues.

As I mentioned before, any startup of any new manufacturing facility, we are heavily engaged in. And, lastly, the qualification of alternate suppliers for components.

Q. Now, where are the commercial ACE pods and ACE

NJOY Exhibit 2014.0115
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device manufactured?

A. They're currently being manufactured in Malaysia and Indonesia.

Q. And where is the e-liquid for ACE manufactured?

A. They're manufactured in the United States.

Q. Now, is the manufacturing support that you described performed by NJOY engineers who are based in the United States?

A. That is correct. They are based in the U.S.

Q. During your tenure, has NJOY's Engineering Department also employed scientists who perform research and development work related to e-liquids used in NJOY ACE?

A. Yes, we have.

Q. And what liquid formulation development work have NJOY scientists performed since 2019?

A. So the formulation scientists have developed numerous new flavor formulations to be used in the ACE. They've supported the PMTA application as well.

Q. And are those scientists who perform liquid formulation development for NJOY based in the United States?

A. Yes, they are.

Q. Okay. I think you've mentioned a few times supporting the PMTA process. What type of work do or have NJOY engineers performed to support NJOY's PMTA applications for ACE?

NJOY Exhibit 2014.0116
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A. So part of the support for the PMTA application process for engineering is we define and evaluate all aspects of the product design, so all of the specifications, hardware, firmware, e-liquid formulations, ingredients, material composition, things of that nature.

It also includes manufacturing, defining and evaluating the manufacturing processes, so all of the work instructions, assembly fixtures, in-line production test equipment, and release testing test equipment. And then, additionally, it includes the -- supporting the data evaluation of all the aerosol characterization test data and extractable and leachable test data.

Q. Have NJOY engineers performed that work for PMTAs for both ACE and ACE 2.0?

A. Yes, we have.

Q. Now, I think you've described some testing and analysis related to ACE. Does some of that testing by the Engineering Department take place in the United States?

A. Yes. It would have taken place in NJOY's facilities in Wisconsin.

Q. Okay. And what kinds of testing was done in the United States for NJOY ACE and/or NJOY ACE 2.0?

A. So various types of engineering-related testing, aerosol mask testing, airflow pressure, airflow flow rate testing, a lot of testing related to the evaluation of the

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electronics control systems in the ACE product, a lot of mechanical-type test equipment, so force gauges, tensile -- tensile test equipment, adhesion testers. And then for environmental tests, like salt spray, high temperature, low temperature, thermal shock, and regulatory testing, we would -- we would utilize third-party test labs in the U.S. to do that because it requires large pieces of test equipment.

Q. Okay. And setting aside the -- the third-party testing you just mentioned, again, where does that other testing take place?

A. At NJOY's facilities in Wisconsin.

Q. And how many facilities are there in Wisconsin?

A. We have two facilities in Wisconsin.

Q. Where are they exactly in Wisconsin?

A. One is located in Baraboo, Wisconsin, and one is located in Middleton, Wisconsin.

Q. And does NJOY maintain testing and lab equipment at those Wisconsin facilities?

A. We do, at both.

Q. Okay. Let's take a look at JX-558C in your binder.

A. Okay. I think I have it.

Q. And could you tell us what this document is?

A. So this document is module 2.3.1, product design summary. This is one of the supporting source documents for

NJOY Exhibit 2014.0118
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the ACE 1.0 PMTA application.

Q. Okay. And was your department, Engineering Department, involved in creating this section of the PMTA?

A. Yes, we were.

JUDGE JOHNSON HINES: Should we go on the confidential record? I see some folks are leaving.

MR. DESAI: I don't think we're going to get into the details of the document so we don't need to do that.

JUDGE JOHNSON HINES: Okay. You may stay.

Thank you.

MR. DESAI: Glad people are cautious.

BY MR. DESAI:

Q. All right. We can go to JX-559C in your binder.

A. Okay. I have it.

Q. And what is this document?

A. So this is module 2.3.2, product manufacturing summary. This is also a supporting document for the ACE 1.0 PMTA application.

Q. And was the Engineering Department at NJOY involved in creating this portion of the PMTA for the ACE system?

A. Yes, we were.

Q. Okay. Now, did NJOY's Engineering Department work in conjunction with the Regulatory Department to prepare the PMTAs for ACE and ACE 2.0?

NJOY Exhibit 2014.0119
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A. Yes, we did.

Q. Now, based on your interactions with the regulatory team, what other work did the regulatory team at NJOY perform to prepare the PMTAs for ACE and ACE 2.0?

A. So the regulatory team's department for the PMTA process is -- it really defined the framework for the overall PMTA application. So they'll develop the content plan, the testing plan, and basically lay out all of the required source documentation that would be submitted with the application.

They also lead and are responsible for all of the product characterization testing, all of the aerosol chemistry characterization testing. They conduct toxicological analysis of all of the e-liquid formulations, the ingredients, and the material composition of all of the components.

They'll conduct in vitro studies of the product -- of the aerosol, sorry, and they'll also conduct PK studies, pharmacokinetic studies, and switching studies to determine an overall assessment of the population health impact of the NJOY product.

Q. And where -- where is the regulatory team located?

A. They're -- they're all in the United States.

Q. Are they disbursed throughout the United States?

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A. They're -- yeah, they're spread out across the country.

Q. Okay. Mr. Bonet, from 2019 to 2023, was there a quality group within NJOY that performed work related to ACE?

A. Yes, there was.

Q. All right. And has the NJOY Engineering Department worked in conjunction with that quality group on projects relating to ACE?

A. Yes, we have.

Q. Based on your interactions with the quality group, what are -- what are the primary activities that the quality group does with respect to NJOY ACE?

A. So, beginning in 2019, the quality team really created our company's QMS, or quality management system. It didn't exist before 2019. The QMS is important because it defines all of the quality requirements associated with our products, our components, our ingredients. It also lays out the requirements around our manufacturing and distribution processes.

They also play a key role in managing and controlling our suppliers and contract manufacturers and ensuring that they are working and producing product within the guidelines and requirements that are laid out in the QMS.

NJOY Exhibit 2014.0121
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They're also a key partner in the PMTA application process, so, for example, they will lead and manage the batch record generation process. They will lay out the sample size, the test protocols. They'll facilitate -- or, sorry, coordinate activities with the contract manufacturer to execute those batch production runs and generate the data, analyze the data, then prepare that for the PMTA.

They also support engineering with alternate supplier qualification, so they will conduct, for example, supplier audits. They'll work with the suppliers to resolve any deficiencies identified during those audits, and they'll also manage all of the customer complaint investigation and resolution. So they'll work with customers to get products returned. They'll evaluate those units, test those units, and they can typically resolve, like, 90, 95 percent of the customer returns investigations. And where there's a little more technical support needed, they'll reach out to the engineering team.

Q. Now, are the NJOY employees who engage in the quality activities you just described, are they all based in the United States?

A. Yes, they are.

Q. Let's go back to the e-liquids for NJOY ACE. Does NJOY manufacture the e-liquids itself?

NJOY Exhibit 2014.0122
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A. We do not. We utilize contract manufacturers.
Q. And who are those contract manufacturers?
A. E-liquid manufacturers for us are GoodCat, ELT, and Purilum.
Q. You may have answered this already, but where do those contract manufacturers make the e-liquid for ACE?
A. So in the United States.
Q. Okay. And are the e-liquids that those contract manufacturers for NJOY -- sorry.
Are the e-liquids that those companies manufacture for NJOY also sold to other companies that make e-cigarettes?
A. No. Those -- our e-liquids are exclusive for NJOY use.
Q. Okay. I have some questions about ACE 2.0. When did NJOY begin developing ACE 2.0?
A. So we began working on the ACE 2.0 product in late, very late 2019. We had to pause the product -- project in 2020 to support the ACE 1.0 PMTA application, but we picked up the project again in earnest in 2021.
Q. Now, how does ACE 2.0 device differ, if at all, from ACE 1.0?
A. So there's two primary differences between the ACE 2.0 and ACE 1.0. The first difference is the addition of Bluetooth technology or capability to the ACE 2.0. That

NJOY Exhibit 2014.0123
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enables the device to communicate with a Smartphone via the NJOY app, which my team also developed. And that, the system is designed to verify and authenticate that users are above the age of 21 before the app will allow the user to unlock the device for use.

The other main difference between the 2.0 and ACE 1.0 is the electrical contacts and the flavor in ACE 2.0 pods have been designed in such a way that the ACE 2.0 pod will only work and only function with the ACE 2.0 device. In other words, the ACE 2.0 pods will not work with ACE 1.0 devices.

Q. Aside from the Bluetooth and the interface differences you just described to prevent backwards compatibility, is the ACE 2.0 design and operation the same as ACE 1.0?

A. So all of the core performance of the ACE 1.0, and especially around the aerosol generation performance, is unmodified, identical to -- in the ACE 2.0.

Q. Are there components that are common to both ACE 1.0 and 2.0?

A. Yes. So, in total, the ACE 1.0 has 34 components. The pod has 12 components, and the device is made up of 22 components. The ACE -- there are 27 of those components that are common with the ACE 2.0. So the ACE 2.0 has really only introduced seven new components.

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Q. Given the similarities in the design and the number of common parts, has NJOY been able to apply the work conducted on ACE over the past five years to the development of ACE 2.0?

A. Yes. So over the last five years working on the ACE 1.0 product, my team and I have -- we've developed a very solid and deep understanding of the tolerance -- the tolerances of all the components and how they -- the implications of those in the manufacturing process of these products. We also have a very good, strong knowledge about the power controls, the battery controls, and the safety systems in the ACE product.

And, lastly, we have a very strong knowledge base around the aerosol characterization and all of the other product performance attributes.

Q. Mr. Bonet, you have in front of you a box that should have the label CPX-0009.1 on that. Do you see that?

A. You said .1?

Q. I think so, yes.

A. Yeah.

Q. Okay. And what is that?

A. This is an ACE 1.0 product.

Q. Does it have both the ACE device and the ACE pod?

A. It does. It has an ACE pod and an ACE device.

Q. Okay. And could you -- there's another box there

NJOY Exhibit 2014.0125
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that's CPX-10C.

A. I have it.

Q. Could you tell us what's in that box?

A. This is the ACE 2.0 pod and ACE 2.0 device.

Q. Okay. And now that you have those both in front of you, how does the form factor of ACE 2.0 compare to that of ACE, based on the physical samples that you see in front of you?

A. So, externally, the form factor between the ACE 1.0 and ACE 2.0 are identical. You -- you really can't tell the two apart. The only way to distinguish the ACE 2.0 is based on the Bluetooth marking on the ACE 2.0 device.

Q. Now, prior to August 2023, had NJOY made any prototypes of the ACE 2.0 product?

A. Yes, we have.

Q. And about how many prototypes were made?

A. So we built and tested 500 prototypes at the NJOY facilities in Wisconsin. We built and tested another roughly 2,000 units at the Smoore facility. And of the 2,000 units that were built at Smoore, roughly 500 of those units were sent back to the NJOY facilities in Wisconsin for further evaluation and testing.

Q. Okay. And, again, the testing took place in, is it -- did you say in Wisconsin?

A. Yes. At the NJOY facilities in Wisconsin.

NJOY Exhibit 2014.0126
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Q. Okay. Did NJOY also build printed circuit board assemblies for the ACE 2.0 within the United States prior to August of 2023?

A. We did. We had a contract manufacturer in the United States who made 5,000 ACE 2.0 PCBAs, or printed circuit boards.

Q. And were those incorporated into the prototypes in the U.S.?

A. They were. They were incorporated into all of the previous prototypes that I had mentioned.

Q. Okay. Now, prior to August 2023, had the NJOY Engineering Department conducted work as part of NJOY's PMTA application for ACE 2.0?

A. We have.

Q. Okay. And what kind of work was done?

A. So I think I mentioned this before, but it was really around defining the product, defining the function of the product, all the performance features of the product, reporting all of the testing, all of the qualification testing done on the ACE 2.0 product. We also provided all of the information related to the changes in manufacturing process associated with the ACE 2.0 because they are so similar, but there are still some of the manufacturing steps and processes that are different and needed explanation and evaluation for the ACE -- sorry, for the PMTA application.

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And then, of course, submitting all of the design verification testing that was completed for the ACE 2.0 to prove, A, that all of the core performance of the ACE 2.0 was identical to the ACE 1.0, and to prove that all of the Bluetooth functionality and access restriction technology features function as intended.

Q. Okay. Let's take a look at JX-498C in your binder.

A. Okay. I have that.

Q. And what is this document?

A. So this is a meeting information packet. It's a meeting information packet, MIP, for the NJOY ACE 2.0 Bluetooth system product design summary. This is a document that we prepared, NJOY prepared, and submitted to the FDA in 2021.

The document was submitted to the FDA, seeking input and feedback from the FDA on our intended design methodology for the ACE 2.0 product.

Q. And was the Engineering Department at NJOY involved in creating this submission to FDA?

A. Yes, we were.

Q. Okay. And what was -- what was the involvement?

A. Pretty significant. We had to define in simple terms for the FDA what the -- what was the same as -- as ACE 1.0, what was different. We had to describe the overall

NJOY Exhibit 2014.0128
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system architecture for the entire ACE 2.0 system or product, if you will, which includes the back end, the app, all of the third-party providers. So we had to describe the entire system for the FDA.

Q. And did FDA raise any concerns with NJOY's design approach for ACE 2.0 based on this submission?

A. They did not raise any concerns. They made a few recommendations or suggestions, if you will, on some things to evaluate that we had not identified to evaluate in the MIP. But no concerns were raised.

Q. And, again, could you repeat when the PMTA for ACE 2.0 was filed?

A. It was filed on May 20th, 2024.

MR. DESAI: Your Honor, I have no further questions.

JUDGE JOHNSON HINES: All right. Thank you very much.

All right. And I'm sorry to do this now that you've gotten up and everything, but would this be a good time for our afternoon break?

MR. RENAUD: Certainly, Your Honor.

JUDGE JOHNSON HINES: I didn't think that you would object. So let's meet back at 3:25.

(A recess was taken at 3:10 p.m., after which the proceedings resumed at 3:25 p.m.)

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JUDGE JOHNSON HINES: Thank you, be seated. Mr. Renaud.

MR. RENAUD: Good afternoon, Your Honor, may I proceed?

JUDGE JOHNSON HINES: Yes, thank you.

CROSS-EXAMINATION

BY MR. RENAUD:

Q. Mr. Bonet, it is good to see you again. Do you recall I took your deposition in this investigation, correct?

A. I do, yes.

Q. You were also deposed in the other investigation, the 1368, sir?

A. I was.

Q. I would like to start by asking you a few questions, sir, about your professional background. I understand you have earned a Bachelor of Science degree in Mechanical Engineering around 1991; is that correct?

A. That is correct.

Q. And you received this degree from the New Jersey Institute of Technology, correct?

A. I did.

Q. At one point, you worked for a company called Airco, correct?

A. I did.

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Q. And during your tenure at Airco, you worked in a mechanical engineering capacity, correct?
A. I did.
Q. Your work at Airco involved electromechanical-type components, correct?
A. It did.
Q. Your electromechanical components -- sorry, strike that.
An electromechanical component is a component that has electrical and mechanical properties, correct?
A. Yes.
Q. And more specifically, you worked on boiler technology at Airco, correct?
A. Boilers and water heaters, but yes.
Q. And these boilers and water heaters involved electromechanical type components, correct?
A. They did, mostly around the controls, yes.
Q. You started working at Airco around 1997, correct?
A. Yes.
Q. Okay. So is it fair to say that by 2008, you had more than two years of experience working with electromechanical products?
A. Yes.
Q. I would like to now turn to your employment at

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NJOY. You joined NJOY around July of 2019; is that correct?

A. That is correct.

Q. Okay. And at one time was your title senior director of vapor design at NJOY?

A. Not at NJOY. My title at NJOY was either vice president of engineering or senior vice president of engineering.

Q. Did it come to a point sometime in your career where you had a title senior director of vapor design?

A. Sorry, currently, in my current role with Altria.

Q. That's your title?

A. It is senior director of vapor design, yes.

Q. Thank you. You would consider an e-cigarette device to include electromechanical technology, correct?

A. I would in the puff sensor, yes.

Q. In your role as the senior director of vapor design, you're responsible for existing product development, correct?

A. I am, yes.

Q. Okay. And you're involved with supervising engineering teams, correct?

A. Correct.

Q. And this includes supervising engineering activities on NJOY's current products, correct, both the ACE 1 and the ACE 2?

NJOY Exhibit 2014.0132
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A. And the DAILY, yes.
Q. And you're familiar with NJOY's prior products, correct?
A. Not really. Not really. I am really only familiar with the NJOY ACE and DAILY.
Q. Okay. Have you had any past experience with the NJOY NPRO e-cigarette, sir?
A. No experience -- no engineering, no work experience with that product. I never heard of that product before this case.
Q. You will agree with me that you were designated to testify on the NJOY prior art e-cigarette products, correct?
A. I was, but I don't have any experience working on those -- engineering working experience on those products.
Q. But you did familiarize yourself with those NJOY prior art products before having your deposition taken, correct?
A. To the best of our ability with the information we had.
Q. Right. And one of those products was the NJOY NPRO e-cigarette, correct?
A. Yes, I believe so.
Q. And you also prepared to testify at your deposition about the NCIG and the NGAR products, correct?

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A. Similarly, I don't have working engineering knowledge or experience with those products, but, yes, I was prepared for the deposition to the best of our ability.

Q. Okay. And in your work, sir, as the senior vapor -- let me get it right -- senior director of vapor design, one of your responsibilities includes competitive evaluations, correct?

A. That is correct.

Q. And in your capacity as the senior director of vapor design at NJOY, you have performed competitive analyses on the JUUL products, correct?

A. So I just want to make one correction. I was not the senior director of vapor design at NJOY. That's my current title with Altria.

Q. I will withdraw the question.

A. Sorry?

Q. Let me ask it again. Sorry.

You have performed competitive analyses on the JUUL products, correct?

A. We did, yes.

Q. Okay. And when you say "we," that includes NJOY, correct?

A. It includes NJOY, NJOY engineering, yes.

Q. Okay. And NJOY has also performed teardowns of the JUUL products, correct?

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A. Yes.
Q. And NJOY has performed teardowns of other products in the market for competitive analyses beyond the JUUL products, correct?
A. Yes, we have.
Q. In fact, NJOY's torn down nearly every e-cigarette product on the market today, correct?
A. I couldn't say if they are every e-cigarette product on the market. I know we have torn down, in my tenure there, maybe 20 -- 15, 20 different products.
Q. And this teardown of competitive products is part of NJOY's standard competitive intelligence, correct?
A. It is, to gather information about our competitors.
Q. And in your role as senior director of vapor design, you have reviewed these teardown reports, correct?
A. For the most part, yes.
Q. And you have discussed these reports with other engineers at NJOY, correct?
A. Correct. Like I haven't reviewed every single competitive report, but on occasion, yes, I would review them with my engineers.
Q. You have discussed the competitive analysis report that was obtained by Altria, correct?
A. Which competitive report are you referring to?

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Q. The JUUL report.
A. Is that the Wingle Report?
Q. Yes, the Wingle Report.
A. Okay. So, yes, I did review that document.
Q. And this includes Altria's analysis of the JUUL products, correct?
A. I believe it does.
Q. And you are personally familiar with the JUUL products, correct?
A. I am, yes.
Q. Okay. And you have personal knowledge of the structure of the JUUL products, correct?
A. Yes.
Q. And you have a general understanding based on your work as the senior director of vapor design of how e-cigarette devices work, correct?
A. Yes, I do.
Q. I would like to start with the e-cigarette devices previously sold by NJOY. The NJOY NPRO has a cylindrical form factor; agreed?
MR. DESAI: Objection, Your Honor, lacks foundation.
JUDGE JOHNSON HINES: Excuse me?
MR. DESAI: Lacks foundation. The witness testified he wasn't familiar with these products.

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JUDGE JOHNSON HINES: Can you reframe?

MR. RENAUD: Not only did he not say that, he actually said he prepared for his deposition on the very subject matter of these products.

He answered many questions at his deposition, so he indeed had a deposition topic, Your Honor, specific to these products and he had the devices in his hand at the deposition. I would like to explore an area that was a designated 30(b)(6) topic for which he was the witness.

JUDGE JOHNSON HINES: I would like to get an understanding of how this is in the scope of his direct examination.

MR. RENAUD: Well, we're doing -- well, our intention, Your Honor, this morning was to report to the Court that the parties had agreed -- and I know Your Honor has to obviously agree as well that we would do the adverse cross at the same time as the -- the adverse direct at the same time as the cross, so we wouldn't have to call Mr. Bonet back twice.

JUDGE JOHNSON HINES: All right. So is that your understanding, Mr. Desai?

MR. DESAI: It is, Your Honor, but I think the point here is that he was designated as a 30(b)(6) witness to testify about NJOY's knowledge about these prior products. There was no witnesses at NJOY left who had any

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knowledge, so he was educated to the best of our ability. That does not qualify him now to provide what is expert testimony about prior art. And that's the purpose of this examination now.

MR. RENAUD: Might I respond, Your Honor?

JUDGE JOHNSON HINES: Yes.

MR. RENAUD: So whether or not this product is cylindrical or not, Your Honor, is well within this witness' capabilities. We just heard, I think close to ten minutes of his expertise in evaluating, testing, designing, submitting PMTAs. I think he is more than capable of answering that question; and, in fact, at his deposition he did.

JUDGE JOHNSON HINES: All right. Well, first, this is a fact witness and not an expert witness. You may characterize the questions and answers that you just posed to Mr. Bonet as establishing his expertise and I may disagree with that, because this witness is a fact witness and not an expert witness.

With respect to the scope of the witness' testimony, I assume that, Mr. Desai, you have no objection?

Is that my understanding? That you're not objecting to this testimony because there was an agreement by the parties?

MR. DESAI: They did issue a trial subpoena for

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him. And rather than have him appear in their case-in-chief, we agreed that -- but that doesn't mean we would agree that the questions that were asked would not be objectionable.

JUDGE JOHNSON HINES: All right. That's fine. I will allow this question and we can renew objections as you see fit. But I will allow this.

Mr. Bui, do you have any comment? Anything to add on this?

MR. BUI: Nothing to add, Your Honor.

JUDGE JOHNSON HINES: Thank you.

MR. RENAUD: Do you want me to ask it again, Your Honor?

JUDGE JOHNSON HINES: Yes.

MR. RENAUD: Thank you.

BY MR. RENAUD:

Q. The NJOY NPRO has a cylindrical form factor, correct?

A. I believe it does. I just don't remember from my deposition which one was the NPRO.

Q. Okay. The NJOY NPRO was designed to look like a cigarette, correct?

A. I'm not sure what the design parameters were for the NPRO. Again, I have no working knowledge, engineering direct knowledge of that product. It was an NJOY product

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ten years before I joined the company.

Q. Mr. Doyle, could you pull up RX-1235, please.

And I have it on the screen if that's helpful for you.

A. It's easier that way, thank you.

Q. Do you recall at your deposition there were samples of certain NJOY products, sir?

A. I think I remember seeing this image during my deposition. But -- sorry. So what is the question?

Q. Do you recall -- you actually had a physical -- you had a physical sample of this product at the deposition in front of you, didn't you, sir?

A. I believe I did at the deposition. I think I did, yes.

Q. Okay. And this image was put in front of you at your deposition. And you were asked the question as to whether or not this image showed samples of -- strike that.

Does this image show samples of the NPRO and the NPRO-style devices made available for inspection by DC by NJOY?

A. I mean, I'm just not sure. This -- I had no input into the preparation of this image. I'm just not sure. I mean, there's a box that says NPRO on it. And it looks accurate, but I'm just not sure.

Q. You will agree with me that the e-cigarette

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pictured on the box looks like a traditional cigarette. Yes?

A. Looks that way, yes.

Q. Are you familiar with the term "aerosol"?

A. I am.

Q. And within your engineering team at NJOY, you used the term "aerosol," correct?

A. Yes, we have.

Q. You will agree with me that when a user uses an NJOY ACE device, they would be inhaling an aerosol, correct?

A. They would be inhaling an aerosol, which is a combination of vapor and air.

MR. RENAUD: Your Honor, I am going to try to stay on the public record in regard to some questions about Smoore. Counsel is going to let me know if the answer would call for us to go on the confidential record.

JUDGE JOHNSON HINES: All right.

BY MR. RENAUD:

Q. If I refer to Smoore in question, sir, you will understand that I'm referring to Shenzhen Smoore Technology Company?

A. Yes, I would.

Q. Smoore designed the ACE 1 product, correct?

A. They designed the Smoore product -- or sorry, the ACE product before 2018 when NJOY acquired the product.

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Q. And that's the ACE 1 product, correct?
A. That is correct.
Q. And Smoore designed the ACE 1 product without any assistance from NJOY, correct?
A. Before 2018, yes, NJOY had no input into the design and development.
Q. You will agree with me, I believe, based upon your past answer, NJOY took over design responsibility in 2018 or 2019; is that correct?
A. Yes. NJOY took over design responsibility, full design responsibility in roughly late 2018.
Q. And NJOY has made no design changes to the ACE 1 since acquiring the design from Smoore, correct?
A. Correct, we have made no design changes since that time.
Q. So other than the acquisition, NJOY has not made any investments in the current design of the ACE 1 products, correct?
A. I don't agree with that.
MR. RENAUD: Your Honor, now I have to go on the confidential record, Your Honor.
JUDGE JOHNSON HINES: All right.
(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

MR. BUI: May I proceed?

JUDGE JOHNSON HINES: Yes, sir.

EXAMINATION BY COUNSEL FOR ITC STAFF

BY MR. BUI:

Q. Good afternoon, Mr. Bonet. How are you?

A. I am good. Good afternoon.

Q. My name is Vu Bui. And I am the Commission investigative attorney assigned to this investigation. Thank you very much today for appearing to testify.

A. Of course.

Q. Earlier you were asked about the differences between ACE 1.0 product and the ACE 2.0 product.

Do you recall that?

A. I do.

Q. And I believe one difference that you identified was Bluetooth technology that allows for age verification or access restriction, correct?

A. That is correct.

Q. And a second difference that you identified concerned the design of the electrical contacts. Is that correct?

A. That is correct.

Q. Okay. And is that design change with respect to having those electrical contacts be recessed or is this some

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other design change?

A. So the primary design change is the recessed contacts. The thinking behind that is -- or not the thinking, but the design intent there is the ACE 1.0 device contacts won't be able to physically reach the recessed contacts.

Q. I see. Are you aware of any other purpose behind or the impetus for the design change to the electrical contacts in the ACE 2.0 product?

A. That was the only reason is to enable that kind of access restriction, to prevent flavored pods from being used with the ACE 1.0 device.

Q. I see. Thank you.

What was the purpose behind or impetus for adding Bluetooth technology to the ACE 2.0 product?

A. So in NJOY's PMTA application process of ACE 1.0, the regulatory team did testing. They did switch study testing. And we found that -- I don't remember the exact percentages, but flavored e-cigarette products help enable adult tobacco consumers or more effective at enabling adult tobacco consumers from switching from combustible cigarettes to e-cigarettes.

The challenge with flavored e-cigarette products is the youth appeal. So adding Bluetooth technology -- so the ACE 2.0 device is always -- leaves the factory in a

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locked state. And the device is always trying to lock itself. So it has a timer and is always locking down.

What the ACE Bluetooth device and the NJOY app and Smartphone does is once it authenticates a user to be the person that they identify themselves to be, and that they are at least 21 years of age, they will then be allowed to unlock the device and use the flavored product.

Q. I see. And that verification requires at a minimum setting up an account with NJOY; is that correct?

A. There's multiple business rules around that framework, but, one, yes, they do need to create an account. They need to provide personal information that's government identifiable information, like last four of your social and other types of information, mobile phone number that's searchable and verifiable and then e-mail address and, of course, home address.

Q. I see, thank you. So the addition of Bluetooth technology for age verification will reduce the risk of underage use of the ACE product, correct?

A. That is correct.

Q. Now, the ACE product is a pod-based product, correct?

A. It is.

Q. And the JUUL product is also a pod-based product, correct?

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A. It is.

Q. And these pod-based products are alternatives to combustible cigarettes, correct?

A. They are.

Q. And if pod-based products such as the ACE product or the JUUL product were no longer available on the market, the risk of underage use of such products would be eliminated, correct?

A. I think in that case, I think the alternative for youth could be combustible cigarettes, which is much worse than e-cigarettes. That's my thought on that.

Q. If pod-based products such as the ACE product or the JUUL product were no longer available on the market, the risk of underage use of such products would be reduced, correct?

MR. DESAI: Your Honor? This is outside, way outside the scope of Mr. Bonet's direct testimony and the Staff does not have the same -- we don't have the same agreement with regard to venturing into public interest issues.

JUDGE JOHNSON HINES: All right.

Mr. Bui?

MR. BUI: May I respond?

JUDGE JOHNSON HINES: Yes.

MR. BUI: Mr. Bonet offered testimony with

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respect to the changes between the ACE 1.0 product and the ACE 2.0 product. Those changes include Bluetooth technology for age verification.

JUDGE JOHNSON HINES: Right.

MR. BUI: I am exploring that line of questioning.

JUDGE JOHNSON HINES: All right. I will allow it.

BY MR. BUI:

Q. Mr. Bonet, do you need the question again?

A. Yes, please.

Q. If pod-based products such as the ACE product or the JUUL product were no longer available on the market, the risk of underage use of such products would be reduced, correct?

A. It's a tough, very broad question.

Q. Mr. Bonet, if you cannot answer the questions, feel free to just say I cannot answer the question.

A. It is really hard for me to answer that question of what youth, potential youth users might do if a product is or isn't available.

Q. Earlier today you were asked about a comparison between the ACE 1.0 and ACE 2.0 products, specifically with respect to aerosol generation performance.

Do you recall that?

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A. Sorry? Can you repeat that?

Q. Sure. You provided testimony about a comparison between the ACE 1.0 product and the ACE 2.0 product, specifically with respect to aerosol generation performance.

Do you recall that?

A. That was part of my answer, yes, on one of the questions.

Q. And is it your testimony that aerosol generation performance in the ACE 2.0 product is identical to the ACE 1.0 product?

A. Yes, it is 100 percent identical.

Q. And can you explain exactly what is aerosol generation performance?

A. So the way aerosol is generated in the ACE device is the heating element, power is applied to the heating element and the way we control power to the heating element is identical in ACE 1 and ACE 2. So we apply 6 and a half watts of power in both the ACE 1 and ACE 2. That generates vapor. And that vapor mixes with the air. That gets delivered in aerosol.

And the atomizer is unchanged as well. So it's the same component.

Q. How do you measure aerosol generation performance?

A. So via aerosol masks. We refer to it as TPM,

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total particulate matter.

So we will puff a product for three seconds at 55 -- at a flow rate of 55 milliliters per second, and then weigh the pod before and after that puff. And we do this, like, on 25 or 50 puffs so we can get enough mass to measure.

And we will measure what was the mass loss on that puff. And then we can say okay, that is how much, you know, aerosol or product we delivered in that puff.

Q. I see. Other than TPM, are there any other metrics for measuring aerosol generation performance?

A. So there's carbonyl and HPHC testing that looks more at the aerosol chemistry, the by-products of the aerosol. But that's not my area of expertise. But we have verified with the ACE 1.0 -- sorry, with the ACE 2.0 product that those test results are the same as ACE 1.0.

Q. And when you say those test results, you're talking about test results related to TPM, correct?

A. Talking about the TPM, the carbonyl HPHCs, all of that test data was comparative to ACE 1.0.

Q. Thank you, Mr. Bonet.

Now, earlier you also provided some testimony about the regulatory team. Do you recall that?

A. I do.

Q. And do you recall providing testimony about

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aerosol chemistry characterization testing?

A. Correct, yes.

Q. What exactly is aerosol chemistry characterization testing?

A. So, and this is a little outside of my expertise, but when they conduct the aerosol testing, the carbonyl and HPHC testing, they basically capture all of the aerosol constituents and then they do, I think, mass spectrometry analysis on that aerosol. And they get a representative of all of the chemicals that are in that aerosol and the levels and the amounts of those chemicals in the aerosol.

And that's what generally at a high level, what the characterization of the aerosol chemistry is.

Q. And other than that MS analysis, any other metrics?

A. There is. There are four-letter acronyms that I can't recall right now, but there are other methods that they use, analytical methods.

Q. For my next question, I would like for you to answer agree, disagree or I cannot answer.

A. Okay.

Q. The aerosolization system in the NJOY ACE pods consists of two primary components, an atomizer to produce aerosol and an airway to carry the aerosol to the user for inhalation?

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A. It's a little hard to hear sometimes. Please repeat the question.

Q. Agree or disagree or I cannot answer: The aerosolization system in the NJOY ACE pods consists of two primary components; an atomizer to produce aerosol and an airway to carry the aerosol to the user for inhalation?

A. I don't agree. There is one other component.

Q. Can you identify for me that other component?

A. It is the power control, the PCBA. Because that is what determines how much power is applied to the heating element. And that will generate -- that will determine how much vapor is generated.

Q. I see. So with the addition of that component, that statement would be accurate, is that fair?

A. With the addition of that component, yes.

Q. Now, I would like to follow the same protocol with my next question.

A. Okay.

Q. Agree, disagree, or I cannot answer.

Actually, let me step back.

We have been talking about the NJOY ACE 1.0 product and the NJOY ACE 2.0 product, correct?

A. Yes.

Q. What is the NJOY ACE 2.0 BLE product?

A. It's the same product, BLE is an industry acronym

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for Bluetooth -- it actually means Bluetooth low energy, BLE. We use them interchangeably and -- at NJOY, Bluetooth BLE.

Q. The ACE 2.0 is synonymous with the ACE 2.0 BLE system, correct?

A. It is, yes.

Q. Next question, same protocol, agree, disagree, or I cannot answer.

A. Okay.

Q. The NJOY ACE 2.0 BLE system has an identical form factor and uses the same technology as the NJOY ACE system to heat an e-liquid to yield an inhalable aerosol?

A. Agreed.

Q. Same protocol for the next question; agree, disagree or I cannot answer.

The NJOY ACE 2.0 BLE system utilizes the same atomizer, power control technology, and materials of construction and contains only minimal changes to components required to implement device access restriction features?

A. Agreed.

Q. Thank you, Mr. Bonet.

MR. BUI: Thank you, Your Honor.

JUDGE JOHNSON HINES: Thank you.

Redirect?

MR. DESAI: Just two quick questions or one quick

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question.

REDIRECT EXAMINATION

BY MR. DESAI:

Q. Mr. Bonet, you know that -- are you aware that there are two asserted patents in this case? Are you aware that there are two asserted patents in this case?

A. I -- not really.

Q. Okay. How about this: Have you reviewed either of the two patents that have been asserted in this case?

A. I have not.

MR. DESAI: Thank you, Your Honor.

JUDGE JOHNSON HINES: All right.

MR. RENAUD: No further questions, Your Honor.

JUDGE JOHNSON HINES: Thank you. All right, Mr. Bonet, thank you for your time.

THE WITNESS: Thank you. May I leave?

JUDGE JOHNSON HINES: You are excused. You may.

(The witness stood down.)

MR. DESAI: We're grabbing our next witness.

JUDGE JOHNSON HINES: Fantastic.

MR. DESAI: Your Honor, our next witness will be presented by Kathryn Leicht, who is a NEXT attorney.

JUDGE JOHNSON HINES: I'm sorry, I didn't get your last name.

MS. LEICHT: Kathryn Leicht, L-e-i-c-h-t.

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JUDGE JOHNSON HINES: Thank you. All right. Just so everyone is clear here, what I would like to do today, if we may go a little bit past 5:00, which I hope is all right. I would like to finish Mr. Hillenbrandt today, so no one needs to get hung up overnight.

All right. Mr. Hillenbrandt, would you stand and raise your right hand.

Whereupon--

DANIEL HILLENBRANDT,

having been first duly sworn/affirmed, was examined and testified as follows:

THE WITNESS: I do.

JUDGE JOHNSON HINES: Thank you. Be seated. And welcome.

THE WITNESS: Thank you.

DIRECT EXAMINATION

BY MS. LEICHT:

Q. Good afternoon, Mr. Hillenbrandt. Please introduce yourself.

A. Hello. My name is Daniel C. Hillenbrandt, Jr.

Q. Where do you work?

A. I work at Fuma International, LLC.

Q. What is your position at Fuma?

A. I am the vice president.

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Q. When was Fuma founded?
A. Fuma was founded in 2009.
Q. Who founded Fuma?
A. Greg Conley, Rebecca Moore, and myself.
Q. Why was Fuma founded?
A. Fuma was founded for us to create a better electronic cigarette.
Q. Before you began working with electronic cigarettes, what were you doing?
A. I went to school in machine trades. Upon graduation, I started an apprenticeship for a tool and die maker position. I completed that and I stayed in that industry for 17-plus years.

Then due to the economy slowdown in 2008, manufacturing had left the United States, and I was then left unemployed.

Q. Why did you decide to start selling electronic cigarettes?
A. Greg Conley had introduced them to me because he had been introduced to them as well. And he was very, very interested in it, which got me a little interested in it. And eventually we had an opportunity to sell some electronic cigarettes under the Smoke Fifty-One brand for SmokeAnywhere out of Florida.
Q. When did you start selling the Smoke Fifty-One

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products?

A. It would have been the second quarter of 2009, approximately.

Q. What Smoke Fifty-One products were you selling?

A. The Smoke Fifty-One Trio and the Smoke Fifty-One Duo.

Q. Who manufactured the Smoke Fifty-One Duo and Trio products that you were distributing?

A. SmokeAnywhere.

Q. Why did you stop distributing the Smoke Fifty-One Duo products?

A. There were numerous problems we encountered with the Smoke Fifty-One products as far as leakage, short-lived flavor, very bad burnt flavors. And they were hard to draw on and just not satisfying. We were all present smokers at the time.

Q. Earlier you mentioned you started Fuma so that you could begin selling a better electronic cigarette. Will you briefly describe the electronic cigarette design that you began selling at Fuma?

A. Yes. The Fuma electronic cigarette that we designed was very unique as far as it encompassed more of a balanced system. The central air passageway that we had in ours was enclosed. The transverse heating element allowed for the vapor, allowed for the liquid to come in and be

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vaporized within the airflow chamber, which enhanced the whole experience. It was a cleaner experience.

Q. Please turn to JX-507 in your binder. And I would like to direct your attention to page 3.

A. Yes.

Q. Do you recognize this page?

A. Yes, I do.

Q. What is this?

A. This is a notebook page from the day that Greg Conley and myself were doing collaborations.

Q. Do you see here there is a sketch that has been labeled heating element?

A. Yes, I do.

Q. Who drew this sketch?

A. I drew the sketch.

Q. What's this sketch showing?

A. This sketch was a depiction of what we were discussing that day with our electronic cigarette cartridge. The reason I put heating element there is we were talking about the heating element across and then also the arrows coming up through, which was a central airflow passageway.

Q. When did you draw this sketch?

A. I drew this sketch July 31st, 2009.

Q. How do you know?

A. During this collaboration, Greg Conley had asked

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me to make sure I initial date it. And then at the end of our work, I had handed him the notes back and he chuckled a little bit and I kind of was puzzled and he said you literally wrote initial date on it. So he handed me back the page and then I put the date on it then.

Q. We have talked a little bit about your idea for an e-cigarette. What about products?

A. Products, we then developed a prototype for this.

Q. Who manufactured these prototypes?

A. Transpower.

Q. When did Fuma receive these prototypes?

A. We received them in August of 2009.

Q. What did Fuma do with these prototypes?

A. As soon as the prototypes arrived, we opened them and inspected them and tried them and then Greg Conley immediately left to go to the Ohio-Indiana-Kentucky Tri-State Candy and Tobacco Convention to show these products there.

Q. Please turn to JX-508. The I would like you to review pages 4 through 10.

Do you recognize these pages?

A. Yes.

Q. What are they?

A. These are tolerance sketches that I made.

Q. When did you make these tolerance sketches?

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A. August 18th of 2009.
Q. Please turn to page 10.
What's shown here?
A. Shown here is the cartridge and battery and then the thread specifications for each of those and then the approximate location of where we wanted the coil to come across the airflow passageway, transversely.
Q. Why did you draft these tolerance sketches?
A. To make it easy for Greg to finish communicating with our sub-supplier, so we could then go into full production for our first production run.
Q. And who was that sub-supplier?
A. Transpower.
Q. Please turn to CX-2161.
Do you recognize this document?
A. Yes.
Q. What is this?
A. This is our first invoice for our production -- our first production run in September 17th of 2009.
Q. What products was Fuma ordering?
A. We ordered batteries, chargers, replacement cartridges and starter kit boxes.
Q. Mr. Hillenbrandt, there are several devices in front of you. I would like you to take a look at what has been marked CPX-1.1.

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A. Yes.
Q. Do you recognize this?
A. Yes, I do. This is a Fuma starter kit.
Q. Will you please open the box.
A. Yes.
Q. What is in this starter kit?
A. Within the starter kit is a battery, a cartridge, and the chargers.
Q. How is this device used?
A. This device is used by attaching the cartridge to the battery and then drawing on it.
Q. I would like to turn back to page 2 of CX-2161.
Do you see where it says start kit box?
A. Yes.
Q. What's described here?
A. Purple color as sample but change word color to be metal ink silver and website color.
Q. How does this compare to the device that we have just reviewed?
A. It is like it describes.
Q. I would like you to take a look at another device, CPX-1.2.
Do you recognize this?
A. Yes, I do.
Q. What is this?

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A. This is a Fuma 5-pack of freeze menthol replacement cartridges.

Q. Could you please turn over the package.

What's shown on the back?

A. It is a label denoting what it is, which is the freeze menthol full. It has the company phone number, the company website, the corporate name, along with our corporate logo with the stylized F and the individual UPC code for the product.

Q. What's the UPC code on the back of this device?

A. 705105253954.

Q. All right. I would like to turn back to page 1 of CX-2161.

Do you see a reference here to freeze menthol full cartridges?

A. Yes, I do.

Q. What's shown here?

A. It is the -- this is how the product was denoted on the invoice as the label is on the back. So it has the freeze menthol full as being the product type, the phone number, the website, our corporate name, our corporate logo with the stylized F and the UPC number.

Q. What's the UPC code listed in this invoice?

A. 705105253954.

Q. How does this compare to the UPC code of the

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device that we just reviewed?

A. It matches.

Q. I would like you to take a look at another device, CPX-1.3.

A. Yes.

Q. Do you recognize this?

A. Yes.

Q. What is this?

A. This is a Wild West Tobacco Ultra-Lites 5-pack of replacement cartridges by Fuma.

Q. Could you please turn the package over.

What's shown on the back?

A. On the back is the label which corresponds with the one on the invoice, which also has the phone number, the website, the corporate name, the Fuma logo, the stylized F and the UPC number.

Q. What's the UPC number?

A. 70510523 -- I'm sorry. It was -- can I repeat the whole number? Because I crossed --

Q. Yes. Please start over.

A. 705105253855.

Q. Right. I would like to turn back to page 1 of CX-2161.

Do you see a reference here to Wild West Tobacco Ultra-Lites?

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A. Yes, I do.
Q. What's shown here?
A. It is the label on the back of the five-pack denoting Wild West Tobacco Ultra-Lites, the phone number, our website, our corporate name, our corporate logo with the stylized F, and the UPC number for this individual product.
Q. What is the UPC number on this invoice?
A. 70510525385.
Q. How does this compare to the device that we just reviewed?
A. It's the same.
Q. When were the Fuma e-cigarette starter kit and the cartridges that we have reviewed marked as CPX-1 manufactured?
A. They were manufactured in September of 2009.
Q. How do you know?
A. Because that's when we received the invoice and that's when we started production.
Q. Please turn to JX-545.
Do you recognize this document?
A. Yes, I do.
Q. What is this?
A. This is a declaration that Fuma prepared and Mr. Conley sent to the Patent and Trademark Office to show our reduction of practice in 2009.

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Q. Please turn to JX-543.

Do you recognize this document?

A. Yes, I do. This is also a declaration we prepared for Mr. Conley to send to the Patent and Trademark Office to show our reduction to practice in 2009.

Q. I would like to turn to page 13?

A. Yes.

Q. What is the date of this declaration?

A. The date of this declaration is 11/2 of 2018.

Q. Who at Fuma helped to prepare this declaration?

A. Greg Conley and myself for sure did this to help.

Q. What was your involvement in preparing this declaration?

A. My involvement was to image the products and put the annotations on the sheets that you see.

Q. Please turn to page 14.

A. Yes.

Q. What's shown here?

A. This is the Fuma starter kit tobacco 5-pack of cartridges and a menthol 5-pack of cartridges.

Q. When were the devices shown manufactured?

A. These devices were manufactured in September of 2009.

Q. You said that this declaration was submitted in November of 2018.

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A. Yes.

Q. How do you know that the devices shown were manufactured in September of 2009?

A. When we received our production run, which was our very first production run, it was a milestone in our lives. It was -- this was it. We had our own brand.

We established a -- some people might call it a time capsule box, some people a keepsake box, but we kept some of these products and put them up because it was a special occasion and then as we developed throughout the years, we practice that same thing with other products and things as well.

Q. How do the devices shown in the '131 declarations compare to the devices that we reviewed a few minutes ago, CPX-1?

A. Those are the devices that I photo'd.

Q. Earlier you mentioned there had been some Fuma prototypes. What are the differences between the structure of the Fuma prototypes and the Fuma e-cigarette depicted in the 131 declaration?

A. There were no differences.

Q. Please turn to JX-1.

Do you recognize this document?

A. Yes.

Q. What is this?

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A. This is Patent Number 11,497,864.
Q. Who are the inventors of this patent?
A. Greg Conley and myself.
Q. Please turn to JX-5.
Do you recognize this document?
A. Yes, this is patent 10,334,881.
Q. Who are the inventors of this patent?
A. Greg Conley and myself.
Q. Who currently owns the '864 and '881 patents?
A. NJOY.
Q. What percentage of Fuma do you own?
A. 33 percent.
Q. Will Fuma financially benefit if NJOY is successful in this litigation?
A. Yes.
Q. Do you want NJOY to be successful in this litigation?
A. Yes, I do want NJOY to be successful in this whole thing. The patents represent not only a tremendous amount of growth in my life but an achievement that not a whole lot of people get to experience in their lifetime, so there is a great sense of pride to have these and for NJOY to have them, they will be able to do things greater than we could have done with them, so it's very good.
Q. Thank you, Mr. Hillenbrandt.

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MS. LEICHT: I pass the witness.
JUDGE JOHNSON HINES: Thank you.
MS. XU: Your Honor, this is Catherine Xu on behalf of Respondents, JUUL Labs.
JUDGE JOHNSON HINES: I am going to ask you to speak up a little bit.
MS. XU: Sure.
JUDGE JOHNSON HINES: Are there cross binders?
MS. XU: Yes, there is a cross binder.
JUDGE JOHNSON HINES: Okay.

CROSS-EXAMINATION

BY MS. XU:

Q. Good afternoon, Mr. Hillenbrandt.
A. Good afternoon.
Q. You mentioned earlier that you drew the sketch on JX-507.3.

Jim, if you can pull up that exhibit, please.

A. J --
Q. Yes. JX.
A. Yes, I have the document.
Q. You discussed that earlier?
A. Yes.
Q. You mentioned that you drew the sketch on this page, JX-507.3 first and then have Transpower to manufacture Fuma prototypes based on this sketch. Correct?

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MS. LEICHT: Objection, Your Honor, mischaracterizes his testimony.

JUDGE JOHNSON HINES: I think that the witness can clarify if it is incorrect.

THE WITNESS: This sketch was to help Mr. Conley with making sure that they understood exactly what we wanted to manufacture.

BY MS. XU:

Q. So the Fuma prototype that Mr. Conley asked Transpower to manufacture would be manufactured according to this sketch on JX-507.3, correct?

A. It will be manufactured according to the discussions that he had with them. This was a tool that he used to help convey some of the important things that -- ideas that maybe they weren't completely understanding.

Q. And he conveyed your sketch to Transpower after July 31st when you drew the sketch, correct?

A. I would imagine he spoke to them right away with this sketch.

Q. And you mentioned earlier that Mr. Conley brought Fuma prototypes to the Tri-State Tobacco Convention in August 2009?

A. Yes.

Q. And are you aware that Fuma the prototype he demonstrated in the Tri-State Tobacco Convention was honored

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actually from the Chinese manufacturer, Transpower, before July 29th, 2009?

A. We had to initially -- he had discussions with them prior. We had to place an order committing to making products. Then we had to pay for the products ahead of time. We had to make a payment and then wait for the payment to get there. And then this was his continuing discussions with them.

Q. So I just want to clarify. My question is a simple yes-or-no question.

The Fuma prototype that Mr. Conley demonstrated in the Tri-State Tobacco Convention was manufactured before January -- before July 29th, 2009, correct?

A. I don't know that it was manufactured before then.

Q. You were not involved in any of the conversation Mr. Conley had with the Chinese manufacturer, Transpower, correct?

A. I had an introduction. That was as much as I had.

Q. And, Mr. Conley paid for the Fuma prototype on July 29th, 2009, correct?

A. Yes.

Q. And that's the prototype he brought to the Tri-State Convention, correct?

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A. Yes.

Q. So Fuma prototype Mr. Conley brought to the Tri-State Convention cannot have been manufactured according to your drawing that was made after July 29th, 2009, correct?

A. It was the way we designed it. They only had to do a few. It wasn't a lot.

Q. So earlier I think you also mentioned you wrote down "initial date" on JX-507.3.

A. Yes.

Q. But it was Mr. Conley that told you to write those words "initial date," correct?

A. Yes. When we sat down to discuss things that day, he asked me to do that.

Q. He also asked you to write the July 31st, 2009 date, right?

A. It was that day when I handed the note back, he said I literally wrote initial date on it, and it was supposed to be the date. So then he handed it back and I wrote the date on there.

Q. All right. And I would like to talk a little bit more about your invention that you mentioned earlier is a balance system.

Do you remember talking about that?

A. Yes.

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Q. One thing you tried to achieve that balance system, you mentioned earlier, was to increase the airflow through the cartridge, correct?

A. That was one of many things, yes.

Q. And you increased airflow by making openings on the ends of the e-cigarette cartridge bigger, correct?

A. If those were the changes we made, yes, I believe that was.

Q. You increased the airflow also by using a central air tube, correct?

A. Yes.

Q. And you made sure that central air tube in your invention or in your design was open, correct?

A. Correct. Communicating from the first end to the second end.

Q. And you used a woven tube to frame the air passageway in your design, correct?

A. Yes.

Q. Jim, can you please pull up CX-2161C, page 1, please.

Do you remember earlier you talked about this exhibit, Mr. Conley? Not Mr. Conley, Mr. Hillenbrandt.

A. Yes.

Q. And you were reading those UPC numbers off from this page?

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A. Yes.
Q. And can we please look at the first column items.
A. Yes.
Q. So let's look at the third row, cartridges tobacco but with Marlbolo taste, yellow paper. Do you see that row?
A. Yes.
Q. Under the unit price column, it says it's .62 USD per piece. Do you see that?
A. Yes, I do.
Q. So that item is just the yellow paper sticker, it is not for the cartridge, correct?
A. No, no. That was -- that was per pieces, I believe, or per 5-packs. I would have to do the math here.
Q. All right. So let's look at the row before it, it says "KR80D-1, 100 millimeter battery. Do you see that item?
A. Yes.
Q. The cost for that battery is USD 4.4 per piece, correct?
A. That's what it says.
Q. And are you saying the cartridge, which you are saying is USD .62 dollar per piece, that's significantly cheaper than the cost of the battery, correct?
A. Per cartridge?

NJOY Exhibit 2014.0172
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Q. It says .62 per piece for that yellow paper row that you read earlier.

A. For the whole cartridge?

Q. So is it your testimony that a cartridge cost .62 dollars and battery cost 4.4 dollars?

A. This was the invoice we received.

Q. Jim, if you could zoom out that page a little bit.

Is there anywhere on this page, CX-2161C, that says cartridge?

A. I'm not sure I understand what your question is or that I'm able to hear it clearly.

Q. Let me rephrase it. Looking at the item column, is there any item mentions the word "cartridge"?

A. In the first column, it says cartridges.

Q. And all those rows that says cartridge, the unit price for that is .62 per piece, correct?

A. That's what the invoice says.

Q. And if we can go to the next page, CX-2161C.2. Jim, please zoom into the starter kit box row, please. The second row that says starter kit box, if we can just look at that row.

The unit cost for the starter kit is also .6 -- or even cheaper, .6 per piece, correct?

A. Those were the boxes, just boxes with foam.

NJOY Exhibit 2014.0173
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Q. So that start kit box is only for the box, not containing any cartridge?

A. Correct, it is only for the cardboard box and the foam that's inside of it.

Q. Jim, can you also please pull up JX-545.16, please.

This is a yes-or-no question, Mr. Hillenbrandt. The Fuma cartridges shown in this photo is not the Fuma prototype Mr. Conley brought to the Tri-State Convention, correct?

A. No.

Q. So earlier, I think I asked you a few questions about your July 31st drawing and the Fuma prototype.

Do you remember that discussion?

A. Yes.

Q. You can show me the drawings pertaining to the product ordered on July 28th, correct?

A. I'm not sure I know which drawings you're talking about now.

Q. So we talked about the drawing on JX-507.3. Do you remember that?

A. Yes.

Q. You don't know what drawings the products that were ordered on July 27th were billed to, correct?

A. Mr. Conley worked with our sub-supplier every

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night and this is what he wanted to work with them that night. So evidently this is what he needed to discuss with them that night.

Q. All right. Do you know that Mr. Conley ordered products from Transpower on July 27th, 2009?

A. Again, from my understanding, we had to commit to an order. Then we had to pay for the order. Transpower needed to receive the money. They weren't going to start on anything before receiving the money from us.

Q. Yes or no: You don't know whether or what drawings the products that were ordered on July 27th was built to, correct?

A. Greg Conley ordered the prototypes according to our discussions and our invention.

Q. I'm sorry, Mr. Hillenbrandt. I asked a yes-or-no question. So if you cannot answer yes or no, you can say I can't answer, but let me ask my question again.

You do not know what drawings the products that were ordered on July 27th, 2009 were built to, correct?

A. Repeat your question again, please? I'm having a hard time hearing you clearly. I'm sorry.

Q. You do not know what drawings the products that were ordered on July 27th, 2009 were built to, correct?

A. I did know.

Q. You cannot show me the drawings pertaining to the

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products ordered on July 27th, correct?

A. Correct.

Q. Jim, please pull up Mr. Hillenbrandt's transcript from this investigation, page 284, lines 2 to 12. 284, please.

This is the transcript for the deposition you gave in this investigation on February 13th, 2024, correct?

A. Yes.

Q. You provided that testimony under oath, correct?

A. Yes.

Q. And you told the truth at the deposition?

A. Yes.

Q. At the deposition you were asked:

"Question: You don't know what drawings those products that were ordered on July 27th were built to? Can you show me? Because if the answer is yes, then I'd like to see those drawings now before your deposition is over."

You answered.

"Answer: Greg Conley worked with them on white board."

A. Yes.

Q. Did I read that correctly?

A. Yes.

Q. And you cannot remember what was on the white board that you referred to in your deposition answer,

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correct?

A. Mr. Conley used a white board-type app or something with his communications with them. I was not there during their communications because it was most likely in the middle of the night, late in the evenings when he would work with Transpower.

Q. That was a very long answer to my question of whether you know, yes or not, that -- what Mr. Conley drew on that white board? But I don't have any further questions. Thank you, Mr. Hillenbrandt.

JUDGE JOHNSON HINES: All right. Mr. Bui?

MR. BUI: May I proceed, Your Honor?

JUDGE JOHNSON HINES: Yes, please.

EXAMINATION BY COUNSEL FOR ITC STAFF

BY MR. BUI:

Q. Good afternoon, Mr. Hillenbrandt.

A. Good afternoon.

Q. My name is Vu Bui. And I am the Commission investigative attorney assigned to this investigation. I realize it is getting late so I very much appreciate your patience.

I'm going to ask you to locate the thin binder that was used on your direct examination. You can set aside the cross binder and anything else.

A. Yes.

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Q. Mr. Hillenbrandt, I would like for you to focus your attention on JX-507.0003, please.

A. Yes.

Q. Please let me know when you're there.

Mr. Hillenbrandt, is it correct that all of the drawings on this page, JX-507.0003, are your drawings?

A. The drawings I know for sure positive are -- the ones in the center and then the top view down off to the right. The drawings off to the left could be Mr. Conley. He could have handed it to me. I could have handed it back to him. I don't have a fully clear remembrance on those drawings there.

Q. I see. So let's focus on one particular drawing that is annotated with the handwritten "heating element." Do you see that?

A. Yes, I do.

Q. And is that drawing your drawing or Mr. Conley's drawing?

A. Excuse me?

Q. Is that drawing your drawing or Mr. Conley's drawing?

A. Yes, it is my drawing, the whole, complete, entirety of the top one, the one right below that, and then the two top views that are off to the side. Those are completely mine.

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Q. And the annotation "heating element," is that your handwriting?

A. Yes, it is.

Q. Now, you testified earlier about the handwritten date, July 31st, 2009 and the words "initial date."

A. Yes.

Q. Do you recall that?

And am I correct to understand that that handwriting is your handwriting?

A. Yes, it is.

Q. Mr. Hillenbrandt, do you recall providing some testimony about Mr. Conley's declaration and an airflow passageway and a woven tube?

A. I believe I do recall.

Q. Okay. I'm going to ask you to turn your attention to Exhibit JX-543, please. And specifically JX-543.0021.

And if you could please let me know when you're on that page.

A. Okay, yes, I have it on this screen in front of me.

Q. Now, you took these photographs, correct?

A. Yes, I did.

Q. And these photographs would include what we see here on JX-543.0021, correct?

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A. Yes.
Q. And you have labeled this Figure 8; is that correct?
A. Yes.
Q. Okay. And these annotations are all your annotations, correct?
A. These annotations were with help of my counsel.
Q. Okay. Now, in addition to this color reproduction, there is also a black and white reproduction of the same page.
Do you have a preference as to whether we stay with the color version or the black and white version?
A. Could you repeat that again?
Q. Sure. So what we see here on JX-543.0021 is a color version.
A. Yes.
Q. There is also a black and white version as well.
A. Okay.
Q. Do you see that?
A. Yes.
Q. Do you have a preference as to whether we stay with the color version or the black and white version?
A. Oh, no, no, I don't have a preference.
Q. All right. Now, in this Figure 8, you have identified various components and annotated those

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components, correct?

A. Excuse me? I was trying to orientate that.

Q. Not a problem. Mr. Hillenbrandt, in this Figure 8, you've identified several components and annotated those components, right?

A. Yes, yes.

Q. So, for example, you have identified batting material. Do you see that, sir?

A. Yes.

Q. Okay. And then in parenthesis you have "solution holding medium," correct?

A. Yes.

Q. As another example, you have identified "coil" and in parenthesis you have "heating element," correct?

A. Yes.

Q. Now, I would like for you to focus your attention on what you have labeled here center airflow (central and axial airflow passageway)."

Do you see that, sir?

A. Yes.

Q. And that arrow is pointing to a specific component, correct?

A. Yes.

Q. And is that component the woven tube that you were referring to earlier?

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A. Yes, that is part of an airflow passageway, yes.
Q. Okay. When you say it's part of the airflow passageway, what do you mean by that?
A. Well, when you would put it together, the cap on the top would also be at the top piece and then the hole in the bottom would be the other part of the communication between one end to the other.
Q. Okay. So let's focus on the bottom end first as we see here on JX-543.0021. That woven tube surrounds what you have annotated as coil heating element, correct?
A. Yes.
Q. And that woven tube also surrounds what you have identified as wicking material, correct?
A. Yes.
Q. Okay. So that's on the bottom end of the device, correct?
A. Yes.
Q. Let's focus our attention on the top end of the device. Do you have that in mind?
A. Yes.
Q. Okay. And you have labeled the top end, "cap (second end of cartridge housing)."
Do you see that?
A. Yes.
Q. And you have two arrows pointing to two

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components here on page JX-543.0021, correct?

A. Yes.

Q. Does the center airflow that you have identified here extend all the way to the top of the cap?

A. Yes, it carries through the cap.

Q. So there is no gap between the top of the center airflow and the cap; is that correct?

A. I don't believe at assembly there would be a gap.

Q. Okay. And what's the basis for that belief?

A. Measurements that were made and then the assembly of it.

Q. Okay. Thank you, Mr. Hillenbrandt.

A. Thank you.

MR. BUI: That's all I have, Your Honor.

JUDGE JOHNSON HINES: Thank you. Any redirect?

MS. LEICHT: No further questions.

JUDGE JOHNSON HINES: All right. Then, Mr. Hillenbrandt, you are excused.

THE WITNESS: Thank you, Your Honor.

JUDGE JOHNSON HINES: Thank you for your time.

THE WITNESS: Thank you.

(The witness stood down.)

JUDGE JOHNSON HINES: All right. Is there anything else we need to talk about today before we call it a day? Mr. Desai? No?

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MR. DESAI: No, Your Honor.

JUDGE JOHNSON HINES: Mr. Rizk.

MR. RIZK: No, Your Honor.

JUDGE JOHNSON HINES: Mr. Bui?

MR. BUI: No. Thank you.

JUDGE JOHNSON HINES: All right, okay. So we are adjourned until tomorrow morning. Thank you all.

(Whereupon, at 5:26 p.m., the proceedings recessed, to reconvene at 9:00 a.m. on Thursday, June 6, 2024.)

NJOY Exhibit 2014.0184
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C O N T E N T S

WITNESS	DIRECT	CROSS	REDIRECT	RECROSS	STAFF
SHANNON LEISTRA	84	102			120
LYNN WINCH	130	152			167
JOSE BONET	170	189	236		226
DANIEL HILLENBRANDT	237	250			260

AFTERNOON SESSION: 83

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NJOY Exhibit 2014.0185
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IPR2024-00160

CERTIFICATE OF REPORTER

TITLE: Certain Vaporizer Devices, Cartridges Used Therewith, and Components Thereof

INVESTIGATION NO: 337-TA-1372

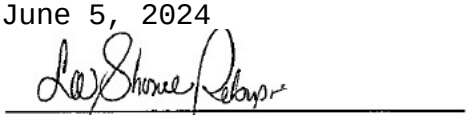
HEARING DATE: June 5, 2024

LOCATION: Courtroom A

NATURE OF HEARING: Evidentiary Hearing

I hereby certify that the foregoing/attached transcript is a true, correct and complete record of the above-referenced proceedings of the U.S. International Trade Commission.

Date: June 5, 2024

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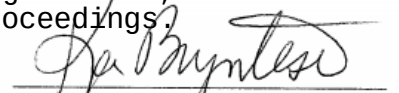
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1220 L Street, N.W., Suite 206
Washington, D.C. 20005

I hereby certify that I am not the Court Reporter and that I have proofread the above-referenced transcript of the proceedings of the U.S. International Trade Commission, against the aforementioned Court Reporter's notes and recordings, for accuracy in transcription in the spelling, hyphenation, punctuation and speaker identification and did not make any changes of a substantive nature. The foregoing/attached transcript is a true, correct and complete transcription of the proceedings.

SIGNED: 

Signature of Proofreader

I hereby certify that I reported the above-referenced proceedings of the U.S. International Trade Commission and caused to be prepared from my tapes and notes of the proceedings a true, correct and complete verbatim recording of the proceedings.

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Signature of the Court Reporter

NJOY Exhibit 2014.0186
Juul v. NJOY
IPR2024-00160

UNITED STATES
INTERNATIONAL TRADE COMMISSION

In the Matter of:	)	Investigation No.
CERTAIN VAPORIZER DEVICES,	)	337-TA-1372
CARTRIDGES USED THEREWITH, AND	)	
COMPONENTS THEREOF	)	

OPEN SESSIONS

Pages: 270 through 577 (with excerpts)

Place: Washington, D.C.

Date: June 6, 2024

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Juul v. NJOY
IPR2024-00160

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

BEFORE THE HONORABLE DORIS JOHNSON HINES

Administrative Law Judge

In the Matter of:	)	Investigation No.
CERTAIN VAPORIZER DEVICES,	)	337-TA-1372
CARTRIDGES USED THEREWITH, AND	)	
COMPONENTS THEREOF	)	

International Trade Commission

500 E Street, S.W.

Washington, D.C.

Thursday, June 6, 2024

EVIDENTIARY HEARING - VOLUME II

The Hearing commenced in Courtroom A, pursuant to the notice of the Judge, at 9:00 Eastern.

Reported by: Karen Brynteson, RMR, CRR, FAPR

NJOY Exhibit 2014.0188
Juul v. NJOY
IPR2024-00160

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NJOY Exhibit 2014.0189
Juul v. NJOY
IPR2024-00160

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NJOY Exhibit 2014.0190
Juul v. NJOY
IPR2024-00160

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NJOY Exhibit 2014.0191
Juul v. NJOY
IPR2024-00160

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NJOY Exhibit 2014.0192
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APPEARANCES (Continued):

For the Office of Unfair Import Investigations:
VU Q. BUI, ESQ.
JEFFREY HSU, ESQ.
U.S. International Trade Commission
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P R O C E E D I N G S

(9:00 a.m.)

JUDGE JOHNSON HINES: Good morning, everyone. Be seated. Thank you.

All right. Before we get started, I have a couple of questions. Exhibits and entry of exhibits from the witnesses yesterday, do we have a status on that?

MR. ANSLEY: Yes, Your Honor, we have had an updated exhibit list and amended exhibit list to remove the redundancy in the exhibit numbers --

JUDGE JOHNSON HINES: Okay.

MR. ANSLEY: -- per the discussion yesterday. We're including some deposition designations in there that the parties have agreed to, as well as some exhibits from those depositions, as well as the exhibits discussed yesterday. We've sent that to the Respondent, and I believe they'll be adding some exhibits to it as well, Your Honor.

JUDGE JOHNSON HINES: Okay.

MR. ANSLEY: Once we get that back, we should be able to file that.

JUDGE JOHNSON HINES: All right. Any comments from Respondents?

MR. KARAMBELAS: That is accurate, Your Honor. There were a few exhibits used on cross that we intend to add to the exhibit list, but we expect that the parties will

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come to an agreement, and we'll provide the list as soon as possible.

JUDGE JOHNSON HINES: All right. Thank you.

Anything, Mr. Bui?

MR. BUI: Nothing to add on exhibits, Your Honor. Thank you.

JUDGE JOHNSON HINES: All right. Have the parties made any progress discussing my question yesterday about the judicial enforcement of the RJR subpoena?

Mr. Desai?

MR. DESAI: I think that we've discussed it internally. It would probably be better if we return to that this afternoon with Mr. Pepe when he's here.

JUDGE JOHNSON HINES: Okay.

MR. DESAI: But I think we should be able to give you an update this afternoon.

JUDGE JOHNSON HINES: All right.

Mr. Karambelas, anything?

MR. KARAMBELAS: Yes, Your Honor. We've discussed it internally as well as with Staff. Our position is that the hearing should proceed with the evidence that Complainant has on the RJR domestic industry. You know, we're happy to take it up again in the afternoon. You know, that's our position.

JUDGE JOHNSON HINES: Okay. Mr. Bui?

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MR. BUI: I think I'll wait to hear what Mr. Desai or Mr. Pepe has to offer in the afternoon.

JUDGE JOHNSON HINES: Okay. I think that makes sense. One thing I'm thinking about -- and I'll certainly wait to hear from Mr. Pepe -- is I would like to understand, because I do not know, how past investigations have addressed this situation. So if that means getting submissions from the parties addressing that to advise me, then that is at least one thing that I am considering, but I will wait to hear what Mr. Pepe has to say and, of course, encourage the parties to reach agreement. But so that you know where I'm coming from on this and what I'm looking for, there it is.

MR. DESAI: That makes sense, Your Honor. And to be clear, our position is that the hearing will go forward, and it's more about what happens if additional information arrives through the enforcement of the subpoena. So we're just working that out, but -- yeah.

JUDGE JOHNSON HINES: Right. And, yes, that's where I am as well. And whether or not, you know, assuming that nothing dramatic happens by the close of the hearing, what does that mean with respect to closing the record and reopening the record if something happens, what the timing of that is.

I imagine that this is not the first time this

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situation has arisen, which is why getting input from the parties on how this has been addressed previously would be helpful.

MR. DESAI: And we're looking into that. We do know there is a -- there's a rule under which you can move to supplement the record, and so I think we're just sort of dotting I's and crossing T's on that, and we'll give you an update.

JUDGE JOHNSON HINES: All right. Okay. Is there anything else we should discuss before NJOY calls its next witness?

MR. DESAI: Just quickly, Your Honor, on the prior art obviousness grounds. A proposal was sent by us last night. We received something new this morning. I think we're going to discuss and hopefully have an update for Your Honor this afternoon.

JUDGE JOHNSON HINES: Okay. Anything to add on that, either Mr. Rizk or Mr. Karambelas, because you're both standing?

MR. RIZK: Thank you, Your Honor. Adam Rizk. So, yes, there's nothing substantive to add. The parties and Staff did meet and confer yesterday, last evening -- yesterday evening, met and conferred again today. There was a proposal that was provided, and we're hoping to try to provide Your Honor, as well as the parties and Staff, the

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necessary clarity that we took away from Your Honor's comments yesterday.

JUDGE JOHNSON HINES: Okay. Thank you for doing that. I appreciate it.

Anything, Mr. Bui, to add?

MR. BUI: No. We did meet and confer last night. I just looked at the latest proposal, but I haven't had a chance to fully digest it. But after doing so, I will confer with the private parties to see how we should move forward, Your Honor.

JUDGE JOHNSON HINES: Okay. Thank you very much.

All right. If there's nothing else, then NJOY, can you call your next witness, please.

MR. DESAI: Thank you, Your Honor. NJOY will be calling Rebecca Moore.

JUDGE JOHNSON HINES: Good morning.

THE WITNESS: Good morning.

JUDGE JOHNSON HINES: Would you remain standing?

THE WITNESS: I'm sorry.

JUDGE JOHNSON HINES: No problem. Raise your right hand.

Whereupon--

REBECCA MOORE,

having been first duly sworn/affirmed, was examined and testified as follows:

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THE WITNESS: I do.

JUDGE JOHNSON HINES: Thank you very much. Please have a seat. And welcome.

THE WITNESS: Thank you.

MS. LEICHT: Your Honor, before we begin, I wanted to just let us know that Ms. Moore has a magnifying glass with her as she has difficulty reading small print.

JUDGE JOHNSON HINES: Okay. Fine. Thank you. Are there exhibits or --

MS. LEICHT: Yes. I believe the binders have been passed out. Do you not have a binder?

JUDGE JOHNSON HINES: I'm missing -- all right. I do now. Thank you.

MS. LEICHT: Sorry.

JUDGE JOHNSON HINES: No worries. Thank you.

MS. LEICHT: Thank you.

DIRECT EXAMINATION

BY MS. LEICHT:

Q. Good morning, Ms. Moore.

A. Good morning.

Q. Please introduce yourself.

A. My name is Rebecca Moore.

Q. Where do you work?

A. I work at Fuma International, LLC.

Q. What's your position at Fuma?

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A. At Fuma, I am the CEO -- or COO. Sorry, I'm nervous.

Q. What are your responsibilities at Fuma?

A. I'm more like the office manager. I would open mail. I would pay bills. I would do invoicing for customers. Basically anything that needs to be done as we're a small company.

Q. How did Fuma maintain its customer invoices and sales information?

A. We have a system that's called QuickBooks. We also have Fishbowl. They both have the invoices for the customers in there, and they track the sales. And that's where they were input.

Q. What products did Fuma sell?

A. Fuma sold electronic cigarettes, cartridges, starter kits.

Q. Please turn to CX-2160.

A. Okay. I'm there. Thank you.

Q. Do you recognize this document?

A. Yes, I do.

Q. What is this?

A. This is an e-mail discussing payment for the Fuma products, the prototype order and how the funds were to be sent.

Q. When was this e-mail sent?

NJOY Exhibit 2014.0200
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A. This e-mail was sent on July 28th of 2009.
Q. Who was Fuma ordering these products from?
A. From our supplier.
Q. And who is your supplier?
A. That would be Trans-Power.
Q. How did Fuma pay for these products?
A. We sent the money via Western Union.
Q. Please turn to JX-504.
A. Okay. I'm there. Thank you.
Q. Do you recognize this document?
A. Yes, I do.
Q. What is this?
A. This is a receipt. It's dated July 29th, 2009. It says Kmart, but there was a Western Union kiosk or counter inside of the Kmart.
Q. Please turn to page 6.
A. Okay. I'm there.
Q. Who were these funds sent to?
A. They were sent to our supplier, that being Trans-Power.
Q. Who sent these funds to Trans-Power?
A. Fuma did, but I initiated it.
Q. Do you see here under "sender information," Rebecca Conley is listed?
A. Yes.

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Q. Is that you?
A. Yes.
Q. Why was Fuma sending money to Trans-Power?
A. To pay for the products that were ordered or the prototype products.
Q. Please turn to CX-2178.
A. Okay. I'm there. Thank you.
Q. Do you recognize this document?
A. Yes, I do.
Q. What is this?
A. This is an e-mail for the first order of Fuma product.
Q. When is this e-mail -- excuse me.
When was this e-mail sent?
A. It was sent September 16th of 2009.
Q. Who was this e-mail sent to?
A. Our supplier, Trans-Power.
Q. Do you see the e-mail was sent from sales at Smoke Fifty-One Ohio.com?
A. I do.
Q. What is Smoke Fifty-One Ohio?
A. That was a company that we previously had worked for and we had not changed our e-mails over yet.
Q. What Fuma products were being ordered?
A. There were cartridges, batteries, boxes,

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chargers.

Q. What did the packaging of the Fuma cartridges look like?

A. They were purple. They had our name on it, including our stylized "F." If they were a tobacco flavor, they had like a light brown label on the back, on the background. And if they were menthol, it was green.

Q. Do you see here it says 450 boxes?

A. Yes, I do.

Q. What were the 450 boxes for?

A. Those would have been for starter kits and/or cartridges.

Q. Please turn to CX-2161.

A. This has "C" on the end, yes?

Q. Yes.

A. Okay.

Q. Do you recognize this document?

A. Yes.

Q. What is this?

A. This is an invoice dated September 17th of 2009 from our supplier, Trans-Power, for the products that were ordered.

Q. What --

A. Fuma products.

Q. Excuse me. What products were being ordered?

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A. There were cartridges, batteries, starter kit boxes, and chargers.
Q. Who sent the money to Trans-Power for this order?
A. I did.
Q. Please turn to JX-503.
A. Okay. I'm there. Thank you.
Q. Do you recognize this document?
A. Yes, I do.
Q. What is this?
A. This is a customer invoice for a Fuma product.
Q. What is the date of this invoice?
A. This is September 16th of 2009 to Derek Scott of Loco Trendz. He was purchasing starter kits and cartridges.
Q. Who sent these products to Loco Trendz?
A. I did.
Q. Please turn to JX-543. I'm not going to ask any questions regarding the top exhibit, which is a 131 declaration, but I would like you to turn to page 31, which is an attachment.
A. Okay.
Q. Do you recognize this document?
A. Yes, I do.
Q. What is this?
A. This is an invoice. This would have been generated out of the QuickBooks system that I mentioned

NJOY Exhibit 2014.0204
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earlier. It's a customer invoice, and it's dated November 20th of 2009 to Adco Distributing. That was a customer of ours purchasing Fuma product.

Q. What Fuma products were being ordered?

A. Starter kits, cartridges, and chargers.

Q. Please turn to the next page. Do you recognize this document?

A. Yes, I do.

Q. What is this?

A. Again, it's a invoice for our customer Great Midwest Tobacco, dated November 5th of 2009. It was also generated from our QuickBooks system. And they were also purchasing Fuma product of starter kits and cartridges.

Q. Do you see at the top, there are some handwritten notes?

A. Yes, I do.

Q. Whose handwriting is that?

A. That is mine.

Q. What is written here?

A. There's a stamp that says paid, and it says 12/4/09, first half received, check 12 -- I think it's 069.15.

Q. What does this show?

A. This shows that they paid for product that they had purchased after it was delivered to them.

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Q. Do you understand that there are two patents being asserted in this investigation?
A. Yes, I do.
Q. You understand that those are the '864 and '881 patents?
A. Yes.
Q. Has Fuma licensed these patents?
A. Yes.
MS. LEICHT: Your Honor, the next document is confidential. In order to avoid going off the confidential -- excuse me, off the public record, I'm not going to display the exhibit, but it's provided in your binder.
JUDGE JOHNSON HINES: Thank you.
BY MS. LEICHT:
Q. Please turn to CX-19.
A. I'm sorry, can you say that -- I'm sorry.
Q. CX-19. 19.
A. Okay.
Q. Do you recognize this document?
A. Yes, I do.
Q. What is this?
A. This is the -- I want to make sure. You said CX-19C, right?
Q. Yes, correct.
A. Okay. Okay. Confidential settlement and license

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agreement.

Q. Who are the parties to this agreement?

A. That would be Fuma International and R.J. Reynolds.

Q. What patents are licensed under this agreement?

A. There are several, but the two that you mentioned earlier were also included in this.

Q. Who maintained the invoices and sales information for Fuma's starter kits and cartridges?

A. I did.

Q. What were Fuma's sales of its starter kits and cartridges like in the first few years?

A. In the first few years, in 2009, it was roughly $50,000, a little bit less. In 2010, we grew and we were approximately 700,000 or so dollars. In 2011, we had sales of $2.7 million, approximately. And in 2012, it was 2.1 or so. We did decline in 2012.

Q. Why did Fuma's sales decline in 2012?

A. At that point, there were a number of other companies that were entering the market.

Q. Why do you believe that Fuma was commercially successful?

A. We had an innovative product and customers really enjoyed it.

Q. Thank you.

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MS. LEICHT: I pass the witness.

JUDGE JOHNSON HINES: Thank you.

MR. RIZK: Good morning, Your Honor.

JUDGE JOHNSON HINES: Mr. Rizk.

MR. RIZK: Adam Rizk again. I would just like to introduce our NEXT advocate, Meena Seralathan, who will be taking the examination at this point.

JUDGE JOHNSON HINES: All right. Thank you very much.

Good morning.

MS. SERALATHAN: Good morning. May I proceed, Your Honor?

JUDGE JOHNSON HINES: Yes. Thank you.

CROSS-EXAMINATION

BY MS. SERALATHAN:

Q. Good morning, Ms. Moore.

A. Good morning.

Q. Jim, can you pull up CX-2160.

Ms. Moore, you just testified as to this exhibit, correct?

A. You said 2160, right?

Q. Yes.

A. Yes.

Q. This shows a conversation between Mr. Conley and somebody by the name of Jasmin Guo; is that right?

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A. That's what the document says, yes.
Q. And Jasmin Guo is a contact at Trans-Power, right?
A. That is my understanding, yes.
Q. And your testimony is that Trans-Power was a supplier for Fuma?
A. Yes. They were a supplier.
Q. Based on the timestamps in this conversation, the conversation between Mr. Conley and Jasmin happened on July 28th of 2009, correct?
A. July 28th of 2009, yes, that's what it says.
Q. Fuma had already conceived of the design for the Fuma prototype before this conversation, correct?
A. I am unaware. I wasn't involved in the design at all.
Q. In this conversation, Mr. Conley agrees to send money to Jasmin Guo, right?
A. The money that was sent was sent for Fuma products, our prototypes, yes.
Q. And in the conversation, third to the last line, Jasmin says, "I must go to ship the goods now."
Do you see that?
A. Yes, I do.
Q. In this -- in this excerpt of the conversation provided, Jasmin doesn't explicitly say what goods are being

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shipped, right?

A. No, but the only thing that was shipped from Trans-Power were Fuma products to us.

Q. Jim, can we go now to JX-0504.

A. Okay. Yes. I'm there.

Q. Ms. Moore, you testified that this was a receipt for a Western Union payment to Trans-Power, correct?

A. Yes.

Q. And you made this payment on July 29th for the same goods discussed in that July 28th conversation with Ms. Guo, right?

A. I'm sorry, can you repeat?

Q. You made this payment on July 29th for the same goods discussed in the conversation on the 28th with Jasmin Guo, right?

A. This payment was sent for the prototypes, yes, that was discussed in the last exhibit you had up. Yes.

Q. And you're unable to recall whether the funds were sent for the manufacture of the product, correct?

A. I know that they were sent for the products that were ordered for Fuma, the prototypes, yes.

Q. But you don't recall whether the funds were sent for the manufacture of a product; is that right?

A. I don't understand your question, I guess. We had products that Trans-Power supplied us, and we paid for

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those products, and they were Fuma products.

Q. Did Trans-Power manufacture products on behalf of Fuma?

A. Trans-Power is the supplier who made the products for Fuma, yes. And we were the manufacturer of record.

Q. Okay. So it's your testimony today that Trans-Power manufactured the Fuma devices?

A. They did make the product for and -- Fuma, yes, if that's what you're meaning, yes.

Q. Ms. Moore, you testified in a deposition in this investigation, correct?

A. I did.

Q. And when you testified in that deposition, you testified under oath, correct?

A. I did.

Q. And you testified truthfully during that deposition, correct?

A. I did.

Q. Jim, if we could pull up RX-1131C. And turn to page 52, lines 5 through 24.

A. I'm sorry, what page are we on?

Q. 52.

A. You said 113 -- or 1131C. Okay, I see how they are going now. And you said page 52?

Q. Yes.

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A. Okay. I'm there.

Q. Ms. Moore, do you recognize this as your deposition testimony from February 21st of 2024?

A. Yes. I believe -- I believe that is it, yes.

Q. And during your deposition you were asked question: "Were the funds sent with this money transfer for the purpose of manufacturing the Fuma e-cigarette device?"

Answer on line 9: "I think -- I think that response to Interrogatory Number 1 would -- would outline that in detail."

Question at line 12: "Do you have an independent understanding of what -- why Fuma sent these funds to Trans-Power?"

Answer at line 14: "I believe I said for -- for product."

Question at line 15: "For the manufacture of a product?"

Answer at line 16: "I did not say that. I said that Interrogatory Number 1, the response there would detail and outline that best."

At question (sic) 19: "Do you have an independent understanding of whether the funds were sent for the manufacture of a product?"

And answer at question (sic) 24: "I don't recall."

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Did I read that correctly?

A. Yes, that's what you read. Yes.

Q. And, Jim, can we now turn to page 55 of the same exhibit.

If we look at lines 6 through 11, at line 6, question: "Independent of Interrogatory Number 1, do you recall whether Trans-Power was involved in the initial manufacture of the Fuma e-cigarette device?"

Answer at line 10: "I know that they were a supplier, but other than that I'm unaware."

Did I read that correctly?

A. You did.

Q. So is it fair to say that, to your knowledge, they were just sent for product?

A. I'm sorry, say that one more time?

Q. Is it fair to say that, to your knowledge, the funds were just sent for product?

A. They were sent for product, for Fuma product, yes.

Q. And you're not aware of whether Trans-Power was involved in the initial manufacture of the Fuma e-cigarette device, correct?

A. They were our supplier that would send the product to Fuma, yes.

Q. And you were not involved in designing any of the

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Fuma prototypes, right?

A. No, I was not.

Q. In fact, you don't know what the internal structure of any of the Fuma prototype devices looked like; is that right?

A. That's correct.

Q. Are you aware that Jasmin Guo was working with Kanger in 2009?

A. I'm sorry, say that one more time?

Q. Are you aware that Jasmin Guo was working with Kanger in 2009?

A. I'm unaware.

Q. Are you aware that Kanger was a supplier for Smoke Fifty-One?

A. I'm unaware.

MS. SERALATHAN: Thank you, Your Honor. No further questions.

JUDGE JOHNSON HINES: Thank you. Thank you very much.

Mr. Bui?

MR. BUI: Your Honor, no questions for the witness. Thank you.

JUDGE JOHNSON HINES: All right. Thank you.

Redirect?

MS. LEICHT: No further questions.

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JUDGE JOHNSON HINES: All right. Ms. Moore, thank you for your time.

THE WITNESS: Thank you very much for your time too.

JUDGE JOHNSON HINES: You are excused.

THE WITNESS: Do I leave these here? Just leave them?

(The witness stood down.)

JUDGE JOHNSON HINES: Yes.

MR. ANSLEY: Your Honor, Complainant NJOY calls its next witness, Dr. Glenn Vallee.

JUDGE JOHNSON HINES: Thank you.

MR. MEUNIER: Your Honor, if I may just really quickly.

JUDGE JOHNSON HINES: Yes.

MR. MEUNIER: I just -- in advance of this examination, we received demonstrative slides last night, over 300 of them. We were able to go through those. And to make sure that we can stay on the record as much as possible, Your Honor, I confirmed with JUUL that all of the annotated images of the JUUL1 and JUUL2 products are not CBI for the purposes of this and we can stay on the public record for this.

JUDGE JOHNSON HINES: Thank you very much.

MR. MEUNIER: You're welcome.

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JUDGE JOHNSON HINES: Mr. Ansley, before we proceed, I assume there are no objections to demonstratives that we should discuss before the witness this morning?

MR. ANSLEY: I believe those all have been resolved, Your Honor.

JUDGE JOHNSON HINES: Fantastic. Thank you.

Good morning. Could you raise your right hand, please.

Whereupon--

GLENN VALLEE,

having been first duly sworn/affirmed, was examined and testified as follows:

THE WITNESS: I do.

JUDGE JOHNSON HINES: Thank you very much. Have a seat. Welcome.

DIRECT EXAMINATION

BY MR. ANSLEY:

Q. Good morning.

A. Good morning.

Q. Could you please state your name for the record.

A. Glenn Vallee.

Q. And, Dr. Vallee, did you prepare some demonstrative slides to assist with your testimony today?

A. Yes, I did.

Q. Okay. So that would be CDX-2. We have the

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slides here on the screen.

And what is your understanding of why you're here to testify today, Dr. Vallee?

A. I'm here to testify regarding my opinions in this matter of the certain vaporizer devices, cartridges used therein, and components thereof.

Q. I'd like to talk a little bit today, to begin, about your background and experience. Are you employed?

A. I am. I am currently an associate professor and chair of the Department of Mechanical Engineering at Western New England University.

Q. And what types of courses have you taught?

A. I typically teach courses in product design, machine design, electromechanical product design and testing. I teach a number of laboratory courses as well.

Q. Can you please tell us a little bit about your educational background.

A. Well, I received my Ph.D. from the University of Rhode Island in 1995 in mechanical engineering and applied mechanics. Prior to that, I received my Master's Degree in 1990 in mechanical engineering and in 1985 my Bachelor of Science degree in mechanical engineering, all at the University of Rhode Island.

Q. And other than your current position, can you please summarize your work experience?

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A. Yes. Before becoming a professor at Western New England University in 2002, I was the director of global engineering at Remington Products Company. That was a company that made personal care products, electric shavers, battery-operated shavers, hair dryers, hair setters, grooming devices, generally personal care products.

And from the period from 1990 to '98, I was also an adjunct professor at the University of Rhode Island. And prior to that, in the 1985 to '97 time frame, I held a number of positions at the Stanley works. I started as a lab technician, where I was responsible for product testing. I was a design engineer, where I implemented designs. I was a product engineer. My responsibility was for complete products.

And then I was promoted to be a lab manager, where I was in charge of all testing for all products. I ran the largest lab in the Stanley works at the time.

Q. We'll now go to CDX-2, slide 3.

Do you have any other experience relevant to the issues in this investigation?

A. I do. I have over 30 years' experience in the design and testing of pneumatic nailers. Those are products that use compressed air to drive nails. There are a number of inflow passageways in those devices. Valving is very important. Entry and exit apertures are part of those

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products.

I also did a lot of work and have patents on hand tools. And I've worked with battery-operated tools, DIY tools, tools that involve heating elements, as a matter of fact. I've designed sports equipment, like heated line fishing poles. And I published a paper with the American Society of Mechanical Engineers regarding a heated test apparatus for material testing.

I've done work with vehicles. Our university has a Baja competition where we design and race four-wheel drive vehicles. I've also done work with robotics, designing robotic test fixtures, worked with a number of products that have embedded computer chips, such as nail guns and electric shavers. I've done consumables, speaking of electric shavers, where the shaving heads need to be replaced periodically. And as I said before, a number of sports equipment projects.

Q. And on slide 3, you mention consulting. What are you -- what are you summarizing there?

A. Well, I've been -- generally, I have two fields of consulting. There's serving as an expert witness in product liability and patent cases. I've done a combination of over 40 of those, 30 of which were patent cases.

I also design products and analyze products. I've done, as a consultant, analyzing nailers and different

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kind of fastening tools. I actually have a patent on a handheld camera tacker.

And I've also worked, as I indicated here, on prior e-cigarette cases, the Fuma versus RJR case that we've discussed or we will be discussing and has been discussed thus far. And I was retained as an expert involved JUUL Lab and Myle Vape.

Q. And what generally did you learn from your retention on those two prior e-cigarette cases?

A. Well, I became very familiar with the prior art, customer requirements, generally how these devices work, how they're constructed and how they're manufactured.

Q. Can you please turn to tab A in your exhibit binder. It should be the first one, volume 1.

A. All right.

Q. And it will be Exhibit CX-2158.

A. Okay. Volume 1, tab A, it was?

Q. Correct. If we could pull CX-2158 up on the screen, please.

A. Tab A, CX-1158 (sic).

Q. Dr. Vallee, what is this document, if you have it?

A. I'm still trying to get there. Well, I can see on the screen that that is my CV.

Q. Is this CV up-to-date?

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A. If we could just scroll down a little bit. I'm sorry, you said CX-2158, correct?

Q. 2158.

A. Okay. Yes, I have it in front of me. And this is up-to-date, yes.

Q. All right. Is that your complete CV?

A. It is.

Q. All right. You may put that aside. Thank you.

Dr. Vallee, do you believe you have technical expertise?

A. Yes, I do.

Q. And do you believe your expertise is relevant to the issues in this investigation?

A. I believe so.

Q. And can you please summarize that expertise?

A. My expertise is in mechanical and electromechanical product design and development and testing and everything from acquiring consumer feedback, putting it into the product development cycle, and evaluating products out in the field.

MR. ANSLEY: Your Honor, Complainant moves for the admission of Dr. Glenn Vallee as an expert witness in mechanical engineering, electromechanical product design and development, quality assurance, including the technology underlying the vaporizer devices at issue in this

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investigation.

JUDGE JOHNSON HINES: Any objection?

MR. MEUNIER: No objection, Your Honor.

MR. BUI: No objection, Your Honor.

JUDGE JOHNSON HINES: Thank you. So tendered.

BY MR. ANSLEY:

Q. So, Dr. Vallee, as part of your attention for this investigation, what were you asked to do?

A. Well, I was asked to provide opinions on the following five items that I put on the screen. The first is whether the JUUL and JUUL2 systems practice the asserted claims, and then whether the NJOY ACE and ACE 2.0 systems, the R.J. Reynolds Vuse Solo, Vuse Alto practice the asserted claims.

I was then asked to opine whether the claimed inventions were reduced to practice and whether the disclosure of the '917 application supports the asserted claims. And, finally, to give opinions regarding objective considerations for non-obviousness.

Q. And what are the asserted patents and claims that you considered for your analysis?

A. As I put on this slide, it's the '881 patent and the '864 patent. The claims involved --

Q. Sorry.

A. I'm sorry. The claims involved -- unasserted

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claims are grayed out, but it was 1 -- I'm talking about the '881. There was claims 1, 16, 18, 19, and 26. And in the '864, it was 1, 2, 9, 10, 12, 13, 15, 16, 20, 25, and 26.

Q. And we're going now to slide 6. What other materials did you consider in forming your opinions in this investigation?

A. Well, there were a collection of official documents, which include the asserted patents and related patents, file histories, and the claim construction order. There were also a number of sworn testimonies, including deposition testimonies, and discovery responses. There were expert reports and deposition testimony from the inventor and others that I classify as party documents.

Those included product literature, technical documentation, PMTA and FDA submissions, CAD models, JLI's domestic industry claim charts from that investigation, the 1368, and then actual samples of products, like the JUUL, the JUUL2 system, the Luna pods, NJOY ACE and ACE 2.0, and the RJR Alto, Solo systems. And there were also images from teardowns or disassembled products, CT scans, and of course my own testing.

Q. Let's go to slide 7. And what are you showing on this slide?

A. All right. These are some materials that I also considered. We'll start at the left. There were RJR

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documents. That includes customer literature. There were technical images, PMTA and FDA submissions, a number of CAD models. Down below, there's Fuma documentation, which included different correspondences, some purchase orders, invoices, inventor notebooks, design sketches. And there were some fliers and receipts, money wiring, communications like that.

I also had some documentation related to the prior Fuma and RJR litigation, the claim construction order, the actual complaint. There was a summary judgment briefing, and there were orders related to that. There was a deposition transcript from the inventor and some product development documents, correspondences from -- correspondences from RJR.

And, finally, there were some other documents including news articles, other patents in the e-cigarette field, and there were some websites I reviewed.

Q. Let's go to CDX-2, slide 8.

Did you consider the level of ordinary skill in the art for the asserted patents?

A. I did. And I agreed with the NJOY definition of the ordinary skill in the art, which is the B.S. degree in mechanical engineering, electrical engineering, industrial design, product design, or similar field; two years industry experience, at least, in one of those fields; and one who

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would have familiarity with electrically powered vaporizing articles, their components, or the underlying technologies.

Q. And did you consider the level of skill proposed by Respondent, JUUL Labs?

A. Yes, I did.

Q. Do your opinions change under JUUL's or Respondent's proposed level of skill?

A. No, they do not.

Q. Let's go -- begin going through your opinions, and we'll start with infringement. I'm on slide 10.

And what products, remind us, were you asked to analyze for infringement?

A. It would be the JUUL and the JUUL2 systems.

Q. And did you also inspect what has been termed in this investigation as Luna pods?

A. Yes, I did.

Q. Okay. We'll circle back to that.

I'm on slide 11 now. And based on your analysis, what did you conclude about whether the JUUL system and JUUL2 system practice the asserted claims?

A. Well, this is a summary table that indicates the results of my analysis. The table on the left is related to the '864 patent, and the table on the right is related to the '881 patent.

I list the claims, and of all the listed claims,

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we can see that in my opinion the JUUL device satisfies all those claim elements, and I list for the JUUL2 device, which I felt the product practiced.

Similar table for the JUUL, and that was just the JUUL1 system. And I list the '881 patent claims that I believe the product practiced.

Q. All right. We're on slide 12. What is the JUUL system?

A. The JUUL system is essentially a two-piece electronic cigarette.

Q. And what are the main parts of the JUUL system?

A. Well, the first part is a disposable pod that's shown on the left of the figure. And the second part is the device, which is essentially the battery and the power supply. And when you assemble the two, you get what's depicted in Figure 1 for the PMTA, which is the assembled device.

Q. And did you bring a JUUL system with you today?

A. I did.

Q. And is that CPX-3?

A. Let me just check here. Yes, it is.

Q. Now, you mentioned a JUULpod and a JUUL device. I want to start with the JUUL device.

What is the JUUL device?

A. The JUUL device is the power unit that powers the

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pod when it's inserted onto the device.

Q. And we're on slide 13. What is the JUULpod?

A. The JUULpod is essentially the disposable cartomizer that holds the e-liquid, which contains nicotine. As I show in the figure from the PMTA on the left, I indicate -- well, it is indicated where the liquid storage volume is. It shows the air inlet holes, the airflow path through the cartridge, and the location of the atomizer that vaporizes the solution.

Q. And then what -- what's the source of the information you're citing on slide 13?

A. Yes. As I said, it was the PMTA. I'll cite it. It was CX-2221C. And that happens to be taken from page 26.

Q. Now, Figure 7 on the right has a component labeled hex cap. What is that?

A. That is a protective cap that's just placed on the first end of the cartridge during shipping to protect it.

Q. And, generally, at a high level, how does the JUUL system work?

A. Well, basically, the user takes the pod, inserts it into the device, which provides electrical connection between the pod and the device. When the user takes a puff, a sensor inside the device activates the heating coil that sends power to the heating coil. The heating coil vaporizes

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the solution so when the person continues to puff, the vaporized solution is delivered to the user.

Q. Let's go to slide 14.

JUDGE JOHNSON HINES: Before you do that, can I ask a question?

MR. ANSLEY: Yes.

JUDGE JOHNSON HINES: Can you go back to the previous slide?

Two questions. For the image on the left, the identification, so the liquid storage volume, air inlet holes, were those designations added to this figure or are they in the original? Do you know?

THE WITNESS: No, they were taken from the PMTA.

JUDGE JOHNSON HINES: Okay. The second question is what does "interference features" mean?

THE WITNESS: "Interference features" mean that one component is slightly larger than the component it fits into. Okay? In this case, it's the tab. So when you take the pod and you pop it into the device, those little tabs move a little bit and the housing moves a little bit, and they snap into each other.

JUDGE JOHNSON HINES: Okay. Thank you.

BY MR. ANSLEY:

Q. Okay. So slide 14. I want to talk a little bit about the JUUL2 system now.

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Dr. Vallee, can you provide an overview of what the JUUL2 system is?

A. Much like the JUUL1 system, it's -- it's a two-piece system. It has a pod, which has the heating element and the solution holding medium, among other things, and it has a power supply, which I show on the left. And, again, this is taken from the JUUL2 PMTA as well.

So you pop the pod, as shown in the center, on top of the device shown on the left. And then you have the assembled e-cigarette.

Q. And did you bring a JUUL2 system with you today?

A. I did.

Q. And is that CPX-6?

A. Yes, it is.

Q. Thank you.

We're on slide 15. Could you provide a bit more of an overview on the JUUL2 pod?

A. Sure. Okay. The figure on the left, I took -- which is Figure 7 of the JUUL2 pod. It's titled "atomizer and airflow." And that's from the JUUL2 PMTA as well, from page 29.

What it shows is in general the location -- I'm on the figure on the left again -- the location of the atomizer, which includes the wick and the coil. It shows incoming air at the first end at the bottom of that housing.

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And then it shows how the air exits as an aerosol with a vaporized solution to the operator.

It also shows the location of the e-liquid, which is in -- I'll call that gold.

Q. And, generally, how does the JUUL2 system work?

A. When you install the pod, much like the JUUL1, on the power supply, or the device I often call it, that makes an electrical connection between the pod and the device. When the user takes a puff, the device senses a flow through a change in pressure and that energizes the coil. And the solution that's drawn to the heating part of the heating element is vaporized so that the user, when they continue to puff, can receive the aerosolized solution.

Q. Now that we've done an overview, let's look at your infringement analysis for the '864 patent --

A. Okay.

Q. -- and for the JUUL system. We'll start with independent claim 1, although it's not asserted, but asserted claim 2 depends from it. And we'll begin at slide 18 where we have limitation 1.1.

So limitation 1.1 of the '864 patent reads "a cartridge configured to couple to a power source of an electronic vaporizer, the cartridge comprising."

Dr. Vallee, does the JUUL system practice this limitation?

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A. It does. And I show, from a physical sample, how the cartridge is designed to couple to the power source, which is shown on the -- on the right.

Q. Go to slide 19. And what does the JUUL PMTA say about the JUUL device?

A. I highlighted this. It says the JUUL device includes a rechargeable battery and it's designed to hold and deliver power to the heating coil in the JUULpod.

Q. Turning to slide 20, we have limitation 1.2. I'm going to break this up a bit, just because it's a bit long.

A. Okay.

Q. Does the JUULpod have a cartridge comprising a housing having an interior?

A. It does. And I pulled this image from the JUULpod CAD. You can see I outlined the housing with those red dashed lines. The housing is on the right, and the mouthpiece that snaps onto it is on the left. And that comprises the cartridge. The cartridge is the housing plus the mouthpiece.

Q. And does it matter for your opinion that the JUULpod has a mouthpiece attached to the housing?

A. No.

Q. We're on slide 21.

Which components make up the claimed housing?

A. As I indicate in this figure here -- and this is

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again from the JUULpod CAD -- the housing in the dashed red line is made up of -- we'll start at the top with the second end, and there's a tank cap that seals the top of the housing. At the bottom, there are electrical contacts that are installed by piercing the plastic material of the tank, which is indicated in blue, then fills in the gaps where it was pierced and protects the apertures at the bottom.

So it's comprised of, among other things -- the housing is -- the tank cap, the tank, and the electrical -- the electrical contacts. Those three are what comprise the housing.

Q. And does the housing have an interior?

A. Yes. In the figure, you can see some of the interior components, like the airflow tube, the heating element, things like that.

Q. Does the housing have a first end and the second end opposite the first end?

A. It does. And I indicate the first end at the bottom, where the air enters, and a second end at the top, where the air exits the housing.

Q. We're now on slide 22, still limitation 1.2.

Dr. Vallee, why does the tank cap form part of the housing?

A. Well, I took this from the JUUL PMTA. Because it states in the PMTA, among -- for other reasons, that the

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gasket seals the tank area and allows the JUULpod to be filled during manufacturing. So without that seal on top, the tank is just an open vessel where the fluid can leak out. So that's the top part.

And, actually, it's called a gasket. And the purpose of that is to seal the tank up top.

Q. And looking at this claim limitation, does the claimed housing have to be the exterior structure of the whole cartridge?

A. No, it does not.

Q. I'm on slide 23.

Does the patent say, the '864 patent say, whether the housing may comprise more than one component?

A. It does. I took this excerpt from column 5, starting at lines 32. What it explains with respect to the cartridge, as mentioned previously, the main body of the housing constructed of a polymer, it has a first end and a second end, which may be or include caps and, more importantly, wherein such end caps may be constructed of a polymer.

So it explains that it can have end caps as part of the housing.

Q. We're on slide 24.

And what do the asserted patents say about whether the housing has to be the exterior of the cartridge?

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A. Well, I selected two excerpts from -- first on top is column -- from column 5, beginning at line 39. This teaches that a wood tip may be positioned upon the second end wherein the wood tip is configured to receive -- to be received orally by the user.

And down at the bottom, I'm referring to column 3, line 46, of the '864 patent. It states that the cartridge also comprises a first end and a second end, which may be considered as a portion of the housing or apart from the housing.

Q. And in the JUULpod, is the housing a portion of the cartridge -- the second end of the housing a portion of the cartridge end or apart from it?

A. No, the second end of the housing is internal. So I think I explained that's located on the second end of the figures that I discussed earlier.

Q. We'll go to the next slide, which is slide 25. We're going to focus on the next portion of limitation 1.2, which requires "a solution holding medium adapted to hold a solution."

First, has this term been construed?

A. Yes, it has. The Court --

Q. And what is the construction?

A. It was construed that it's not subject to a 112 means-plus-function, and it's to have, it says, I

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highlighted, the plain and ordinary meaning; that is, a location, container, or mechanism to hold the solution.

Q. And did you apply this construction in your analyses for this investigation?

A. I did.

Q. Okay. We're on slide 26.

Does the JUUL system have a solution holding medium adapted to hold a solution as construed?

A. It does. And this figure was taken from the JUULpod design description documents. You can see in light blue where the liquid storage volume is located in the figure on the left.

Q. And you said -- you mentioned the JUULpod design description. Is that CX-2225C?

A. It is.

Q. Okay. And is the liquid storage volume that you just referenced a volume -- I'm sorry, is that a location container or mechanism to hold a solution?

A. Yes, it is.

Q. We're on slide 27.

And what do JUUL's documents say about whether the JUULpod comprises a solution holding medium?

A. Well, again, from the JUULpod design description, it states the liquid storage volume is the area of the pod where the liquid is housed. And down below that, from page

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8 of the same document, it tells how it's designed to hold a certain volume of the -- of the formulation, which is the e-liquid, within that storage tank.

Q. All right. Turning to slide 28, staying in the same limitation, can you explain for us what you're showing here?

A. This excerpt was taken from page 3 of PMTA 2221C. And what I've highlighted is that it states that the JUULpod comprises a liquid storage tank with an air path through the middle.

Q. Turning now to slide 29, let's look at the last part of limitation 1.2, which reads "the housing having a first aperture proximate the first end and a second aperture proximate the second end."

Has the term "proximate" been construed in this investigation?

A. Yes, it has. And it's construed, as I bolded in yellow, as meaning "at, near, or close to," which, in the context of the '846 patent claims, identifies relative positioning.

Q. And did you apply this construction for your analyses in this investigation?

A. I did.

Q. Turning to slide 30, does the JUUL system include a housing having a first aperture proximate the first end

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and a second aperture proximate the second end as construed?

A. Yes, it does. So these images I pulled from the JUULpod CAD image. This was JX-0541C. On the left, I show from -- and I'll call these views a front view; the view on the upper right is a top view; the view with the lower right is a bottom view.

So I indicate it in the first end of the housing and the second end, and it shows that the -- where the first aperture is located and how it's -- by the definition of proximate we just discussed, how it's proximate to the first end. And then I show, up above, how the second aperture is proximate the second end. And on the figures on the right, you can see a top view.

I indicate the second aperture in both figures as a -- I'll call it an orange circle on the right and a line on the left. And the first aperture is the one identified in pink at the bottom of the first end in the figure on the left. And the figure on the right.

Q. Are those apertures at, near, or close to the respective ends of the housing?

A. Yes, they are.

Q. So we're on slide 31, and we're moving on to limitation 1.3, which recites, "the first end of the housing being adapted to electrically couple to the power source."

Does the JUUL system practice this limitation?

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A. Yes, it does. So the figure on the left, taken from a JUULpod CAD, it shows where the electrical contacts are. And they're on the first end of the housing, as you can see. And when it's inserted into the power source, which is on the right, you can see, from the photo of this physical sample, those two pogo pins, which are pins that come in contact with the electrical contacts on the pod, so when you assemble it, the power goes from the pogo pins to the contacts on the pod to energize it.

Q. And do these electrical contacts on the first end of the housing cover or protect the interior of the housing?

A. They do. As you can see, after they -- it's installed and you pierce the plastic portion of the housing, they're bent over, and they protect the apertures at the bottom to prevent grime and other things from entering the pod, particularly when it's in use.

Q. We're on slide 32.

Does limitation 1.3 encompass electrical contacts that form part of the first end of the housing but which also extend into the interior of the housing?

A. Yes, it does. So I have the -- an annotated Figure 2 from the '864 patent. And we can see in gold, I'd say that color is, I've highlighted the electrical conductive elements, 216, and I've also indicated on the first end a blue line, which indicates the entirety of the

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first end on the bottom side. It's made up of like surface 208, the bottom surface of element 218, okay?

And you can also see that the contacts 216 actually go into the housing. So they're part of the interior of the housing on that figure. 218 is the center post, by the way, and the contacts, again, are 216.

So from the '864 patent, I pulled this excerpt from column 6, line 27. It explains the cartridge 200 further comprises a conductive element 216, at least a portion -- a portion -- of which resides in the interior of the housing, which is 202.

Q. We're on slide 33 now.

Do JUUL's documents say anything about the electrical coupling between the JUULpod and the JUUL device?

A. It does. And this excerpt comes from the JUULpod description, design description, 2225C. The top excerpt which I've highlighted says that a pair of electrical contacts crimpled to the coil -- I assume that meant "crimped" to the coil -- convey current from the JUUL device to the coil within the atomizer.

And below, it says the electrical contacts allow the coil to be connected to the pogo pins within the device. So it explains the connection between the two.

Q. We're on slide 34 now, and we're moving on to limitation 1.4. It recites, "the first aperture and the

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second aperture being in communication with one another to permit an airflow through the housing from the first aperture to the second aperture."

Does the JUUL system satisfy this limitation?

A. It does. What I show here is again from JUULpod CAD. This happens to be JX-0541C. A front and a side view. And this in general shows that the air has to come in the bottom, has to travel through the device, and has to exit through the second aperture.

The figure on the right also shows that it enters the bottom, goes around both transverse sides of that heating element, which is the crosshatched circle, and then travels through the device and exits the second aperture.

Q. You might have mentioned this already, but the JUULpod CAD that you referenced, is that JX-541C?

A. It is.

Q. Let's move to slide 35.

Sticking with limitation 1.4, does the JUUL PMTA describe this airflow?

A. It does. The PMTA is document CX-2221C. And in Figure 9 here, what I've annotated was in yellow. So it shows the airflow path, and it shows how it enters the air inlet holes, which are shown at the bottom, and how it exits the second aperture of the housing at the top. And it also shows how it goes through the atomizer. Okay? And through

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the center of the liquid storage volume.

Q. And those blue arrows, are those original to the PMTA or are those your annotations?

A. No, they were original.

Q. Let's look at slide 36. We're on limitation 1.5, which recites, in part, "a heating element."

Dr. Vallee, has there been a claim construction order for the term "heating element"?

A. Yes, there has. And the order indicates that it is not subject to 112.

Q. Now, have you reviewed the parties' proposed non-means-plus-function constructions for the term "heating element"?

A. Yes, I have.

Q. Okay. And we're on slide 37.

Do you agree with NJOY's proposal?

A. Yes, I do.

Q. And why?

A. Because I think it most clearly represents the claim language, an element that heats via resistive heating.

Q. And did you apply this meaning for your analyses of the '864 patent in this investigation?

A. I did.

Q. And do your conclusions regarding infringement, domestic industry, reduction to practice, priority, or

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objective indicia change under JUUL's proposal?

A. No.

Q. We're on slide 38 now.

So limitation 1.5 recites, "a heating element located in the interior of the housing, the heating element extending transversely to a central longitudinal axis of the housing and being at least partially exposed to the airflow." I want to focus on that first portion of that limitation there.

Does the JUUL system include a heating element located in the interior of the housing?

A. It does. And what I show here is the figure from the assembly drawing, which is JX-0517C, pages 2 and 3. And I split the slide because, I mean, my interpretation is the heating element is comprised of the coil and wick, but even if one just considered the coil alone as the heating element, you can see in both figures that the heating element is located in the interior of the housing, the housing being crosshatched in the light blue.

And you can see in both figures how it is located in the interior of the housing.

Q. Is the combination of the coil and wick an element that heats via resistive heating, in your opinion?

A. Yes.

Q. And is the combination of the coil and wick a

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component configured to perform heating, i.e., output heat?

A. Yes.

Q. We're now on slide 39.

Can the claimed heating element include a coil and a wick?

A. Yes. And I pulled an excerpt from column 6, beginning at line 46, from the '864 patent. It teaches that the heating element 222 can comprise a wicking material that draws the liquid solution from the absorbent material, 204, towards the heating element. And the figure on the right is the JUULpod coil-wick drawing from CX-2223C.

Q. All right. We're on slide 40 now.

And what else tells you that a heating element can include a wicking material?

A. Again, from the '864 patent, in claim 4, it states, as I've highlighted in yellow -- and that's from claim 12, sorry -- that the heating element includes a wicking material being operative to permit at least a portion of the solution to be held in the solution holding medium to be drawn toward the heating element.

Q. And, Dr. Vallee, does this mean that the heating element itself has to be the wicking material?

A. No, not at all.

Q. We're at slide 41, and we're looking back at the JUUL.

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Do JUUL's documents identify a heating element?

A. Yes, they do, from the JUULpod design description, again, which is 2225C, CX-2225C. It's in the red box there where it says "wick/coil assembly." And that's the claimed heating element.

Q. We're on slide 42.

And how are the wick and coil described in the JUULpod design description, which is CX-2225C?

A. Well, it describes the wick in this table as conveying e-liquid from the tank to the coil to be vaporized. And then the coil, describes that it converts electrical current to heat, creating the heating surface that drives vaporization.

Q. All right. We're on slide 43, and we're going to focus on the second part of the limitation 1.5.

Has there been a claim construction order for the term "transversely"?

A. There has, and it was construed -- as I highlight in yellow, construed to have its plain and ordinary meaning; that is, crosswise.

Q. And did you apply this construction in your analyses for this investigation?

A. I did.

Q. Turning to slide 44, does the JUUL system include a heating element extending transversely to a central

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longitudinal axis of the housing?

A. It does. And these figures come from the JUULpod CAD. In the figure on the left, the dashed line shows the central longitudinal axis. And the yellow dashed line is the axis of the heating element. And you can see in the figure on the left, that the transverse axis is crosswise and transverse to the central longitudinal axis.

Similarly, for the figure on the right, I cite the same things. Even if we just consider the coil as the heating element, you can see the axis of the coil indicated in the yellow or I guess it's a yellow dashed line, and it's transverse to the central longitudinal axis.

Q. Turning to slide 45, let's look at the next part of limitation 1.5.

Is the JUULpod -- which I believe you've highlighted in bold at the top of the slide. Is the JUULpod's heating element at least partially exposed to airflow?

A. It is. We discussed this part of this figure earlier. The airflow is shown on both figures by the light blue arrow going from the first aperture to the second aperture in the front view and in the right view. And you can see it is exposed to the airflow because if the air is going to go from the first aperture to the second, it has got to get around the heating element.

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And you can see that more clearly in the figure on the right, how the airflow enters and then splits around the heating -- both transverse sides of the heating element, then proceeds through the center of the cartridge.

I highlight also from the PMTA that -- in yellow, that it states the air passes through the atomizer over the wick and coil. And -- and that was on page 26. Page 26 also states that it passes over the wick and coil.

Q. Now, the light blue airflow lines annotations in slide 45, are those your annotations?

A. Yes.

Q. Let's look at slide 46.

And what does this show?

A. This shows the results of a computational analysis from a JUUL wick-coil memo. That's CX-2193C. And as I've annotated in section 4 up top, it's a simple steady-state flow simulation implemented using the J1 wick box, which is the JUUL1 geometry, and solved with a turbulence model and some details on the analysis. It had an enhanced wall treatment and thermal boundary layer effects. That was done to help process the analysis.

Q. And does this simulation include micro-perforations on the JUUL pods or, I guess, on the left end of the simulation?

A. No, it does not.

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Q. Does it include electrical contacts?
A. No, it does not.
Q. Can you explain how this informs your opinion about the airflow?
A. Well, it teaches me that -- what I assumed was essentially correct, that the air comes straight in from the left, and it doesn't matter if it came through, you know, micro-perforations or not. It comes straight in from the left, it goes around both sides of the heating element, and then it goes straight out on the right.
Q. We're at slide 47 now. We're turning to limitation 1.6.
First, has the -- there been a claim construction order for the "configured to vaporize" term?
A. Yes, the "configured to vaporize at least a portion of the solution for oral provision to an individual in the airflow" was construed as having plain and ordinary meaning; that is, the claim language.
Q. And does this claim language require delivering vapor to a consumer?
A. No.
Q. And did you apply this meaning in your analyses for this investigation?
A. I did.
Q. All right. Looking at slide 48, so limitation

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1.6 recites, "the heating element being configured to vaporize at least a portion of the solution for oral provision to an individual in the airflow." The heating element "being responsive to electrical power received from the power source."

We'll focus on that first part. Does the JUUL system have a heating element configured to vaporize at least a portion of the solution for oral provision to an individual in the airflow?

A. It does. This slide shows an excerpt from the JUULpod design description. And it states in the block in yellow that air is drawn over a hot wick and coil assembly during a puff, and the flow of air assists with the vaporization of the formulation.

And the PMTA, which is the document on the right, the excerpt on page 26 of that document says, "As air is drawn from the bottom of the JUULpod into the atomizer, it flows across the wick and coil where it supports e-liquid vaporization."

Q. Looking at slide 49, and let's focus on the next part of limitation 1.6, it reads "the heating element being responsive to electrical power received from the power source."

Does the JUUL system practice this portion of the limitation?

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A. It does. And I rely in part on two documents. On the left is the JUULpod design description we've discussed before. And the JUUL PMTA on the right.

Taking first an excerpt from the design description on page 3, it states that a pair of electrical contacts crimpled to the coil convey current from the JUUL device to the coil within the atomizer. The PMTA tells us that it is designed to hold and deliver power to the heating coil in the JUULpod in order to vaporize the e-liquid to create an aerosol. So it says it's a device, energizes the JUULpod.

Q. Let's turn to slide 50. And we're going to look at limitation 1.7, which reads, "an airflow passageway in the housing, at least a portion of the airflow passageway extending centrally and axially with respect to the housing, wherein the airflow passageway extends centrally and axially from the first aperture to the second aperture."

Does the JUUL system practice this limitation, Dr. Vallee?

A. Yes, it does. So I show in these figures -- we'll start on the left, and these are taken from the JUULpod CAD, by the way, JX-0541C.

So I highlight the airflow passageway in the light blue. And I indicate the location of the central longitudinal axis, which is the dashed purple line in all

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the figures. And it shows it starts at the first aperture we discussed before, at the bottom or the first end of the housing, exits the second end of the housing, and it travels from the first end axially to the second end.

Q. We're on slide 51.

Can the claimed airflow passageway have different widths?

A. Yes, it can. So I've taken Figure 2 again from the '864 patent, and you can see it describes the airflow passageway, which is in the light blue. It starts at the aperture 212, exits aperture 210. 212 is on the first end of the cartridge -- sorry, 212 is at the first end; 210 is at the second.

And you can see that toward the first end of the housing, the diameter of the passageway is smaller than the diameter of the passageway in the general area of the heating element. So it shows that you can have two different diameters, two different cross-sectional areas in the airflow passageway.

Claim 3 also tells -- teaches that, as highlighted, the airflow passageway having an interior, the interior having no cross-sectional area measured perpendicular to the central longitudinal axis of the housing smaller than the cross-sectional area of the second aperture.

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So this doesn't limit. It just says that nothing before the second aperture can be small -- can be larger. Okay? But it can be smaller, and it doesn't dictate what the area must be.

Q. So can the apertures and the airflow passageways have different widths?

A. Excuse me?

Q. Can the apertures and the airflow passageway have different widths?

A. Sure.

Q. Slide 52, sticking with limitation 1.7, I have another question about the patent for you.

Does the claimed airflow passageway have to be bound by a structure that is separate and distinct from other structures in the cartridge?

A. No. We can see in Figure 2, again from the '864 patent, we see the solution holding medium. I've annotated in -- I guess I'll call that gold, and the airflow passageway is in light blue again. And this shows you that the boundary of the airflow passageway can share a structure with the inside of the solution holding medium, all contained within the housing.

Q. All right. We're on slide 53. And, Dr. Vallee, have we gone through each of the limitations of claim 1 of the '864 patent?

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A. Yes, we have.

Q. And, Dr. Vallee, what is your opinion as to whether the JUUL system practices claim 1?

A. The JUUL system does practice every element of claim 1, in my opinion.

Q. All right. Let's move now to asserted claim 2, which is dependent. And we're on slide 55.

Oh, sorry. Yes, great.

So claim 2 recites, "the cartridge of claim 1, further in combination with a power source adapted to be electrically coupled to the first end of the housing, the power source including a battery."

Does the JUUL system infringe claim 2?

A. It does. And as I've shown here, on the left is a JUULpod CAD image; on the right, the JUUL physical sample. And we discussed these earlier. And it shows that the first -- the housing having the first end with the electrical contacts is adapted to, coupled to the power source where the electrical current is provided by the pogo pins.

So when one inserts the pod into the device or the power source, it's electrically coupled.

Q. All right. We're on slide 56.

And what's shown here on slide 56?

A. All right. This is an excerpt I have taken from the JUUL PMTA. Again, CX-2221C. And this teaches that the

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JUUL device includes a rechargeable battery and it's designed to hold and deliver power to the heating coil of the pod.

Q. All right. So let's move to slide 57, and we'll look at independent claim 9 next. And now we're on slide 58. So this slide lists nine limitations for claim 9 -- I'm sorry, seven limitations for claim 9.

Have we already addressed some of these limitations?

A. Yes, we have.

Q. Let's walk through that. So I'm on slide 59. How does limitation 9.1 compare to limitation 1.1 of the '864 patent?

A. They are the same.

Q. And how does -- now slide 60, how does limitation 9.2 compare to limitation 1.2 of the '864 patent?

A. They are the same.

Q. Slide 61, how does limitation 9.3 compare to limitation 1.3 of the '864 patent?

A. They are the same.

Q. Slide 62, how does limitation 9.4 compare to limitation 1.4 of the '864 patent?

A. They are the same.

Q. How does -- now on slide 63, how does limitation 9.5 compare to limitation 1.5 of the '864 patent?

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A. They are the same.

Q. Slide 64, how does limitation 9.6 compare to limitation 1.6 of --

A. They are the same.

Q. -- the '864 patent? Sorry.

A. I'm sorry. 9.6 is the same as 1.6.

Q. All right. Slide 65, does limitation 9.7 have a corresponding limitation in claim 1?

A. No. That limitation does not.

Q. So what is your opinion about whether the JUUL system practices limitations 9.1 through 9.6?

A. It does, in fact, practice them.

Q. Okay. Let's look at 9.7 since that's the one that's different. So I'm on slide 67. And limitation 9.7, it's a bit long, so I'll break it up. The first part recites, "wherein the airflow through the housing follows an airflow path."

Does the JUUL system practice this part of the limitation, Dr. Vallee?

A. Yes, it does. And the image I've taken again from the PMTA shows the airflow, airflow path. I've highlighted the airflow path text in yellow. And it shows, well, what the airflow path is, indicated by the -- I'll call it a blue arrow, and it goes through the center of the housing.

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Q. Now, the next part of limitation 9.7 reads "a first portion of the airflow path proximate the first aperture being defined substantially centrally and axially with respect to the central longitudinal axis of the housing, and a second portion of the airflow path proximate to the second aperture being defined substantially centrally and axially with respect to the central longitudinal axis of the housing."

Does the JUUL system practice this limitation?

A. It does. And as we can see in the figure, the blue line, that indicates the airflow path, which is the -- is located centrally and axially in the housing, goes from the first aperture to that second aperture.

Q. And using the CAD model -- I'm on slide 68 now -- of the JUULpod, can you please identify the claimed first and second portions?

A. Yes. I highlight those in red in both images. They are -- I can see the -- I'm sorry. The first portions, you asked, correct?

Q. Yes, sir.

A. The first portion is the green annotations I put on the front view on the left image. This comes from the JUULpod CAD. The first portion is the portion indicated with the square -- square bracket that starts with first aperture and extends to the heating element. The second

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portion is the upper portion near the second aperture.

I've indicated the second aperture and first aperture with the red annotations, the first being on the first end at the bottom, the second being at the second end on the top.

Q. Now, what informs your opinion that the airflow path proximate the first and second apertures would be substantially central and axial?

A. Because the airflow path is substantially central and axial. It follows the center line of the housing.

Q. Are there structures that support your opinion in the JUULpod that -- support your opinion that it's a substantially central and axial airflow?

A. Yes. There's the airflow tube, for example, that's called out in the PMTA. That alone is very central and axial. And it's a majority of the airflow path.

Q. Is the first aperture central and axial?

A. Yes, as is the second aperture.

Q. Now, does the claimed first portion have to be the entire bottom half of the airflow passageway that you've identified in the JUULpod?

A. No. It just has to be a portion as defined in the claim, extending centrally and axially.

Q. And does the claimed second portion have to be the entire half of an airflow passageway, again, according

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to the claims?

A. No. Again, it just needs to be a portion.

Q. All right. So slide 69. Including your claim mapping analysis that we went through, have we addressed every -- each and every limitation of claim 9?

A. Yes, we have. I've indicated that with the green checks.

Q. And, Dr. Vallee, what is your opinion as to whether the JUUL system infringes claim 9 of the '864 patent?

A. It does infringe.

Q. Let's move now to dependent claim 10. We're turning to slide 71.

So, Dr. Vallee, how does the language of claim 10 compare to the language of claim 2?

A. It is the same, as highlighted.

Q. Have we already addressed claim 2 with respect to the JUUL system?

A. Yes, we have.

Q. And what's your opinion as to whether the JUUL system practices the limitation that's recited in claim 10?

A. It does practice claim 10.

Q. Okay. And what's your opinion as to whether the JUUL system infringes claim 10 of the '864 patent?

A. It also infringes claim 10.

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Q. Let's move to dependent claim 12. We're going to slide 73.

So claim 12 recites, "the cartridge of claim 9, wherein the heating element includes a wicking material being operative to permit at least a portion of the solution to be held in the solution holding medium to be drawn toward the heating element to be vaporized."

Does the JUUL system infringe claim 12?

A. Yes, it does. Here I have excerpts from, on the left, the PMTA and on the right the JUULpod design description.

So referring first to the excerpts from the PMTA from page 45, it states that "the e-liquid is fed to the heating coil via the capillary action of the wick. Heat from the power applied to the heating coil vaporizes some of the e-liquid."

On page 23 from the PMTA, it explains how the wick conveys e-liquid from the tank to the coil to be vaporized.

With respect to the design description document I cite on the right, page 7 states, and I highlight in yellow, "the ends of the wick sit within the liquid storage volume and are submerged in the e-liquid."

Q. All right. Let's go to claim 13. So we'll turn to slide 75. Claim 13 recites, "the cartridge of claim 9,

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wherein the first aperture proximate the first end is smaller than the second aperture proximate the second end."

Dr. Vallee, does the JUUL system infringe claim 13?

A. It does. And on the figures on the left, this is a JUULpod tank drawing and I've highlighted in yellow the first aperture in the drawing from the CAD -- on the CAD indicates that the -- the hole cannot exceed .45 millimeters. So that's the aperture maximum diameter.

The figure on the right from the JUULpod CAD indicates the second end. I've highlighted the second aperture. And measurements from the CAD indicate that the diameter of the second aperture is 1.882 millimeters.

So the diameter of the first aperture is smaller, in fact, than the diameter of the second aperture.

Q. All right. Let's move to claim 15, and we'll turn to slide 77.

Dr. Vallee, how does the language of claim 15 compare to the language of limitation 1.7 of the '864 patent?

A. Well, all of the highlighted language in claim 15 in yellow is present in claim 7 of the '864 patent.

Q. And have we already addressed limitation 1.7 with respect to infringement of the JUUL system?

A. Yes, we have.

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Q. And what is your opinion as to whether the JUUL system practices the limitation of claim 15?

A. It does practice the limitations of claim 15.

Q. And what is your opinion as to whether the JUUL system infringes claim 15?

A. It does infringe.

Q. All right. We're next going to turn to claim 16. I'm on slide 79.

So claim 16 reads "the cartridge of claim 15, wherein a majority of the portion of the airflow passageway has a substantially uniform cross-sectional area measured perpendicular to the central longitudinal axis of the housing between the heating" -- and it's between the heating element and the second aperture.

Does the JUUL system practice this limitation -- or this claim?

A. It does. So I brought here forth on this slide is we have the JUULpod CAD on the left and an air path tube drawing from the JUULpod on the right. So the component, I believe, in the assembly drawing was the air tube, we can see that that one component alone constitutes a majority portion of the airflow passageway. And I put that in the square brackets, so you can see roughly its length. It's a tube so it has a uniform cross-sectional area.

The drawing confirms that. It's a drawing of a

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tube. It's a simple -- a tube from a front view would be indicated as a circle. And it has a constant diameter of 2.08 millimeters and a constant cross-sectional area therefor of 5.11 square millimeters.

Q. And the JUULpod air path tube drawing you were citing, is that CX-2226C?

A. It is.

Q. Okay. Now, you mentioned the airflow path tube. Is that -- is just the airflow path tube the claimed airflow passageway?

A. No. The airflow passageway has to extend from the first aperture to the second aperture. It's just a part of it.

Q. And to clarify, what's your opinion as to whether the JUUL system infringes claim 16?

A. It does infringe claim 16.

Q. All right. Let's look at -- we're going to go to claim 20. So slide 81.

Claim to recites, "the cartridge of claim 9, wherein the heating element includes a material that when powered by the power source is adapted to vaporize the solution brought into contact with the heating element."

Dr. Vallee, does the JUUL system infringe claim 20?

A. It does. What I've highlighted here is an

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excerpt from the design description. This shows that the coil is made of a nickel-chromium alloy, and it gives the particular wire spec. And what the coil's purpose is, is to convert electrical current to heat, creating the heating surface that drives the vaporization.

Q. All right. So move to slide -- I'm sorry, we're going to turn to independent claim 25. We'll go to slide 83.

Now, Dr. Vallee, does claim 25 recite some of the same language as claim 1 of the '864 patent?

A. Yes, it does.

Q. Okay. And how does limitation 25.1, as is shown here on slide 84, compare to limitation 1.1 of the '864 patent?

A. They are the same.

Q. Turning to slide 85, how does limitation 25.2 compare to the language in limitation 1.2 of the '864 patent?

A. What I've highlighted in yellow in the claim 25 element 2 is the same as is contained in claim 1.2.

Q. Okay. And so the language of limitation 25.2 that recites, "and a central longitudinal axis extending from the first end to the second end," that's not present --

A. Correct.

Q. -- in limitation 1.2?

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A. Correct. That's why it's not highlighted.
Q. All right. And then turning to slide 86, how does limitation 25.3 compare to limitation 1.3 of the '864 patent?
A. They are the same.
Q. All right. Turning to slide 87, how does limitation 25.4 compare to 1.4?
A. 25.4 is completely contained within claim element 1.4.
Q. Turning to slide 88, how does limitation 25.5 compare to 1.5?
A. The highlighted text in 25.5 is present in claim 1.5.
Q. And looking at slide 89, how does limitation 25.6 compare to 1.6?
A. Again, what's highlighted in yellow in claim 25.6 is present in claim 1.6.
Q. And turning to slide 90, how does the limitation 25.7 compare to limitation 1.7 of the '864 patent?
A. Again, the yellow highlighted text in 25.7 is also present in claim 1.7.
Q. Okay. So now we're on slide 91.
Now, does the bolded text here represent limitations that we -- are not already covered by your analysis of claim 1?

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A. Yes.

Q. All right. And does the JUUL system practice limitations 25.1, 25.3, and 25.4 and the non-bolded portions of the other limitations?

A. It does.

Q. Okay. Now, let's look at the limitations that are not the same between claims 1 and 25. So we're on slide 92. And starting with the first limitation not addressed by your claim mapping, the claim limitation 25.2 recites, in part, "a central longitudinal axis extending from the first end to the second end."

Does the JUUL system practice this part of the limitation?

A. It does. So here is an image, side view of the JUULpod CAD. The central longitudinal axis is shown, as is the first end and the second end. And you can see that the central longitudinal axis does extend between the first end and the second end through the first aperture and the second aperture.

Q. All right. Turning to slide 93, the next limitation not addressed by your claim mapping analysis, it's found in 25.5. And it recites the heating element including a coil and extending "transversely to a direction of the airflow."

Does the JUUL system include a coil that extends

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transversely to the direction of airflow?

A. It does. And here we see a drawing, the assembly drawing, where I indicate the airflow as a light blue line and the axis of the heating coil is a dark blue or purple line. And you can see that the purple line is transverse the blue line. So the axis of the heating coil is transverse to the airflow path direction.

Q. Turning to slide 94, has there been a claim construction for the term "both transverse sides of the heating element"?

A. There has. And it was construed, from the claim construction order, to mean having its plain and ordinary meaning, which is the claim language itself.

Q. And did you apply this plain and ordinary meaning in your analyses for this investigation?

A. I did.

Q. Turning to slide 95, we have here highlighted the limitation 25.5, the language "such that the airflow passes on both transverse sides of the heating element during use of the electronic vaporizer."

Does the JUUL system practice that portion of the limitation?

A. It does. And this is a CAD image of the top view of the JUULpod. And what you can see is that the outside diameter of the coil is smaller than the diameter of the

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second aperture, so you can see both transverse sides of the heating element, meaning when the air is drawn through the pod, it has to exit both transverse sides of the heating element.

Q. Turning to slide 96, Dr. Vallee, has the term "the portion of the solution" been subject to a claim construction order in this investigation?

A. It has. And this excerpt from that order says that it is construed to have its plain and ordinary meaning; that is, the words of the claim.

Q. And did you apply that plain and ordinary meaning in your analyses for this investigation?

A. I did.

Q. All right. Turning to slide 97, we're looking at limitation 25.6 and the portion of the limitation that recites, "the portion of the solution drawn to the heating element."

And, Dr. Vallee, does the JUUL system practice limitation 25.6?

A. It does. And what we see here is the -- highlighted in yellow, are the portions of claim 25.6 which are the same as 1.6.

Q. And does the JUUL system practice the portion of 25.6 that recites the portion of the solution drawn to the heating element?

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A. It does.

Q. Okay. And does the difference in claim language as between 1.6 and 25.6 -- does that impact your opinion?

A. No, it does not.

Q. All right. We're now moving to slide 98. We're looking at limitation 25.7. And I want to focus your attention on the portion that's bolded there at the top of the slide.

Does the JUUL system practice "wherein the airflow passageway extends in a straight path from the first aperture to the second aperture"?

A. It does. And what we see here from the JUUL CAD -- we'll start on the front image on the right. You can see that the airflow has to go from the first aperture straight up to the second aperture. And it's a little more clear in the isometric view when you see it goes from the first to second aperture. And the yellow line is the direction of the airflow passageway.

Q. Turning to slide 99, we'll look at the last part of limitation 25.7. It recites, "with only the heating element obstructing a portion of the airflow through the airflow passageway along the central longitudinal axis of the housing."

Does the JUUL system practice this limitation?

A. It does. And you can see the central

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longitudinal axis of the housing in this figure taken from the JUUL CAD. And you can see that, between the first aperture and the second aperture, the only obstruction is the coil and wick heating element I annotated in red.

Q. And next slide, we're on slide 100.

And including your claim mapping analysis as between claim 25 and claim 1 of the '864 patent, have we addressed each and every limitation of claim 25?

A. We have.

Q. And what is your opinion as to whether the JUUL system practices claim 25 of the '864 patent?

A. It does practice claim 25 of the '864 patent.

Q. Okay. And now let's look at asserted dependent claim 26. So we're on slide 102.

And how does the language of claim 26 compare to the language of claim 2?

A. They're the same.

Q. And have we already addressed whether the JUUL system infringes claim 2?

A. We did.

Q. And what is your opinion as to whether the JUUL system infringes claim 26?

A. It does.

Q. Now, to summarize, Dr. Vallee, what is your opinion about whether the JUUL system infringes the '864

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patent?

A. It does infringe on all those claims indicated of the '864 patent.

MR. ANSLEY: Your Honor, would now be a good time for a break, the 15-minute mid-morning break, or do you want to keep going?

JUDGE JOHNSON HINES: No, that's fine. We can take a break. Why don't we reconvene at 11:00.

(A recess was taken at 10:39 a.m., after which the proceedings resumed at 11:00 a.m.)

JUDGE JOHNSON HINES: Thanks, be seated. We're trying to do something about the air-conditioning. We're trying. So we can keep trying but just so you know.

THE WITNESS: I do, Your Honor, feel cold air now coming out of these vents, so that's a good sign.

JUDGE JOHNSON HINES: Hopefully that will do something, because it is a little warm, so I apologize for that.

MR. ANSLEY: Your Honor, may I proceed?

JUDGE JOHNSON HINES: Yes.

BY MR. ANSLEY:

Q. Welcome back, Dr. Vallee.

We're on slide 104 and let's start with your infringement analysis for the '864 patent and the JUUL2 system.

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Slide 105. We're going to begin with unasserted claim 1, which is independent. And we will begin with limitation 1.1.

Slide 107.

Dr. Vallee, does the JUUL system include a -- the JUUL2 system include "a cartridge configured to couple to a power source of an electronic vaporizer"?

A. It does. And the figure you can see below from the JUUL PMTA shows the cartridge in black and the power source in gray. And an excerpt -- two excerpts from the PMTA, pages 10 and 12, state that the JUUL2 system is a closed cartridge based ENDS product designed to deliver nicotine, electronic nicotine delivery system, and that the JUUL2 system consists of the JUUL2 device and the JUUL2 pods which are prefilled with the e-liquid, and it also states on the right, page 12 of the JUUL2 device includes a rechargeable battery.

Q. Now, you mentioned the PMTA. Are you referring to RX-930?

A. Correct.

Q. Let's turn to slide 108. We're looking at limitation 1.2.

We will break it down. Does the JUUL2 system include a cartridge comprising "a housing having an interior"?

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A. It does. And these images come from the JUUL2 pod CAD. As I typically do, I outline the periphery of the housing, the exterior of the housing with the red dashed line. And you can see that in the figure on the left. The center figure is a side view of the same thing. And you can see how the housing -- exterior of the housing is oriented.

And the image on the right shows that the housing is comprised of the exterior structure of the tank and the exterior structure of the electrical contacts, which are on the housing and the green portion is the exterior structure of the atomizer housing. So those three structures comprise the housing of the JUUL2 pod.

Q. Does the housing have an interior?

A. It does. And you can see some components like the top of the airflow passageway and the collector in -- I guess that's a dark gray, in the figure on the right.

Q. Turning to slide 109. Let's look at the next portion of limitation 1.2 it recites, "a solution holding medium adapted to hold a solution."

Does the JUUL2 system include this limitation, Dr. Vallee?

A. It does. And the JUUL2 pod CAD I cite on the left shows the solution holding medium in the, I'll call it, the like orange or gold color. And the image on the right is a bottom section view that shows how it -- where it's

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located with respect to the heating element.

Q. And at the portions you have identified of the JUUL2 pod, are they a location, container or mechanism to hold a solution?

A. They are.

Q. Turning to slide 110, how did JUUL identify the liquid reservoir of the JUUL2 pod in the 1368 investigation?

A. This image from the 1368 JUUL domestic industry claim chart, which is CX-2104C, this is from page 10. They identify the liquid reservoir with the blue arrows in the figure.

Q. And are those -- is that identification, how does it compare to your identification of the solution holding medium?

A. Sorry, could you repeat that?

Q. How does the identification that JUUL has here compare to your identification of the solution holding medium?

A. It's the same.

Q. Now, on slide 111, we're looking at the next part of limitation 1.2 that recites, "the housing having a first end and a second end that is opposite the first end, the housing having a first aperture proximate the first end and a second aperture proximate the second end."

Does the JUUL2 system practice this limitation?

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A. It does. And I have taken these images from the JUUL2 Pod CAD JX-0188C. We can see on the left top that is a bottom view of the first end of the housing. And you can see the first aperture in the yellow oval.

And below that we see the second end, the end outlined in pink, but the second aperture is in the yellow, I'll call it, kind of a filleted rectangle and we see those in the isometric view a little more clearly. You can see the first aperture. Again, in the upper right yellow oval and the second aperture lower right in the filleted yellow rectangle.

JUDGE JOHNSON HINES: Excuse me, can I ask a question? Can you go back to slide 110?

The CX-2104C, I understand that's a domestic industry claim chart. Do you know, either Dr. Vallee or counsel, where the image in CX-2104C comes from? I'm assuming this is a claim chart. I want to know what document contains the underlying image.

If you don't know that now, I would like to know that.

MR. ANSLEY: We will find that out, Your Honor.

JUDGE JOHNSON HINES: Thank you.

BY MR. ANSLEY:

Q. Dr. Vallee, looking at slide 110, is the first aperture that you have identified on, near, or at the first

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end?

A. I assume you mean slide 111?

Q. That's correct. Thank you.

A. Yes, it is.

Q. And sticking with slide 111, is the second aperture that you identified on, near, or at the second end?

A. It is.

Q. Turning now to slide 112, let's move to limitation 1.3.

It reads, "the first end of the housing being adapted to electrically couple to the power source."

Dr. Vallee, does the JUUL2 system practice this limitation?

A. It does. And the images I pull are from the JUUL2 pod CAD. We can see the location of the contacts and that they are, in fact -- that's the electrical -- excuse me -- the electrical coupling portion.

You can see those highlighted with the yellow polygons, I'll call them. They are located on the first end. So that's what does the electrical coupling and shows that they are located on the first end.

We see another view of the contacts, an isometric view shown on the right, showing, again, the location of the electrical contacts on the first end.

Q. All right. Let's look at limitation 1.7 of the

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'864 patent. This is on slide 113.

The limitation recites, "the first aperture and the second aperture being in communication with one another to permit an airflow through the housing from the first aperture to the second aperture."

Does the JUUL2 system practice this limitation?

A. It does. And I have selected I'll call it a front-side view of the JUUL2 pod CAD. We can see the airflow in light blue and since the airflow enters the first end, it has to flow through the cartridge to exit the second end.

Q. And now turning to slide 114, is there anything in the JUUL2 PMTA that indicates the airflow?

A. Yes. We will start with the PMTA 0930C, page 29 at the top. It states that air exits the bottom of the JUUL2 pod and into the atomizer, passing over the wick and then also highlighted in yellow. The heated liquid aerosolizes and passes through the central air path in the middle of the reservoir tank into the user.

And so the Figure 7, which is from page 29 also of that document, shows the air entering from the bottom at the first aperture, goes around the heating element, passes an obstacle in the airflow passageway and then exits through the second aperture of the housing.

Q. Let's turn to limitation 1.5. This is on slide

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115.

First, does the JUUL2 have a heating element located in the interior of the housing?

A. It does. And from the JUUL2 pod CAD, I have highlighted the heating element, which is made of the resistance wire and the wick in, I will call that a light red.

Q. And does the heating element extend transversely to a central longitudinal axis of the housing?

A. It does. And I have indicated the central longitudinal axis in the purple dashed arrow and the axis of the heating element in yellow. And you can see that the yellow line is transverse the longitudinal line.

Q. Does the JUUL2 system have a heating element that is "at least partially exposed to the airflow"?

A. It is. You can see in the figure how the heating element is exposed to the airflow indicated in the light blue arrow.

Q. Okay. And why do you cite here on slide 116 the JUUL2 PMTA?

A. Because here it states, again, the air enters the bottom of the pod into the atomizer and then, as I underline, passes over the wick, which is captured by the heating element. So the heating element comprises the wick and the wire.

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And the e-liquid is fed to the wick through the channels in the collector. So it shows how the wick is oriented and how it's -- you know, in the figure, it shows the solution contacts the wick and the positioning of the wick.

Q. Let's look at slide 117. We're on limitation 1.6.

The limitation recites, "the heating element being configured to vaporize at least a portion of the solution for oral provision to an individual in the airflow, the heating element being responsive to electrical power received from the power source."

Dr. Vallee, does the JUUL2 system practice this limitation?

A. It does. And these excerpts from the PMTA, page 12 of the document as I have highlighted, states that the JUUL2 device is designed to hold and deliver power to the heating element or heater in the JUUL2 pod in order to heat the e-liquid to create an aerosol.

Page 29, I highlight that the heated liquid aerosolizes and passes through the central air path in the middle of the reservoir tank and to the user. And finally on page 28, when this table discusses the heating element and the heater, that the resistive heating element that electrically heats nicotine contains e-liquid to produce the

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aerosol.

Q. Looking at the JUUL2 PMTA, what does it mean -- I'm looking at the bottom right highlight you have here. What does it mean that the resistive heating element heats the e-liquid to create an aerosol?

A. It means that the electrical power is given to the heating element, it heats up, and it vaporizes the e-liquid.

Q. How is an aerosol formed after vaporization?

A. Generally the vapor mixes with air, and the result we will call an aerosol, so an aerosol is vapor plus air.

Q. Turning to slide 118, we're looking at limitation 1.7. It recites, "an airflow passageway in the housing, at least a portion of the airflow passageway extending centrally and axially with respect to the housing, wherein the airflow passageway extends centrally and axially from the first aperture to the second aperture."

Does the JUUL2 system practice this limitation?

A. It does. So these images are from the JUUL2 pod CAD, once again. Isometric view on the left and an isometric section view on the right. So we can see the airflow passageway that's highlighted in light blue.

The central longitudinal axis, and we can see that starting from the first aperture and extending to the

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second aperture, the air must flow from the first aperture through the airflow passageway, which is located centrally and axially, because it is along the purple central longitudinal axis line of the housing and out the second aperture. And the same thing is shown in the image on the right.

Q. Slide 119.

Does the JUUL2 pod's airflow passageway extend centrally and axially through the collector component?

A. Yes, it does. And you can see in the figure -- again, from CAD what I have highlighted in light blue, you can see the airflow path is central and axial to the axis of the housing.

Q. And what is the feature you have identified as an obstacle here and highlighted in yellow?

A. So that's a feature in the collector. So what that does is basically a small partition in the opening of the collector itself where the air flows around. I note too that the figures indicate that that obstacle is quite small with respect to the width of the heating element.

Q. Turning to slide 120, Dr. Vallee, has the Court previously given an opinion as to what can count as an obstruction in the airflow passageway for patents that are in the same family as the asserted patents?

A. It has. And I'm referring now to the Fuma versus

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RJR summary judgment opinion that is CX-2277. On page 16, it discussed in this case the RJR Ciro product, but it says obstructions that do not alter the direction of the airflow passageway any more than the heating element would be considered obstructions.

Q. Did you apply this opinion in a way with your analysis?

A. I did. I used this as guidance as to how large an obstruction could be before it wasn't an obstruction.

Q. Let's look at limitation -- I'm sorry, slide 121. And does the collectors obstacle alter the airflow more than the heating element?

A. No, it does not. This image, which is from -- it was the EVT design release document, the document number is JX-0518C.

What this shows to me very clearly is you can see how at the bottom of -- and this is an isometric view of a flow analysis, you can see how the air enters the bottom of the cartridge below the heating element essentially straight and then it passes around the heating element. And then it passes around the obstacle and the collector and then straight out.

And you can see here that the flow is diverted more in the heating element than it is around the obstacle. That way this supports my opinion that it is just an

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obstacle because it is smaller than the width of the heating element.

Q. Let's go to slide 122.

And what does the JUUL2 PMTA say about the JUUL2 pod's airflow path?

A. I have highlighted this excerpt from page 29 of the document. It explains that air enters the bottom of the pod into the atomizer, passes over the wick, which is captured by the heating element. And the e-liquid is heated and aerosolizes and passes through the central air path in the middle of the reservoir in the tank. So it explains how, you know, aerosolization occurs through vaporization of the e-liquid.

Q. Turning to slide 123, Dr. Vallee, have we addressed each limitation of claim 1 of the '864 patent for the JUUL2 system?

A. Yes, we have.

Q. And what is your opinion as to whether the JUUL2 system practices claim 1?

A. In my opinion, it does practice claim 1.

Q. Let's turn to claim 2 of the '864 patent and we're now on slide 125. Claim 2 recites, "the cartridge of claim 1, further in combination with a power source adapted to be electrically coupled to the first end of the housing, the power source including a battery."

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Dr. Vallee, does the JUUL2 system infringe claim 2?

A. It does. What I have shown here is two images from the JUUL2 pod CAD. On the left, we see the location in the device or the power supply where the electrical contacts are. They are indicated in red. Then we can see the electrical contacts in the -- outlined in yellow on the first end.

And you could see from the image how those contacts are positioned so that when the pod is assembled to the device, it makes electrical contact.

Q. Turning to slide 126, what do JUUL's documents say about electrical could have coupling between the JUUL2 device and the JUUL2 pod?

A. Well, this was taken from the PMTA of the JUUL2. It says in the upper text box, page 10, the JUUL2 device contains a single rechargeable lithium-ion battery with precise heating-control technology. It says the device contains the battery.

And it describes the battery pack on page 17 whose purpose is to store and provide energy to the device, and it also protects the battery.

Finally the pod interfaces, which is used to secure and make electrical contact with the JUUL2 pod.

Q. Let's move to independent claim 9. I'm on slide

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128.

And, Dr. Vallee, does your claim mapping analysis that was performed earlier with respect to the JUUL system for claim 9 to claim 1, can that apply here?

A. Yes, it does.

Q. And does the JUUL system practice limitations 9.1 through 9.6?

A. It does.

Q. Okay. Does it practice those limitations for the same reasons that the JUUL2 system practices limitations 1.1 through 1.6?

A. Yes, it does.

Q. All right. Let's look at limitation 9.7. We will break this up a little bit.

First, does the JUUL2 system practice, "wherein the airflow through the housing follows an airflow path"?

A. It does. And these JUUL2 pod CAD images show how the airflow is passing through the housing and what the airflow path is, so it comes from the first aperture to the second, travel along the heating element in the obstacle. The top view shows how it passes, the flow passes around the obstacle, and the bottom view shows how it passes around the heating element.

Q. Looking at the next part of the limitation, we're on slide 130, it reads "a first portion of the airflow path

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proximate the first aperture being defined substantially centrally and axially with respect to the central longitudinal axis of the housing."

Does the JUUL2 practice this part of the limitation?

A. It does. So, again, from the CAD images, we see the airflow in light blue. And you can see how there is a portion of the airflow once it enters the first aperture that is not diverted and therefore stays straight before it hits the heating element. And that is what we're calling the first portion, that is proximate the first aperture.

Once it passes the second obstacle, it is essentially straight through the second end.

Q. And so with respect to the last portion of the limitation which reads "a second portion of the airflow path proximate to the second aperture being defined substantially centrally and axially with respect to the central longitudinal axis of the housing," does the JUUL2 system practice this limitation?

And we're on slide 131.

A. Yes, it does. From the same images I annotated a second portion relative to the airflow path. And a second aperture. And it shows that the airflow does pass centrally and axially in that second portion to the second aperture of the housing.

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Q. Turning to slide 132, does JX-518C support your opinion regarding a first and second portion having substantially central and axial airflow?

A. Yes, it does. So we can see on this figure we discussed before from the EVT design release, which is JX-0518C. If we look at the first portion that shows how the air enters the first aperture, you can see that those are essentially straight lines in green before they hit the heating element.

You can also see that once it passes the obstacle, in that second portion, they are straight again as they exit.

Q. And including your claim mapping analysis, we're on slide 133 now, have we considered all the limitations of claim 9 of the '864 patent?

A. We have.

Q. And what is your opinion as to whether the JUUL2 system infringes claim 9 of the '864 patent?

A. It does infringe claim 9.

Q. Now, let's move on to dependent claim 10. We're now on slide 135.

Dr. Vallee, how does the language of claim 10 compare to the language of claim 2?

A. It's the same.

Q. Okay. And have we already addressed whether the

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JUUL2 system infringes claim 2?

A. We have.

Q. And what is your opinion as to whether the JUUL2 system infringes claim 10 of the '864 patent?

A. It does infringe claim 10.

Q. Now, let's move on to claim 12. We're on slide 137. Claim 12 recites, "the cartridge of claim 9, wherein the heating element includes a wicking material being operative to permit at least a portion of the solution to be held in the solution holding medium to be drawn toward the heating element to be vaporized."

Dr. Vallee, does the JUUL2 system infringe claim 12?

A. Yes, it does. From the JUUL2 pod CAD in the lower left, we see the location of the solution holding medium and the wick, which is the rectangle in light red. And we can see that it is configured and positioned so that the solution in the solution holding medium passes through the collector, which is white, and comes in contact with the wick. Then the wick draws the solution in to put in contact with the electric wire of the heating element so that it can be vaporized.

From the PMTA, I pulled an image from page 28 that discusses the wick and how it's purpose is to absorb the e-liquid from the tank to the resistive heating element

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where it is atomized. And, finally, at the bottom in the product overview, again, it discusses the wick, which is a material -- and, I'm sorry, that's -- product overview is JX-0542C. And I am referring to page 16.

It discusses the kind of wick as a material in geometry, which enables even heating and high refresh rate to support increased vapor. So it talks about the wick. And the stainless steel here, which is a medical grade stainless with variable resistance, enables uniform heating with high precision and efficiency.

So we have the wick that does the wicking action drawing the solution into the heating element and the heater which actually heats up.

Q. Let's move to claim 13 of the '864 patent. And we're on slide 139.

Claim 13 recites, "the cartridge of claim 9, wherein the first aperture proximate the first end is smaller than the second aperture proximate the second end."

Does the JUUL2 system infringe claim 13?

A. It does. I took measures from the CAD models and we can see the first aperture in the lower left in the yellow oval is about .3 by .95 millimeters in dimension. That compares to the second aperture I show in the upper right, which is -- measures 2.025 by 6.834 millimeters, indicating that the second aperture is much bigger than the

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first aperture.

Q. And have you confirmed this with a visual inspection as well?

A. Yes, I have.

Q. Let's go to claim 15. I'm on slide 141. So claim 15 is shown up on the screen and so is limitation 1.7.

How does claim 15's language compare to that of limitation 1.7?

A. Everything highlighted in claim 15 is present in claim 1.7.

Q. Okay. And have we already addressed whether the JUUL2 practices limitation 1.7?

A. We have.

Q. And what is your opinion as to whether the JUUL2 system infringes claim 15?

A. It does infringe claim 15, in my opinion.

Q. All right. Moving on to slide -- I'm sorry. Let's move on to claim 20, and we will go to slide 143.

Claim 20 recites, "the cartridge of claim 9, wherein the heating element includes a wicking material that when powered by the power source is adapted to vaporize the solution brought into contact with the heating element."

Does the JUUL2 system infringe claim 20?

A. Yes. And I believe you meant to say wherein the heating element includes a material. I think you said

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wicking material.

Q. Excuse me.

A. Maybe I am wrong. But, anyway, I will read it again.

"Wherein the heating element includes a material that when powered by the power source is adapted to vaporize the solution brought into contact with the heating element."

So I cite from the PMTA, page 12 on top in the upper text box. It states "The JUUL2 device is designed to hold and deliver power to the heating element or heater in the JUUL2 pod in order to heat the e-liquid to create an aerosol."

Page 25 states, "The electrical contacts of the heating element convey electrical current to the JUUL2 device to the heating element."

Finally on page 28 it discusses the heating element/heater, which is the heating element which is basically comprised of what they are calling the heater and the wick that the heater itself is stainless steel and the resistive heating element part as electronically heats the nicotine containing the e-liquid to produce the aerosol.

Q. And I did misspeak. Thank you.

All right. So we're on slide 144 now.

And, Dr. Vallee, what is your opinion on whether the JUUL2 system infringes claims 2, 9, 10, 12, 13, 15, and

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20 of the '864 patent?

A. In my opinion, it does infringe those asserted claims.

Q. All right. Let's move on to the '881 patent. We will walk through your analysis for the JUUL system starting with independent claim 16.

So now we're on slide 147, limitation 16.1. It reads "a cartridge configured to mechanically and electrically couple to a power source of an electronic vaporizer."

Does the JUUL system practice this limitation, Dr. Vallee?

A. It does. From the physical sample shows the cartridge power source and the cartridge is snapped into the power source so that it's mechanically and electrically coupled.

Q. And we're moving on to slide 148. And what does the JUUL PMTA say about the connection between the JUULpod and the JUUL device?

A. I cite the two excerpts here, one from page 43. It says, "on insertion, the user will feel a snapping sensation, indicating that the JUULpod has interlocked with the detents in the JUUL device."

And at the bottom from page 11, it says "the JUUL device includes a rechargeable battery and it is designed to

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hold and deliver power to the heating coil in the JUULpod." So it discusses the mechanical and electrical connections.

Q. Let's move to limitation 16.2. We're on slide 149.

The limitation recites, "a cartridge comprising a housing having an interior." Does the JUUL system have a cartridge comprising a housing having an interior?

A. It does. This is the JUUL1 device. And as we discussed before, I indicate the exterior of the housing in the red dashed lines. And it has an interior and, again, I will say the housing is comprised of the tank cap, the tank, and the electrical contacts.

And you can see the interior components in that section view.

Q. Let's look at the next part of limitation 16.2. We're on slide 150.

Does this JUUL system include a solution holding medium adapted to hold a solution in the interior of the housing?

A. It does. And this is taken, the figure, from the JUULpod design description we discussed earlier. And you can see the liquid storage volume, which is the solution holding medium located in the interior of the housing.

Q. And is the JUULpod's liquid storage volume a location, container, or mechanism to hold the solution?

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A. It is.

Q. Turning to limitation 16.3, we're on slide 151. The limitation reads, "the housing, having a first end and a second end that is opposite in the first end, the housing having a central longitudinal axis extending through the first end and the second end."

Does the JUUL system practice this limitation, Dr. Vallee?

A. It does. So we see from the JUULpod assembly drawing we discussed earlier, I believe, but it is JX-0517C, pages 2 and 3. We can see the first end and the second end of the housing, as I indicated in red, and the central longitudinal axis is in purple, as indicated there, and you can see it extends, that central longitudinal axis of the housing, extends from the first end to the second end.

You can see it in both the front view on the left and the side view in the right. And the first end, of course, is opposite the second end.

Q. Okay. All right. Turning now to slide 152, we're looking at limitation 16.4 which reads "the housing having a first aperture on the first end and a second aperture on the second end, the first aperture having a cross-sectional area measured perpendicular to the central longitudinal axis of the housing."

Dr. Vallee, does the JUULpod's housing have a

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first aperture in the first end?

A. It does. And I took these images from the JUULpod CAD. You can see the first aperture at first end and it has a cross-sectional area because it is an aperture. And the second aperture on the second end, which looks like a blue shading on that, I think that is blue. Anyway you can see that I annotated it in red, the second aperture on the second end.

Q. And on slide 153, I have a question for you. Does the JUULpod's first aperture have a cross-sectional area measured perpendicular to a central longitudinal axis of the housing?

A. It does. And on this JUULpod tank drawing we're looking down the central longitudinal axis. And you can see in yellow the cross-sectional area of the first aperture.

Q. All right. Let's look at limitation 16.5, which recites, "the first end of the housing having an electrically conductive portion adapted to mechanically and electrically couple to an electrically conductive portion of the power source."

Dr. Vallee, is there a construction that governs the term "electrically conductive portion"?

A. There is, and the claim construction order construed that this was an agreed construction that electrically conductive portion is a portion that is

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electrically conductive.

Q. Not surprising. Did you apply that construction in your analyses for this investigation?

A. I did.

Q. Okay. Let's go to slide 155.

All right. So sticking with limitation 16.5, does the JUULpod's housing have an electrically conductive portion?

A. Yes. The contacts around the first end of the housing and they are electrically conductive.

Q. And looking at the next slide, 156, does the JUUL -- excuse me. Does the electrically conductive portion mechanically and electrically couple to an electrically conductive portion of the power source?

A. It is -- does. And what I show here, we have the JUULpod assembly drawing on the left that we have discussed earlier and a device drawing on the right.

Now, the way this works is the first end of that housing has a dimension that is slightly larger than the clearance between the two mating cartridge retention detents.

Therefore, when it passes through, the friction of that corner mechanically couples it. And that alone is enough to hold it in place. The electrical coupling on the first end, you can see the contacts mate the contacts on the

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housing on the image on the left, contact the pogo pins. They are the electrical pins that are on the power supply.

So that explains the electrical and mechanical coupling on the first end to the device.

Q. And are the electrical contacts mechanically and electrically coupled, as you described?

A. Yes, they are.

Q. Let's look at limitation 16.6. We're on page -- I'm sorry, slide 157.

So the limitation reads "an airflow passageway in the interior of the housing, the airflow passageway having a length extending centrally and axially with respect to the housing intermediate of the first aperture on the first end of the housing and the second aperture on the second end of the housing."

I will stop there and ask, Dr. Vallee, is there a construction that's governing that portion of the limitation?

A. There is. And the agreed construction, as I highlight in yellow, states, "the airflow passageway extends in a straight path through the center of the housing from a first opening on the first end to a second opening on the opposite end of the housing."

Q. Did you apply this construction in your analyses for this investigation?

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A. I did.

Q. Let's look at slide 158.

Does the JUULpod have an airflow passageway that extends in a straight path through the center of the housing from a first opening on the first end to a second opening on the opposite end of the housing?

A. It does. So you can see in blue I highlight the airflow passageway. You see it begins, the first end, and extends to the second end. And it is central and axial. And it really -- the first end, it extends from the first aperture, the second aperture more specifically.

And it's located centrally and axially. And you can see it in both images on the front and on the right.

Q. And turning to slide 159, I want to look at the last portion of limitation 16.6. It reads "the airflow passageway being configured to allow an airflow through the cartridge from the first aperture to the second aperture of the housing."

Does the JUUL system practice this portion of limitation 16.6?

A. It does. And the PMTA Figure 9, I cite -- I have highlighted in yellow that the airflow direction is indicated by the blue arrows, so you can see it starts at the first aperture, goes in a straight line, and then it exits the second aperture of the housing administrative.

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Q. All right. Let's move to limitation 16.7. We're on slide 160. I am going to break the limitation up a little bit.

Does the JUUL system practice, "the airflow passageway having an exterior adjacent to the solution holding medium along a majority of the length of the airflow passageway"?

A. It does. So these figures from the assembly drawing, we can see the solution holding medium in both views, in I will call it gold. We have the airflow passageway highlighted in light blue. And I indicate a majority length of airflow passageway on the left with the yellow square bracket.

And we can see that that majority length is adjacent to the solution holding medium in the figure. So the exterior of the passageway of the solution holding medium -- I'm sorry, the exterior of the airflow passageway is adjacent to the gold solution holding medium.

Q. Looking at slide 161, the next part of the limitation reads, "the airflow passageway having an interior having a uniform cross-sectional area measured perpendicular to the central longitudinal axis of the housing and extending continuously along a majority of the length of the airflow passageway."

Does the JUUL system practice this limitation,

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Dr. Vallee?

A. It does. We can see as we discussed earlier with respect to the '864 patent holes here. We can see, first of all, on the left figure taken from the JUULpod CAD, we have a substantially uniform portion of the airflow passageway, which is that portion of the air tube.

And we have the drawing of the air tube on the right, which shows it's cylindrical and has a constant diameter of 2.08, indicating that it has a uniform cross-sectional area in that majority portion that I indicated in the red square bracket.

Q. We're turning to slide 162. We're going to look at limitation 16.8 which recites "a heating element." And, again, has there been a construction for the term "heating element" in this investigation?

A. There is. It was determined that it is not subject to 112.

Q. And on slide 163, have you reviewed the parties' proposed non-means-plus-function constructions for the term "heating element"?

A. I have.

Q. And for the '881 patent?

A. I have, yes.

Q. And do you agree with NJOY's proposal?

A. I do.

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Q. And did you apply NJOY's proposed construction for heating element for your analyses?

A. I did.

Q. Okay. And did you -- do your conclusions regarding infringement and domestic industry, reduction to practice, priority or objective indicia change under JUUL's proposal?

A. No, it does not.

Q. All right. And do you understand also that there has been a construction for the term "transversely" for the '881 patent?

A. I do.

Q. And what is that construction?

A. Highlighted in yellow it says -- an excerpt from the order says transversely is construed to have its plain and ordinary meaning, that is, crosswise.

Q. Did you apply this construction in your analyses for this investigation?

A. I did.

Q. Okay. Let's go to slide 165. We're looking at limitation 16.8.

The first portion of that limitation recites, "a heating element located in the interior of the housing and extending transversely across the airflow passageway."

Does the JUUL system practice this portion of the

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limitation?

A. It does. If we consider the heating element to be the coil and wick combination, you can look into the interior of the housing, since this is a section view from the assembly drawing, and you can see that the heating element is, in fact, located here in the interior of the housing and it is transverse -- well, it goes across, extends transversely across the airflow passageway that's in light blue.

We see the same thing because the direction of the heating element whether you consider it a coil and wick combination or just the coil, the yellow dashed line indicates the direction of the heating element and it is, again, in the right figure transverse, across the airflow passageway.

Q. And does the heating element extend crosswise across the airflow passageway with either the coil and wick or coil?

A. Yes, it does.

Q. Okay.

Let's go to slide 166. Still sticking with limitation 16.8. What other support do you have that the heating element is the wick and coil of the JUULpod?

A. From the left, I have an excerpt from the PMTA that discusses the wick, how it conveys e-liquid from the

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tank to the coil to be vaporized. And it discusses the coil which converts the electrical current to heat and creates a heating surface. That drives the aerosolization so it extends across the airflow path.

And from the design descriptions, CX-2225C, there I pull an excerpt from page 7 that states "the coil wrapped around the center of the wick and connected to the two electrical contacts enable an electrical connection."

So this discusses how it's a heating element, it is electrically energized, it is located in the interior of the housing, and extends across the airflow passageway so that it creates vapor.

Q. Let's look at slide 167.

And what construction in this investigation governs the term "both transverse sides of the heating element"?

A. The order construes that term meaning it has plain and ordinary meaning, which is the claim language itself.

Q. And did you apply this plain and ordinary meaning in your analysis of the '881 patent in this investigation?

A. I did.

Q. All right. Let's look at a portion of limitation 16.8 which recites, "the airflow through the airflow passageway passing on both transverse sides of the heating

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element."

Does the JUUL -- does the JUUL system practice this portion of the limitation?

A. It does. Again, I take these images from the JUUL CAD, considering the heating element being the wick and coil combination or just the heating element itself, you can see particularly in those side views, which is the second image from left-most image how the air enters the first aperture and it has to pass around both sides of the heating element before it exits.

Q. And turning to slide 169, what are you showing here, Dr. Vallee?

A. This is a top view looking into the second aperture of the JUULpod. I use the JUULpod CAD here. And you can actually see highlighted in blue both transverse sides of the heating element.

Q. All right. Looking at the last part of limitation 16.8, it recites, "a plane perpendicular to the central longitudinal axis of the housing passing through the heating element and the solution holding medium."

We're on slide 170. Dr. Vallee, does the JUUL system satisfy this portion of the limitation?

A. It does. And it's difficult in a 2D view, but what I have done is taken this image taken from the assembly drawing, JUULpod assembly drawing. The perpendicular plane

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is that green line that actually extends in and out of the either paper or screen. And I show that as being perpendicular to the central longitudinal axis, which is highlighted in purple.

So you can see that the perpendicular plane that passes through the heating element is, in fact, perpendicular to the longitudinal axis in purple.

Q. All right. Let's look at limitation 16.9. We're on slide 171.

It requires the airflow passageway having an interior between the heating element and the second aperture no smaller in cross-sectional area than the cross-sectional area of the first aperture."

Does the JUUL system satisfy this limitation?

A. It does. So what I have shown there on the left in the dashed -- I think those are red lines. It might be black, it's difficult to see on the screen. That is basically the diameter of the first aperture. So I have taken that, extended it all the way through the housing.

And you can see that there's nothing smaller, no diameter that is smaller than the diameter of the first aperture, not the airflow passageway, nothing in the second aperture. The smallest is the first aperture.

Q. Let's look at slide 172 and go to limitation 16.10. I want to focus on the term "electrically configured

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to vaporize at least a portion of the solution to be contained in the solution holding medium for oral provision to an individual in an airflow from the second aperture."

And, Dr. Vallee, how has this term been construed in this investigation?

A. It says in that excerpt from the order that the term is construed as having a plain and ordinary meaning. That is the language of the claims.

Q. Did you apply this plain and ordinary meaning in your analyses of the '881 patent in this investigation?

A. I did.

Q. Slide 173. Let's break up limitation 16.10. First, does the JUUL system practice "the heating element being connected to the electrically conductive portion of the first end of the housing"?

A. It does. You can see the electrically conductive portion and the heating element that is connected to it.

Q. And the next part of the limitation 16.10 reads "the heating element being electrically configured to vaporize at least a portion of the solution to be contained in the solution holding medium for oral provision to an individual in an airflow from the second aperture."

Does the JUUL system satisfy this part of the limitation?

A. It does. You can see in both images how the

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heating element is in contact with the solution holding medium. It passes across the airflow passageway so that when the user puffs, they will always see the aerosolized solution.

Q. Does the heating element vaporize solution responsive to electrical power received from the power source through the electrically conductive portion of the cartridge?

A. Yes, it does. It's the current passing through the heating element that heats it up and creates the vapor.

Q. Turning to slide 174, what do JUUL's documents say about whether the heating element is electrically configured to vaporize solution for oral provision?

A. Well, the PMTA, page 11, I cite above says that the JUUL device is designed to hold and deliver power to the heating coil in the JUULpod in order to vaporize the e-liquid to create an aerosol. Page 23 says a pair of electrical contacts crimped to the heating coil convey the electrical current from the device of the coil.

The design description, CX-2225C, states on page 7 that "the ends of the wick sit within the liquid storage volume and are submerged in the e-liquid. The coil is wrapped around the center of the wick and connected to two electrical contacts to enable the electrical connection of the device. So that's how it is energized and creates the

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vapor.

Q. All right. Have we covered each and every limitation of claim 16 of the '881 patent?

A. Yes, we have.

Q. And what is your opinion about whether the JUUL system practices claim 16 of the '881 patent?

A. It does.

Q. All right. Let's look at claim 18, which is unasserted, but claim 19 depends therefrom.

So claim 18 recites, "the cartridge of claim 16, wherein the heating element is a coil having a maximum diameter and the uniform cross-sectional area of the airflow passageway is a circle having a diameter, the maximum diameter of the coil being smaller than the diameter of the circle of the uniform cross-sectional area of the airflow passageway."

Does the JUUL system practice claim 18?

A. It does. So from -- we will start with the JUULpod assembly drawing. It shows the cross-section of the housing, shows the airflow passageway in the coil. And the coil wick drawing indicates that the outside diameter of the coil is 1.6 plus or minus .15 millimeters.

And the air path tube drawing we discussed earlier shows the ID, inside diameter, is 2.08 millimeters, so the outside diameter of the coil, 1.6, is less than the

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inside diameter of the tube, 2.08.

Q. All right. Let's go to asserted claim 19. We're on slide 179.

Claim 19 requires, "the cartridge of claim 18, wherein the first aperture on the first end is located centrally and axially with respect to the housing."

Dr. Vallee, does the JUUL system infringe claim 19?

A. It does. And I show on the JUULpod CAD on the left that the central axis of the housing in purple passes through the first aperture in both images. I show it again isometrically in the CAD isometric view on the right.

Q. Let's look at claim 26 of the '881 patent. I'm on slide 181. Claim 26 recites, "the cartridge of claim 16, wherein the heating element is inoperative connection with a wicking material, and the wicking material is operative to attract a portion of the solution from the solution holding medium located immediately adjacent opposite ends of the heating element toward the heating element."

Does the JUUL system infringe claim 26?

A. It does. We can see the location of the solution holding medium and how the heating element wick is submerged in the solution. And from the design description from page 7, it states, "the ends of the wick sit within the liquid storage volume and are submerged in the e-liquid."

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Q. To summarize, Dr. Vallee, I am on slide 182, what is your opinion about whether the JUUL system infringes claims 19 and 26 of the '881 patent?

A. It does infringe.

Q. All right. I would like to switch to indirect infringement, at least your opinions on it.

MR. ANSLEY: Your Honor, we will want to go off the public record for JUUL's CBI.

JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. ANSLEY:

Q. Okay. So, Dr. Vallee, we will switch to your opinions on domestic industry.

And remind us, were you asked to assess whether certain products satisfy the technical prong of the domestic industry requirement?

A. Yes, I was.

Q. And which products did you analyze?

A. I analyzed the NJOY ACE, ACE 2.0, RJR Vuse Alto, Vuse Solo.

Q. Let's walk through these. We're going to start with NJOY ACE and 2.0. We will go through NJOY ACE first.

Briefly just a few questions before we get on the confidential record. What is the NJOY ACE?

A. It's an electronic cigarette.

Q. And can you please explain to us how it works?

A. Well, the cigarette has a cartomizer or a pod that holds the e-liquid in the heater, the atomizer, and it is designed to be inserted into the device which holds the battery and the electronics and is the power supply.

Q. And what are the components of the NJOY ACE pod?

A. Okay. So this comes from the NJOY ACE pod CAD, which is CPX-0011. So I show there -- first of all, I show the pod and I show in dashed green light the exterior of the

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housing -- I'm sorry, dashed green lines. I think I said light. That's the exterior of the housing. We can see a number of features inside the housing.

We see the airflow passageway in yellow, which in the front view of the two yellow portions you can see how they connect in the right view of the pod cross-section. We have a solution holding medium shown in light blue.

We have an air inlet, which goes straight from the bottom. We have two electrical contacts identified in blue. We have a heating element which runs across that airflow passageway in red and we have the aerosol outlet, which is at the top of the housing.

Q. And how does the airflow travel in the NJOY ACE pod during use?

A. That travels straight through from the air inlet to the outlet. It is clear to see in the figure on the right, so it starts at what I will call the first aperture which is the air inlet, the bottom of the yellow. You can see it travels straight until it hits the heating element. Then it goes around the heating element and then it exits through the center of the cartridge following the blue line.

Q. Okay. And can you please summarize your opinions regarding whether the NJOY ACE satisfies the technical prong of the domestic industry requirement?

A. In my opinion, the NJOY ACE does satisfy the

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technical prong.

Q. Okay. Looking at limitation 9.1. It recites, "a cartridge configured to couple to a power source of an electronic vaporizer, the cartridge comprising."

Does the NJOY ACE practice this limitation, Dr. Vallee?

A. It does. We can see in the figure, we have the cartridge on the left and we have the power supply on the right. And the cartridge fits into the power supply.

MR. ANSLEY: Your Honor, we're now going to go on the NJOY confidential record.

JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

JUDGE JOHNSON HINES: We're on the public record.

BY MR. ANSLEY:

Q. And, Dr. Vallee, I'm at slide 234 now. What is your opinion as to whether the NJOY ACE 2.0 satisfies the technical prong of the domestic industry requirement for claims 9, 10, 12, 13, 15, and 20 of the '864 patent?

A. The ACE 2.0 does satisfy the technical prong.

Q. Okay. Let's go to slide 235 and turn to your opinions on the nexus between -- or whether there's a nexus between NJOY's investments and the domestic industry claims.

So, Dr. Vallee, were you informed by counsel that a nexus can be presumed if NJOY's investments are in an article protected by the asserted patents?

A. Yes.

Q. Okay. And in your opinion, is the ACE and the ACE 2.0 power unit or device an article protected by the '864 patent?

A. Yes.

Q. And in your opinion, is the ACE or ACE 2.0 pod or ACE and ACE 2.0 pod an article protected by the '864 patent?

A. It is.

Q. Okay. And were you present yesterday during the testimony of Mr. Bonet?

A. I was.

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Q. And do you recall Mr. Bonet describing work developing the ACE 2.0's pods's electrical contact design?

A. Yes, I do.

Q. And does that work and the investments in that work relate to claimed patent features?

A. Yes, they do.

Q. And which patent features does that work relate to?

A. The -- we'll go to the table at the bottom for the example, modifying the device electrical contacts in the 2.0 pod relate to the claim element first end of the housing being adapted to electrically couple to the power source, and then his discussion on the development of the e-liquid formulations has to do with the claim element reciting the solution.

Q. Okay. Now we're going to go through your opinions on whether the Vuse Alto satisfies the technical prong of the domestic industry requirement. And we'll go through one slide, but then we may need to go onto the confidential record for Reynolds again. But let's keep going.

This is slide 237. First, Dr. Vallee, what is the Vuse Alto?

A. Excuse me? I didn't hear that.

Q. Sorry. What is the Vuse Alto?

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A. Oh, okay. It's an e-cigarette.
Q. Okay. And who makes the Vuse Alto?
A. R.J. Reynolds.
Q. And did you bring a Vuse Alto with you today?
A. I did.
Q. And is that Exhibit CPX-16?
A. Yes, it is.
Q. And can you please explain to us how the Vuse Alto generally works?
A. Well, the user connects a disposable pod filled with the e-liquid, inserts it into the top of the Vuse power supply, and when the user operates or takes a puff from the cartridge, the power supply senses that a puff has been drawn and energizes the heating element, which vaporizes the solution in the solution holding medium, and the vapor is mixed with the air and the cartridge to form an aerosol, which is inhaled by the user.
Q. And we're on slide 238.
Dr. Vallee, how does the Vuse Alto compare to the NJOY ACE pod?
A. It's very similar. The Vuse Alto is very similar to the ACE pod. You can see in these figures, a figure from JX-0580C and CPX-0013, how they both share many characteristics. They have the solution holding medium in blue. They have an airflow passageway, which I annotate in

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yellow. They have a heating element that passes across the airflow passageway. It also has electrical contacts. And they both have a housing that holds all these internals. I annotated those with those green dashed lines.

Q. And can you please summarize your opinions regarding whether the NJOY (sic) Alto satisfies the technical prong of the domestic industry requirement?

A. It does satisfy the technical prong.

Q. Does is it satisfy it for claims 9, 10, 12, 13, 15, and 20 of the '864 patent?

A. Yes, it does.

Q. So let's take a look at your analysis here. We're on claim 9 of the '864 patent. We'll start with limitation 9.1.

It reads, "a cartridge configured to couple to a power source of the electronic vaporizer, the cartridge comprising."

And, Dr. Vallee, does the Vuse Alto practice this limitation?

A. Yes, it does. You can see the power source on the left, the cartridge on the right. That is inserted into the device to create an e-cigarette.

MR. ANSLEY: Your Honor, we'll now need to go onto the Reynolds confidential record.

JUDGE JOHNSON HINES: All right. So we're on the

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Reynolds confidential record.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. ANSLEY:

Q. So, Dr. Vallee, let's switch to your opinions regarding reduction to practice. And remind us -- we're on slide 305 -- were you asked to assess when the claimed inventions were reduced to practice?

A. Yes, I was.

Q. Let's go through your analysis. And what are your opinions regarding whether the inventions of the asserted claims were reduced to practice?

A. Well, my opinion is that the '881 and '864 patents were reduced to practice by September 2009, that's when the commercially -- the commercial Fuma e-cigarette was made and sold, and no later than December 4th of 2009.

Q. Now let's talk about what you considered in forming your opinions. Did you review the deposition transcripts of the named inventors in this investigation?

A. I did.

Q. And were you also in this courtroom when Mr. Hillenbrandt and Ms. Moore testified?

A. I was.

Q. And have you considered JX-507? We're on slide 307.

A. I did.

Q. And what is JX-507?

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A. Well, this is a conception sketch that Mr. Hillenbrandt testified he created, at least the majority of it. And it's dated July 31st, 2009. And this conception sketch, which is JX-0507, on page 3 shows a number of things. It first shows the cartridge which is a housing that's in the blue -- I'll call it purple dashed lines, to be consistent. That's the cartridge.

He shows first and second ends. They are highlighted in orange at the bottom and -- well, and the top. You see those lines there. You'll see a solution holding medium in gold. The heating element is in the little red box, which is red dashed lines, which is that -- it looks like a coil that travels across a central airflow passageway.

And you can see the top view. And the airflow passageway -- I'm sorry -- is in light blue. And there's an image that's in purple dashed lines that is looking down, I would say, probably from the top or bottom. It doesn't really matter. You can see the coil. And I tried to indicate that with the dashed red lines around the -- the heating element.

Q. We're on slide 308. And did you also consider JX-508?

A. Yes. This is a document from Mr. Hillenbrandt. It's dated 8/18/2009. This is a tolerance drawing that he

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was preparing to submit to the manufacturer of the device. We first see -- and I'll start up top -- a purple dashed lines. I show the cartridge. I highlight the cartridge, I'm sorry, in a front and side view. We see the atomizer coil, which is in the red on the image in the top center, basically, red dashed line. There's an airflow passageway that I highlighted in blue, solution holding medium in light green. We can also see that there is a battery portion that he labels as "Fuma battery." That's the device, the power source.

He also indicates a thread to connect the power supply to the cartridge.

Q. All right. Did you also consider -- and we're on slide 309 -- CX-2178?

A. Yes, I did.

Q. And what is CX-2178, briefly?

A. This is a communication between Fuma and Jasmin Guo, who represents the Chinese manufacturer. This is an e-mail that discusses the first order. It's an e-mail order, basically, for the first commercial e-cigarette, like they're ordering 2500 filters, 500 batteries, et cetera. And it lists some of the things inside these -- these devices that they're ordering on September 16th of 2009.

Q. All right. We're on slide 310.

And did you also consider CX-2161C?

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A. I did. This is a purchase order issued to manufacture the Fuma e-cigarette. The date is September 17th, 2009.

And this is sent to Trans-Power International, who's going to do the manufacturing.

Q. And did you hear Ms. Moore's testimony this morning about -- she testified about invoices?

A. I did.

Q. Okay. And do you recall Ms. Moore discussing a September 16th, 2009 invoice for the commercial Fuma e-cigarette?

A. I do.

Q. Okay. Do you -- did you also consider the file histories of '881 and '864 patents, which are JX-8 and JX-10?

A. I did.

Q. Did you consider the 131 declarations that were submitted during the prosecution of the asserted patents, which are JX-543 and 545?

A. Yes, I did.

Q. How did those declarations inform your opinions with respect to reduction to practice?

A. Those declarations had figures of the first -- of a sample of the first Fuma e-cigarette run that showed many of the components I discussed in my report.

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Q. Have you examined the Fuma e-cigarettes shown in those 131 declarations?

A. I did.

Q. Now, did you also consider the invoices that are included at the end of the 131 declarations?

A. I did.

Q. And did you hear Ms. Moore's testimony this morning about these invoices?

A. I did.

Q. And what did she say was written at the top of page 32, the invoice that's shown here on slide 313?

A. Yes. It says, "first half received, a check for $12,069," which means that they actually paid for it, and they must have received it because they paid for it.

Q. Received what?

A. Oh, I'm sorry. The samples -- not the samples, the actual pods, the e-cigarettes. I'm sorry.

Q. Okay.

A. They received the Fuma devices and the pods.

Q. And what exhibit are you citing here?

A. Oh, I'm sorry, it's from the 131 declaration.

Q. Page 32?

A. Correct. JX-0543, page 32.

Q. And in your opinion, can the commercial reduction to practice be any later than 2009?

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A. No.

Q. We're on slide 314. Have you also considered the opinions of Respondent JLI's expert, Mr. Leinsing, regarding the Fuma e-cigarette?

A. Yes, I do. And he agreed, in this paragraph 19 of that document, that the Fuma prototype discloses each of the asserted claims.

Q. Okay. Let's turn to your analysis and how the first commercial Fuma e-cigarette practices the asserted claims. And let's start with the '864 patent, claim 1, and keep moving through it.

So limitation 1.1 -- I'm on page -- or slide 316 -- recites, "a cartridge configured to couple to a power source of an electronic vaporizer."

A. Right. And these --

Q. Go ahead.

A. I'm sorry. These photographs show the battery of the cartridge. They show the thread connection, which allows them to be coupled.

Q. Okay. And so does the Fuma e-cigarette practice limitation 1.1?

A. It does.

Q. Let's turn to limitation 1.2. Does the Fuma e-cigarette practice limitation 1.2 of the '864 patent?

A. Yes, it does. You can see this batting material,

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which is a solution holding medium, in the figure on the left, and you can see --

THE REPORTER: Sorry.

THE WITNESS: Oh, I'm sorry.

THE REPORTER: Your answer again? "Yes, it does. You can see this batting" --

THE WITNESS: On the figure on the left, and you can see it in the CT scan on the right, where I labeled it.

BY MR. ANSLEY:

Q. And the CT scan, is that CX-2758?

A. Correct.

Q. And what are the CT scans of?

A. That's the Fuma e-cigarette.

Q. Let's continue with limitation 1.2, which requires "a housing having a first aperture proximate the first end and a second aperture proximate the second end."

Does the Fuma e-cigarette practice this part of the limitation?

A. It does. And you can see I've labeled the first and second apertures and measured them, indicating that the first aperture is smaller than the second.

Q. And turning to limitation 1.3 -- I'm on slide 319 -- the limitation reads, "the first end of the housing being adapted to electrically couple to the power source."

Does the Fuma-e cigarette satisfy this

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limitation?

A. It does. And I pointed to the electrically conductive thread that does this.

Q. We're on slide 320. Let's look at limitation 1.4. It reads, "the first aperture and the second aperture being in communication with one another to permit an airflow through the housing from the first aperture to the second aperture."

Is this limitation met by the Fuma e-cigarette?

A. It does. You can see on the CT scan how the air would pass from the first aperture to the second aperture.

Q. We're on slide 321, limitation 1.5. It says, "the heating element located in the interior of the housing, the heating element extending transversely to a central longitudinal axis of the housing and being at least partially exposed to the airflow."

Dr. Vallee, is there a heating element mounted transversely to a central longitudinal axis of the housing in the Fuma e-cigarette?

A. There was -- the photographs show the location of the heating element. And the CT scan shows the contact with the solution holding medium.

Q. And is the heating element at least partially exposed to the airflow in the Fuma e-cigarette?

A. It is. You can see it clearly in the CT scan.

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Q. We're on slide 322, limitation 1.6, which reads, "the heating element being configured to vaporize at least a portion of the solution for oral provision to an individual in the airflow, the heating element being responsive to electrical power received from the power source."

First, Dr. Vallee, is the heating element configured to vaporize at least a portion of the solution --

A. It is.

Q. -- for oral provision?

A. It is.

Q. And where does vaporization occur in the Fuma e-cigarette?

A. Vaporization occurs around the heating element. Once the vaporization occurs, it's drawn through the airflow passageway. You see most clearly in the CT scan.

Q. And, second, is the heating element responsive to electrical power received from the power source?

A. It is. And you can see the electrically conductive thread highlighted in the left figure.

Q. We're on slide 323, limitation 1.7, which reads, "an airflow passageway in the housing, at least a portion of the airflow passageway extending centrally and axially with respect to the housing, wherein the airflow passageway extends centrally and axially from the first aperture to the second aperture."

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Is this limitation met by the Fuma e-cigarette, Dr. Vallee?

A. It is. And you can see the airflow passageway in the photograph. And you can also see it in the CT scan.

Q. And what is the gap above the woven airflow tube part of the airflow passageway?

A. I'm sorry, can you repeat that?

Q. What is the gap in the CT scan above the woven airflow tube part of the airflow passageway?

A. It is part of the passageway. That's allow -- that's there to allow some unaerosolized air that's within the cartridge to mix with the aerosol to vary the intensity of the aerosol, I'd say.

Q. And what is your opinion as to whether the Fuma e-cigarette practices claim 1 of the '864 patent?

A. It does practice claim 1.

Q. Let's go to claim 2 of the '864 patent. I'm on slide 326. Claim 2 reads, "the cartridge of claim 1, further in combination with a power source adapted to be electrically coupled to the first end of the housing, the power source including a battery."

Does the Fuma e-cigarette have a cartridge in combination with a power source adapted to be electrically coupled to the first end of the battery?

A. Yes, it does. Most clearly seen in the figure on

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the right that shows the cartridge and the power supply and the threaded connection.

Q. And does the power supply have a battery?

A. Yes, it does.

Q. Let's move on to claim 9 of the '864 patent.

And, Dr. Vallee, does -- I'm on slide 328. Does the claim mapping analysis you performed earlier in the day for claim 9 to 1 -- does that apply here?

A. It does.

Q. Okay. And so let's look at limitation 9.7, then.

Limitation 9.7 -- I'm on slide 329 -- reads, "wherein the airflow through the housing follows an airflow path, a first portion of the airflow path proximate the first aperture being defined substantially centrally and axially with respect to the central longitudinal axis of the housing, and a second portion of the airflow path proximate the second aperture being defined substantially centrally and axially with respect to the central longitudinal axis of the housing."

Ooph. Let's break that down. Does the airflow through the housing of the Fuma-e cigarette follow an airflow path?

A. It does. It's shown in the left and the right figures.

Q. Okay. And is there a portion of the airflow path

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that is proximate the first aperture and that is defined substantially centrally and axially with respect to the central longitudinal axis of the housing?

A. Yes, there is. The figure on the right shows the first and second portions.

Q. Okay. And so there is a second portion as required by claim 9.7?

A. Correct. It's on the second end.

Q. And so what is your opinion as to whether the Fuma e-cigarette practices claim 9 of the '864 patent?

A. It does practice claim 9.

Q. Let's now look at asserted dependent claim 10. I'm on slide 332.

Does claim 10 recite the same limitation as claim 2?

A. It does.

Q. And what is your opinion as to whether the Fuma e-cigarette practices claim 10?

A. It does practice claim 10.

Q. All right. Now let's look at asserted dependent claim 12. I'm on slide 334.

Claim 12 recites, "the cartridge of claim 9, wherein the heating element includes a wicking material being operative to permit at least a portion of the solution to be held in the solution holding medium to be drawn toward

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the heating element to be vaporized."

Does the Fuma e-cigarette practice claim 12?

A. It does. You can see the coil in the wick on the right and in contact with the solution holding medium in the CT scan.

Q. Okay. All right. Let's move on to claim 13. We're on slide 336. The claim 13 recites, "the cartridge of claim 9, wherein the first aperture proximate the first end is smaller than the second aperture proximate the second end."

Does the Fuma-e cigarette practice claim 13?

A. It does. And I've measured and indicated that the inside diameter of the first aperture is smaller than the inside diameter of the second aperture.

Q. We're moving now to claim 15, and I'm on slide 338.

Dr. Vallee, does the language of claim 15 map to another limitation you have already analyzed for the Fuma e-cigarette?

A. It does. It maps to claim 1.7.

Q. Okay. And does the Fuma e-cigarette practice claim 15 of the '864 patent for the same reasons it practices limitation 1.7?

A. It does.

Q. Let's turn to the next asserted dependent claim.

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It's claim 16. We're on slide 340. Claim 16 recites, "the cartridge of claim 15, wherein a majority of the portion of the airflow passageway has a substantially uniform cross-sectional area measured perpendicular to the central longitudinal axis of the housing between the heating element and the second aperture."

Does the Fuma e-cigarette practice claim 16?

A. It does. You can see in the center figure a substantial portion of the passageway. You can see in the figure on the right that the majority is uniform cross-section. The figure on the left is just a photograph of the -- looking down the air tube.

Q. Let's move on to claim 20. I'm on slide 342.

Claim 20 recites, "the cartridge of claim 9, wherein the heating element includes a material that when powered by the power source is adapted to vaporize the solution brought into contact with the heating element."

Does the Fuma e-cigarette practice claim 20?

A. It does. The electrically conductive thread in the center is connected to the coil that you see on the right containing the wick and the Fuma batteries in the device, so you can see the coupling between the device, the pod, which energizes the heating element.

Q. Let's move to claim 25 of the '864 patent. I'm on slide 344.

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And, Dr. Vallee, does the claim mapping you performed for claim 25 to claim 1 from earlier -- does that apply here?

A. Yes, it does.

Q. And based on your claim mapping, does the Fuma e-cigarette practice limitations 25.1, 25.3, and 25.4 for the same reasons that we've discussed already in claim 1?

A. It does.

Q. All right. Let's look at the highlighted portions, which are the differences.

Turning to limitation 25.2, and I'm on slide 345, the portion not addressed by claim mapping reads, "a central longitudinal axis extending from the first end to the second end."

Does the Fuma e-cigarette practice this portion of the limitation?

A. It does. It goes straight through the center aperture on the first end to the second end.

Q. Okay. We're now on slide 346. Let's look at the next limitation not addressed by claim mapping. The limitation is 25.5, in part. And the part it recites is the "heating element includes a coil extending transversely to the central longitudinal axis of the housing and transversely to a direction of the airflow such that the airflow passes on both transverse sides of the heating

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element during use of the electronic vaporizer."

First, does the Fuma e-cigarette's heating element include a coil?

A. It does. You can see that in the center figure and the left figure and the right figure.

Q. Second, does the heating element extend transversely to the central longitudinal axis and transversely to the direction of airflow --

A. It does.

Q. -- such that the airflow passes on both transfer sides of the heating element?

A. It does. The center figure shows how the air would pass on both transverse sides of the heating element. And the CT scan shows how the heating element is transverse to the airflow.

Q. All right. Now we're on slide 347, and let's look at the next limitation, which is 25.6. And a portion of it not addressed by claim mapping recites, "the portion of the solution drawn to the heating element."

Does the Fuma e-cigarette practice this limitation?

A. Yes. Most clearly seen on the CT scan where the coil of the wick is in contact with the solution holding medium.

Q. Moving on to slide 348, we're looking at the next

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limitation not addressed by claim mapping, which appears in limitation 25.7 of the '864 patent.

It reads, "wherein the airflow passageway extends in a straight path from the first aperture to the second aperture with only the heating element obstructing a portion of the airflow through the airflow passageway along the central longitudinal axis of the housing."

Does the Fuma e-cigarette practice this limitation, Dr. Vallee?

A. It does. And you can see that the -- the central airflow passageway going from the first and second aperture in the red line, and there was nothing but the heating element obstructing that path along that line.

Q. All right. We're on slide 349. And, Dr. Vallee, including the analysis of mapping claim 1 to claim 25, have we addressed all the limitations of claim 25 of the '864 patent?

A. We have.

Q. And what is your opinion as to whether the Fuma e-cigarette practices claim 25 of the '864 patent?

A. It does practice claim 25.

Q. Let's turn to claim 26 of the '864 patent, going to slide 351.

And does the limitation of claim 26 map to claim 2?

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A. Yes, it does. They are the same.
Q. And what is your opinion about whether the Fuma e-cigarette practices claim 26 --
A. It does.
Q. -- of the '864 patent?
A. It does.
Q. Okay. And slide 352, Dr. Vallee, have we been through all the asserted claims of the '864 patent?
A. I have.
Q. And what is your opinion as to whether the commercial Fuma e-cigarette from 2009 practices each of the asserted claims of the '881 patent?
A. It does practice each of the asserted claims.
Q. And let's turn now to the '881 patent.
Slide -- let's see here. We're going to start with claim 1, and we're going to begin on slide 354, which is limitation 1.1. It recites, "an apparatus comprising."
Is the Fuma e-cigarette an apparatus?
A. It is.
Q. All right. Slide 355. If you'll turn to limitations 1.2, .3, and .4, which together recite, "a power source, wherein the power source includes a battery, and wherein the power source includes an electrically conductive portion."
Does the Fuma e-cigarette practice these

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limitations?

A. It does. You can see the power source, which has a battery in the center. You see the cartridge, and then you see the electrically threaded connection.

Q. Let's turn to slide 356. And we're looking at limitation 1.5, which recites, "a cartridge having a housing that comprises an interior."

Does the Fuma e-cigarette practice this limitation?

A. It does. You can see I've outlined the cartridge in the pink dashed lines.

Q. Okay. And does that cartridge comprise a housing?

A. It does.

Q. And does that housing have an interior?

A. It does. The housing is outlined in, we'll call it, green, and you can see the interior in the teardown on the left.

Q. Let's look at limitation 1.6 -- we're on the same slide -- which recites, "wherein the housing includes a first end and a second end that is opposite the first end, wherein the housing includes a first aperture on the first end and a second aperture on the second end."

Does the Fuma e-cigarette practice this limitation?

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A. It does. The figure in the lower right shows the first end and first aperture, and in white, the second end and second aperture.

Q. Going to slide 357, we're looking at limitation 1.7. The limitation reads, "wherein the housing includes an airflow passageway that extends centrally and axially with respect to the housing intermediate of the first aperture on the first end of the housing and the second aperture on the second end of the housing, wherein the airflow passageway is configured to allow an airflow through the cartridge from the first aperture to the second aperture of the housing."

First, does the Fuma e-cigarette include an airflow passageway that extends in a straight path through the center of the housing from one opening -- the first opening on the first end to a second opening on the opposite end of the housing?

A. It does. And you can see that in the figure on the right.

Q. And, second, is the airflow passageway configured to allow an airflow through the cartridge from the first aperture to the second aperture on the housing?

A. It is.

Q. Moving to slide 358, we're on limitation 1.8. The limitation reads, "wherein the first end of the housing includes an electrically conductive portion that is adapted

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to mechanically and electrically couple to the electrically conductive portion of the power source."

Does the Fuma e-cigarette satisfy this limitation?

A. It does. And you can see the electrically conductive threads on the cartridge and the power supply.

Q. Okay. And how do those threads mechanically and electrically couple the cartridge to the power source?

A. They thread together.

Q. Let's go to limitation 1.9. We're on slide 359. The limitation reads, "wherein the housing includes a solution holding medium adapted to hold a solution in the interior of the housing."

Does the Fuma e-cigarette practice this limitation?

A. It does. And you can see the batting material in the figure on the left and on the right.

Q. Looking at limitation 1.10 of the '881 patent, slide 360, limitation 1.10 recites, "wherein the housing includes a heating element located in the interior of the housing, wherein the heating element extends transversely across the airflow passageway."

Does the Fuma e-cigarette practice this limitation?

A. It does. You can see that in the figure on the

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right.

Q. And we're now looking at limitation 1.11. We're on slide 361. It recites, "wherein the airflow through the airflow passageway passes on both sides of the heating element."

Does the Fuma e-cigarette practice this limitation?

A. It does. The top view on the figure on the left shows how the air would pass both sides of the heating element. And you can see on the figure on the right how the heating element is positioned in the airflow passageway.

Q. We're on slide 362 and limitation 1.12, which recites, "wherein the solution holding medium surrounds the airflow passageway and the heating element in the interior of the housing and intermediate of the first end and the second end."

Does the Fuma e-cigarette practice this limitation?

A. It does. And you can see the solution holding medium in both figures.

Q. Okay. And does that solution holding medium surround the airflow passageway in the heating element?

A. It does.

Q. Okay. Looking at slide 363, limitation 1.13 and .14 are here. And we'll start with 1.13. It reads,

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"wherein the heating element is electrically configured to vaporize at least a portion of the solution to be contained in the solution holding medium for oral provision to an individual in an airflow from the second aperture."

Does the Fuma e-cigarette practice this limitation?

A. It does. And the figure on the left shows the cartridge and the battery power supply that can be threaded together to be electrically energized.

Q. Okay. And when -- what happens when they're electrically energized?

A. When the user puffs on the second end, they're electrically energized, and the solution that's in the wick gets vaporized by the coil and is drawn in for oral provision to the user.

Q. Limitation 1.14 recites that "the heating element is electrically configured to vaporize responsive to electrical power received from the battery through the electrically conductive portions of the cartridge and the power source."

Does the Fuma e-cigarette practice this limitation?

A. It does. And I show the battery and cartridge in the left figure, that are threaded together.

Q. All right, Dr. Vallee, we're on slide 364. And

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have we addressed all the limitations of claim 1 of the '881 patent?

A. We have.

Q. And what is your opinion as to whether the Fuma e-cigarette practices claim 1?

A. It does.

JUDGE JOHNSON HINES: Counsel, can I ask a question?

MR. ANSLEY: Yes, you may.

JUDGE JOHNSON HINES: If you go back to slide 363. I think when you addressed element 1.14, you actually read in 1.13.

MR. ANSLEY: Oh, I'm sorry. Let me redo that.

JUDGE JOHNSON HINES: Yeah.

MR. ANSLEY: Okay. Appreciate it, Your Honor.

BY MR. ANSLEY:

Q. 1.14, "responsive to electrical power received from the battery through the electrically conductive portions of the cartridge and the power source."

Does the Fuma e-cigarette practice that limitation?

A. It does. And I was looking at the figure on the left that shows the electrically conductive portion is coupled and connected to the heating element.

MR. ANSLEY: Thank you, Your Honor.

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BY MR. ANSLEY:

Q. All right. We are on slide 365 now, Dr. Vallee. And we're going to look at claim 16 of the '881 patent.

And do the unhighlighted limitations of claim 16 appear in claim 1 limitations?

A. They do.

Q. And does the Fuma e-cigarette practice limitations 1. -- sorry, excuse me, 16.2, 16.5, and 16.6?

A. It does.

Q. Okay. And is that for the reasons that the Fuma e-cigarette practices the same limitations in claim 1?

A. It is.

Q. Let's look at the highlighted limitations. We'll start with the new language in 16.1 on slide 366. So the portion not addressed by claim mapping recites, "an electronic vaporizer."

Does the Fuma -- does the Fuma e-cigarette satisfy this limitation?

A. It does.

Q. We're on slide 367. The next limitations not addressed by claim mapping are found in limitations 16.3 and .4.

We'll start with 16.3. The unaddressed portion recites, "the housing having a central longitudinal axis extending through the first end and the second end."

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Does the Fuma e-cigarette practice this limitation?

A. It does. And I highlight that with the red arrow in Figure 6 on the left.

Q. And let's look at the unaddressed limitation in 16.4. It recites, "the first aperture having a cross-sectional area measured perpendicular to the central longitudinal axis of the housing."

Does the Fuma e-cigarette satisfy this limitation?

A. It does. And I annotate that in light blue in the figure on the right.

Q. All right. And we'll go now to limitation 16.7. We're on slide 368. The portion not addressed by claim mapping reads -- actually this entire limitation is not addressed by your claim mapping. But let's break it up.

The first portion reads, "the airflow passageway having an exterior adjacent to the solution holding medium along a majority of the length of the airflow passageway."

Does the Fuma e-cigarette practice this portion of limitation 16.7?

A. It does. I highlight the majority of the airflow passageway. You can see that whole length is adjacent to the solution holding medium.

Q. And the next portion reads, "the airflow

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passageway having an interior, having a uniform cross-sectional area measured perpendicular to the central longitudinal axis of the housing and extending continuously along a majority of the length of the airflow passageway."

Does the Fuma e-cigarette practice this portion of limitation 16.7?

A. Yes, it does. You can see that in the figure on the right.

Q. Slide 369 now, and we're looking at limitation 16.8. The portion unaddressed by claim mapping reads, "a plane perpendicular to the central longitudinal axis of the housing passing through the heating element and the solution holding medium."

Dr. Vallee, does the Fuma e-cigarette practice this portion of the limitation?

A. Yes, it does.

Q. We're moving on to limitation 16.9. We're on slide 370. And the portion not addressed by claim mapping reads, "the airflow passageway having an anterior between the heating element and the second aperture no smaller in cross-sectional area than the cross-sectional area of the first aperture."

Does the Fuma e-cigarette satisfy this limitation?

A. Sir, are we on slide 371?

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Q. Excuse me. Thank you. I'll read that again.
Does the Fuma e-cigarette satisfy limitation 16.9?
A. Yes, it does.
Q. Okay. And did you confirm the measurements that are shown in the images from the 131 declaration?
A. Yes, I did.
Q. And shown on this slide?
A. Yes, I did.
Q. All right. Now, we're on slide 371. And the last limitation not addressed by claim mapping is found in limitation 16.10. The unaddressed portion reads, "the heating element being connected to the electrically conductive portion of the first end of the housing."
Does the Fuma e-cigarette practice this limitation?
A. Yes, it does. You can see the heating element in the image in the right, and you can see the electrically conductive threaded portion that couples the cartridge and the power supply on the left.
Q. We're on slide 372. And including your claim mapping analysis, have we addressed each of the limitations of claim 16 of the '881 patent?
A. Yes, we have.
Q. And what is your opinion about whether the Fuma

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e-cigarette practices claim 16 of the '881 patent?

A. It does practice claim 16.

Q. All right. Let's look at claim 18, which is not asserted, but claim 19, which is, depends from it.

So I'm on slide 374. Claim 18 recites, "the cartridge of claim 16, wherein the heating element is a coil having a maximum diameter and the uniform cross-sectional area of the airflow passageway is a circle having a diameter, the maximum diameter of the coil being smaller than the diameter of the circle of the uniform cross-sectional area of the airflow passageway."

Does the Fuma e-cigarette practice claim 18?

A. It does. The coil OD was measured at .026. And the airflow passageway diameter was 0.94. So it is larger than the coil diameter.

Q. And again, did you confirm the measurements shown in the 131 declaration images?

A. I did.

Q. And just for the record, the images we've been looking at are at JX-543; is that correct?

A. That's correct.

Q. So we're on slide 375, claim 19. It recites, "the cartridge of claim 18, wherein the first aperture on the first end is located centrally and axially with respect to the housing."

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Does the Fuma e-cigarette practice claim 19?

A. It is. I've annotated that in the figure in blue.

Q. Okay. Let's look at asserted claim 26 of the '881 patent. It recites, "the cartridge of claim 16, wherein the heating element is in operative connection with the wicking material, and the wicking material is operative to attract a portion of the solution from the solution holding medium located immediately adjacent opposite ends of the heating element toward the heating element."

Does the Fuma e-cigarette practice claim 26?

A. It does. And you can see that in the right-most figure.

Q. Okay. And just for the record, what in the CT scan is the coil and what is the wick?

A. Oh, I'm sorry. The coil are the little white dots. And the wick is the -- what's inside the white dots.

Q. And, Dr. Vallee, have we addressed each of the asserted claims of the '881 patent?

A. Yes, we have.

Q. And what is your opinion as to whether the September 2009 commercial Fuma e-cigarette practices each of the asserted claims of the '881 patent?

A. It does practice each of the asserted claims.

MR. ANSLEY: Your Honor, we're in a new section.

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I don't know if Your Honor has a preference for a break now or we could keep going.

JUDGE JOHNSON HINES: We can break now. We can come back at 3:15.

(A recess was taken at 2:57 p.m., after which the proceedings resumed at 3:15 p.m.)

JUDGE JOHNSON HINES: Thank you. Please be seated.

MR. ANSLEY: Your Honor, may I continue the examination?

JUDGE JOHNSON HINES: Yes. Thank you.

BY MR. ANSLEY:

Q. Welcome back, Dr. Vallee.

Let's switch to your opinions regarding the priority. Remind us, were you ask asked to assess whether the disclosure of the '917 application provides written support for the subject matter of the asserted claims?

A. Yes, I was.

Q. And let's walk through your analysis. Can you please summarize your opinions on this topic?

A. Yes. The asserted claims in the '864 patent are supported by the '917 application disclosure, as are the claims in the table on the right related to the '881 patent.

Q. And what did you consider -- I am on slide 381 -- what did you consider when analyzing the priority support

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for the asserted claims?

A. The asserted patent family history showing the priority application of the '917 dated 7/27/10.

Q. And does that include CX-2302, JX-556, JX-520, and CX-2318, RX-536, JX-565, and JX-521?

A. It does.

Q. And which of these applications has the earliest filing date to which the asserted patents are entitled to claim priority?

A. JX-0520.

Q. Is that the '917 application?

A. Yes.

Q. And what's the filing date of that application?

A. Again, that's July 27 of 2010.

Q. How did you go about determining that the '917 application's disclosure supports the subject matter of the claims that are asserted?

A. Well, I went through the asserted claims, and I compared the written description in the '917 application.

Q. And now we're on slide 382. What is shown on this slide?

A. This is a table overviewing my analysis of claim 1 and all associated limitations with claim 1 and where I found the disclosure in the '917 application.

Q. And where in the '917 application is there

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support for the limitations of claim 1 of the '864 patent?

A. We can start with element 1.1, I found support in paragraphs 4, 18, 30, and Figures 1 to 3.

For claim element 1.2, I found it in paragraphs 21, 23, 24, 28 through 29, and Figures 1 to 3.

The next claim element, 1.3, I found support in paragraphs 25, 27, 30, 31, and Figures 1 to 3.

Claim element 1.4, I found support in paragraphs 24, 29, and Figures 1 through 3.

In 1.5, I found support in paragraphs 31 and 32 and Figure 2.

In claim element 1.6, I found support in paragraphs 25, 31, 32, and Figures 1 through 3.

In element 1.7, I found support in paragraph 29, and Figures 1 through 3.

JUDGE JOHNSON HINES: Counsel, can I ask a quick question here?

MR. ANSLEY: Yes, Your Honor.

JUDGE JOHNSON HINES: Is this disputed?

MR. ANSLEY: Priority for the '917 application?

JUDGE JOHNSON HINES: Yes.

MR. ANSLEY: Yes. There is a dispute over certain limitations being disclosed in the '917 application.

JUDGE JOHNSON HINES: Okay.

MR. ANSLEY: I know. All right. So we're on

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slide 383.

BY MR. ANSLEY:

Q. And we're looking at the '864 patent, claim 9. And let's -- well, my question is, where in the '917 application is there support for the limitations of claim 9 of the '864 patent?

A. Okay. Claim 9.1, I found support in paragraphs 4, 18, 30, and Figures 1 through 3.

In 9.2, I found support in paragraphs 21, 23, 24, 28 through 29, and Figures 1 through 3.

In 9.3, I found support in paragraphs 25, 27, 30, 31, Figures through 3.

In 9.4, I found support in paragraphs 24, 29, and Figures 1 through 3.

In 9.5, I found support in paragraphs 31, 32, and Figure 2.

In 9.6, paragraphs 25, 31, 32, and Figures 1 to 3 showed support.

And for claim element 9.7, I found support in paragraphs 29 and Figures 1 through 3.

Q. We're on slide 384. And where in -- we're looking at -- excuse me -- we're looking at independent claim 25 of the '864 application. And where in the '917 application is there support for the limitations of claim 25 of the '864?

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A. For 25.1, I found support in paragraphs 4, 18, 30, and Figures 1 through 3.

In 25.2, I found support in paragraphs 21, 23, 24, 27 through 29 and Figures 1 through 3.

In 25.3, I found support in paragraphs 25, 27, 30, 31, Figures 1 through 3.

In 25.4, I found support in paragraphs 24, 29, and Figures 1 through 3.

In element 25.5 I found support in paragraphs 22, 31, 32, and Figures 1 through 3.

In 25.6, I found support in paragraphs 25, 31, 32, and Figures 1 through 3.

And in element 25.7, I found support in paragraphs 22, 29, 30, 32, Figures 1 through 3.

Q. All right. Appreciate your patience through this, Dr. Vallee. We're on slide 385.

We're looking at dependent claims of the '864 patent on this slide. And where in the '917 application is there support for claims 2, 10, 12, 13, 15, 16, 20, and 26 of the '864 patent?

A. Starting with claim 2, I found support in the '917 disclosure in paragraph 30 and Figures 1 through 3.

In claim 10, I found support in paragraph 30, Figures 1 through 3 again.

In claim 12, I found support in paragraph 31 and

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Figures 1 through 3.

In claim 13, I found support in Figure 2.

In claim 15, I found support in paragraph 29 and Figures 1 through 3.

In claim 16, I found support in paragraphs 24, 29, and Figures 1 through 3.

In claim 20, I found support in paragraph 31 and Figures 1 through 3.

And claim 26, I found support in paragraph 30, and Figures 1 through 3.

Q. We're on slide 386. And returning now to the '881 patent, starting with claim 1, where in the '917 application is there support for limitations of claim 1 of the '881 patent?

A. All right. Claim 1.1, I found support in paragraph 4, Figures 1 through 3 of the '917 disclosure.

In 1.2, I found support in paragraph 4 and Figures 1 through 3.

In paragraph -- claim 1.3, I found support in paragraphs 4, 18, 30, and Figures 1 through 3.

In element 1.4, I found support in paragraphs 4, 18, 30, and Figures 1 through 3.

Element 1.5, I found support in paragraphs 4, 18, 30, Figures 1 through 3.

Element 1.6, I found support in paragraphs 21,

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24, 28, 29, 30, and Figures 1 through 3.

Element 1.7, I found support in paragraphs 21, 24, 28, 29, and Figures 1 through 3.

Element 1.8, support in paragraphs 29 and Figures 1 through 3.

Element 1.9, support in paragraphs 25, 27, 30, and Figures 1 through 3.

Element 1.10, I found support in paragraphs 21, 23, 27, and Figures 1 through 3.

Element 1.11, support in paragraphs 22, 31, 32, and Figures 1 through 3.

Element 1.12, I found support in paragraphs 22, 31, 32, and Figures 1 through 3.

Element 1.13, I found support in paragraphs 32 and Figure 2.

And element 1.14, I found support in paragraphs 25, 31 and Figures 1 through 3.

Q. We have two more. So we're on slide 387. And we're looking at claim 16 of the '881.

And where in the '917 application is there support for the limitations of claim 16 of the '881 patent?

A. For claim element 16.1, I found support in the '917 application disclosure in paragraphs 4, 18, 30, and Figures 1 through 3.

Element 16.2, I found support in paragraphs 21,

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23, 27, and Figures 1 through 3.

Element 16.3, I found support in paragraphs 21, 24, 28, 29, and Figures 1 through 3.

Element 16.4, I found support in paragraphs 24, 28, 29, and Figures 1 through 3.

Element 16.5, I found support in paragraphs 25, 27, 29, 30, and Figures 1 through 3.

16.6, support in paragraphs 29 and Figures 1 through 3.

Element 16.7, I found support in paragraphs 29 and Figure 2.

16.8, I found support in paragraphs 22, 31, 32, and Figures 1 through 3.

And paragraph -- claim 16.9, I found support in Figure 2.

In element 16.10, I found support in paragraphs 25, 31, 32, and Figures 1 through 3.

Q. All right. Slide 388.

Where in the dependent claims of the '881 patent; namely, claims 18, 19, and 26 is there written description support for the claims in the '917 application?

A. There is. Claim 18, there is written support in paragraph 32 and Figure 2.

Claim 19, support in Figure 29 and Figure 2.

And 26, support in paragraph -- I'm sorry, I said

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Figure 29. Claim 19, there is support in paragraph 29, Figure 2.

In claim 26, support in paragraph 31, and Figures 1 through 3.

Q. And is it your understanding that Respondent JLI and its expert contest that certain limitations that we have just gone through are not disclosed by the '917 application?

A. That is my understanding.

Q. I would like to walk through some of these and a few follow-up questions about some of these limitations, Dr. Vallee.

So returning to slide 389, first, let's discuss the limitation, "the housing having a first aperture proximate the first end and the second aperture proximate the second end," which appears in the limitations, at least, 1.2, 9.2, and 25.2 of the '864 patent.

Does the '917 application disclose these limitations?

A. It does. Paragraph 29 I cite, it teaches that the first end 26 comprises a first aperture 210, and the second end 208 comprises a second aperture 212, so it discloses the first aperture on the first end; the second aperture on the second end.

Q. Now, paragraph 29 of the '917 application refers to a first end 206, a first aperture 210, the second end

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208, and a second aperture 212.

In Figure 2, why do you label first end and first aperture on the bottom of the housing and second end and second aperture on the top of the housing?

A. To be consistent, I was going with the convention used in the claim language and that has it simply flipped. So in the claims, it refers to the second end up top, and the first end down at the bottom.

Q. Now, in Figure 2 of the '917 application, what structure or structures are included in the claimed first end?

A. Well, you see the bottom of the electrical contacts. You see that surface 208, which is like a bottom surface of the reservoir. That element 218, the side and bottom surface of that, which is, I think, described as a center post, and symmetrically the same features on the other side of the center line of the housing.

JUDGE JOHNSON HINES: Can I ask a question?

MR. ANSLEY: Yes, Your Honor.

JUDGE JOHNSON HINES: Dr. Vallee, is the Figure 2 that you show in slide 389, is that any different from Figure 2 in the issued patent?

THE WITNESS: No, it is not.

JUDGE JOHNSON HINES: Thank you.

THE WITNESS: Other than I believe the issued

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patent, I believe, has the aperture 212 labeled.

JUDGE JOHNSON HINES: Thank you.

BY MR. ANSLEY:

Q. Now, paragraph 29 as you cite on page or slide 389, you will note that the '917 application refers to 208 as the end. Figure 2, why isn't the end just the surface labeled 208?

A. The question, again, was why isn't just the surface of the 208?

Q. Why isn't that surface where the 208 is written just below it and indicated a line going right to it, why isn't that surface or that plane the first end? In other words, why did you identify the first end as having multiple planes as opposed to a single plane?

A. Oh, I see. Yeah, because the first end comprises that whole surface underneath there, you know, the surface 208, for example, is a bit higher than the surface I identified 218, but it's the entire surface. I think of it as if you took that end and you stuck it in water, what would get wet? And what would get wet would be those surfaces that I identified there.

Q. Now, I believe you just mentioned this, but Figure 2, does it label aperture 212?

A. No, it does not.

Q. But does Figure 2 depict aperture 212?

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A. Yes. It is the only aperture on that surface. And I highlighted that with the purple oval down at the bottom where I point to first aperture.

Q. Okay. Now, what in Figure 2 corresponds to the claimed first aperture?

A. The claimed first aperture is the bottom where I labeled the purple circle, first aperture.

Q. And to clarify, again, how do you know that?

A. Because there is only one aperture on that end and that has to be it.

Q. Okay. Now, in Figure 2 is the claimed first aperture at, near, or close to the claimed first end?

A. It is. It is at the line where it's indicated with 218. It's near lines 208 and the other lines on that surface I labeled.

Q. Now, what in Figure 2 of the '917 application corresponds to the claimed second end?

A. That would be 210, aperture 210.

Q. I'm sorry, I was asking about the end, the claimed second end.

A. Oh, I'm sorry, the second end is 206.

Q. And what in Figure 2 corresponds to the claimed second aperture?

A. That would be 210, the purple oval.

Q. And in Figure 2 of the '917 application, is the

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claimed second aperture at, near, or close to the claimed second end?

A. Yes, it's at the second end.

Q. Let's look at limitation 9.7 of the '864 patent. I want to focus on the bolded portion here, which recites, "a first portion" -- it is the language that recites "a first portion of the airflow being proximate, the first aperture being defined substantially centrally and axially and then the second portion, which is also defined substantially centrally and axially and proximate the second aperture.

Does the '917 application disclose this limitation?

A. It does, at paragraph 29, it states that an airflow passageway, 214, begins at the first aperture 210 and extends to the second aperture 212, which, again, I'm calling the first aperture, which is below, and the second aperture above, approximately along the center axis of the cartridge 200.

Q. And where in Figure 2 of the '917 application would a person of skill in the art have understood the first portion of airflow proximate and the first aperture being?

A. That would be down at the bottom, toward the first aperture.

Q. Would a person of ordinary skill in the art have

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understood that airflow in that portion of the airflow passageways depicted in Figure 2 of the '917 application, would a person of ordinary skill in the art have understood that that airflow would be defined substantially centrally and axially?

A. Yes, they would.

Q. And why?

A. Because that portion is basically a cylindrical portion --

Q. And is that --

A. -- which is located centrally and axially.

Q. And with respect to -- where in Figure 2 the '917 application would there be a second portion of airflow path proximate the second aperture?

A. Well, that would be a portion above the heating element close to the second aperture.

Q. And would a person of ordinary skill in the art have understood that the airflow in that portion would have been substantially central and axial?

A. They would, because, again, there is a larger cylinder in -- it's centered along the axis of the cartridge, so they would understand that to be true.

Q. And we're on slide 391. We're still looking at limitation 9.7.

In the bottom left there you have a passage that

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refers to a gap 228. What is the gap?

A. The gap is a portion of the airflow passageway that is optional, but it allows the designer to include some introduction of air in the cartridge that's not part of the aerosol to, I'll say, kind of dilute, if needed, the aerosol that's delivered to the user.

Q. So is airflow in the '917 application limited to the central axial passageway 214?

A. No. It can also include the gap.

Q. Let's turn now to slide 392. And we're going to look at claim limitations that recite an airflow passageway, which include limitations 1.7 and 25.7 of the '864 patent, at least, and limitations 1.7 and 16.7 from the '881 patent.

Does the '917 application disclose these limitations?

A. It does. I have highlighted paragraph 29 again. It says an airflow passageway, states it begins and it's 214, begins at the first aperture 210, extends to the second aperture 212, approximately along the center axis of the cartridge.

Q. And is there any requirement in the claims or in the '917 application that the airflow passageway has to have a structure that is separate from another component, like a solution holding medium?

A. No.

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Q. And now we're on slide 393. And let's look at limitation 16.8 of the '881 patent, which recites, in part, "a plane perpendicular to the central longitudinal axis of the housing passing through the heating element and the solution holding medium."

Is this limitation disclosed by the '917 application?

A. It is. And I have indicated such a plane with the purple, it looks like a very long oval, with points on the end. That's because I was trying to depict the 3D plane in 2D. As you can see, that is located through the longitudinal axis of the heating element. And it does pass perpendicular to the double center line or double-dashed lines that indicate the longitudinal axis of the housing.

Q. Does it matter for your opinion that a plane is not literally depicted in the figures or expressly described in the description of the '917 application?

A. No, because every cylinder, you can define a plane that goes through its longitudinal axis.

Q. We're at slide 394. And let's look at limitations 1.6, 9.6, and 25.6 of the '864 patent, and limitations 1.13 and 16.10 of the '881 patent.

I want to focus on the bolded portions there, which describe the heating element is configured to vaporize. And we will start as an example with 1.6.

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It recites, "the heating element being configured to vaporize at least a portion of the solution for oral provision to an individual in the airflow."

Now, Dr. Vallee, what does that phrase mean to a person of ordinary skill in the art?

A. Well, it means that the heating element has to be configured so that it can vaporize solution in the solution holding medium in such a way that it enters the airflow, so that it can be provided to the user.

Q. And you have -- I notice that on this slide you have made the words "for oral provision to an individual in the airflow" in blue. Why do you have that annotated in that way?

A. Because that's really the purpose of that element of the claim. The purpose of the heating element is to provide the solution to an individual in the airflow.

Q. And do the claims require delivering vapor to a consumer, literal vapor to a consumer?

A. No. It just states that the solution has to be delivered to the user.

Q. Okay. Now, according to these claims, what is actually happening in the airflow?

A. The vaporization happens in the airflow, combines with the air in the passageway to create an aerosol. And then that's what's delivered.

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Q. And do the "configured to vaporize" terms shown on slide 394 of the '864 patent, do they all have the same meaning?

A. Yes, they do.

Q. And do the "configured to vaporize" terms shown on slide 394 of the '881 patent, do they all have the same meaning?

A. Yes, they do.

Q. And do you see how the '846 patent recites, "for all provision to an individual in the airflow" and then the '881 patent limitations recite "for all provision to an individual in an airflow from the second aperture"?

A. I see that.

Q. Does that make a difference in terms of the claims' meaning?

A. No, because it's the only place the user can get it is from the second aperture.

Q. And where are the limitations on the left side of slide 394 that we just discussed, where are those disclosed by the '917 application?

A. In the specification, you said?

Q. I'm sorry. In the '917 application.

A. Right. Well, I cite paragraph 31. I will just read it what is underlined. There is a large region highlighted. So it says "heating element 222 can comprise

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wicking material that draws" -- I'm sorry, I'll slow down. Yes. "The heating element 222 can comprise a wicking material that draws the liquid solution from the absorbent material 204 towards the heating element."

Then it says, when a user draws a breath by way of the airflow passageway 214, a circuit is closed, thereby providing current to the heating element 222 and the heating element 222 acts to vaporize the liquid solution in the absorbent material 204 and the resulting vapor is received by the user.

Q. Let's move to slide 395. And we're looking at limitation 25.7 of the '864 patent. And the portion that I want to focus your attention on recites, "wherein the airflow passageway extends in a straight path from the first aperture to the second aperture with only the heating element obstructing a portion of the airflow through the airflow passageway along the central longitudinal axis of the housing."

Dr. Vallee, does the '917 application disclose this limitation?

A. Yes. You can see it in the figure when you look at the airflow passageway that's highlighted in green. The only obstacle is the heating element. And I also have support from paragraph 29 and 32.

Paragraph 29 states that an air passageway 214

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because at the first aperture 210 extends to the second aperture 212, approximately along the central axis of the cartridge. And then at paragraph 32, it states while the heating element 222 is shown as residing solely in the airflow passageway, et cetera, et cetera, so it indicates it is solely in the airflow passageway. There is nothing else.

Q. Right. We're getting close to the end. We're at slide 396. And let's talk about the objective indicia of non-obviousness and your opinions on those.

Remind us, were you asked to assess whether there are objective indicia of non-obviousness for the asserted claims of the asserted patents?

A. Yes, I was.

Q. And let's walk through your analysis. So we're on slide 398.

And what product do you rely on to show the objective indicia?

A. That's the Fuma device.

Q. Okay. And so are you relying on the Fuma -- when you say "the Fuma device," are you referring to the Fuma cartridge?

A. Yes, I'm sorry, I meant the cartridge. It's what's in the pictures on the right and the center.

Q. Do you understand that there needs to be a nexus between the Fuma cartridge and the evidence of objective

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indicia?

A. Yes.

Q. And do you understand that there is a presumption of nexus if the Fuma cartridge is coextensive with the asserted claims?

A. I do.

Q. And do the asserted claims describe a complete cartridge for an electronic vaporizer?

A. They do.

Q. And how so?

A. Because every element, every key element in the claims is described as was found out in my analysis of the cartridge. For example, there's a central airflow passageway. There's a coil, a heating element. There's wicking material. There's a first aperture, a second aperture on a first and the second end solution holding medium, et cetera.

Q. And, in your opinion, is the Fuma cartridge coextensive with the asserted claims?

A. Yes, it is.

Q. We're in slide 399. I want to talk about the evidence of secondary or objective indicia next. And what indicia in your opinion demonstrate the non-obviousness of the claims?

A. Well, there were several. There is evidence of

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commercial success, industry praise, and evidence of copying.

Q. Let's walk through those. We're on slide 400.

What is the first objective indicia factor you're going to discuss?

A. The first is commercial success. This is a plot of the growth of Fuma sales, which are cartridges and starter kits. This is document CX-2340C. And that was revenue calculated from the Vander Veen report.

What it shows is that in the fourth quarter of 2009, they had a modest $50,000 in sales. That jumped to about $700,000 in 2010 and really jumps significantly in 2011 when they made about $2 and a half million in sales.

Q. Now, based on these revenue numbers, do you have any opinion about whether Fuma is commercially successful?

A. Well, yeah. It was very successful and growing at the time.

Q. Now, do the revenue numbers here include both Fuma cartridges and Fuma devices?

A. They do, but my understanding is the majority of the sales were the cartridges.

Q. And what happened after -- I am on slide 401.

What happened after Fuma launched its e-cigarette?

A. After the e-cigarette was launched, Dennis Potter

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wrote this e-mail. He is the VP of strategic innovations for R.J. Reynolds. And he wrote a letter to Greg Conley. This was June 15th of 2010.

And what I highlighted here says, "As I mentioned, part of my role at RJRTC organization is to search out and investigate promising new technologies and product opportunities."

And he tells Greg Conley that "your kind offer to provide some sample products would be very helpful." So he's interested in getting samples of the product.

Q. Let's turn to slide 402. Why did Reynolds look for these product opportunities?

A. Well, they had a project called Horizon 3. This is from documentation from August 31st of 2009. And it talks about that project. It is from Dennis Potter again.

And he is writing that, first of all, he discusses that there is an ideation process. He is talking about the Horizon 3 innovation project. He discusses, as I highlighted, utilized output from a session, so they looked at 279 different ideas, culled them down, categorized them into eight stacks of ideas. This is, by the way, from the Vapor Idea Session, CX-2278C, page 1.

So it indicates that they looked at about 279 different ideas as they were trying to expand their e-cigarette market.

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MR. MEUNIER: Sorry. Object to foundation for the last question, Your Honor. They are asking him what RJR was thinking and doing.

MR. ANSLEY: I can rephrase it, Your Honor.

JUDGE JOHNSON HINES: Thank you.

BY MR. ANSLEY:

Q. So, again, just a little housekeeping, can we go back to slide 401.

What was the e-mail you were citing here?

A. It was an e-mail from Mr. Potter to Greg Conley at Fuma.

Q. And is that CX-2286C?

A. It is.

Q. And I do want to rephrase my question. So how about this: What were you showing here on slide 402?

A. I was showing that Mr. Potter discusses 279 ideas that they were going through to try to find what they thought would be a successful product idea.

Q. Okay. Now, let's move to slide 403.

And what happened after Reynolds received the Fuma e-cigarette?

A. Well, on June 29 of 2010, this is document JX-0554C, Mr. Potter writes to a number of people in the organization about Fuma International. What he says, I have highlighted here, he says, "As claimed, the product is

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unique" -- and he is talking about the Fuma product -- "in design and operation to the e-cigarette designs based on the Chinese models we have previously seen. Taste/flavor, operating ritual, and smoking experience are also different. Significant is the absence of the sweet aftertaste commonly associated with e-cigarettes and the Ploom product."

So, overall, he concludes that the Fuma product is simple, clean, and very close and intuitive to use. And personally he sees more potential in this product design than any of the others they have assessed to date.

Q. Is this statement relevant to an objective indicia, in your opinion?

A. Yeah. It definitely indicates praise and his intent to copy.

Q. We're on slide 404.

And what did Reynolds' documents say about the Fuma e-cigarette?

A. Well, this document I put up here is document JX-0555C. It's the RJR Horizon 3 presentation. This, again, discusses the Horizon 3 project.

What's summarized here is that they note that there's a unique feature to this, there's a unique heavier gauge heating element material and a new central flow design that may indicate in that figure on the right and that heating element is that it looks like a black oval in that

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figure. So it indicates that they are aware and they are praising the transversely-located heating element.

Q. And do the asserted patents claim a transversely-mounted heating element?

A. Yes, they do.

Q. And do the asserted patents claim a new central flow design, in your opinion?

A. They do.

Q. We're looking at slide 405.

And what do you have shown here, Dr. Vallee?

A. From the -- again referring to -- we'll start on the left. In the same Horizon 3 presentation we discussed in the previous slide, we have a bullet point that says leading into a discussion of the technology associated with Fuma International LLC's product and why we currently believe it may present one of the best ways forward for the Horizon 3 platform, indicating that for Horizon 3, they thought Fuma was the best idea.

There was an e-mail from Mr. Potter dated July 19th, 2010, CX-2259C, page 1. And here I highlighted that he states that Fuma is not the first vapor/aerosol product that we have looked at but has generated the highest interest to date. So it is more praise and more evidence of his intent to copy that idea.

Q. We're on slide 406. And here you cite, I think

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again, yeah, JX-555C.

Does this document show anything about Reynolds' interest in the Fuma e-cigarette?

A. Yes, I highlighted in that image on page 14 of that document that the heading is "tobacco e-cig based on Fuma." And they discuss the concept, which is to incorporate the heating element similar to the one found in the Fuma brand e-cig, which is a heating element transverse to the airflow passageway. And they have a little image indicating that.

Q. Then slide 407. You have the same slide you had in the previous slide -- excuse me, I will rephrase that.

You had -- here you have JX-555C, page 14, which was on the previous slide, but on the right what have you added?

A. Well, that's the actual Vuse Solo product that they launched. You have the picture of the cartridge and then you can see on the right what they launched in 2012, it is, as we discussed earlier, it has a central airflow passageway, the transverse-located heating element. So that matches what they were discussing in the Horizon 3 vapor presentation, talking about creating a product that had the transversely-located heating element.

Q. Does the Vuse Solo practice the asserted claims?

A. It does.

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Q. And what conclusion do you draw from the evidence that we have gone through just now?

A. RJR copied the Fuma idea and the Fuma product and called it the Vuse Solo.

Q. We're on slide 408. And do you understand that Fuma sued Reynolds -- this is confidential, yeah?

MR. ANSLEY: Your Honor, can we go on the confidential? Actually we can stay -- can we go on the confidential record?

JUDGE JOHNSON HINES: Whose confidential record are we going on?

MR. ANSLEY: Reynolds'.

JUDGE JOHNSON HINES: All right. We're on the Reynolds' confidential record.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. ANSLEY:

Q. All right. So, Dr. Vallee, let's put aside R.J. Reynolds and look at the other evidence of any other evidence of copying you may have considered.

Are you aware of any cartomizer designs with transverse heating elements prior to the commercialization of the Fuma e-cigarette?

A. No.

Q. Has Respondent, JLI, identified any cartomizer designs with transverse heating elements prior to the Fuma e-cigarettes?

A. No.

Q. And let's go to slide 410.

And, Dr. Vallee, what do you have shown on the left side of this slide?

A. On the left side of the slide, CX-2311C, it shows a product manufactured by GreenSmoke. It is dated 2008. And it is a first generation cartridge. It is the first generation of the GreenSmoke product is shown on the left.

Q. And does the 2008 GreenSmoke have a longitudinal or transverse heating element?

A. It is longitudinal. And I indicate the direction of the airflow passageway in the green -- in the blue dashed arrow. And in the red dashed arrow box, I put the heating

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element. And it is longitudinally oriented to the airflow passageway.

Q. Did GreenSmoke eventually change its cartridge design?

A. Yes. In 2012, they went to the third generation. And what we see there is all of a sudden the heating element, which I put in the red box, is transversely mounted to the direction of the airflow passageway. And that's CX-2311C. This is page 3.

Q. I think you said 2012. Right?

A. Did I? It is 2011, clearly, 2011.

Q. Now, what kind of -- what objective indicia is this evidence relevant to?

A. Well, it tells me that before the Fuma device came out, they had longitudinal airflow -- heating element. And after the Fuma device came out, they had a transversely-mounted heating element.

Q. Let's go to slide 411.

And was the GreenSmoke the only device that began using the transverse heating element after the Fuma commercial e-cigarette came out, in your opinion?

A. No. I cite here is in 2015, NJOY, in a commercial report in the e-cig market, that's Exhibit CX-2313. And what it says is they evaluated 39 rechargeable e-cigarettes.

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And in the center block I highlight that in two component products, which are the cartomizer power supply design we're talking about, the design is generally a horizontal orientation of the coil placed in the woven fiberglass tube. And we see figures of that on the right.

Then they say there were 21 products with this layout and an additional 12 products had cross-configuration with a coil about halfway up. So this indicates there were many products that NJOY found that had the transversely-mounted heating element.

Q. And you may have mentioned this, but what was the date of this document?

A. The date of this document was -- where did I put it -- it is actually on the document.

Q. You can look at the bottom left in the slide. You have a number there.

A. I see. I said 2013 at the beginning.

Q. Okay.

A. I thought you were looking for an exact date.

MR. ANSLEY: We will pass the witness.

MR. MEUNIER: Your Honor, it's Bill Meunier on behalf of JUUL, again.

I believe everybody has handed an exhibit binder with potential exhibits for the cross of Dr. Vallee, but you have also been provided, because they are so large,

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separately, the expert reports from Dr. Vallee in this investigation in case those become necessary.

So those are in a separate box, that I think everybody has now. And they are big. That's why they are in a box. May I proceed, Your Honor?

JUDGE JOHNSON HINES: Yes.

CROSS-EXAMINATION

BY MR. MEUNIER:

Q. Dr. Vallee, hello again.

A. Hi, Bill.

Q. I think this is our fourth time around?

A. Fourth time.

Q. Good to see you again.

A. You too.

Q. So you will be happy to know, some of my colleagues wanted me to start with 10 minutes on the difference between blue and purple, but --

A. That's fine with me.

Q. -- I was on your side. I thought they all looked purple, so we're going to start somewhere else.

Jimmy, can we go to Dr. Vallee's demonstrative, CDX-2, go to slide 155, please.

So, obviously, Dr. Vallee, a lot to unpack here. We're not going to cover it all, but let's start here.

This is slide 155 from your demonstratives. And

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I want to focus on the claim limitation from the '881 patent you have set forth here. And I think this is exemplary, but each asserted claim of the '881 patent includes an electrically conductive portion limitation, correct?

A. Correct.

Q. Okay. And if we look at, this is from claim 16 on your slide 155, let's look at the exact language. What is claimed is a housing having a first end and that first end of the housing must have, "an electrically conductive portion that's adapted to mechanically and electrically couple to an electrically conductive portion of the power source."

Do I have that right?

A. You do.

Q. Okay. So as claimed, there's an electrically conductive portion, and that electrically conductive portion must be adapted to both mechanically and electrically couple to an electrically conductive portion of the power source, right?

A. The electrically coupled also has to be mechanically coupled.

Q. But it is the electrically conductive portion that is claimed that must be adapted to both mechanically and electrically couple, correct?

A. True, but it doesn't say that the mechanical

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coupling has to be done primarily by the electrical portion you shaded there. It's like a coax cable. If I have a coaxial cable with electrical wire inside and I want to connect it, I screw in the cable and so the electrically conductive portion is now mechanically coupled. So that would fit the claim limitation in my view.

Q. Okay. It has been a long day, Dr. Vallee, for you, for all of us. So I think it will be helpful if you concentrate on my question. And I will just ask it simply.

As claimed, the electrically conductive portion is adapted to mechanically and electrically couple, right?

A. Yes. And I was explaining a form of that mechanical and electrical coupling.

Q. Okay. As an example of such an electrically conductive portion that both mechanically and electrically couples, the '881 patent describes the cartridge as having electrically threaded fasteners that can be coupled to an electrically conductive threaded receiver of the power source.

Do you recall that?

A. You're talking about the specification?

Q. I am talking about the specification.

A. Yes, I do.

Q. Okay. And, Jimmy, can we go to slide 358 of Dr. Vallee's Exhibit 2 demonstrative.

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So here is a slide where you were applying claim limitations to what you were saying is the Fuma prototype. Is that correct?

A. That's correct.

Q. And I think we see here an example of the threaded fastener that's disclosed as mechanically and electrically coupling in the '881 patent, correct?

A. Correct.

Q. So we have got the cartridge having an electrically conductive threaded portion and we have the receptacle also having a threaded portion and they are able to screw together, right?

A. That's right.

Q. And those threads are electrically conductive, so those threads can both electrically and mechanically couple the two components, right?

A. Correct.

Q. Okay. Let's focus on your opinion that the JUUL1 cartridge -- I am going to -- at our deposition, we distinguished between what I think you have been calling the JUUL or the JUUL system and the JUUL2, by calling the first JUUL1.

Is it okay if we do that today?

A. That's correct.

Q. All right. Let's focus on your opinion that the

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JUUL1 meets the electrically conductive portion limitation we have been talking about.

Jimmy, why don't we go to -- so we can know what we're talking about here, go to Dr. Vallee's Exhibit 2, slide 151, please.

This is slide 151. And I want to focus on the requirement that this electrically conductive portion be adapted to electrically couple to an electrically conductive portion of the power source. So let's start with the electrical contact components of the JUUL1 cartridge, okay?

A. Okay.

Q. So here is the image. Here is an image from your demonstratives. And in this image, you've identified the electrical contact components in, I am going to say red.

A. I agree. That's right.

Q. All right. We're on the same page on this color. So on the left, there's two exposed contact ends colored in red, right, in the image on the left?

A. That's right.

Q. And those are the electrical contacts. Then again on the right, which is a side view of -- well, on the right, it's a side view of the entire cartridge, correct?

A. That's right.

Q. All right. And the electrical contacts there, you have again shown in red. Again, those are the ones that

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are exposed?

A. Right.

Q. Okay.

A. What you're saying is the left image is the electrical contacts on the housing and the right is the contacts on the entire cartridge?

Q. That's right. Okay.

So, Jimmy, can we go to slide 155 of CDX Exhibit 2, please. All right.

So you have depicted on the bottom of the JUUL1 cartridge here those contacts we were just talking about, but this time they are colored in yellow. Right?

A. Correct.

Q. And it's your opinion that it is these exterior electrical contacts that you have colored in yellow, those are what satisfy the requirement that the electrically conductive portion of the first housing end is adapted to electrically couple to an electrically conductive portion of the power supply, right?

A. Not quite. It's the combination of this with the interference fit on the bottom of the housing that makes that electrically and then mechanically coupled. That's what my opinion was.

Q. You are saying it's more than these exposed contacts that are adapted to electrically couple the

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cartridge to the power supply?

A. Not quite. What I'm saying is that the way these contacts are electrically and mechanically coupled is through the electrical contact between the pogo pins and the contacts in the interference fit.

It is again that example of a coax cable. We screw it together and they become mechanically and electrically connected. So instead of a screw thread, we have an interference fit.

Q. All right. I want to focus on the electrically conductive part --

A. Okay.

Q. -- of the coupling here, all right?

So the only thing that you have identified in JUUL1 as electrically coupling the cartridge to the JUUL1 device are these exposed electrical contacts, correct?

A. Yes, mating with the pogo pins on the device.

Q. Okay. So let's focus on the other requirement of the electrically conductive portion, which is that that claimed electrically conductive portion must also be adapted to mechanically couple to an electrically conductive portion of the power source. And it's your opinion that the part of the JUUL1 cartridge that mechanically couples is what you have called the edges of the JUUL1 cartridge.

Do I have that correct?

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A. Correct.

Q. And, Jimmy, if we can go to slide 156 of Dr. Vallee's demonstrative Exhibit 2.

And I believe on the left-hand side, Dr. Vallee, you have circled the locations on the JUUL1 cartridge tank that you are identifying as the edges; is that correct?

A. That's right.

Q. And it's those edges that mechanically couple the cartridge to -- the JUUL1 cartridge to the JUUL1 device, correct?

A. Correct.

Q. According to you, those edges mechanically couple the JUUL1 cartridge to the JUUL1 device by engaging with two protrusions on the JUUL1 device.

Do I have that right?

A. That's right.

Q. Okay. And those protrusions or at least one of them is shown on the right-side drawing of your slide 156 and labeled cartridge retention detent.

Do I have that right?

A. That's right.

Q. Now, Jimmy, can we go to slide 13, please, just as an aside.

Her Honor had asked you, this is slide 13 from your CDX 2?

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A. Yes.
Q. Your Honor had asked you a question earlier today about the interference features that are labeled in the figure on the left. Do you see that?
A. Yes, I do.
Q. Now, you're not relying on those interference features as being any part of the mechanically coupling that's required by these claims, right?
A. Correct. It is just the features on the first end that we just discussed, the corners.
Q. Just those edges?
A. Correct.
Q. And you haven't alleged that the JUUL1 cartridges, electrical contacts engage with those protrusions on the JUUL1 device, correct?
A. By protrusions, do you mean those interference features in the figure?
Q. No, I'm sorry. Let's make this a little bit easier.
Jimmy, can you go back to slide 156, please, from CDX-2.
We had talked about how you had identified the edges on the left in the circles, right?
A. Yes.
Q. And how you said that those mechanically couple

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with the device on the right by interacting with the cartridge retention detent, right?

A. Right. So that's what you meant by protrusion?

Q. That's what I meant by protrusion.

A. Okay.

Q. Let me ask the question again. Let me ask it in these terms. The electrical contacts that you identified as electrically coupling the cartridge with the device, you haven't alleged that those electrical contacts engage with the cartridge retention detent, right?

A. No. I never did.

Q. And you haven't alleged that those -- well, let me leave it at that.

All right. So let's stay on this slide. So the edges that you have got circled here in slide 156, those were made of plastic, right?

A. That's right.

Q. So the parts of the JUUL1 cartridge that you say mechanically couple it to the JUUL device are made of plastic?

A. Yes.

Q. Those edges are not made of conductive material, right?

A. Correct. In my view, they don't have to be.

Q. Well, I know that's your opinion but let's focus

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on the question.

Those edges are not made of a conductive material, right?

A. Correct.

Q. Okay. So a few things aren't making sense to me, Doctor. So we have talked already and we have got it up here, the electrically conductive portion is what needs to be adapted to mechanically and electrically couple, correct?

A. Correct.

Q. All right. But you have identified one part of the alleged JUUL1 housing that electrically couples. And that is the exposed contacts, right?

A. That's right.

Q. And you have identified a different part of the alleged JUUL1 cartridge housing that is supposed to mechanically couple, right? And that's the edges we looked at?

A. Correct.

Q. And those different parts, the contacts shown there towards the bottom and the edges shown to the sides, those are in different locations on the alleged housing. Right?

A. True.

Q. And those different parts, those electrical contacts and the edges are made of different materials.

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Right?

A. Yes.

Q. So I want to focus on the electrically conductive portion because it is the electrically -- it's not just the first end of the housing that needs to be adapted to mechanically and electrically couple, right, it's the first end of the housing has an electrically conductive portion that's adapted to mechanically and electrically couple, right?

A. Right.

Q. Okay. So let's go to slide 154, please.

So we have a little earlier what my daughter, who just turned 11, would call a "no duh, dad," which is we talked about what the construction of electrically conductive portion is. And that is a portion that is electrically conductive, right?

A. Right.

Q. Okay. And so that's the construction that you applied in forming your opinions, right?

A. For the electrically conductive portion, yes.

Q. For the electrically conductive portion. And the edges that you rely on as part of the electrically conductive portion are not a portion that is electrically conductive, correct?

A. Correct. As I say, it doesn't have to be because

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when you put it together, it snaps together, it is electrically and mechanically coupled.

Q. So electrically conductive portion is a portion that is electrically conductive, right?

A. Correct.

Q. And the edges are not electrically conductive, right?

A. Correct. And they don't have to be.

Q. Okay. So let's move on.

Jim, can you go to slide 111 of Dr. Vallee's CDX-2 demonstratives, please.

So, Doctor, I want to talk about the '864 patent for a little bit. And we'll talk about some of the coupling requirements in those claims.

So we have got here as an example of what you have called limitation 1.2, and according to limitation 1.2 being exemplary -- let me just ask it this way.

Each asserted claim of the '864 patent requires a housing having a first end, right?

A. Right.

Q. And can we go to the next slide, Jim, please, 112. So this is the limitation I want to focus on now.

So the housing has a first end and, as set forth here in let's call it exemplary claim 1, that of the '864 patent, that first end of the housing, the end of the

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housing needs to be adapted to electrically couple to the power source, right?

A. It does.

Q. So the first end of the cartridge -- so we will get to that later. So there's a cartridge that has a housing. The first end of that housing of the cartridge needs to be adapted to electrically couple to the power source, right?

A. Correct.

Q. Okay. And it's your opinion that -- I want to talk about JUUL2 now, okay -- that the JUUL2 cartridges' electrical contacts are what electrically couple the JUUL2 cartridge to its power source, right?

A. That's right.

Q. Okay. So let's stay on your slide 112 and you have got an annotated figure on the right, correct, and labeled there are electrical contacts. Do you see that?

A. I do.

Q. We're going to get in trouble here, Doctor. Are those purple?

A. No, those are light blue.

Q. Oh, man. All right. Let's call them light blue. So those electrical contacts you have annotated in light blue on the right-hand side of slide 112, right?

A. That's right.

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Q. And it's those contacts and only those contacts that you say electrically couple the JUUL2 cartridge to its power source, right?

A. Well, it is a friction fit in the device. So in that sense, the friction fit mechanically also and electrically couples it to the device.

Q. I am not asking about mechanically. I am not asking about that.

I'm asking, those are the only part of the JUUL2 cartridge that you say electrically couple the JUUL2 cartridge to the JUUL2 device that contains the battery, right?

A. That is correct.

Q. Okay. Now, in the figure on the right, the other part that is shown there -- and I will say another part that is shown there in black is the JUUL2 atomizer housing.

Do I have that right?

A. Correct.

Q. Okay. Those electrical contacts shown in light blue of the JUUL2 cartridge, those are located on the vertical face of the atomizer housing that we're looking at right now, right?

A. That's right. And it is part of the first end.

Q. Okay. Now, as claimed, it's the first end of the housing that must be adapted to electrically couple with the

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power source, right?

A. Correct.

Q. All right. So let's look at what you have said is the first end of the housing of the JUUL2 cartridge.

Now, according to you, the housing of the JUUL2, the claimed housing of the JUUL2 cartridge is defined by two things. And one of those is the exterior of the JUUL2 tank.

Is that right?

A. In part, yes.

Q. Okay. Well, let me get to the second one. You can tell me if I missed something. So one of them is the -- one part that defines the atomizer housing is the exterior of the tank.

The other thing that according to you defines the housing of the JUUL2 cartridge is the bottom of the atomizer housing, correct?

A. The bottom of the -- yes, that is part of the -- I'm sorry, you said it was what I define as the first end? I'm sorry, could you repeat that question?

Q. Sure. We already talked about the exterior of the tank forming part of the housing. Right?

A. Correct.

Q. And this is for JUUL2. The other thing and the only other thing that you have identified as defining the housing of the JUUL2 cartridge is the bottom of that

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atomizer housing that we're looking at on slide 112, correct?

A. I don't recall it. I remember discussing it a the some point today. I don't have that figure in front of me but the outside of the housing, the first end, is the bottom end of the tank, which is the inside surface and the outside surface of that -- I forget what we call that component on the right -- and the electrical contact.

Q. The atomizer housing?

A. Thank you, the atomizer housing.

Q. Are you saying that the housing of the JUUL2 cartridge includes more than the exterior of the tank and just the bottom of that atomizer housing?

A. Well, what I said was the first side of the housing, and I outlined this in one of my slides, if you look at the left side of the figure, let's say this was sections. I know it is not but it's transparent.

It's the -- if you were to put the end of the housing in some water, it's everything on the inside that would get wet. So it's the outside surface of the atomizer housing, it would be the contacts, and it would be actually at that end of the housing the first end wraps around and goes from the outside to the inside. So it's those components that make the first end of the housing.

Q. I want to be clear because we had a lengthy

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discussion about this at your deposition. So I'm going to point to, right now, this atomizer housing. Do you see me? This is at slide 112. Are you with me?

A. You're pointing at the screen behind me?

Q. Well -- do you want to turn?

A. I need to stretch. I will turn around.

Q. We can use a little exercise right now. All right.

That's the atomizer housing (indicating), the black part, right?

A. Correct.

Q. Let's call this the lateral side. And I want to call this underpart right here (indicating) the bottom. Are you with me?

A. Got you.

Q. Are you saying that your defined housing of the JUUL2 cartridge includes not just this bottom portion of the atomizer housing but also this side (indicating)?

A. I'm saying the first end of the housing is made of that. Can I turn around?

Q. No.

A. Oh.

Q. Are you saying that this part (indicating), this side of the atomizer housing forms part of the JUUL2 housing?

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A. Yes. It is the first end of the housing.

Q. Right. Jim, can you bring up -- I want to go to your deposition transcript. You have got it in your binder if you want to look at it but we're going to show it. Can you bring up RX-1014, Jim, and go to slide -- I'm sorry, page 266, lines 4 through 14.

Are you with me, Doctor?

A. What page is this now?

Q. This is page 266.

A. All right. I will just take a moment here.

Q. RX-1014.

A. I will swing this around. Okay. And that was -- I'm sorry, that was page 161, did you say?

Q. 266.

A. Okay, you did not say -- 266.

Q. That's all right.

A. Okay, 266, I'm there.

Q. Okay. So I said starting at line 4:

"Question: I'm asking what components of the JUUL2 pod cartridge define the housing that you've identified in Exhibit 17. So you said the bottom of the atomizer housing and I'm assuming it's more than that."

Your answer:

"Answer: I'm sorry, I misunderstood. We were discussing the different levels of the bottom and I thought

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you were talking about the bottom. Now I understand. Okay. So it would be the tank. The exterior of the tank is what I drew and the bottom portion of the atomizer housing."

So you identified the exterior of the tank and the bottom portion of the atomizer housing as your defined housing of the JUUL2 pod cartridge, correct?

A. That's exactly right.

Q. And that's accurate, right? Your definition of the housing of the JUUL2 cartridge is the exterior of the tank and the bottom portion of the atomizer housing, right?

A. Yes, but not -- let's not forget the exterior of the tank as I said goes from the outside, wraps around toward the inside at the bottom and that's where it meets with it. I think that's where the confusion is.

Q. So it's the exterior of the tank and the bottom portion of the atomizer housing, right?

A. Yeah, exterior. Don't confuse exterior with just the outside. The exterior would wrap around the outside and go around the bottom. So if I were to take the exterior of the housing and put it in water it would get wet.

Q. So the JUUL2 cartridge electrical contacts that you identified as the only thing that electrically couples the JUUL2 cartridge to the JUUL2 device, those electrical contacts are part of the JUUL2 heater; is that right?

A. They connect to the heater, yes. Are we going

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back -- oh, here we are.

Q. You can turn around.

A. Thank you. Okay.

Q. So you're saying -- I will ask it again, so we don't have to go to your deposition transcript. I will ask it again.

The electrical contacts that you have identified from 202 are part of the JUUL2 heater, correct?

A. They are connected to the heater. The heater is the element that has the fingers that you can see in the left of the --

Q. Are you saying the JUUL2 contacts that we're looking at right now on the right are not part of the heater?

A. I say they are connected to the heater.

Q. Yes or no. Are you saying that they are not part of the heater?

A. Well, if we assume that something is connected becomes part of it, then yes, it is.

Q. Are you assuming that?

A. As I said, the contacts are connected to the heater.

Q. Jimmy, can we go to, again, RX-1014, same deposition transcript of Dr. Vallee.

A. Okay.

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Q. Let's go to page 268, line 19. Let's start there.

Okay. So I'm at line 19 and I'm asking you:

"Question: And so going back to page 486 of your report, those electrical contacts that are part of the heater assembly, is that what you wanted to call it or heater component?

"Answer: I think we're sticking with atomizer housing. I'm sorry. No. They're part of the -- let's call it the heater, just the heater."

I confirmed with you: "Okay. So those electrical contacts that you have identified at the top of page 486 are part of the heater of the JUUL2 pod, correct?

"Answer: Right. They are connected to -- they're part of the heater."

So they are part of the heater, right?

A. Yeah, that's what I was trying to say that they are connected to the heater. And if we assume they are connected, they will be part.

Q. Okay. Let's go back to slide 112, please.

So this is slide 112 of your demonstratives, CDX-2C. This shows the location -- on the right it shows the location of the electrical contacts from the JUUL2 cartridge, correct?

A. Right. In light blue.

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Q. In light blue. And it's your position that the electrical contacts of the JUUL2 are located on the lateral face of the atomizer housing, correct?

A. Correct, which is part of the first end of the housing.

Q. I'm sorry. What did you just say?

A. Those contacts are located on the first end of the housing.

Q. I'm going to ask it this way because I'm -- we have got a lot to cover. The electrical contacts are not on the bottom of the atomizer housing, correct?

A. When you say the bottom, I'm assuming you mean the bottom end of the atomizer housing?

Q. I mean the bottom surface of the atomizer housing?

A. Oh, I see what you mean. No, they're on the side surface.

Q. They're on the side surface. So you identified the bottom surface of the atomizer housing is forming part of the housing end?

A. Right, just as the lateral surface is a part of the first end.

Q. So you're saying the lateral surface is a part of the housing -- or part the housing?

A. They are part of the first end. As I said

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earlier --

Q. It has to be the end of the housing, right, Doctor?

A. That is the end of the housing.

Q. You never identified the lateral sides of that assembly as being part of the housing, have you?

A. I just did on one of your earlier questions identify it. As I said, and I will say it again, that the first end of that housing is on the left side of that housing, it would be the wet perimeter if you were to put that in, for example, a liquid. All that is the first end of the housing.

And those electrical contacts that are highlighted in yellow in the figure you put up are part, therefore, of the first end of the housing. Yeah, they are connected to the heater. You can even call it, it doesn't actually generate heat but you can call it part of the heating element. That doesn't change my opinion. Those contacts are on the first end of the housing.

Q. You called the electrical contacts part of the heater at your deposition, didn't you?

A. Right.

Q. And the heater is not part of the housing, correct?

A. But that part of the heating doesn't heat up.

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That's what I was trying to explain. You have to connect the heater somehow to the contacts. So if you want to call it that they are one component, when you buy that, you buy it as one assembly, but the contacts don't get hot. So when I say the heater isn't -- the contacts aren't part of the heater, I mean they don't get hot. They are one assembly. It's one component. I'm fine with that.

Q. You have already got your deposition testimony on the record saying the electrical contacts are part of the heater. I want to make sure we're clear about the rest of it because we keep flipping and flopping.

Let's go to RX-1014, please, Jimmy, and let's go to line -- sorry, page 267, line 19 through 21.

The heater -- I asked you:

"Question: The heater does not form the housing of the JUUL2?

"Answer: Correct."

Is that right?

A. Yes. But I just explained -- I just explained --

Q. Let's go to the next.

A. I just explained how the heater is bought as one component, so if you want to consider the component, the heater, if I were to go to Walmart and buy it and you bought a heater, that's what you would buy. That's not what get hot.

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The actual heating portion of the heater, the heating element is what gets hot. And it has to be connected somehow to the first end. And it's connected on the outside of that block element on the vertical surfaces of the element.

So I am agreeing that that's what I called it. You know, we will call that the heater. But that's not what gets hot. Only the fingers get hot. So that's the real heater. The heater gets hot.

The connections don't get hot. And they are on the outside of the first -- of the first end.

Q. Done?

Jimmy, you already got it. Lines 22 through 24 of this page 267 of RX-1014. We can just finish with this. I asked you:

"Question: The bottom of the atomizer housing forms part of the housing of the JUUL2.

"Answer: Correct."

A. Right.

Q. That was your answer?

A. Sure.

Q. Let's move on. Your deposition testimony is going to speak for itself.

A. I'm sorry? I'm sorry, I didn't hear what you just said.

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Q. I said your deposition testimony that we just read is hopefully going to speak for itself.

MR. MEUNIER: Your Honor, I am moving into just briefly, I hope, R.J. Reynolds confidential material.

JUDGE JOHNSON HINES: All right.

MR. MEUNIER: We can go on the confidential record for that, please.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. MEUNIER:

Q. So, Jimmy, can we go to slide 13 of CDX-2, please.

So, Dr. Vallee, I want to talk a little bit about the housing limitation found in all of the claims and actually, Jimmy, why don't we go to JX-0001, which is the '864 patent, please.

And I want to go to claim 1, lines -- column 17, lines 19 through 21, please. Just to give us a little context here.

As an example, this is reading a cartridge configured to couple to a power source of an electronic vaporizer, the cartridge comprising a housing. And then it goes on from there. Right?

A. That's right.

Q. So housing is a limitation here. And you testified earlier about the JUUL1 pod; is that correct?

A. That's right.

Q. And the JUUL1 pod is the cartridge of the JUUL1 system, right?

A. The pod is the entire cartridge, yes.

Q. Yes. And the JUUL1 mouthpiece is a part of that JUUL1 cartridge, correct?

A. The mouthpiece is part of the cartridge.

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Q. Okay. And within that mouthpiece are located absorbent pads; is that correct?

A. That's correct.

Q. And the -- let's back up a little bit.

For a cartridge to function properly, that cartridge needs the features that it has to prevent large droplets from ending up in the consumer's mouth.

Do you agree with that?

A. Well, my understanding is you always get droplets in the consumer's mouth at some point, but it must -- it should function without large droplets in the consumer's mouth.

Q. Okay. And for a cartridge to function properly, it needs the features that it has to prevent large droplets from ending up in a consumer's mouth. Correct?

A. Well, as I discussed in my deposition testimony, I actually took the mouthpiece off the JUULpod. I use it and I puffed on it and it worked fine without the mouthpiece.

Q. Okay. That's not what I asked you, Doctor.

A. Well, I think the answer to your question is then even though it didn't have the mouthpiece in those components you say are required for proper function, it functioned fine for me.

Q. So I am going to try one more time and then we

NJOY Exhibit 2014.0406
Juul v. NJOY
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will get to your deposition.

Do you agree that for a cartridge to function properly, it needs its features that it has to prevent large droplets from ending up in a consumer's mouth?

A. It depends on what features you're talking about. Again, when I used the pod without the mouthpiece, I didn't get any droplets in my mouth.

Q. So you took the mouthpiece off?

A. Yes. I testified to that in the deposition. I popped it off and I puffed on it and it worked fine.

Q. And you got hot vapor?

A. No. I only took a couple puffs. But I didn't notice any hot vapor. In fact, I really couldn't tell the difference between when it was on and when it was off.

Q. So your position is you couldn't tell the difference when you were using the JUUL1 device, you couldn't tell the difference when you puffed on it when the mouthpiece was on and when the mouthpiece was off?

A. That's correct.

Q. Okay. That's interesting.

Jimmy, can we go to RX-1014, please. Actually, let's skip that for now. Okay.

We have been going an hour so far. All right. So I do want to ask you, Dr. Vallee, we were talking about the claimed housing, correct?

NJOY Exhibit 2014.0407
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A. Correct.
Q. The claimed housing, it cannot be internal to the cartridge, correct?
A. The claimed housing?
Q. The claimed housing.
A. Sure it can. The cartridge -- the housing could be internal to the cartridge. Because the JUUL, for example, cartridge is the housing, plus the mouthpiece. So the housing of the cartridge is the mouthpiece. But the mouthpiece sits on top of the cartridge.
Q. Okay. I am going to ask it one more time. The claimed housing cannot be internal to the cartridge; is that your position?
A. No. As I just explained, the claimed housing can be internal if you pop something like the mouthpiece on it.
Q. Okay. Jimmy can we go to RX-1015, which is April 12th of your deposition transcript. I want to go to pages 352 through 353. Let's start at 352, line 23, through 353, line 9.
Are you with me, Doctor?
A. I'm with you.
Q. So line 25 says: "So the question is, and I will repeat it, as used -- as claimed in claim 1 of the '864 patent, can the housing that is claimed be internal to the cartridge?"

NJOY Exhibit 2014.0408
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Your answer:

"Answer: Well, the housing can certainly be part of the cartridge, the JUUL1, for example. But the question is can the housing be internal to the cartridge. I've seen nothing to indicate that the housing can be internal to the cartridge. The housing is a key part of the cartridge."

Did I read that correctly?

A. That's right.

Q. So you had said, I've seen nothing to indicate that the housing can be internal to the cartridge. Is that correct?

A. That's correct.

Q. And is it your position that the claimed housing is the housing of the cartridge?

A. The claimed housing is the housing of the cartridge, yes. I think -- I think where I'm getting confused here is when you say internal, I was looking at --

Q. Sorry. Go ahead.

A. Okay. When you popped the housing -- when you popped the mouthpiece on the cartridge, okay, if I dab into the minutia, there is probably some part of the top that are inside, but it's really just added on to the top. So I'm sure that's what I was thinking of when I answered this because it's really not inside. It's not like it surrounds it. It's really popped on top.

NJOY Exhibit 2014.0409
Juul v. NJOY
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There are components inside the mouthpiece, but I think when -- as I recall this discussion we had during this deposition, we were talking about the mouthpiece being just added to the top. Okay. Now I understand. So I agree with my deposition testimony.

Q. So you agree that you see nothing to indicate that the housing can be internal to the cartridge, correct?

A. I have not seen anything to indicate that.

Q. All right. And you agree that the claimed housing is the housing of the cartridge, correct?

A. Yes, the housing is the housing of the cartridge.

Q. And so an internal structure of the device is not that device's housing, correct?

A. The internal structure of the device is contained within the housing. I don't understand your question.

Q. An internal structure of a device is not the device's housing, correct?

A. If we look at the claimed invention, we have a housing -- I am thinking through this. So we have the housing, we have the airflow passageway and we have the tube. We have a coil and everything. That's all inside the housing.

There is nothing to say that I can't put the housing in another housing. I mean I haven't seen it, which is what I testified here, but sitting here today, I mean, if

NJOY Exhibit 2014.0410
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I took a JUULpod and put it in my wallet, you could say that the housing is in a housing, for example.

So again, I haven't seen anything to say that, but I stand by my testimony, the housing of the cartridge is simply -- you have a housing and you have the mouthpiece. The entire cartridge is the housing plus mouthpiece so the housing in the cartridge is the claimed housing that I highlighted.

Q. Jim, can you go to RX-1014, the April 11th deposition transcript of Dr. Vallee at page 155, lines 6 through 18.

A. Sorry, which exhibit was that?

Q. RX-1014.

A. 10 --

Q. It is up on the screen if you want to use that, Doctor.

A. It is 1014?

Q. 1014.

A. Got it. Page?

Q. 155.

A. Thank you.

Okay. There we are, 155, thank you.

Q. "Question: So it is your position that an internal structure of the device is not the housing of the device?"

NJOY Exhibit 2014.0411
Juul v. NJOY
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And I am going to read the first two lines.

"Answer: An internal structure of the device is not the housing. The housing protects what's inside."

Did I read that correctly?

A. You did.

Q. Is your answer correct?

A. This answer here, right here?

Q. Yes.

A. Yes, the housing -- the claimed housing protects what's inside the housing.

Q. And you have given no opinion that the JUUL1 system infringes any of the asserted claims if the claimed housing does include the mouthpiece of the JUUL1 cartridge, right?

A. Well, why would I? Because the patents teach me, you can have the claimed housing, pop a mouthpiece on it. And that's okay.

Q. So the answer --

A. So you can -- I'm sorry.

Q. Go ahead.

A. So the -- even the JUUL product with a mouthpiece can infringe because it's the housing of the cartridge we're talking about. The claimed housing resides in that product. So, yes, it can infringe even with the mouthpiece.

Q. I want you to listen to my question.

NJOY Exhibit 2014.0412
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You have given no opinion in this investigation that JUUL1 infringes any of the asserted claims if the claimed housing does include the mouthpiece of the JUUL1 cartridge, correct?

A. Correct, because the housing doesn't include the mouthpiece.

Q. Okay. So let's be clear what you're asserting is and isn't the claimed housing of the JUUL1 cartridge. I want you to turn to, in your binder, Exhibit RX-1081. Please.

A. 1081. Okay, I am there.

Q. This is Exhibit -- this is Deposition Exhibit Vallee 3 from your deposition in this investigation. And it's an assembly drawing of the JUUL1 cartridge to which you have added certain annotations during your deposition. Correct?

A. Correct. At your direction, I added those annotations.

Q. That's right. And as part of the annotations at my request, you outlined in yellow highlighting the exterior of the JUUL1 cartridge, right?

A. The exterior of the cartridge, that is correct.

Q. And you labeled the yellow exterior of the JUUL cartridge, cartridge exterior, right?

A. Right. Because you said please label the yellow

NJOY Exhibit 2014.0413
Juul v. NJOY
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line cartridge exterior, so I did so.

Q. And you also annotated the distal and proximal ends of the JUUL cartridge, correct?

A. Yes, of the cartridge, yes. Not the housing, the cartridge.

Q. That's right. And the proximal end of the JUUL1 cartridge comprises the JUUL1 mouthpiece, right, at the top?

A. The proximal end is on the mouthpiece, that is correct.

Q. And the proximal end of the exterior of the JUUL1 cartridge, that's defined by the JUUL1 mouthpiece, right?

A. At the proximal end -- it is the end of the cartridge, you are correct.

Q. And so at my request, during your deposition in Exhibit RX-1081, you also outlined in blue the outline of what you're asserting is the claimed cartridge housing of the JUUL1 cartridge, correct?

A. That is right.

Q. And you labeled that asserted cartridge housing as cartridge housing in Exhibit RX-1081, right?

A. Right. That's the blue outline of the claimed housing.

Q. Right. And as shown in this exhibit, in your opinion, the top of the JUUL1 cartridge housing is formed by the cartridge's tank cap, correct?

NJOY Exhibit 2014.0414
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A. Correct, the tank cap containing the second aperture is the second end of the housing.

Q. And in your opinion, the JUUL1 cartridge housing, the claimed housing, does not include the mouthpiece positioned above and covering that tank cap, right?

A. That's correct. It's not part of the claimed housing.

Q. So let's explore a little bit how you reached that conclusion. I would like you to turn to RX --

MR. MEUNIER: Well, I'm sorry, Your Honor. I don't know how many time you want to keep going today. I don't think I am going to be able to finish probably.

JUDGE JOHNSON HINES: How much longer do you have?

MR. MEUNIER: Probably a half an hour.

JUDGE JOHNSON HINES: Do you have an estimate, Mr. Bui? I am deciding whether -- considering whether we --

MR. BUI: I estimated 30 minutes. I could try to wrap up earlier than that.

JUDGE JOHNSON HINES: I don't want to rush anyone. Why don't we stop for the day. We will resume tomorrow morning.

MR. MEUNIER: Thank you, Your Honor.

(Whereupon, at 5:07 p.m., the hearing recessed, to reconvene at 9:00 a.m. on Friday, June 7, 2024.)

NJOY Exhibit 2014.0415
Juul v. NJOY
IPR2024-00160

C O N T E N T S

WITNESS	DIRECT	CROSS	REDIRECT	RECROSS	STAFF
REBECCA MOORE	281	290			
GLENN VALLEE	298	521			

AFTERNOON SESSION: 416

CONFIDENTIAL SESSIONS

391 - 400

404 - 423

429 - 458

517 - 517

548 - 564

NJOY Exhibit 2014.0416
Juul v. NJOY
IPR2024-00160

CERTIFICATE OF REPORTER

TITLE: Certain Vaporizer Devices, Cartridges Used Therewith, and Components Thereof

INVESTIGATION NO: 337-TA-1372

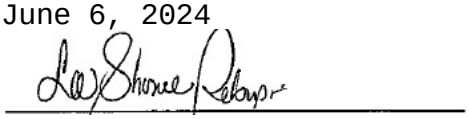
HEARING DATE: June 6, 2024

LOCATION: Courtroom A

NATURE OF HEARING: Evidentiary Hearing

I hereby certify that the foregoing/attached transcript is a true, correct and complete record of the above-referenced proceedings of the U.S. International Trade Commission.

Date: June 6, 2024

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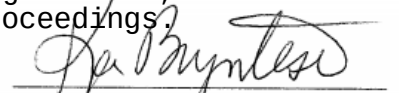
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1220 L Street, N.W., Suite 206
Washington, D.C. 20005

I hereby certify that I am not the Court Reporter and that I have proofread the above-referenced transcript of the proceedings of the U.S. International Trade Commission, against the aforementioned Court Reporter's notes and recordings, for accuracy in transcription in the spelling, hyphenation, punctuation and speaker identification and did not make any changes of a substantive nature. The foregoing/attached transcript is a true, correct and complete transcription of the proceedings.

SIGNED: 

Signature of Proofreader

I hereby certify that I reported the above-referenced proceedings of the U.S. International Trade Commission and caused to be prepared from my tapes and notes of the proceedings a true, correct and complete verbatim recording of the proceedings.

SIGNED: 

Signature of the Court Reporter

NJOY Exhibit 2014.0417
Juul v. NJOY
IPR2024-00160

UNITED STATES
INTERNATIONAL TRADE COMMISSION

In the Matter of:	)	Investigation No.
CERTAIN VAPORIZER DEVICES,	)	337-TA-1372
CARTRIDGES USED THEREWITH, AND	)	
COMPONENTS THEREOF	)	

OPEN SESSIONS

Pages: 578 through 906 (with excerpts)

Place: Washington, D.C.

Date: June 7, 2024

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Juul v. NJOY
IPR2024-00160

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

BEFORE THE HONORABLE DORIS JOHNSON HINES

Administrative Law Judge

In the Matter of:	)	Investigation No.
CERTAIN VAPORIZER DEVICES,	)	337-TA-1372
CARTRIDGES USED THEREWITH, AND	)	
COMPONENTS THEREOF	)	

International Trade Commission

500 E Street, S.W.

Washington, D.C.

Friday, June 7, 2024

EVIDENTIARY HEARING - VOLUME III

The Hearing commenced in Courtroom A, pursuant to the notice of the Judge, at 9:00 Eastern.

Reported by: Karen Brynteson, RMR, CRR, FAPR

NJOY Exhibit 2014.0419
Juul v. NJOY
IPR2024-00160

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NJOY Exhibit 2014.0420
Juul v. NJOY
IPR2024-00160

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NJOY Exhibit 2014.0421
Juul v. NJOY
IPR2024-00160

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NJOY Exhibit 2014.0422
Juul v. NJOY
IPR2024-00160

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NJOY Exhibit 2014.0423
Juul v. NJOY
IPR2024-00160

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NJOY Exhibit 2014.0424
Juul v. NJOY
IPR2024-00160

P R O C E E D I N G S

(9:00 a.m.)

JUDGE JOHNSON HINES: Good morning. Please be seated.

Mr. Desai.

MR. DESAI: Just getting ready to address a few things this morning.

JUDGE JOHNSON HINES: I'm sorry?

MR. DESAI: Just getting ready to address a few items this morning.

JUDGE JOHNSON HINES: Okay. Let's.

MR. DESAI: Okay. On the prior art --

JUDGE JOHNSON HINES: Yeah.

MR. DESAI: -- issue, the parties have met and conferred, and we do not have an agreement, but let me explain.

JUDGE JOHNSON HINES: Okay.

MR. DESAI: So last -- there has been a few proposals exchanged back and forth, and if I could put up on the screen the latest proposal.

Well, that's not working. Well, Your Honor, I can hand it to you. It would be easier. I know what's on here, so...

JUDGE JOHNSON HINES: Okay. So for some reason, my control up here says that the document camera is being

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Juul v. NJOY
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used. I tried to switch it to the podium laptop, but it keeps switching back to document camera.

MR. DESAI: Oh, do we want the document camera? Isn't the button -- if I'm putting it on the ELMO, do I need the document camera? Is that the right button to press?

JUDGE JOHNSON HINES: You know, I'm not sure.

MR. DESAI: I thought that's the right button.

JUDGE JOHNSON HINES: Okay. Well, that explains why it keeps getting switched back.

(Laughter.)

MR. DESAI: Okay. But I still think it's stuck, so I'm not sure what's going on here.

JUDGE JOHNSON HINES: So if you have a paper copy, we can --

MR. DESAI: I have a paper copy and I can do it from memory because I don't have another copy. So, Your Honor, at the bottom of that e-mail, there should be a list of 1 through 7.

JUDGE JOHNSON HINES: Yes.

MR. DESAI: Okay. The individual items, I think it's Number 1, there's -- the ones that are listed just as one reference, those are 102 grounds.

JUDGE JOHNSON HINES: All right.

MR. DESAI: And those are not at issue, okay? So those are fine. We've never debated the 102 issues. That

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wasn't the subject of our MIL.

JUDGE JOHNSON HINES: Okay.

MR. DESAI: So there's no issue there.

JUDGE JOHNSON HINES: Okay.

MR. DESAI: Our view, NJOY's view, is that the MIL order controls and the combinations that JLI can put forward were the ones that were set forth in their April 26th e-mail to Your Honor, which were listed as 1 through 11. For example, 1 was Wang '554, in combination with Xia '610, Fang '044, and Smoke Fifty-One Duo. Those were the combinations they put forward. Those are the ones that we requested in our MIL. If they are permitted to go forward, they should be putting those specific grounds.

And now what we're seeing is they're putting forward subsets of those grounds. In their prehearing brief, they attempted to preserve those with the "and/or." That was the subject of our MIL.

If JLI wants to move for reconsideration and seek permission to now narrow those grounds, they're free to do that, but our view is the order of controls, and they need to put forward the specific combinations they put forward on April 26th. And I will say last night we had a meet and confer, and the perspective from JLI was that if they're required to go forward with what they put in their April 26th e-mail to Your Honor, it was described as, well, that's

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gutting their case.

The problem is that means they knew on April 26th, when they sent that list to Your Honor, that wasn't what they were actually going to put on. And that's a real problem. That's the point of disclosure. And they told us and Your Honor that these are the combinations we're going to put on. And now they're saying, well, if we have to do that, that's gutting our case.

And our view is that's -- the order is that they need to put those on.

JUDGE JOHNSON HINES: All right. Just for a point of clarity, from the list you just gave me, which is from a June 6 e-mail, last night, 10:13 p.m., there's items 1 through 7. So there's no dispute as to items 1, which is the Xia reference, 3, NPRO, and 7, the Fuma prototype?

MR. DESAI: Correct, as anticipation.

JUDGE JOHNSON HINES: Correct. Okay. All right. I'd like to hear from Mr. Rizk.

MR. RIZK: Good morning, Your Honor.

JUDGE JOHNSON HINES: Good morning.

MR. RIZK: I may -- see if I have better luck than Mr. Desai with the document camera. Otherwise, I'll hand the exhibit --

JUDGE JOHNSON HINES: All right.

MR. RIZK: -- the documents to you.

NJOY Exhibit 2014.0428
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It looks like the answer is going to be no. Okay. I have several documents that I would be working with, Your Honor. And I'll just maybe describe them to you at a high level and then hand them over. I only have one copy with me right now --

JUDGE JOHNSON HINES: That's fine.

MR. RIZK: -- unfortunately.

JUDGE JOHNSON HINES: That's fine.

MR. RIZK: So the first is -- it's the original April 26th e-mail, that Your Honor ordered us during the case management conference to provide an identification of invalidity positions to NJOY. And the first document is an e-mail, 12:22 a.m. on April 26th. This is not to Your Honor, but this was the e-mail to NJOY. And in that e-mail, it sets forth the combinations that we're identifying and it includes some additional language at the bottom stating, and I will read it into the record: "At the hearing, JLI may choose not to present a combination or may choose not to present one or more references in a combination, thus resulting in a shorter combination."

That is what was communicated. That was what was disclosed to NJOY. So, first, let me just hand this to Your Honor. May I approach?

JUDGE JOHNSON HINES: I don't need it.

MR. RIZK: Okay. Thank you, Your Honor.

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The second was the e-mail to Your Honor on April 26th as well. So on that same day, counsel for NJOY wrote to chambers, essentially -- I'll read some of the language that was in there -- identifying the combinations that were provided by JLI and complaining about both the language that we -- where JLI stated that it may choose not to present one or more references in a combination, thus resulting in a shorter combination, but also with respect to the scope and the scale of the -- the number of prior art invalidity positions that were being presented.

JLI responded to that e-mail by responding to the entire group, including chambers, and in that response -- and again I'll quote the language that was used. We clipped the identification; we didn't clip all of the context in the communication to Your Honor. And we noted in the communication that JLI had dropped a number of 102 grounds relative to what was identified in the prior e-mail to -- so that e-mail, Your Honor, was intended to notify the Court that to the extent NJOY was concerned about the number of references, JLI made efforts to reduce those.

And I'll read the operative language. It stated: The parties having met and conferred prior to NJOY sending the e-mail to Your Honor. While JLI was not able to complete its assessment yesterday and needed to confirm certain 102 grounds could still be dropped, JLI can now

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confirm that it intends on reducing the prior art asserted in the prehearing brief to the grounds below.

So that was the context. I think some of that context was missing. I will concede, Your Honor, that the communication was less than clear, that -- to Your Honor, that we were -- whether or not we were reserving the right to go with a lesser set of the combinations that were identified in the April 26th e-mail to NJOY.

However, NJOY understood it. And in their prehearing brief, what they identified as the combinations -- and, again, I'm sorry, Your Honor, but I don't have -- I'll just -- can I hand this to Your Honor?

JUDGE JOHNSON HINES: You can read it.

MR. RIZK: Okay.

JUDGE JOHNSON HINES: If I need it, I'll let you know.

MR. RIZK: What NJOY understood were the combinations is they understood that Xia '610 in combination with Wang '554 was a standalone combination. And they addressed that combination in their prehearing brief.

Your Honor issued Order Number 51, and in Order Number 51, the ALJ granted the MIL that was filed but provided the opportunity for JLI and ordered JLI to file an identification on a claim-by-claim basis of the prior art invalidity positions it will present at the evidentiary

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hearing by May 30th.

So Your Honor noted the inconsistency between the April 26th communication to chambers and the prehearing brief use of "and/or" language, and ordered JLI to file that identification on a claim-by-claim basis.

On May 30th, JLI filed the ordered identification. And in that ordered identification, JLI identified each and every one of the combinations that are now being presented that Mr. Desai is opposing.

So the operative question, and maybe it's a question for -- of dispute or clarification, is whether Your Honor intended with Order Number 51 for JLI to be bound by the submission to chambers on April 26th or by the May 30th filing. And what would the appropriate procedure be for the parties to follow, following the May 30th identification of the prior art invalidity positions.

I don't think that there is any dispute that what JLI identified yesterday evening is squarely identified within the May 30th identification. The only difference, I would submit, Your Honor, is that there were subsequently complaints by NJOY's counsel about when we're saying that we're going to combine a reference with the knowledge of ordinary skill in the art, are we trying to bring in other references that were previously dropped?

And to that end, as Mr. Desai noted, we have

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removed that ambiguity. So in the list of combinations that were presented to Your Honor, we're not combining a primary reference with the knowledge of a POSITA. So that removes the ambiguity, in our view, that Your Honor noted was creating difficulties in both the parties and Staff and chambers understanding what our prior art invalidity positions.

JUDGE JOHNSON HINES: Okay. Can I ask --

MR. RIZK: Yes, Your Honor.

JUDGE JOHNSON HINES: -- a question? So I assume you have this list, this list of seven.

MR. RIZK: Yes, Your Honor.

JUDGE JOHNSON HINES: Okay. So 1, 3, and 7 are off the table. No dispute. So a question for Xia and Wang '554. Is that asserted for or against all asserted claims?

MR. RIZK: Xia and Wang '554 are asserted against all asserted claims, yes, Your Honor.

JUDGE JOHNSON HINES: What about NPRO and Wang '554?

MR. RIZK: NPRO and Wang '554 are also asserted against all asserted claims, yes.

JUDGE JOHNSON HINES: And Fang and Wang '554?

MR. RIZK: Fang and Wang '554, I believe, are asserted against all asserted claims, Your Honor, yes.

JUDGE JOHNSON HINES: All right. I'd like to get

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confirmation of that. So however you need to do that.

MR. RIZK: Yeah. I received the confirmation, Your Honor.

JUDGE JOHNSON HINES: Okay. And what about Red Dragon and Fang?

MR. RIZK: Red Dragon and Fang are also asserted against all asserted claims, yes.

JUDGE JOHNSON HINES: Okay. Thank you.

Mr. Bui, do you have comments?

MR. BUI: May I address Your Honor from here? So there's a lot to unpack here, Your Honor. The parties have been working very hard to try to reach an agreement. Last night's meet and confer, I thought we were there. This list of seven came about as a result of something I just happened to propose that I thought would resolve the issue, so that there was neither undue prejudice to Complainant or Respondent.

Unfortunately, there is no agreement. Absent agreement, our position would be that your Order 51 controls, meaning that the April 26th identification, the second one -- there was an original one between the parties and then there's a subsequent -- a subsequent one that included Your Honor, that second April 26th identification would control.

I would note that the order on the MILs, Order

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Number 51, granted Complainant's Motion Number 1 on two bases, not just with respect to the identification being inconsistent but also with respect to Ground Rule 11.2.

Now, as Your Honor recalls, we argued that, yes, there was non-compliance with Ground 11.2, but given what was disclosed in the prehearing briefs, which in our opinion tracked what was set forth in the expert reports, in our view, we didn't believe that there was undue prejudice. But I recognize that Your Honor has already considered that, and so I just want to be mindful of not just your Ground Rule 11.2, but your ruling in Order Number 51.

And so absent agreement, unfortunately, I think we are where we started, which is with the April 26th identification, Your Honor.

JUDGE JOHNSON HINES: Okay. Thank you. That's helpful.

Mr. Rizk, are you seeking reconsideration of Order Number 51?

MR. RIZK: If Your Honor believes that that would be the appropriate procedure, given the circumstances, then yes, we are.

JUDGE JOHNSON HINES: All right. My concern from the first, from the outset of when this issue was raised, was the identification of specific grounds of invalidity, so that the Complainant was not prejudiced in responding, so

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the Staff was not prejudiced in responding, to that in the run-up to the hearing.

That's the reason I asked for the identification on April 26th. And I thought we were there, and I thought we could and the parties could take JLI at its word when it submitted that identification on April 26th. That has changed. And it changed through the prehearing brief, which was not the same as what was identified on April 26th and moving forward. That was the reason for the order on the MILs. It was the reason for the subsequent direction to identify where support was in the prehearing brief, was really to get JLI to -- where it looks like we are now on the third day of trial, which is with an identification of the prior art grounds that you intend to proceed with.

I do not intend to strike your invalidity case. What I intended was to get an identification which should have been provided weeks ago, weeks ago, and not now.

MR. RIZK: We apologize for that, Your Honor.

JUDGE JOHNSON HINES: At the outset of the hearing, I had a proposal to eliminate what I thought could be prejudice to the Complainant in responding to the invalidity case. I understand that's not optimal for the Complainant, because the Complainant wants -- and everyone else wants this trial to be done. We want to finish it in the time that was allocated so that dates don't slip. And I

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fully understand that. But there is also a balance with respect to potential prejudice for this identification of prior art grounds just now being clearly articulated.

So, Mr. Desai, I will ask you, I understand your position. I also see here in this listing of items 2 and 4 through 6 what seems to be and what has been represented as a clear identification of the bases of invalidity allegations for all asserted claims. So it is here. I understand it is late. I understand that we're in the middle of trial.

So I guess from you -- I am not going to strike the invalidity grounds. I am not going to do that. But I would like to know from you, either now or if you need time to think about it, discuss with your client and your team, if you have any alternate proposals.

I want to be in as clear a position as we can be that no party is prejudiced by what I view as a late identification of prior art.

And I will ask Mr. Bui that as well. Mr. Bui is a party in this case. The Staff is a party. So prejudice attaches to the Staff as well. So if you have thoughts on that now, I will hear them, or we can, you know, put a pin in it and talk about it later today.

MR. DESAI: Yeah. My initial thoughts -- and I will obviously confer with my client. My initial thoughts

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are that we will complete this hearing, and we do not want to extend the hearing and continue it later because I think there's other prejudice involved with that, which is moving things, the costs associated with holding another hearing. So solving one set of prejudice with adding on another, in our opinion, won't solve that.

Whether maybe we would request having an additional amount of time for this hearing, if a half an hour extra is needed or 45 minutes or something like that, we might ask for that. But, you know, we understand Your Honor's order is that these grounds are not going to be struck, and we will abide by it.

JUDGE JOHNSON HINES: All right. One other thing to think about, Mr. Desai, is I understand the request for additional time. We'll see how that goes, potential additional time. And one other option I could see is additional pages. So you can think about that. I am loath to give that, but --

MR. DESAI: So am I.

JUDGE JOHNSON HINES: -- but I'm trying to ameliorate issues.

MR. DESAI: Understood.

JUDGE JOHNSON HINES: So if that's something that could help out in this situation, then I'm at least willing to consider that. What I have done in the past, we did in

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1368, was that before the hearing closed, to talk about what appropriate word counts are for the post-hearing briefs, so I will ask the parties to do that. But, Mr. Desai, if you can keep this particular issue in mind when making those proposals, I will at least consider it.

MR. DESAI: We will. Thank you, Your Honor.

JUDGE JOHNSON HINES: All right. Mr. Bui?

MR. BUI: Thank you, Your Honor.

So we don't have our own experts. Obviously, we rely upon the private parties' experts. And so with respect to the undue prejudice, I think it primarily will weigh upon Complainant because they will have access to their expert, all that preparation time that perhaps has been lost because of this identification now, rather than earlier.

As we indicated in our opposition or our response to the MILs, we did not believe initially there was undue prejudice because of all the different permutations that were set forth in the prehearing brief, which we believed tracked the expert reports. But here we are on day 3 of the hearing, and I've never found myself in a situation where we just now know precisely what the combinations are.

In terms of time, I think it does make sense to provide some additional time for Complainant to address any arguments, if necessary, but I don't believe we should hold open the record or extend it beyond its currently scheduled

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closing day.

JUDGE JOHNSON HINES: Okay.

MR. BUI: I hope that helps, Your Honor.

JUDGE JOHNSON HINES: All right. Thank you.

Do you have anything to add, Mr. Rizk?

MR. RIZK: No. Thank you very much, Your Honor.

JUDGE JOHNSON HINES: All right. So to make the record abundantly clear, I will reconsider and grant the request for reconsideration of Order Number 51. And I will ask you, Mr. Rizk, to make a filing today that includes the information -- just the identification of prior art grounds and, in that filing, to represent that those are going to be the invalidity bases for all asserted claims in the investigation.

MR. RIZK: Yes, Your Honor. Thank you.

JUDGE JOHNSON HINES: Okay. Thank you.

Is there anything else we should discuss before we --

MR. DESAI: I think, briefly, Mr. Pepe is going to address the RJR subpoena issue.

JUDGE JOHNSON HINES: Thank you.

MR. PEPE: Good morning, Your Honor.

JUDGE JOHNSON HINES: Good morning.

MR. PEPE: So, yeah, just briefly. You know, obviously, 210.42 subsection (g) gives you the discretion to

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reopen the proceedings after the hearing prior to the ID for the receipt of additional evidence. I think the most informative case on this point is from the 704 investigation.

JUDGE JOHNSON HINES: Okay.

MR. PEPE: And so, in particular, its Order 64. And it did not involve enforcement of a subpoena, but the situation there was -- I think there were, you know, two investigations going on at the same time between the same parties. There was information that was produced in one that wasn't produced in the other. It wasn't discovered until after the hearing. And the ALJ in that case reopened the proceedings after the hearing, allowed for additional discovery, additional expert reports, and ultimately a short supplemental hearing to deal with the additional evidence that was brought in.

JUDGE JOHNSON HINES: Okay.

MR. PEPE: So unless you have any questions about that, I think those are good guideposts for this situation.

JUDGE JOHNSON HINES: All right. Well, I'll take a look at that and then, probably not today, maybe Monday, ask any additional questions or seek anything else that might be useful.

MR. PEPE: Okay.

JUDGE JOHNSON HINES: Thank you for that.

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MR. PEPE: Thank you.

JUDGE JOHNSON HINES: Mr. Rizk, do you have anything or your team have anything to add? Mr. Karambelas?

MR. KARAMBELAS: Good morning, Your Honor.

JUDGE JOHNSON HINES: Good morning.

MR. KARAMBELAS: You know, while we do not believe that Complainant will be able to show any Commission precedent on point regarding a situation like this, we do believe there may be cases where the Commission has allowed late-arising evidence or evidence that is ministerial to come in after the record is closed. We don't think this is either of those two situations.

First, the information is not late-arising. We know from the cases from 1276, 802, and 560, Orders Numbers 32, 15, and 21, that the Complainant is in a unique position when filing a case to have all its domestic industry evidence collected and ready to go at the time of filing.

The evidence should have been ready at the time of filing on August 21st. NJOY failed to seek a subpoena until October, two months later. In November, JLI provided contentions pointing out detailed criticisms of RJR-based domestic industry. NJOY pushed for documents from RJR in December. In December, RJR actually did produce documents, but apparently Complainant was dissatisfied with those. In January, even though DI is an issue -- burden for the

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Complainant, we brought this issue to Your Honor in a letter detailing the insufficient contentions. And NJOY waited until February to raise the issue with Your Honor for enforcing a subpoena.

As to not only is this not late-arising, like in a situation where you would have a late-arising IPR decision, for example, the information is not ministerial. It would be highly prejudicial to JUUL and to the Staff to allow evidence on economic prong and technical prong to enter the record after the evidentiary hearing is closed in this case.

As Your Honor may recall, not only do the subpoena requests issued to RJR include financial records and a witness to discuss those financial records, but also native CAD files and a witness to discuss those native CAD files.

The economic information would involve voluminous financial records and an explanation as to what they mean and how to allocate them. The technical information would include native versions of CAD files of which 70 snapshots have already been produced and the experts have discussed so far in this hearing.

To allow additional evidence to come in at this point would require supplemental expert reports, expert depositions, prehearing briefs, another hearing. We've had

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this trial scheduled for ten months now. We're here. This is the case that Complainant has decided to present with. We just heard from counsel for NJOY that they do not believe that this case should go on beyond the currently scheduled closing date.

We heard the same thing from the Staff. You heard from NJOY's witnesses this week saying that they confirmed that they purchased patents and then filed a case against JLI 11 days later. That was a choice that they made.

So there's no analogous situation of which we're aware that would present the parties with this level of evidence coming in after the evidentiary record is closed, presenting significant prejudice and cost to the Respondent and the Staff.

JUDGE JOHNSON HINES: All right. Thank you.

Mr. Bui?

MR. BUI: Thank you, Your Honor.

I wish there were more hours in the day. Obviously, I have not had time to confer with the private parties on this specific issue. I will take a look at Order Number 64 from the 704 investigation.

Just some general comments. Given the course of events in this specific investigation, it doesn't appear to the Staff that leaving the record open would be appropriate,

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Your Honor.

JUDGE JOHNSON HINES: Would be what?

MR. BUI: Would be appropriate.

JUDGE JOHNSON HINES: All right.

MR. BUI: This issue with respect to the third-party subpoena has been known for quite a while now, even before they closed fact discovery.

The concern for us, not just with respect to this investigation but in general, when a complainant comes here, they should have whatever they need lined up or they should be prepared to have it all lined up. There is a schedule in place. We're at the hearing now.

And I would say this presents even more cause for concern with respect to undue prejudice, to not just the Staff and the Commission, but certainly to Complainant, of having an open record with no end in sight as to exactly when this information may be provided, if it is provided at all.

Based on my experience in other investigations -- I'm going to keep this at a high level because I don't want to disclose anything that's CBI -- in similar situations, complainants have either pulled the plug and withdrawn the complaint and they do not go to hearing, or they pull that portion of their case with respect to the economic prong or the technical prong for a particular patent and they proceed

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at the hearing with the remaining portion of their case.

I think, here, if they wanted to open the record, leave the open record, they should have moved to push out this hearing. To do it now vis-a-vis leaving the record open, I think, presents significant issues for not just Respondent and the Staff but, I think, for the Commission.

So I will stop there, unless Your Honor has any questions.

JUDGE JOHNSON HINES: All right. Well, I will take a look, and I appreciate the parties doing what they did to find the information that they have. You know, I understand the concerns, Mr. Bui, particularly that you raised with respect to keeping the record open.

I think another concern that I had is the ability of a subpoenaed party to ignore a subpoena when, in this instance, that party is at the Commission right now seeking relief. I find it extremely troubling. And the fact that it had to get to judicial enforcement of a subpoena is -- was surprising to me for a party that was at the Commission at the same time, as I said, seeking relief based on, as I understand it, at least overlapping issues with respect to economic domestic industry.

And, Mr. Bui, I appreciate what you say. The Complainant comes in and it's the Complainant's case. They direct the timing and the content as the Complainant coming

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in. I agree with that. I don't know that NJOY could have expected such intransigence from a subpoenaed party that did not move to quash the subpoena where subpoenas were issued by both parties.

So it is -- I don't know of an analogous situation. And from what I have heard this morning, I don't know that there has been one. It does trouble me, if we're looking at this case specifically and the Commission issues more globally as you raised them, Mr. Bui, what happens in this case and what happens in the next investigation where a subpoenaed party says: I don't have to because parties don't have to respond. And I find that somewhat troubling.

So whether and how we address that in this case, I think, somewhat remains to be seen, but we will -- you know, we'll move forward. We're not changing the dates of trial. You know, whether the record remains open or can be reopened, as I think NJOY was suggesting, we will cross that bridge when we come to it. But I did want a full airing of this issue and to get input from the parties because I think it is a somewhat unique and, at least from my perspective, troubling issue.

So we will leave it at that. I will look at what the parties -- the information the parties provided. And I appreciate you doing that. I know that there's a lot else going on.

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All right. So with that, is there anything else we should discuss?

MR. ANSLEY: A little bit of housekeeping. The admitted exhibit list, so from June -- I'm sorry, from Wednesday, that was filed, it includes the corrected exhibit numbering from the unopposed exhibit list, as well as the deposition designations the parties had agreed upon. And then we have a copy of the admitted exhibit list from yesterday. We can pass copies around if Your Honor would like.

JUDGE JOHNSON HINES: All right. So just to get clarity, there is an updated unopposed exhibit list that has been filed?

MR. ANSLEY: What we filed was the admitted exhibit list from June 5th. And that includes the unopposed exhibit list. We can file a separate unopposed exhibit list, if Your Honor would like.

JUDGE JOHNSON HINES: No. I don't need that.

MR. ANSLEY: Okay. I figured.

JUDGE JOHNSON HINES: I just wanted to understand what exactly was filed.

MR. ANSLEY: Okay.

JUDGE JOHNSON HINES: If it was filed and it's agreed to by all parties, then we can deem those exhibits admitted. Make sure you provide them to the court reporter

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so they can be put in the record.

MR. ANSLEY: Yes, Your Honor.

(Exhibits, as submitted by counsel and reflected in the attached index, were received into evidence.)

JUDGE JOHNSON HINES: All right. Is there anything else we should talk about on exhibits? Are we up-to-date?

MR. ANSLEY: No, Your Honor. I'm sorry.

JUDGE JOHNSON HINES: All right. Anything else, Mr. Karambelas?

MR. KARAMBELAS: Nothing further, Your Honor.

JUDGE JOHNSON HINES: All right. Mr. Bui?

MR. BUI: No.

JUDGE JOHNSON HINES: Okay. Then let's proceed. Good morning, Dr. Vallee.

THE WITNESS: Good morning.

JUDGE JOHNSON HINES: You can be seated, and you remain under oath from yesterday.

THE WITNESS: Thank you, Your Honor.

JUDGE JOHNSON HINES: Thank you.

Whereupon--

GLENN VALLEE,

having been first previously sworn/affirmed, was examined and testified as follows:

MR. MEUNIER: Good morning, Your Honor. Bill

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Meunier again.

JUDGE JOHNSON HINES: Good morning.

MR. MEUNIER: For the, hopefully, last time, Dr. Vallee.

THE WITNESS: Good morning.

MR. MEUNIER: Unless something really goes wrong. May I proceed, Your Honor?

JUDGE JOHNSON HINES: Please.

CROSS-EXAMINATION

BY MR. MEUNIER:

Q. Jimmy, if you could put up RX-1088.

Dr. Vallee, you have that in your exhibit book. Do you want to take a look at it? It is the -- NJOY's preliminary response to JUUL's petition for the IPR of the '864 patent that we had discussed during your deposition.

A. Okay. I have it.

Q. So you have that?

A. I do.

Q. Can you turn to pages -- I want to go over pages 3 to 4 first. We can start on page 3 of NJOY's preliminary response.

A. Okay. Page 3.

Q. Page 3, that's right. Are you with me?

A. Got it.

Q. Okay. So just very simply, you'll see here on

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page 3 of NJOY's preliminary response, they start to set forth the elements of '864 claim 1. Do you see that?

A. I do.

Q. And then on the next page, page 4 of NJOY's preliminary response, they have emphasized a few of the claim limitations, including "the cartridge comprising a housing."

Do you see that?

A. I do.

Q. All right. So let's turn to page 5 of NJOY's preliminary response, which, again, is RX-1088. And I want to focus on what NJOY said about that claimed housing in their preliminary response.

So are you at page 5 of the preliminary response, Doctor?

A. I am.

Q. Okay. So at the top of the page, it says NJOY represented to the Patent Office "relevant to this petition, every challenged claim requires a 'housing having a first aperture.'"

Do you see that?

A. I do.

Q. And then NJOY goes on to tell the Patent Office, "The '864 patent specification makes clear that the 'housing' is an outside structure containing the device

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internals."

Do you see that?

A. I do.

Q. And you agree with NJOY's statement, correct? You agree that NJOY was being accurate and truthful when it told the Patent Office that "the '864 patent specification makes clear that the 'housing' is an outside structure containing the device internals," right?

A. Yes. They're talking about the claimed housing.

Q. Exactly. And you understand that this statement by the Patent Owner, NJOY, about the clear meaning of "housing," that that statement is part of the '864 patent's prosecution history?

A. I do.

Q. Okay. So let's apply this clear definition of "housing" that the claimed housing is an outside structure containing the device internals. To do that, let's go back to RX-1081.

Can you put that up for us, Jim?

And since we're starting not anew today but, again, you recall that this is the picture of the JUUL1 cartridge assembly drawing that, at my request, you annotated during your deposition?

A. I see. Yes.

Q. Okay. And now the outside structure of the JUUL1

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cartridge as identified by you in RX-1081 is highlighted in yellow, correct?

A. Correct. That's the outside surface of the cartridge.

Q. That's right. And so that outside structure of the JUUL1 cartridge includes the mouthpiece at the proximal end of the cartridge, correct?

A. Right.

Q. And, in contrast -- well, let's -- because we're kind of starting again here, remember, what you outlined in blue is what you say is the claimed housing in the JUUL1 cartridge, right?

A. Correct.

Q. And the tank cap forms the top of that, according to you, claimed housing of the JUUL1 cartridge as depicted in your annotated drawing here, correct?

A. Correct.

Q. And that tank cap that you identify as the top of the claimed housing, that's not an outside structure of the JUUL1 cartridge, is it?

A. It's the outside structure of the housing, not the cartridge. The claimed housing is what's claimed. It has the airflow passageway, the apertures, et cetera, et cetera. So my position has been that the mouthpiece was added to the outside of the housing. It -- not part of the

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housing. It's just added to the outside of the claimed housing.

And as I said, in the picture of the claimed housing is the tank cap and everything down below.

Q. Okay. I know Her Honor and the rest of us don't want me talking over you today, so -- and I understand you have a position that you've already given, but what I would like are answers to my questions, please.

So I'm going to ask, please, yes or no to this question: The tank cap that you identified as the top of the claimed housing is not an outside structure of the JUUL1 cartridge, correct?

A. I'm sorry. To be clear, you said the tank cap is not an outside structure of the cartridge, correct?

Q. Yes.

A. Yes, I agree with that.

Q. And so we talked a little bit about the outside structure of the JUUL1 cartridge. Let's talk about its device internals. Let's talk about what's inside it.

The internal components of the JUUL1 cartridge as depicted in Exhibit RX-1081, those internal components are contained within the outside structure that you've identified in yellow, correct?

A. The internal -- I'm just looking at the figure here. Okay. So the internal components of the housing are

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inside the -- what I said was the housing, which is in blue, which is everything below the tank cap.

Q. All right. Let's back up. That's not what I asked.

So I'm asking you about the internal components of the -- of the cartridge. Okay?

A. I see.

Q. So the internal components of the JUUL1 cartridge as depicted in RX-1081, those internal components are enclosed within the cartridge exterior that you identified in yellow in this exhibit, correct?

A. Yes, the internal components, there are some in the claimed housing; there are some that are in the mouthpiece, correct.

Q. So all of the internal structures -- again, please give me a yes or no -- are contained within the outside of the cartridge that you identified in yellow in Exhibit RX-1081, correct?

A. The internal components of the entire cartridge are within the yellow, yes.

Q. And those internal components of the JUUL1 cartridge include the JUUL1 cartridge's absorbent pads, correct?

A. Yes, that's inside the mouthpiece, correct.

Q. Right. All right. So let's discuss a little bit

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about what those absorbent pads do, those absorbent pads that are in the mouthpiece of the JUUL1.

Now, in the use of the JUUL1 device, including the cartridge, vapor -- let me restate that, hopefully a little bit better.

When the JUUL1 product is used, vapor exits through the opening in the tank cap; is that correct?

A. Correct.

Q. And in the use of the JUUL1, aerosol is carried -- I'm sorry. Let me strike that.

So vapor exits through the opening in the tank cap. Thank you. Vapor is a gas. Correct?

A. Yes.

Q. And when you have a hot vapor and you mix it with air, some of that vapor condenses and creates aerosol. Correct?

A. Correct.

Q. And that resulting aerosol will contain liquid droplets, right?

A. It can, yes.

Q. And in use of the JUUL1, aerosol is carried past the absorbent pads in the mouthpiece and out the top of the mouthpiece, correct?

A. Correct.

Q. And one of the functions of the absorbent pads in

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that mouthpiece is to trap droplets to prevent inhalation by a user, correct?

A. I believe that's the case.

Q. And another function of the absorbent pads is to potentially alter the concentration of the vapor and air mix; do I have that correct?

A. If it captures the droplets, it could do that.

Q. So potentially altering the concentration of the vapor and air mix is another function of the absorbent pads in the mouthpiece, correct?

A. It could be, although the Fuma device operates and doesn't have those pads, but in this device it could do that.

Q. All right. When a consumer is using an e-cigarette cartridge, you wouldn't want large droplets entering a consumer's mouth, right?

A. That's correct.

Q. And if an e-cigarette allows droplets to enter a consumer's mouth, that e-cigarette wouldn't function properly, correct?

A. If it -- if it allowed that to happen, it wouldn't. The question is whether those pads are needed. Again, I said on the Fuma device, it doesn't have pads. On many of the other devices, the JUUL2 doesn't have pads, and it functions. When I use this device without the

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mouthpiece, I didn't get droplets in my mouth.

But if the function -- if it wouldn't work without it, I agree with you.

Q. So let me try to get a clear yes-or-no answer to that.

If an e-cigarette allows droplets to enter a consumer's mouth, that e-cigarette wouldn't function properly, right?

A. Well, but I just testified that the aerosol would contain -- the vapor plus the air, there could be droplets. It depends on the size of the droplets. They may or may not be noticed. If the droplets were so large that they'd be noticed, then I agree with you.

Q. All right. Let me rephrase it, then, for you.

If an e-cigarette allows large droplets to enter a consumer's mouth, that e-cigarette wouldn't function properly, right?

A. Correct.

Q. And an e-cigarette that allowed large droplets to enter into a consumer's mouth would not be suitable for oral provision to an individual, correct?

A. That's right. My only point was I didn't see that when I used it without the mouthpiece.

Q. Because when you pried off the top -- excuse me, pried off the mouthpiece and used it by just sucking on the

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tank cap, in your mind you couldn't notice a difference between using a JUUL1 in that state and using it with the mouthpiece and the absorbent pads, right? That's what you testified yesterday?

A. Right, I noticed no difference.

Q. Okay. All right. So now that we know the importance of the absorbent pads, let's discuss where they are. I think you've already said the absorbent pads -- well, you didn't say this. Let me ask it a different way.

The absorbent pads we've been talking about that are there to filter out droplets, those are contained within the outside structure of the JUUL cartridge, JUUL1 cartridge, that you identified in yellow in RX-1081, correct?

A. That's right, particularly within the mouthpiece part of that structure.

Q. Those internal absorbent pads of the JUUL1 cartridge are not contained within the housing that you identified in blue in Exhibit RX-1081, yes or no?

A. Correct. They're not part of what I call the claimed housing.

Q. Well, they're not only not part of it. They're not inside what you say is the housing of the JUUL1 cartridge, correct?

A. That is correct.

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Q. In fact, those internal absorbent pads of the JUUL1 cartridge are above and outside the top of your alleged housing, the tank cap, correct?

A. Correct.

Q. And that tank cap itself is an internal structure inside the JUUL1 cartridge, right?

A. The tank cap is an internal structure. It has -- the tank cap has an internal structure. It's not the claimed internal structure, but it does have an internal structure that you put the felt pads in, yes.

Q. Let's -- maybe my question was unclear so let me try again.

The tank cap that's in the JUUL1 pod, in the JUUL1 pod cartridge is an internal structure of the cartridge, correct?

A. Oh, I'm sorry. I misunderstood. I thought you said mouthpiece.

The tank cap is internal structure to the cartridge, but it's external to the claimed housing.

Q. So you agree the tank cap is an internal structure of the JUUL1 cartridge; yes or no?

A. Yes, the cartridge, not the claimed housing.

Q. Just to be clear, the internal tank cap of the JUUL1 cartridge is covered by the cartridge's mouthpiece, right?

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A. Right, the mouthpiece goes over the exterior of the housing, which is the tank cap.

Q. Okay. So we've discussed your housing opinions regarding -- and how they apply to JUUL1. I want to look at how you applied the definition of "housing" from the NJOY's preliminary response to some of the prior art.

So if you could -- we're going to show from your rebuttal report page 30 -- which is -- let me rephrase that.

We're going to show from your rebuttal report concerning invalidity, which is RX-1080, your page 35 of your Appendix A-1?

A. Okay. That isn't in this binder, correct?

Q. It is not.

A. Okay.

Q. We're going to show it. It's also in the -- it's in the binders in the box that you have with you. Do you want to just go with what we're showing first?

A. Yeah. Will you be pointing or no? Can I look at the screen or --

Q. You can look at the screen. I'm not going to be -- I'm not planning on using a laser pointer.

A. Okay. So I'll pay attention to the screen right in front of me.

Q. Great. Thank you.

So as I said, this is page 35 of Appendix A-1 to

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your expert report concerning invalidity. And this is addressing the -- I still don't know how to say it, Xia '610 reference. Do you see that?

A. I do.

Q. Okay. So let's go to paragraph 27 of your Appendix A-1. In sum, Xia '610 does not disclose a first aperture in the housing, nor does it disclose an aperture at the first end, as required by the challenged claims.

That's your opinion, correct?

A. Correct.

Q. Then you go on to say in paragraph 27, "The following figure illustrates the proper characterization of the aperture identified by Mr. Leinsing."

Do you see that?

A. I do.

Q. And that's your opinion?

A. The following figure illustrates the proper characterization of the aperture identified -- right. It shows the alleged aperture. I see that.

Q. Okay. And in paragraph 27 of Appendix A-1, you included an annotated partial image from Xia '610 with annotations added by you, correct?

A. That's right.

Q. And those -- I think you just said this. Those annotations labeled the first aperture identified by

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Mr. Leinsing, correct?

A. Yes, his first aperture.

Q. And that alleged first aperture is located inside what you've identified as the exterior of the Xia cartridge, correct?

A. Correct, the exterior of the cartridge.

Q. Okay.

A. Excuse me, excuse me. I'm sorry, could you repeat that question? I may have misunderstood.

Q. Sure. I don't think you did, but let's make sure we're on the same page.

So there's the aperture identified by Mr. Leinsing?

A. Right.

Q. And that aperture is located inside what you've identified in the annotated drawing here as the exterior of the cartridge, correct?

A. Right. It's inside the exterior of the cartridge, the -- right. So my point was the aperture wasn't on the first end. Okay. I understand now.

Q. Okay. Well, let's go to paragraph 28 and we'll see what your point really was.

All right. So we're at paragraph 28, the following paragraph of what we just were looking at, where you say, "A POSITA would have also understood that the hole

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Mr. Leinsing identifies as the claimed first aperture is a part of the internal structure of the device rather than the housing," do you see that?

A. I do.

Q. And that's still your opinion?

A. That is my opinion.

Q. And so you're saying there that the internal structure device is not that device's housing, correct?

A. Correct.

Q. And an internal structure of a device is not part of that device's housing, correct?

A. But, again, it's the internal structure of the device, not the claimed housing. I agree with what I said here, that it's the internal structure of the entire device, just like the tank cap aperture is the -- is an internal structure of the whole device, but it's external to the housing, the claimed housing.

Q. Well, the device you're talking about here is the Xia cartridge, correct?

A. Yeah, that's the three-piece device. Yes.

Q. Okay. So an internal structure of that cartridge is not the -- that structure's housing, correct? Let me ask that again.

The internal structure of that Xia cartridge is not the housing for that Xia cartridge, correct?

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A. That's right, the internal structure is not the housing.

Q. Okay. And let's go on and read the rest of this paragraph from your expert report. We had read that the -- in your opinion, what Mr. Leinsing identified as the claimed first aperture is a part of the internal structure of the device, rather than the housing. Now let's look at one of the reasons you say.

And you say, "Based on the fact that it" -- that's the aperture, right?

A. Correct.

Q. -- based on the fact that the aperture "is separated from the left edge by other components that Mr. Leinsing does not dispute to be internal to the housing."

Did I read that right?

A. You did.

Q. And that's still your opinion?

A. That still is.

Q. And if we can go back to -- Jimmy, can we look at 27 and 28 at the same time, just to make sure that -- actually, that's all we need. We just need -- we need the image.

And so when you were saying the left edge in your opinion, you were referring to the left edge, that's the

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left side of the cartridge that you've identified at least in part with the broken red line in the image above paragraph 28; is that correct?

A. Correct.

Q. Okay. And you're saying that the aperture that's pointed to -- let's call that purple today -- alleged first aperture, you're saying that that can't be part of the housing because there are internal components between it and the left edge of that cartridge we're looking at, right?

A. Yes, but this whole discussion is on a two-piece cartridge.

Q. So yes?

A. But, yes, I agree.

Q. Okay. All right. So let's return to the JUUL1 cartridge and make a similar comparison.

Jim, if you could put back up RX-1081, please.

So we're back looking at the annotated JUUL1 cartridge. That's what I'm asking about, the cartridge.

A. I see.

Q. So I want you to -- we did this at the deposition. Let's do it again. I want you to imagine we're flipping this so it's horizontal, okay? So that the mouthpiece is on the left edge.

A. Got you. I understand.

Q. Okay? So in that position, so we can compare it

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the same way we were just looking at the Xia cartridge, the JUUL1 tank cap is going to be separated from the left edge of the JUUL1 cartridge by internal components, correct?

A. Yes, when we flip it that way.

Q. Right. And what it's going to be separated by -- so between that tank cap and the left edge, that mouthpiece of the JUUL1 cartridge, there's going to be absorbent pads between that tank cap and the left edge of the JUUL1 cartridge, right?

A. That's right.

Q. Jimmy, can we go to Dr. Vallee's demonstrative exhibit, CDX-2, at slide 151, please.

Now, Dr. Vallee, I want to talk, hopefully quickly, about your opinion that the JUUL1 cartridge has a first aperture on the first end of the housing. Okay?

A. Okay.

Q. Now, in your opinion, the first end of the claimed housing includes the distal end of the JUUL1 tank. Is that right?

A. That's correct. Down in the bottom, it says first end. You're right.

Q. Right. And I think just so -- we're looking at slide 151 -- that the bottom surface of the tank is illustrated or you've colored in, in blue?

A. The bottom surface of the tank?

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Q. Why don't I make you turn around for a second.
A. Yeah, I think I'm going to have to.
Q. I'm just talking about this part in blue (indicating) that you're saying is part of the first end of the housing, includes this blue tank area, right?
A. I see. You're talking about the blue cross-hatched?
Q. Yes.
A. Got it. Yes.
Q. So that's part of what you say is the first end of the housing, correct?
A. The exterior surface of that, yes, the cross-hatching.
Q. Okay. And, Jim, if we can go to slide 152, which is the next one.
And so you're saying that the central air inlet hole on the bottom surface of that blue crosshatch that we were just looking at, the bottom surface of the tank, satisfies the limitation that requires a claimed first aperture on the first end of the housing, right?
A. Correct.
Q. So for that limitation, the first end of the housing includes that plastic bottom of the tank, and there's an aperture on that end of the housing because there's an aperture on that bottom of the tank, right?

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A. Correct. That's why I labeled it the first aperture.

Q. Okay. But you've also given your opinion that the first end of the housing includes more than the bottom of the tank; it also includes the electrical contacts that we're looking at -- I think you've colored them in, in light green here on slide 152; is that correct?

A. Correct.

Q. And those electrical contacts actually sit below the bottom surface of the tank that you've also identified as the first end of the housing, correct?

A. They do.

Q. There's no alleged aperture in those electrical contacts, right?

A. No. The contacts are part of the bottom of the housing, and they project outside, just as you said.

Q. Right. So when you need -- you need the apertures to be in the end of the housing, the bottom of the tank counts as the end of the housing, right?

A. Well, as I stated, the whole -- in one of my earlier slides, I highlighted what I consider the first end in red dashed lines, I believe, where I said that it was the electrical contacts were on the first end, the aperture was on the first end, et cetera.

Q. Okay. Jim, can we go to slide 31, please, of

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CDX-2.

I just want to look at the claim limitation here. So this is from the '864 patent, claim 1, and as you've indicated here, one of the requirements of that claim is that the first end of the housing, the first end of the housing, needs to be adapted to electrically couple to the power source, correct?

A. Correct.

Q. And it's your opinion that the -- actually, Jim, before I ask that question, can we go to slide 155, please. Again, of CDX-2. I think this is a better view of it.

So it's your opinion that -- again, we're talking about the JUUL1 cartridge, the JUUL1 product. It's your opinion that the JUUL1 electrical contacts are adapted to electrically couple to the JUUL1 device containing a battery, right?

A. Yes, electrically and mechanically.

Q. And since it's the first end of the housing that needs to have an electrically conductive portion, in this instance you're saying that the first end includes not only that plastic bottom of the tank but also the electrical contacts that are under that tank, the bottom of the tank, correct?

A. Right. I believe that I described it as I did yesterday. If you dipped in water at the bottom, it's --

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the wetted surface would be considered the first end.

Q. Now, there's no internal devices -- well, let me make sure we're on the same page about something first.

So, for context, yesterday you testified that there's a contact assembly but it's the exterior parts of that contact assembly the ones that form a contact with the battery, so those exterior electrical contacts, those are what form part of the housing in your opinion, correct?

A. Yeah, the exterior surface of the contacts.

Q. Okay. And so there aren't any internal devices or components of the JUUL1 cartridge between those electrical contacts and the lower surface of the JUUL1 cartridge tank we've been discussing, right?

A. No. The internal components are inside. That's why I said that it protects the internal components by preventing debris from entering the apertures, et cetera.

Q. And so I want to explore why you think the electrical contacts are part of the JUUL1 cartridge housing.

In your opinion, those electrical contacts are part of the claimed housing because, again, in your opinion, anything connected to the exterior of the housing should be part of the housing; is that correct?

A. Correct. In fact, when -- in that portion of my deposition, we were, as you just stated, talking about the contacts. The contacts, when they are installed, they

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pierce the housing so they create an opening where debris could get in, but then they cover that and protect the interior by covering the opening that was pierced. And as I just said, it protects the inside because it can protect debris from entering the housing. That's why I said, for example, later in my deposition, where the tank cap, I considered the external -- part of the housing because the housing can be multi-component. It protects the solution holding medium, the reservoir. It protects components.

If you were to drill two holes in the side, for example, to maybe relieve air when you were filling the cartridge, you can plug them with plastic caps, they would be part of the housing because it protects the interior. So, you know, anything you could describe to me that protects the interior I would consider to be part of the housing.

Q. Okay. Let's go back to what my question actually was. Now I'm going to -- my question is, it's your opinion that the electrical contacts are part of the claimed housing because, according to you, anything connected to the exterior of the housing should be part of the housing; yes or no?

A. Yes.

Q. So anything connected to the exterior of the housing should be part of the housing, in your opinion,

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correct?

A. Yes. Anything, as I just described, that protects the internal components of the claimed housing.

Q. I'm not asking about whether it protects, because that wasn't what you discussed. I'm asking a very simple question.

In your mind -- no additions, no addendums -- in your mind, the rule is anything connected to the exterior of the housing should be part of the housing, correct?

A. I believe I just answered that yes.

Q. I don't think -- so you are saying yes. Anything connected to the housing should be part of the housing?

A. Yes. I just explained that.

Q. And it's because you believe that anything connected to the housing that you believe the contacts are part of the housing, correct?

A. Correct, as I just explained.

Q. Well, that's the only reason, right?

A. As I just explained, it protects -- it's on the outside surface of the housing. It protects the internal components of the housing like the tank cap and, for example, additional plastic caps.

Q. So you keep adding in "protect," Dr. Vallee. And I'm not asking you about "protect." I'm asking very simply: Anything connected to the housing is part of the housing,

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has to be part of the housing, in your mind, right?

A. I just answered that, yes.

Q. Okay. And when I asked you the reason -- well, you know something, I want to do this. I think I've given you enough chances. Can we go to RX-1014, which is part of your deposition transcript from April 11th.

A. Is that in the binder?

Q. It is. I'm going to show it.

A. Okay. I'll just get there.

Q. RX-1014, if you want to look at it. I'm going to go to page 230, lines 9 through 17.

A. Okay. I see it now. Thank you.

Q. So I was asking you about the electrical contacts. We're at line 9. I said: "According to you, they" -- referring to the contacts -- "they're not only on the first end, but they're part of the first end of the housing, right, because according to you, the contacts are part of the housing?

"Answer: Right. The contacts are on the housing, part of the housing.

"Question: They're part of the housing because they're attached to the housing, correct?"

And your answer was: "Correct."

Is that right?

A. Correct.

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Q. All right. Now, the JUUL1 mouthpiece is connected to the housing of the JUUL1 cartridge, correct?

A. Correct, but it's attached to the outside of the claimed housing. It's not part of the claimed housing.

Q. All right. Let's break it down.

The JUUL1 mouthpiece is connected to the JUUL1 tank, right?

A. Yes, it is.

Q. Okay. And the tank is part of the housing, according to you, right?

A. Correct.

Q. And so the JUUL1 mouthpiece is connected to what you say is the housing of the JUUL1 cartridge, correct?

A. Yes, but it's not protecting the interior. I described what the housing function is, to protect the claimed interior. And, again, the mouthpiece doesn't do it. So just because it's connected to the housing doesn't mean it's part of the housing.

Q. In your opinion, anything connected to the exterior of the housing should be part of the housing, right? Yes or no?

A. Yes. I answered that yes.

Q. And the JUUL1 mouthpiece is attached to what you say is the housing, correct?

A. Correct.

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Q. But in your opinion, the JUUL1 mouthpiece is not part of the housing? Correct?

A. Correct, for all the reasons I just explained.

MR. MEUNIER: I don't have any further questions, Your Honor. So I'll pass the witness.

JUDGE JOHNSON HINES: All right.

MR. MEUNIER: Thank you, Dr. Vallee.

MR. BUI: May I proceed, Your Honor?

JUDGE JOHNSON HINES: Yes. Thank you.

EXAMINATION BY COUNSEL FOR ITC STAFF

BY MR. BUI:

Q. Good morning, Dr. Vallee. How are you?

A. Good morning. Fine. How are you?

Q. Thank you. There are a lot of issues to be discussed, but I'm going to try to focus my questions. I may jump around, but if you need to review any materials in responding to questions, please let me know and I will pause so that we have a clear and complete record. Is that acceptable?

A. Yes, it is. Thanks.

Q. Dr. Vallee, in forming your opinions in this investigation, you relied upon various sources of information, correct?

A. Correct.

Q. And the sources of information would include PMTA

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submissions to the FDA, correct?

A. Correct.

Q. To be clear, PMTA submissions are Premarket Tobacco Product Application submissions to the Food and Drug Administration, correct?

A. Correct.

Q. In relying upon PMTA submissions, did you accept as true and accurate the statements contained therein?

A. I did.

Q. All right. I'd like to turn to the issue of domestic industry for the NJOY ACE and ACE --

THE REPORTER: I'm sorry. "And ACE" --

BY MR. BUI:

Q. 2.0.

A. Okay.

Q. Dr. Vallee, based on your involvement in this investigation, you're familiar with the acronym ENDS, E-N-D-S, correct?

A. Yes.

Q. And the ENDS acronym refers to electronic nicotine delivery system, correct?

A. Correct.

Q. Would you agree or disagree with the following statement? NJOY ACE is a closed ENDS that heats an e-liquid to yield an inhalable aerosol?

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A. I'm sorry, could you just speak a little louder, please? I couldn't quite hear that sentence.

Q. Sure. Agree or disagree: The NJOY ACE is a closed ENDS --

A. Yeah.

Q. -- that heats an e-liquid to yield an inhalable aerosol?

A. Yes.

Q. You agree; is that correct?

A. Yes.

Q. Okay. Agree or disagree with the following statement: The aerosolization system in the NJOY ACE pods consists of two primary components, an atomizer to produce aerosol and an airway to carry the aerosol to the user for inhalation?

A. Yes. Those are two of the primary components, yes.

Q. Okay. So you agree with that --

A. Yes.

Q. -- statement, correct?

A. Correct.

Q. Could we please have CDX-2C.215, please, slide 215 of CDX-2C, on the screen, please. Thank you.

Now, Dr. Vallee, on this slide, you discussed what you have identified as claim limitation 9.6 of the '864

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patent, correct?

A. Correct.

Q. And that limitation recites, "the heating element being configured to vaporize at least a portion of the solution for oral provision to an individual in the airflow, the heating element being responsive to electrical power received from the power source." Correct?

A. Correct.

Q. Now, Dr. Vallee, is it your opinion that the alleged heating element in the NJOY ACE practices claim limitation 9.6 based on the highlighted text in CDX-2C.215?

A. In part, yes.

Q. Now, the highlighted text we see here are excerpts from the NJOY ACE PMTA, which has been marked as JX-558C, correct?

A. Correct.

Q. Claim limitation 9.6 requires the heating element to be configured such that it is responsive to electrical power received from a power source, correct?

A. Correct.

Q. And is it your opinion that the alleged heating element in the NJOY ACE meets that claimed configuration because current flows through the heating element and heat is produced by electrical resistance?

A. I think it's that and the fact that the heating

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element contains the porous wick to deliver the solution to it.

Q. Thank you. And you would agree that current flows through the heating element when the user draws air through the device inducing activation of power output to the atomizer, correct?

A. Correct.

MR. BUI: Your Honor, I need to go onto the confidential record. And this is Complainant's.

JUDGE JOHNSON HINES: All right. So we'll go on the NJOY confidential record.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. BUI:

Q. So I would like to switch gears now and turn to conception and reduction to practice, Dr. Vallee.

A. Okay.

Q. May I please have on the screen CDX-2C.307, please, slide 307 of CDX-2C.

Now, Dr. Vallee, you're familiar with this, correct?

A. Yep.

Q. And this is the conception sketch, correct?

A. Correct.

Q. And it's your opinion that the conception sketch discloses the claimed first end and second end, correct?

A. It does.

Q. And it's your opinion that the conception sketch shows a cartridge with a top end that is the claimed second end, correct?

A. Correct.

Q. And it's your opinion that the conception sketch discloses the claimed solution holding medium, correct?

A. Correct.

Q. Is it your opinion that the disclosed solution holding medium extends all the way up to the disclosed second end?

NJOY Exhibit 2014.0481
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A. In that sketch, yes, it does. In the sketch -- well, yes, in the sketch it does.

Q. Is there any gap between your identification of a solution holding medium and your identification of a second end?

A. Not on this sketch, because the gap was optional in the patent.

Q. Is it your opinion that the conception sketch does not disclose any gap like the gap depicted in Figure 2 of the asserted patents?

A. It doesn't disclose it. I don't think it prohibits it, but I'd agree with that.

Q. May I please have on the screen CDX-2C.317, please, slide 317 of CDX-2C.

Now, Dr. Vallee, you're familiar with these images?

A. I am.

Q. Okay. Let's focus first on the left side of the slide, which includes a photograph that has been reproduced from JX-543.20. Do you see that?

A. I do.

Q. Okay. Dr. Vallee, is it your opinion that the batting material identified in this photograph is the claimed solution holding medium?

A. I do.

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Q. Does this image show the batting material extending all the way up to the claimed second end of the housing?

A. It's really difficult to see in the CT scan. Mr. Hillenbrandt testified it did in his opinion. It's really hard to see in this figure, but I do think you can see the gap.

Q. Okay. So let's just focus on the photograph on the left-hand side of the slide.

A. Left? Okay.

Q. Let's put aside for the moment the CT scan on the right-hand side. Okay?

A. Okay.

Q. All right. So just focusing on the image on the left-hand side of the slide, does the image show the batting material extending all the way up to the claimed second end of the housing?

A. You can't -- you can't see in the image.

Q. Now, is it your opinion that the white woven spacer identified in this image on the left-hand side of the slide is the claimed airflow passageway?

A. It's part of the airflow passageway.

Q. Does this image on the left-hand side of the slide show the white woven spacer extending all the way up to the claimed second end of the housing?

NJOY Exhibit 2014.0483
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A. No, it does not. And we're talking about the figure on the left, correct?

Q. The figure on the left.

A. Correct.

Q. Okay.

A. Because it's a portion of the airflow passageway.

Q. Okay. Let's focus now on the right-hand side --

A. Okay.

Q. -- of the slide, the CT scan. And this CT scan has been reproduced here from CX-2758.78.

Now, Dr. Vallee, is it your opinion that the solution holding medium identified in this CT scan extends all the way up to the second end of the housing?

A. No, it doesn't extend all the way up to the second end of the housing.

Q. Is it your opinion that the white woven spacer, which can be identified in this CT scan by the two white lines between the solution holding medium, extend coaxially with the longitudinal axis of the housing?

A. Extend coaxially with the longitudinal axis?

Q. So let me break that up. Do you see in the CT scan two white lines extending coaxially with the central longitudinal axis of the housing?

A. I do. So they're parallel, is what you mean?

Q. If you prefer "parallel," I'll go with

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"parallel."

A. Okay.

Q. Okay. Does this CT scan show the white woven spacer extending all the way up to the second end of the housing?

A. No, because the gap -- like in the Figure 2 of the patent, the gap is present there. So there has to be -- it can't extend all the way up.

Q. So it's your opinion that this CT scan shows a gap between the claimed second end and the claimed airflow passageway, correct?

A. Well, the airflow passageway includes the gap. So I can see that it -- I want to make sure I'm answering your question correctly.

The woven part stops, then you have the gap portion of the airflow passageway, then it extends out the second end through the cap. So your question, again, was --

Q. I think you just answered it.

A. Excellent.

Q. Thank you, Doctor.

Does the CT scan show the gap spanning the diameter of the housing?

A. Your question was does the CT scan show the gap --

Q. -- spanning the diameter of the housing?

NJOY Exhibit 2014.0485
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A. It's difficult to see because it's hard to tell where the batting material ends. It certainly extends toward it. It's hard to see if it actually goes all the way to the inside diameter.

Q. Does the CT scan show the gap extending outward from the central longitudinal axis of the housing to the edges of the housing?

A. Again, it's difficult to see. I can tell that it extends outward from the central longitudinal axis, but it's difficult to see exactly how far it goes.

Q. Thank you, Doctor.

I'd like to switch gears and turn now to the priority '917 application.

A. Okay.

Q. Can we please have on the screen CDX-2C.391, slide 391 of CDX-2C, please.

So on this slide, Dr. Vallee, you addressed what you have identified as '864 patent limitation 9.7. Correct?

A. Correct.

Q. And claim limitation 9.7 requires an airflow path, a first portion of the airflow path proximate the first aperture being defined substantially centrally and axially with respect to the central longitudinal axis of the housing, and a second portion of the airflow path proximate to the second aperture being defined substantially centrally

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and axially with respect to the central longitudinal axis of the housing." Correct?

A. Correct.

Q. Now, in this slide, you have highlighted some text about a gap, 228, correct?

A. Correct.

Q. And that text is reproduced from paragraph 31 of the '917 application, correct?

A. Correct.

Q. And is it your opinion that the highlighted text about a gap, 228, supports your conclusion that the airflow is not limited to the airflow passageway?

A. Well, I think it's more accurate to say that if the gap is present, the airflow passageway includes the gap.

Q. Okay. So if I understand it correctly, it's your opinion that the highlighted text about a gap, 228, supports your conclusion that the airflow path includes the gap, correct?

A. Yes. I'm sorry, the airflow passageway includes the gap.

Q. Now, Dr. Vallee, on the right-hand side of CDX-2C.391, you have identified an airflow passageway and a gap, correct?

A. Correct.

Q. Can you describe for me the physical structure of

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the airflow passageway?

A. Well, the airflow passageway itself is the space because the -- so the space starts at the first aperture, which is, as we discussed before, is at the bottom of the center post 218. That aperture. It follows straight up. And in this figure it expands slightly to another cylindrical section. It includes the heating element and follows through. And the airflow passageway in this figure includes the gap and then proceeds straight out the second end through the second aperture.

Q. Okay. So if I understand you correctly, the airflow passageway begins at the bottom aperture, correct?

A. Correct.

Q. And it extends upwards along the center post, correct?

A. Correct.

Q. It goes past the O-ring 220, correct?

A. Correct.

Q. And then it continues on to the airflow passageway 214, correct?

A. Correct.

Q. And then it extends all the way up to the aperture 210; is that correct?

A. Correct.

Q. And do you have it colored there in your Figure 2

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of the '917 application?

A. In gold, I believe it is. I'm sorry, do I have what colored in?

Q. The airflow passageway.

A. Yes. It's the green and the gold in the gap, in that figure.

Q. Okay. Let's focus on just the gap now.

A. Okay.

Q. Can you describe for me the physical structure of the gap?

A. The physical structure of the gap is -- as part of the airflow passageway in that context, is the empty space. In this figure -- and would you like me just to -- in terms of this figure, I assume you want me to?

Q. If you could describe it in terms of this figure.

A. Right. So it exists below surface 206 and above the solution holding medium reservoir 204, and it's contained by the outer walls of the housing.

Q. Thank you, Dr. Vallee.

And do you have that gap in any coloring in this Figure 2 of the '917 application?

A. I do. Yeah, through my reports and declarations, when I include the gap, I try to do a different color because the top shell. So you have to try to figure out, you know, if it's not there, how do you color the

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passageway? So this time I did it in gold.

Q. Thank you, Dr. Vallee.

So we have the airflow passageway in green and the gap in gold; is that correct?

A. Correct.

Q. Okay. And you mentioned that the gap is optional, correct?

A. That's right.

Q. Okay. And you're a patentee yourself, correct?

A. Yes.

Q. You have got over 40 patents?

A. No. Nine.

Q. Nine. Okay. Nine is still a good number.

You understand that, as a patentee, you have the option to claim whatever you want that is disclosed in the specification, correct?

A. That is correct.

Q. Okay. And so, for example, with respect to the gap, which you identified as being optional as disclosed in the specification, that gap could be claimed or could not be claimed, correct?

A. Correct.

Q. Could I please have slide 394 of CDX-2C on the screen, please. Thank you.

So in this slide, Dr. Vallee, you address claim

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limitations directed to the heating element being configured or electrically configured to vaporize at least a portion of the solution, correct?

A. That's right.

Q. And that would include '864 patent limitations 1.6, 9.6, 25.6, and then for the '881 patent, limitations 1.13 and 16.10, correct?

A. Correct.

Q. Now, on the right-hand side of this demonstrative, you have reproduced some text that was disclosed in paragraph 31 of the '917 application, correct?

A. Correct.

Q. And you have highlighted and underlined specific disclosures in that text, correct?

A. That's correct.

Q. All right. Let's focus on the first disclosure that you have highlighted and underlined.

A. Okay.

Q. And that states, "the heating element" -- I apologize. "Wicking material that draws the liquid solution from the absorbent material 204 towards the heating element 222."

Do you see that?

A. I do.

Q. And is it your opinion that this specific

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disclosure maps to claim limitation 25.6 of the '864 patent?

A. I'll just read that quickly. I believe it does.

Q. Okay. And just to be clear, claim limitation 25.6 recites "the heating element being configured to vaporize at least the portion of the solution drawn to the heating element." Correct?

A. Correct.

Q. All right. Let's turn now to the second disclosure that you have highlighted and underlined, which is "when a user draws a breath by way of the airflow passageway 214, a circuit is closed, thereby providing current to the heating element 222. The heating element 222 acts to vaporize the liquid solution in the absorbent material 204."

Did I read that correctly?

A. You did.

Q. And is it your opinion that this specific disclosure provides support for each of the claim limitations that you have identified in this demonstrative?

A. Yes, because that's part of configuring the heating element to vaporize the solution.

Q. Now, the claimed heating element must be configured to vaporize or electrically configured to vaporize, correct?

A. That's true.

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Q. And the claimed heating element must also be configured to be responsive to electrical power received from a power source, correct?

A. Correct.

Q. And that requirement of being responsive to electrical power received from the power source is explicitly recited in the claims, correct?

A. That is correct.

Q. And we see that here in your claim limitations on the left-hand side of this slide, correct?

A. Right.

Q. So, for example, with respect to claim limitation 1.6 -- you don't have it highlighted, but you do have reproduced "the heating element being responsive to electrical power received from the power source," correct?

A. Correct.

Q. All right. Let me turn to infringement.

Actually, before I turn to that infringement, let me ask you one more question about Figure 2 of the '917 application. Would you agree or disagree with the following statement: The heating element acts to vaporize the liquid solution in the absorbent material, and the resulting vapor is received by the user?

A. I believe that is the claim language. So if it is, yes, I agree.

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Q. Okay. And as a person of ordinary skill in the art, you would understand that there's a difference between vaporized solution and aerosolized solution, correct?

A. Correct. And to clarify my earlier statement -- I'm not sure I understood your previous question right. The heating element has to be configured to create the vapor. But it doesn't say that the vapor has to be delivered to the user. It says vapor has to be created so it can be added to the airflow so that, you know -- the vapor has to be created so you can change the liquid in the solution holding medium and get it in the air path. So it doesn't say the vapor has to be delivered. It says that vapor has to be created so the solution can be delivered.

Q. Okay. So let me ask the question again.

A. Okay.

Q. I'm looking for an "agree" or a "disagree," and if you can't answer the question with an "agree" or "disagree," just let me know you can't answer the question.

A. I understand.

Q. Okay? The heating element 222 acts to vaporize the liquid solution in the absorbent material 204, and the resulting vapor is received by the user.

A. The resulting vapor is received by the user? Since -- okay. Since the vapor is part of the aerosol, I'll agree with that.

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Q. Okay. All right. Infringement.

May I please have on the screen CDX-2C.51, slide 51 of CDX-2C, please.

Now, on this slide, Dr. Vallee, you address what you have identified as claim limitation 1.7 of the '864 patent, correct?

A. Correct.

Q. And that claim limitation recites, "an airflow passageway in the housing, at least a portion of the airflow passageway extending centrally and axially with respect to the housing, wherein the airflow passageway extends centrally and axially from the first aperture to the second aperture." Correct?

A. Correct.

Q. Right. Now, on the left-hand side of this slide, you have reproduced and annotated Figure 2 of the '864 patent, correct?

A. Correct.

Q. And on the right-hand side of this slide, you have reproduced and highlighted claim 3 of the '864 patent, correct?

A. Correct.

Q. How does claim 3 of the '864 patent support your conclusion that JUUL infringes claim 1, specifically claim limitation 1.7, of the '864 patent?

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A. And we're talking about why I think the JUUL1 -- I'm sorry, which-- could you repeat that question?

Q. Sure.

A. There was a lot in there.

Q. Sure. So just -- let's take a step back.

You're addressing claim limitation 1.7 of the '864 patent --

A. Correct.

Q. -- correct? And you've got JUUL up there in the heading?

A. Correct.

Q. Okay. And it's your understanding that this relates to the JUUL accused product, correct?

A. Correct. Okay. Now I'm with you.

Q. Okay. And so the heading relates to claim limitation 1.7 of the '864 patent?

A. Right.

Q. On the right-hand side of the demonstrative, you have reproduced and annotated claim 3 of the '864 patent, correct?

A. Right.

Q. And I'm just trying to understand what was the reason for you to highlight claim 3 of the '864 patent for your opinions with respect to claim 1 of the '864 patent, specifically claim limitation 1.7.

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A. I see. I see. Okay. So what I highlight in the excerpt about the airflow passageway having an interior, so the JUUL product does have an airflow passageway with an interior. The interior having no cross-sectional layer measured perpendicular to the central longitudinal axis, the JUUL also has that.

The housing's smaller than the cross-sectional area of the second aperture, that's also true in the JUUL device because it's talking about a portion of the aperture.

So the text in there is just supporting what I put in the figure. So the JUUL has what I cite in claim 3, and then it also has the central and axial airflow passageway going from the first aperture all the way up to the second aperture along a central longitudinal axis.

Q. I see. Okay. Thank you, Doctor.

Let's focus on the annotated Figure 2 on the left-hand slide -- on the left-hand side of this slide.

A. Okay.

Q. You have identified an airflow passageway, correct?

A. Correct.

Q. And can you identify for us what color that airflow passageway is?

A. That would be light blue, would be the airflow passageway.

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Q. Thank you, Doctor.

And in this annotated Figure 2 of the '864 patent, you have also identified a central longitudinal axis, correct?

A. That's right.

Q. And that's annotated with the dashed lines, correct?

A. Correct. And I'll call it purple.

Q. Thank you. Now, in this annotated Figure 2, you also have lines with arrows spanning the airflow passageway.

Do you see those?

A. I do.

Q. Okay. And what do those lines represent?

A. They represent the diameters of the two portions indicated there of the airflow passageway. There's the narrow cylinder at the bottom and the larger cylinder above it.

Q. Okay. And the narrower cylinder, you would agree that is the central post, correct?

A. I'm sorry. I didn't hear that.

Q. Sure. The narrower diameter of that cylinder --

A. Yes.

Q. -- you would agree that is the central post, correct?

A. It's the -- it's the center opening of the post

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at 218, I think it is.

Q. Okay. So that center post extends from the bottom aperture, past the O-ring 220, correct?

A. Correct.

Q. Up to the airflow passageway 214, when it expands, correct?

A. I believe so, yes.

Q. Is it your opinion that the cross-sectional area of the airflow passageway 214, before it meets the center post, is larger than the cross-sectional area of the center post 218?

A. Well, are you talking moving from the top to the bottom? You said, "before it meets the center post." I'm not sure what direction -- I don't know what you mean by "before."

Q. Okay. So we have two horizontal lines with arrows on the end, correct?

A. Correct.

Q. And I believe you identified those lines represent the diameter of the cylinders, correct?

A. Correct. The inside diameters.

Q. The inside diameter. Thank you.

So the inside diameter that's narrower corresponds to the inside diameter of the center post 218, correct?

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A. That's right.

Q. And the wider diameter represents the diameter of the airflow passageway 214 before it meets the center post 218, correct?

A. So traveling down?

Q. Traveling down, yes.

A. Okay, yes, now I understand.

Q. Okay. So is it your opinion, then, that the cross-sectional area of the airflow passageway 214, before it meets, traveling down, the center post 218, is larger than the cross-sectional area of the center post 218?

A. Yes, it is.

Q. What's the cross-sectional area of the gap, 228?

A. Well, there's not a lot of detail in the figure, but the cross-sectional area of the gap would be a -- in this figure, if you -- let's assume for the sake of argument it's cylindrical in this case. It doesn't have to be, but if it's cylindrical, the gap area would be a cross-sectional area of the inside diameter of the housing. And, again, there's no wall thicknesses. It's really just straight lines.

It would be about the inside diameter of the housing in that sketch, minus the cross-sectional area of the airflow passageway portion that's in -- the larger cylinder in 214. So if you have the central axial airflow

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passageway, which includes the gap, I would say the gap portion is the top part that adds to the blue that I have indicated, the light blue that I have indicated in the figure.

Q. All right. Thank you for that response, Dr. Vallee. Let me see if I understand that response correctly.

You would agree that the diameter of the gap 228 would span the housing, correct, from one side of the housing to the opposite side?

A. The outside diameter would span to the inside diameter of the housing.

Q. The inside diameter of the housing. So if I were to draw a third line, similar to the two lines that you've drawn here, it would start from the inside diameter of the left side of the housing and extend all the way over to the right-hand side, the inner diameter of the housing, correct?

A. Correct. That would be the outside diameter of the gap.

Q. Now, it's your opinion that there is no physical structure to the airflow passageway 214 adjacent to the gap, 228, correct?

A. Correct. It's like a perforated pipe. You know, it has holes in it. The structure is the pipe with the holes.

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Q. Okay. So for the next series of questions, I would like for you to respond "agree" or "disagree." And if you can't answer in that manner, please just indicate so.

A. Okay.

Q. In Figure 2 of the '864 patent, when the gap 228 does not exist in the cartridge, the physical structure of the airflow passageway 214 extends from aperture 212 to aperture 210?

A. Yes, I would agree with that.

Q. In Figure 2 of the '864 patent, when the gap 228 exists in the cartridge, the physical structure of the airflow passageway 214 extends from aperture 212 to the top of absorbent material 204?

A. I disagree.

Q. In Figure 2 of the '864 patent, when the gap 228 exists in the cartridge, the physical structure of the airflow passageway 214 extends from aperture 212 to aperture 210 and includes the gap 228?

A. Agree.

Q. In Figure 2 of the '864 patent, when the gap 228 exists in the cartridge, the airflow passageway has an interior with cross-sectional areas that differ when measured at the center post 218, at the heating element 222, and at the gap 228?

A. Can you repeat the first part of that question,

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please?

Q. Sure. In Figure 2 of the '864 patent, when the gap 228 exists in the cartridge --

A. Okay.

Q. -- the airflow passageway has an interior with cross-sectional areas that differ when measured at the center post 218, at the heating element 222, and at the gap 228?

A. Would differ? Yes, it would differ.

Q. In Figure 2 of the '864 patent, when the gap 228 exists in the cartridge, the gap 228 is a chamber in the housing?

A. Yes.

Q. When the gap 228 occupies the entire width of the housing, the gap 228 is not defined centrally with respect to the central longitudinal axis of the housing?

A. Disagree.

Q. A chamber in the housing that occupies the entire width of the housing renders positional limitations such as central and axial meaningless?

A. Disagree.

Q. Dr. Vallee, do you recall providing opinions with respect to Wang '927?

A. Yes, I do.

Q. Okay. Could we please have on the screen

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RX-1080C, which is your rebuttal expert report, and if we could turn to Appendix B at page 32, please. So RX-1080C, Appendix B, page 32, please. Apologies, RX-1080C, Appendix B at page 32, please. Page 32, please.

MR. BUI: I apologize, Your Honor. May I have one moment?

(Pause in the proceedings.)

MR. BUI: Apologies, Your Honor.

BY MR. BUI:

Q. Dr. Vallee, thank you for your patience.

On the screen, we have your opinions with respect to Mr. Leinsing's second proposed airflow passageway, correct?

A. Correct.

Q. And in the figure above the text, do you see the annotation mouthpiece chamber?

A. I do.

Q. Okay. And it's your opinion that that mouthpiece chamber is not centrally located, i.e., about the center of axis, correct?

A. That is correct.

Q. And that's because it occupies the entire width of what Mr. Leinsing has identified as a housing, which renders positional limitations such as central and axial meaningless, correct?

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A. Well, also because it's -- the central and axial airflow passageway isn't in this figure. I think I explained yesterday that in this figure, the air comes in vertically from one end. So it's not the airflow passageway that's described in the claims.

And the claims guided me to the fact that, okay, you can have a gap and a central -- and still have a central axial passageway. But here we don't have that. So this is just in general two blue cylinders. So without any guidance from the patent -- see, I can't use the patent as guidance because this isn't the central axial passageway that's described in the patent.

So with respect to that, then I don't have guidance, so I considered that not to be central and axial.

Q. Okay. I just want to focus on what you have set forth here.

A. Okay.

Q. Mr. Leinsing's mouthpiece chamber is not centrally located, i.e., about the center of axis; does that seem accurate or inaccurate?

A. Yes, that's accurate.

Q. Instead, the mouthpiece chamber occupies the entire width of what Mr. Leinsing has identified as a housing, which renders positional limitations such as central and axial meaningless; is that statement accurate or

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inaccurate?

A. Yes, that's accurate.

MR. BUI: Your Honor, I apologize. I have to go on the confidential record. And this is JUUL's.

JUDGE JOHNSON HINES: All right. We'll go on the JLI confidential record.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. BUI:

Q. Dr. Vallee, I'd like to switch over to indirect infringement. Could I please have on the screen CDX-2C.185, slide 185 of CDX-2C, please.

So on this slide, Dr. Vallee, you have reproduced a portion of the quick start guide for JUUL, correct?

A. Correct.

Q. And that's from CX-2218.1, correct?

A. Correct.

Q. And you've highlighted some text here under the heading JUULpod. Do you see that?

A. I do.

Q. And that highlighted text reads, "Remove its colored cap and insert into JUUL."

Do you see that?

A. I do.

Q. And based on this highlighted text, is it your opinion that JLI is instructing consumers to remove the hex cap from the bottom of the JUULpod so that it can be inserted into the JUUL device?

A. Yes.

Q. JLI is not instructing consumers to remove the mouthpiece at the top of the JUULpod, correct?

A. Correct.

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Q. JLI is not instructing consumers to remove the absorbent pad, correct?
A. Correct.
Q. The mouthpiece in the JUULpod permits a user to draw air, correct?
A. I'm sorry, could you repeat that? I couldn't hear it all.
Q. Sure. The mouthpiece in the JUULpod permits a user to draw air through the device, correct?
A. I don't think "permit" is the right word. The user puts their mouth on it, but I don't think it permits it because it works without it.
Q. Okay. So let's set aside your opinions with respect to the mouthpiece not there.
A. Okay.
Q. Okay? So the JUULpod with the mouthpiece, do you have that in mind?
A. Yeah.
Q. Okay. That mouthpiece in the JUULpod allows a user to draw air, correct?
A. I'm just not sure the word "allow" is the right word.
Q. Okay. Let me ask it this way: How does a user of the JUULpod draw air?
A. Okay. So the user puts the pod in their mouth

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and inhales and draws air through it.

Q. And when you say "puts the pod in their mouth," that pod includes the mouthpiece, correct?

A. Yes.

Q. And when a user draws air through the mouthpiece, the heating element responds, electrical power from the power source, correct?

A. Yes.

Q. And when a user draws air through the device, current flows through the heating element and heat is produced, correct?

A. Correct.

Q. Now, Dr. Vallee, you're familiar with end caps in the context of the patents at issue, correct?

A. Yes.

Q. And you understand that end caps can be removable, correct?

A. That's right.

Q. So if an end cap has been removed from an end, it is no longer a part of that end, correct?

A. True.

MR. BUI: Thank you, Your Honor. That's all I have.

JUDGE JOHNSON HINES: All right. Thank you.

Is there redirect?

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MR. ANSLEY: Very little, Your Honor.

JUDGE JOHNSON HINES: All right. I'm mindful of us all needing a morning break, and I'm also mindful that you may want to get Dr. Vallee off the stand. I don't know how long you have.

MR. ANSLEY: Less than five minutes, maybe three.

JUDGE JOHNSON HINES: Okay. All right. Well, then let's do that, and then we'll take a break.

MR. ANSLEY: Trust me, I don't want to up here as long as last time.

REDIRECT EXAMINATION

BY MR. ANSLEY:

Q. Hello, Dr. Vallee. Now, yesterday you -- do you recall being asked about the JUUL2 atomizer housing and the electrical contacts on that atomizer housing?

A. I do.

Q. Okay. Can we please pull up CDX-2C, page 108. All right. Thank you.

Now, Dr. Vallee, is the JUUL2's atomizer housing part of the claimed housing having an interior?

A. Yes.

Q. Okay. And what have you identified on this slide as the atomizer housing that constitutes the claimed housing having an interior?

A. It's in the right figure. It's green.

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Q. Okay. Can we please pull up the '864 patent, JX-1. We'll go to column 5 and then lines 34 to 39. Thank you.

Dr. Vallee, what does the '864 patent say about end caps?

A. It says here that the first end and the second end may be -- or include end caps.

Q. And does the '864 patent allow -- so the '864 patent allows housings to have an end cap, correct?

A. Correct.

Q. All right. And can the end cap of the housing be at least partially constructed of conductive material?

A. Yes, it can.

Q. Now let's go back to the prior exhibit, CDX-2, at page 108. Is the JUUL2 atomizer housing an end cap that forms part of the first end of the claimed housing?

A. It does.

MR. ANSLEY: No further questions, Your Honor.

JUDGE JOHNSON HINES: All right. Thank you very much.

Dr. Vallee, you are excused.

THE WITNESS: Thank you, Your Honor.

(The witness stood down.)

JUDGE JOHNSON HINES: All right. Let's take our morning break. And why don't we reconvene at 11:30.

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(A recess was taken at 11:11 a.m., after which the proceedings resumed at 11:31 a.m.)

JUDGE JOHNSON HINES: All right, before we start I have a question. With respect to the construction or potential construction of the term "housing," I just want to get an understanding of what the parties' positions are.

And if the right people aren't here to answer the question, it's fine for you to tell me that. But I would like to know what the parties' positions are.

My understanding is that NJOY's position is that the housing is an outside structure containing device internals.

MR. PEPE: So, Your Honor, you were correct that the right people are not here. So we will definitely take your question and have an answer for you right after lunch.

JUDGE JOHNSON HINES: That's fine. And I'm getting that from a couple of places. One is the Staff's prehearing brief at page 67 and also the IPR on the '864 patent.

My understanding is the Staff's position, Staff agrees.

MR. BUI: Yes, Your Honor.

JUDGE JOHNSON HINES: You all might disagree on how you interpret that construction, but that is the construction. And my understanding is that JLI's position

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is that the housing is the outside structure of the cartridge that contains and protects the cartridge's internal structures. And that is from page 114 of JLI's prehearing brief.

And I'd like to get confirmation on that. I just want to make sure we're all on the same page with what the proposals are for the term "housing." All right.

If you could consider that. That's all. So, please call your next witness.

MR. PEPE: So, Your Honor, we're going to be calling Dr. Vander Veen. I do think there is some outstanding objections with respect to his exhibit.

JUDGE JOHNSON HINES: Okay.

MR. PEPE: And they are JLI's objections. So I will let them explain.

JUDGE JOHNSON HINES: Have the exhibits been handed up?

MR. PEPE: You should have a direct binder that I believe should have them.

JUDGE JOHNSON HINES: I do. Thank you. Yes.

MR. KARAMBELAS: Thank you, Your Honor.

For Dr. Vander Veen's exhibits, the exhibits for which the parties are still in dispute, are CX-2333C through CX-2340C, which, if I am not mistaken, should be the first eight or so exhibits in Dr. Vander Veen's direct binder.

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These are tabs from Dr. Vander Veen's expert report. They detail various totals that Dr. Vander Veen calculated from the spreadsheet, which you heard from NJOY's witness, Ms. Winch, testified to on Wednesday. It also includes some of his formulas, additions, multiplications, showing of comparisons of various percentages for his significance analysis, sums of investments in various time periods.

These are essentially portions of Dr. Vander Veen's expert report. They are not -- what we heard from NJOY was that they are seeking submission of these exhibits for substantive purposes under FRE 1006.

However, these exhibits are not summaries of voluminous records or voluminous invoices. They are more than that. They are Dr. Vander Veen's analysis, opinion, containing his assumptions and inferences and opinion on the significance of the figures.

So JLI's position is that these documents should come in just for demonstrative purposes only, as would any expert report be. And I can cite to a case from the Third Circuit, 484 F.3d 644, Eichorn versus AT&T Corp. that stands for the proposition that if an expert is providing calculations, those are more of a synthesis rather than a summary of data, and they go beyond the data that they are summarizing.

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The spreadsheets themselves that the fact witnesses testified to may be summaries of underlying data. These here are just charts of Dr. Vander Veen's understanding and analysis of the figures. So we submit that these exhibits that are part of Dr. Vander Veen's report should not be admitted substantively.

JUDGE JOHNSON HINES: All right. I understand.

Mr. Pepe?

MR. PEPE: Thank you, Your Honor.

And so, I mean, obviously we're not bound by the Federal Rules of Evidence here but I do think 1006 is a pretty good guidepost and these are summaries of voluminous records.

The spreadsheets that Ms. Winch talked about yesterday and some of the Fuma records as well, and I think what you will see there, these are merely charts where Dr. Vander Veen has, you know, effectively taken the information from the spreadsheets and put them into the statutory categories.

The intent here is just to make things easier for you and the Commission in terms of looking at this information. It's a bench trial. I don't think there is going to be any risk of confusion here.

There is certainly no text here on these charts as to, you know, whether something is significant or

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substantial. It's merely a summary of the financial information that NJOY and other parties have produced that I think would be of great assistance to you and the Commission in issuing a decision in this investigation.

So we do think they should be admitted.

JUDGE JOHNSON HINES: All right. Thank you.

Mr. Bui, do you have a view?

MR. BUI: Thank you, Your Honor.

So we would be in agreement with Respondent. I think as you just heard from Mr. Pepe, this is beyond just a summary of voluminous documents. It's actually Dr. Vander Veen taking and repackaging information. I have no problem with these being demonstratives, and I imagine he will be testifying and walking through his analyses set forth here.

JUDGE JOHNSON HINES: All right. I'm going to overrule the objection and allow the exhibits in. Thank you.

MR. PEPE: All right. With that, Your Honor, we will call Dr. Vander Veen now.

JUDGE JOHNSON HINES: Thank you.

Good morning. Would you raise your right hand, please.

Whereupon--

THOMAS VANDER VEEN,

having been first duly sworn/affirmed, was examined and

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testified as follows:

THE WITNESS: I do.

JUDGE JOHNSON HINES: Thank you. Good morning.

THE WITNESS: Good morning.

JUDGE JOHNSON HINES: And welcome.

DIRECT EXAMINATION

BY MR. PEPE:

Q. Good morning. Could you introduce yourself to everyone.

A. Yes. My name is Thomas Vander Veen. I'm an economist and I'm employed by Epsilon Economics.

Q. All right. Dr. Vander Veen, have you prepared some slides today to help with your testimony?

A. I have.

Q. All right. Can you please describe your educational background.

A. Yes. I have a Bachelor's degree in economics and math from Calvin College. I have a Master's degree in economics and a Ph.D. in economics. Both of my graduate degrees are from Brown University.

Q. All right. And I think you referenced you work for Epsilon.

What is your current position there?

A. I'm a managing director of Epsilon as well as

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vice chairman of the firm. And in that role, I analyze information related to intellectual property matters, do valuation work, also provide economic analysis of intellectual property and international trade.

Q. And where do you work before Epsilon?

A. So I was at a few different consulting firms. I have been working as a consultant for approximately 20 years. Prior to my work as a consultant, I was here at the International Trade Commission and served on the staff of Commissioner Koplan. And prior to that, I taught economics at Skidmore College. I have also taught as an adjunct over the years.

Q. And are you a member of any professional organizations or associations?

A. I am. They include the American Economic Association, the Licensing Executives Society, the Intellectual Property Owners Association, and I'm -- I forget the title -- associate member, affiliate member of the ITCTLA.

Q. Have you previously provided consulting services related to ITC investigations?

A. Yes, I have.

Q. All right. Approximately how many?

A. I have testified in more than 75 cases, I think.

MR. PEPE: Your Honor, at this time, we would

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like to offer Dr. Vander Veen as an expert in economics, including issues related to domestic industry and bond.

JUDGE JOHNSON HINES: Is there any objection?

MR. KARAMBELAS: No objection from JLI, Your Honor.

MR. BUI: No objection, Your Honor.

JUDGE JOHNSON HINES: All right. So tendered. Thank you.

BY MR. PEPE:

Q. Now, Dr. Vander Veen, what are you here to talk about today?

A. So my analysis and my opinions here today center around the economic prong of the domestic industry, issues related to bond and then some discussion of Fuma sales.

Q. All right. And what materials have you considered as part of your analysis in this case?

A. Yes, consistent with how I normally operate in matters such as this, I started with various pleadings that were submitted in this case related to issues that are relevant to what I'm doing. I reviewed information that was produced by the parties. I reviewed deposition transcripts.

There is public information that I reviewed, including of the vapor industry around pricing, as well as just my general understanding of ITC practice. And then I had conversations with some employees at NJOY, including Mr.

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Bonet and Phillie Silverman and Fuma employee, Rebecca Moore.

Q. All right. And you mentioned you provided some analysis of domestic industry. What conclusions did you reach about domestic industry in this case?

A. So it's my opinion that there is a domestic industry related to the ACE and the ACE 2.0 products. In the alternative, there's a domestic industry in the process of being established.

The domestic industry finding or my opinion about the domestic industry, I think, is further supported by activities related to the Alto, Vuse Alto and Vuse Solo, which are products of the -- of a licensee.

Q. All right. And now I'm not going to display the slide because I want to keep this on the public record, and without giving any numbers, can you just generally summarize what conclusions you reached with respect to bond?

A. Without giving any numbers?

Q. Yeah.

A. Yes, sure. So I analyzed bond looking at a price difference and found a bond would be appropriate related to the devices.

Q. Okay. Thank you.

And at a high level, what did you conclude with respect to your analysis of Fuma sales?

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A. So in looking at Fuma sales, I analyzed sales data for products that are asserted to practice the patents at the time that the products launched and saw that there was a quarterly growth rate of about 36 percent during the first two or three years of sales.

Q. All right. So I would now like to start with your opinions about economic domestic industry. For starters, can you explain to us what process you undertook to analyze domestic industry in this case?

A. Sure. So, again, similar to what I do in a typical case, I analyzed information related to the industry just to understand the context for where the activities occur.

Here I certainly looked at financial data that was provided to support the domestic industry activities and the associated investments. I had conversations with NJOY employees to understand those financial documents, as well as to have a greater understanding of the activities that occur.

Allocations were required in this case. And so I analyzed allocations that have been done and allocations that are done by NJOY. I also went through the data then and categorized it to put it into categories that the ITC typically looks at, and in that process, included certain data and did not include other data.

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And then here in this case, I also put it into various time periods. I understand that there are some disputes about what the appropriate time periods are and so I did analyses under various time period assumptions. And then of course, I put all that into a contextual analysis to assess the significance and substantiality.

Q. Okay. And with respect to the industry, what was the industry you examined that was relevant for your opinions?

A. So here the asserted and the accused products are within the ENDS industry. So it's the electronic nicotine delivery system industry. It is a multi-billion dollar industry but it's more broad than just the products that are here, the pod-style devices.

It's, I think, now dominated by these pod-style devices, but there are other products within that industry. And this is an industry that has had a significant regulatory focus, if you will.

Q. Okay. And what are -- what is that regulatory focus?

A. So as I understand it now, any new product in the ENDS industry must receive approval from the FDA. It's PMTA authorization. To date, as I understand it, the only pod product that has PMTA authorization is the ACE product.

Now, there are other products with PMTA

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authorization, including the Vuse Solo and the NJOY DAILY.

Q. All right. And I know you're not a regulatory expert, but based on your analysis in this case, what's your general understanding of the regulatory framework here?

A. Sure. And this is relevant for understanding some of the domestic industry activities that occur, but the PMTA process is a pretty involved process. There are thousands of pages of materials that were submitted to the FDA.

It includes conducting clinical trials and consumer research. Part of it as I understand is to show that less harm will be caused relative to combustible cigarettes by the products. There needs to be obtained evidence of switching from cigarettes to the product, as well as very low levels of youth interest in the product.

And there is continuous FDA oversight.

Q. All right. Now, I would like to talk a little bit more about the products you looked at. Can you explain which products you analyzed for domestic industry in this case?

A. Yes. So my understanding is that the domestic industry products include the NJOY ACE and ACE 2.0 products, as well as Vuse products.

Q. All right. And what's your understanding of which products practice which patents?

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A. Sure. So I certainly don't provide a technical opinion, but my understanding is that the NJOY ACE and ACE 2.0, as well as the Vuse Alto are asserted to practice the '864 patent, and the Vuse Solo is asserted to practice the '881 patent.

Q. Now, I think you referenced this earlier, but you mentioned a dispute between the parties regarding what the relevant time period is for looking at investments.

What's your understanding of that dispute?

A. Well, I understand that the dispute centers around that there are appropriate -- or different, appropriate time periods or relevant time periods to look at. That's obviously a legal determination and so I don't have an opinion on that aspect of it, but because of those disputes, I presented data for various time periods so that the ALJ and the Commission have the ability to look at the investments under the different scenarios.

Q. And are your ultimate conclusions different depending on which time period you looked at?

A. They are not. The ultimate conclusions regarding domestic industry are -- industry in the process of being established are the same regardless of the timeframes that I analyzed.

MR. PEPE: Your Honor, I think at this time we're going to go on the NJOY confidential record.

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JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. PEPE:

Q. All right. So now, Dr. Vander Veen, now I'd like to talk about your opinions related to bond. And so, first off, if we look at slide 68, what products did you look at in determining bond in this investigation?

A. So in assessing bond, I considered pricing data related to the JUUL system and the NJOY ACE system.

Q. Okay. Did you look at the JUUL2 system or the NJOY ACE 2.0 for the purposes of bond?

A. I did not. Neither of those products are commercially sold in the United States currently, so there's no pricing data to evaluate. And I did not consider those.

Q. Okay. And what's your understanding of what the ACE system comprises in terms of the major components?

A. Yeah. So from the context of my analysis, the system consists of the ACE device and the ACE pod.

Q. Okay. And what are the main components of the JUUL system for the purposes of your bond analysis?

A. Yes. Again, so, similarly, it's a JUUL device and a JUULpod.

Q. All right. Now, did you identify any evidence of direct competition between the ACE system and the JUUL system?

A. I did. The systems themselves compete against

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each other. There's evidence that they have similar customers and distribution channels for both the JUUL and NJOY. Almost all of the product is sold at the wholesale level to retailers. They both operate in the same segment of the ENDS market, which is the pod-based devices.

MR. PEPE: All right. Now, we're going to have to go on the NJOY and JLI confidential record.

JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. KARAMBELAS:

Q. Dr. Vander Veen, in your report and in your testimony here today, you discussed Fuma, correct?

A. Yes.

Q. Fuma is the company that originally prosecuted and developed the patents, correct?

A. I believe that's correct.

Q. Not NJOY, correct?

A. Yes. The NJOY acquired the patents from Fuma.

Q. Okay. So that's a different context than NJOY prosecuting the patents and then licensing the patents to somebody else, correct?

A. I believe so.

Q. Okay. You do not offer an opinion that the Fuma products practice the asserted patents, correct?

A. No, I don't provide technical opinions as to what products do or do not practice asserted claims.

Q. You're not providing any opinion on secondary considerations in this case, correct?

A. I'm not, no.

Q. You're not providing any opinion on commercial success, correct?

A. That's -- that's correct.

Q. You also testified on your direct about bond; is

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that right?

A. That's correct.

Q. A bond rate is set by the Commission in an amount sufficient to protect the Complainant from an injury, correct?

A. That's my understanding.

Q. An example of such injury could be if an imported product of a Respondent competes in the same marketplace as a DI product of the Complainant but are priced lower than the DI products, correct?

A. I -- I believe that's correct. I think I tracked all of your -- all the pieces of that question.

Q. In those circumstances, the Commission frequently sets the bond by attempting to eliminate any differences in sales price between the DI products and the accused products, correct?

A. That's correct.

Q. You're recommending a bond rate for the JUUL1 devices, correct?

A. Yes, that's correct.

Q. Your recommendation of a bond rate is based on Q3 of 2023, correct?

A. Correct.

Q. You're not basing your opinion on the quarters previous to that, correct?

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A. That's correct. The percentage is based on Q3, 2023.

Q. Okay. That's because, in your opinion, retrospective comparisons would capture past pricing, which is not an accurate reflection of current competitive environment, correct?

A. Generally, I agree with that. I would say that the most recent pricing is most indicative of the market dynamics that would occur during the Presidential Review Period.

Q. I would like to pull up your expert report, page 68, RX-1544C.68, which is paragraph 118 of your report.

Can you pull that up, Jim.

And I would like to ask you specifically about the last sentence of this. "Due to the fact that pricing, including wholesale pricing, can and has been dynamic for both the domestic industry products and the accused products, it is further appropriate to compare pricing during the most recent period for which data is available for both NJOY and JLI."

And the next sentence on page 64: "Retrospective comparisons would capture past pricing, which is not an accurate reflection of the current competitive environment."

That's what you said in your report, correct?

A. Yes.

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Q. Okay. You were here for the first day of the hearing in this case; is that correct?
A. Yes.
Q. So you were present for Ms. Leistra's testimony?
A. I was.
Q. Ms. Leistra is NJOY's CEO?
A. Yes.
Q. So you heard NJOY's CEO testify that, as a general matter, on average NJOY ACE device prices are lower than JUUL's prices for the JUUL device?
A. I did hear that testimony.
Q. NJOY's CEO provided that testimony this week, correct?
A. She did, yes.
Q. You would consider this week to be pretty current in terms of the current competitive environment, correct?
A. I do, but her testimony wasn't specific to time period. She just said generally. I don't know what time period she was considering.
Q. You're not recommending a bond rate for the JUUL pods, correct?
A. That's correct.
Q. On your direct, Dr. Vander Veen, you provide some opinion, analysis of RJR in relation to your domestic industry economic prong opinions, correct?

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A. I'm sorry, you cut out in the middle. Did -- you're talking about RJR investments.

Q. I'll withdraw the question and rephrase.

Dr. Vander Veen you discussed RJR during your direct testimony, correct?

A. Yes.

Q. In your expert report, you lay out your understanding from two other ITC investigations that relate to RJR, but you yourself do not analyze the underlying data or information from those two investigations, correct?

A. I didn't present an analysis in my report of that information, that's correct. I reviewed the information and provided the summaries of what was presented in that case.

Q. So just to clarify, you did or did not analyze the underlying data or information from those two RJR investigations?

A. I did not present an analysis of the data. I relied upon the summaries that were ultimately the finding in the ID in the order.

Q. Okay. Just yes or no, you did not analyze the underlying data from those cases, correct?

A. That's correct.

Q. In this investigation, you're not providing an opinion that the RJR investments are qualitatively and quantitatively significant, correct?

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A. I have not presented that opinion.
Q. You're familiar with the NJOY ACE and NJOY ACE 2.0 products, correct?
A. Yes, not at a technical level, but yes.
Q. And in your expert report, you did not break out the investments between ACE and ACE 2.0, correct?
A. I did not.
Q. You testified that there are some similarities between ACE and ACE 2.0 in your direct, correct?
A. Correct.
Q. But there are also some important differences; isn't that right?
A. There are some additional functionalities in the ACE 2.0 relative to the ACE, as I understand it.
Q. But those aren't the only differences? For example, the ACE products -- the current ACE product was first released on the U.S. market in 2018, correct?
A. That's correct.
Q. And, meanwhile, the ACE 2.0 is not yet on the market, correct?
A. That's correct.
Q. For the current ACE product, there has not been any changes to the design of the ACE product since 2018, correct?
A. Yes. We discussed this in my deposition as well.

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So my understanding is there's no change in the base design from the perspective of what was presented to the FDA, but there certainly has been ongoing research and development, engineering work, manufacturing work, and so forth. So the core design has not changed, that's correct.

Q. Okay. So that's than answer of yes to my question, there have been no design changes to the current ACE product since 2018, correct? Yes or no?

A. In terms of the core design that was presented to the FDA, that's correct, as I understand it. Again, I'm not a technical expert.

Q. In your analysis of NJOY's investments, you relied on a spreadsheet that was created by Ms. Silverman, correct?

A. Yes, that's correct. I mean, by the Finance Planning and Analysis Group, but oversaw -- Ms. Silverman oversaw it.

Q. At your deposition, you did not know if any part of that spreadsheet would allow you to show the parsing out of NJOY's expenses between ACE and ACE 2.0, correct?

A. That's correct. I didn't -- that wasn't an analysis that I had done.

Q. You're aware that NJOY filed this case 11 days after purchasing patents from Fuma, correct?

A. Yes.

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Q. That 11-day time span is from August 11 to 21, 2023, correct?

A. Correct.

Q. You're familiar with NJOY's regulatory capital investments, correct?

A. Generally, yes.

Q. In forming your opinion for the time period of August 11 to August 21, 2023, you did not know whether the regulatory capital investments relied upon by NJOY related to ACE or ACE 2.0, correct?

A. I didn't -- I didn't break -- as I testified earlier, I didn't break out between ACE and ACE 2.0. And so I couldn't definitively say.

Q. My question wasn't about whether or not you broke it out. I'm asking whether you knew in forming your opinions. So I'll ask it again.

In forming your opinion, for August 11 to 21, 2023 --

THE REPORTER: Counsel, you've got to slow down.

MR. KARAMBELAS: I apologize. Thank you.

BY MR. KARAMBELAS:

Q. In forming your opinion for August 11 to 21, 2023, you did not know whether the regulatory capital investments relied upon by NJOY related to ACE or ACE 2.0, correct?

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A. That's correct. Again, it wasn't a part of my analysis, and so I didn't focus on that.

Q. Also in forming your opinion for the time period of August 11 to 21, 2023, you had no idea what of NJOY's R&D efforts during that time period related to ACE or ACE 2.0, correct?

A. That's correct, for a similar reason.

Q. You also didn't break down the totals for ACE and ACE 2.0 for NJOY's supply chain, quality, and policy enforcement totals, correct?

A. That's correct.

MR. KARAMBELAS: At this time, Your Honor, I'll have to go onto the NJOY confidential record.

JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

JUDGE JOHNSON HINES: Good afternoon.

THE WITNESS: Good afternoon.

JUDGE JOHNSON HINES: Would you raise your right hand, please.

Whereupon--

ADAM BOWEN,

having been first duly sworn/affirmed, was examined and testified as follows:

THE WITNESS: Yes.

JUDGE JOHNSON HINES: Thank you. Have a seat and welcome.

DIRECT EXAMINATION

BY MR. RIZK:

Q. Good afternoon, Mr. Bowen.

A. Good afternoon.

Q. Would you please introduce yourself to the Court.

A. Yes. I am Adam Bowen, co-founder of JLI.

Q. Thank you. And can you please provide some brief background on yourself.

A. Sure. So I'm originally from southern Arizona, grew up in Tucson, went through grade school, undergraduate studies for two years at the University of Arizona, transferred to Pomona College in Southern California, where I finished my undergraduate degree in -- a Bachelor's in

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physics, went then up to Stanford for a Master's in product design, and have been in the San Francisco Bay area ever since.

Q. Great. What is your connection to JUUL?

A. I am, as I mentioned, the co-founder along with James Monsee0s. And my -- my role and title has changed over time at the company. I was CEO, COO, CTO, and also a director on the board for most of the company's history.

My current status is that I am just a shareholder.

Q. Thank you. And when did you found JUUL with Mr. Monsees?

A. So the project started as a topic in design at a Master's program at Stanford, but the company was first incorporated or founded in 2007.

Q. What was the connection with the Master's thesis at Stanford?

A. So it was the same -- it was the same concept, same goal, which was to create reduced-harm alternatives for conflicted smokers.

Q. What products does JUUL make now, to your knowledge?

A. JUUL currently sells a line of products that is the first-generation JUUL system, with pods, and a successor system that we refer to as JUUL2.

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Q. I'd like to start with the first generation, which I'll refer to as JUUL1, just to differentiate it from the JUUL2.

Were you involved in the design of the system that ultimately launched as JUUL1?

A. Yes.

Q. What was your involvement?

A. I was involved in basically all aspects of the JUUL1 system from mechanical engineering, electrical engineering, industrial design, firmware, as well as formulations.

Q. It's fair to say that you have a significant familiarity with the structure and operation of the JUUL1?

A. Yes.

Q. Why did you launch the JUUL1?

A. Well, we developed this product and launched it, this product specifically, because we had seen other products on the market, other attempts at applying harm reduction to smoking, historical attempts and contemporary attempts. Electronic cigarettes were starting to kind of multiply. There were a number of them at the -- on the market at the time.

We had developed our own predecessor products, but we felt that none of these really achieved the goal that we set out to achieve, which was convert large numbers of

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adult smokers from cigarettes and have them completely switched. So we endeavored to create a new platform, an entirely new product that would succeed where the other attempts had failed.

Q. Why was that your goal?

A. Well, we thought it was really important to get -- from a public health standpoint and from a personal standpoint. We were both conflicted smokers ourselves and still smoking cigarettes occasionally. We felt it was very important to develop a product that would actually accomplish this mission.

Q. You've prepared some slides today to assist in your testimony?

A. Yes.

Q. Can we please -- okay. Thank you.

And you've also prepared some slides illustrating typical devices that were on the market at the time?

A. Yes.

Q. Please bring up slide 2.

Mr. Bowen, can you please tell us what this slide shows?

A. Sure. So this is kind of a slide that's representative, I would say, of the types of products that are on the market when we started to develop the JUUL system. And I would break them into two main categories.

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On the top of the slide, you see what are often referred to as cig-a-likes, so these are small cylindrical-shaped devices designed to mimic the look of a conventional cigarette. They often had a glowing tip to reflect the kind of glowing ember at the end of a combustible cigarette.

And then at the bottom of the slide, you see what I would refer to -- they had different names, but tank-based e-cigarettes or eGo-style cigarettes. And, generally, what that means is that there was a round liquid-filled tank that would be connected to a battery or device of varying size and complexity.

Q. Why did the devices that were then on the market meet the needs that you believed were integral to your mission statement?

A. How did they not meet them or meet them?

Q. Why did they not meet them?

A. Why did they not meet them? Well, the cig-a-likes, the ones on the top, were compact, and we thought that there was, you know, some advantage to that. It's, you know, similar in size to and portability to conventional cigarettes. But we found these products were typically underpowered and not capable of delivering a satisfying-enough amount of aerosol to the user, to the smoker. So -- and then -- and they had some other shortcomings.

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And then in the bottom tier, the tank or eGo-style devices they had more power and more capacity to produce thick aerosol that could be more satisfying, but these products were typically large, complicated, hard to use, hard to maintain, just too complicated from a usability standpoint.

Q. Thank you, Mr. Bowen.

So how did the configuration of products that were on the market at the time translate into your design goals for the JUUL1?

A. So our intent was to try and develop something that was compact, easy to understand, you know, visually, at least, such as the cig-a-likes, but that offered performance that was more in the direction of the larger systems, but while also deviating from both of these and from conventional cigarettes in the shape of the product. And we felt that was important for a couple of key reasons.

Q. Why was deviating from the shape of conventional e-cigarettes at the time, as well as combustible cigarettes, important?

A. Well, I think the main reason is we wanted -- we wanted to -- a couple of reasons. One is that we felt that if we made it look like a cigarette, such as these cig-a-likes, we would be setting up this expectation, as I think those products did, that the product would taste and

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behave almost just like a cigarette. And that's a false expectation or expectation that is not -- you can't really deliver on, given this is a new technology. It works by a new -- by a new principle.

But just as importantly, I think that, you know, smokers who are conflicted about their consumption of cigarettes as were we, they, I think, would like to sever the ties in their head between their habit and this -- the visual -- the visual format of the product.

So we thought it was -- we thought for those two reasons it was important to try to deviate and create something entirely new.

Q. How did you -- what was the manifestation of severing the association with combustible cigarettes and cig-a-likes in the JUUL1? How did you implement that?

A. Well, what we ended up doing is -- where we ended up was with a rectangular form factor -- you can see it blown up here -- that is compact. It's blown up in the slide but it's actually more in line with the overall size of those cig-a-like devices. But it very clearly looks different from those and from the products on the bottom tier and from a combustible cigarette.

Q. So I'm trying to transition from the cylindrical shape of the cig-a-like and the tank-based eGo devices that you identified to the rectangular shape of the JUUL. Did

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you face any challenges?

A. Yes. There were a number of challenges. Once we had kind of committed ourselves to this rectangular overall design, shape, we realized that there were a number of serious challenges that were -- that would be introduced, both in the device and in the pod.

Q. Okay. Let's put a pin in those challenges for a moment. Were there any main challenges?

A. Yes. So, you know, on the pod side, in particular, we faced a couple of major challenges, and I would say the electromechanical interface between the pod and the device, we had to develop something entirely new, and the filling and sealing of the tank, being an all-liquid tank but that's rectangular, was a major challenge as well.

Q. Okay. So before we dive into the details of those challenges, let's talk about the function and operation of the device at a high level.

You've prepared some demonstratives that walks through the overall structure and function?

A. Yes.

Q. Okay. Can you please tell us what we're seeing on this slide?

A. So this is, yeah, just a high-level overview of the system. It's a two-part system, two-component system, the cartridge and the device. And they're combined as if

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ready for use.

Q. Okay. Next slide.

And then what are we seeing on the next slide that is up on the screen?

A. So here the pod has been removed from the device. And now we're seeing the pod alone. And after a short animation, you can see an exploded assembly view of the pod, of all of the pod's contents or components. And we can -- I'll just label them to start.

So if we go from left to right in the figure, we have a black plastic molded component called the mouthpiece; two absorbent pads; a molded silicone component called the gasket; a stainless tube labeled here air path tube; wick housing, which is another plastic molded component; the wick and coil, the wick serves to feed liquid from the tank into the coil where it's heated; two electric contacts; and the tank, which is a single injection-molded plastic component.

Q. Thank you, Mr. Bowen. And I believe that there is a component that isn't shown on this slide called the hex cap. Are you familiar with that term?

A. Yes.

Q. Okay. And is that a component of the JUUL1 pod?

A. Yes. It's a temporary -- it -- the pod comes shipped with -- it's a protective cover that goes over on the right side, the far right side, of the tank to protect

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it from contaminants.

Q. Thank you. So focusing on the components laid out on this slide, RDX-3C.7, can you please give us a brief overview of the function of the internal parts of the JUUL1?

A. Sure. When this is collapsed and inserted into the device, what happens is, in use, the user will puff on the mouthpiece end, and the device senses that, applies a voltage to those electrical contacts, which are crimped to the coil, which is also the heating element. That heats up liquid that is fed in via the wick. The liquid evaporates and recondenses to form an aerosol and goes down through the air path tube, out the mouthpiece, and the user inhales.

Q. And you mentioned an aerosol. What is your understanding of what an aerosol is?

A. So an aerosol is a suspension of fine particles, typically micron-level particles, condensed liquid -- could be solids, but in this case it's condensed liquid particles -- in an air stream.

Q. So in your earlier answer, you had mentioned two challenges that you faced when moving from the cylindrical cig-a-like and eGo tank-type designs to the JUUL1. And the first one I believe you said, it was the electromechanical interface. Do you recall that?

A. Yes.

Q. Okay. So I'd like to start with the first one,

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the electromechanical interface. Can you please explain what the issue is with the electrical mechanical interface?

A. Sure. So on the left, you can see here the cig-a-like-type products, which invariably had a threaded connection to couple the cartridge to the device, and we saw some down sides to this. It's difficult to make sure that you thread it on carefully without cross-threading or damaging the threads. The cartridge can be overtightened, damaging the device or the cartridge. The threads can be contaminated by form and materials.

So there's a lot of downsides to those. And we couldn't use it anyway, that standard, because we had a rectangular cross-section device, so we had to develop something new.

Q. How did you address the challenge?

A. Well, what we ended up doing was developing -- was creating a mechanical coupling on the sides of the pod and -- yeah, we have a better visual here.

So if you look at the features circled in blue, there are two grooves that are molded into the sides of the tank component of the pod. And then -- can we advance? There we go. And encircled in red are two mating features on the device side. These are stamped divot features on the metal shell of the device. And when the pod is inserted into the device -- and I think there's a brief animation --

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those features line up and now the pod will be locked mechanically inside the device.

Q. How does the JUUL1 pod establish an electrical connection?

A. So that's performed by the gold components here, they're all gold-plated components on the pod side, if you look in the middle of the figure, at the top. The pod has two of these gold-plated contacts that I referred to previously.

And when the pod is inserted, as it just was in the right of the slide, those come in contact with two pins embedded inside of the device.

Q. And do you see the region above the contacts on the JUUL1 pod? It's a flat surface where the -- do you see that region?

A. Yes.

Q. And is that where air goes into the JUUL1 pod?

A. Yes. So in that area, you can almost make it out, there's some, like, translucent wells. That's the region where air enters the pod.

Q. Okay. And it enters through 19 micro-perforations that are on that translucent region?

A. Yes. There are -- there is a pattern or a number of perforations there and, yeah, I think there are 19 of them.

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Q. Thank you for that.

How do the contacts, those gold metal contacts that you identified, protect debris from entering into the JUUL1 pod from the micro-perforations?

A. Well, they don't really. That's not their function. They are -- they're merely folded over and kind of presented at that end of the cartridge, so that they're exposed and can make contact with the pins on the other side.

Q. Why don't the gold contacts protect debris from entering into the JUUL1 pod through the micro-perforations?

A. Because -- so -- well, I mean, anything that's small enough to get into the pod would easily pass through those tabs, those contact plates.

Q. Why is that, that they could easily pass through -- anything that's small enough to enter into the pod could easily pass through the contact plates?

A. Because there's area between them. There are large gaps between the tabs as they're folded over.

Q. What is the purpose of the hex cap?

A. So the hex cap is to protect that whole region specifically. So when -- as the pod is shipped, you remove it from the package, and if you were to put that pod in your pocket, for instance, it could collect lint, debris, dust. And so the hex cap or protective cap is intended to prevent

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that from happening until you're ready to use the pod.

Q. All right. Turning to your next challenge that you identified, of sealing the tank, do you remember that?

A. Yes.

Q. Okay. And what was the challenge there with sealing the tank?

A. Well, as I think I hinted at the -- we went from -- you know, if you're comparing it to the tank-based products on the left, those products were invariably round, cylindrical, and it's fairly straightforward. It's known to, you know, engineers how to seal round tanks. You can use conventional O-rings that are dimensioned properly and have the right durometer and the right geometry in the mechanical components that mates with those O-rings.

You can't use O-rings in a rectangular cross-section, so we had to develop something new.

Q. And what did you develop?

A. Where we landed was -- and you can see this right in this figure, I'll point it out more clearly -- a gasket component, which is -- which I referred to before, that is a molded, a single molded silicone component combined with features on the mouthpiece. We call it the mouthpiece, but it serves other purposes as well. There are features on the mouthpiece that engage the seal of that gasket around its periphery, as well as retain the gasket in its proper

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orientation vertically, as shown in this figure.

Q. How does the mouthpiece create a seal around the gasket?

A. So what happens in assembly is the gasket, which, by the way, you can see in the sectional -- the cutaway view in the middle, and it's also color-indicated in purple on the right. The gasket is inserted into the tank first, and then the mouthpiece is snapped onto the top of the tank. There are snap features on either side that allow the mouthpiece to do so, to lock onto the tank.

And then as it locks on, the mouthpiece and the tank are sized or designed such that a tensile strength, a hoop stress is induced in the mouthpiece part, which means that its material is being stretched out, stretched around the tank. This exerts a compressive force inward to engage and establish that seal with the gasket.

Q. You mentioned hoop stress. What is a hoop stress, to your understanding?

A. Oh, so it's basically if you have, you know, in this case, two components, and one is slightly undersized, such that it has to stretch out to go -- to close around the other one.

Q. What would happen without the compressive force that is applied by the mouthpiece to the seal between the tank and the gasket?

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A. You would jeopardize the -- you would compromise the seal, the air and liquid tight seal between the gasket and the tank.

Q. Why isn't -- in your experience, why isn't the interface between the tank and the gasket by itself sufficient?

A. Well, because the gasket is -- it's a broad elastomeric component, so it's flexible, it's flimsy. And it alone doesn't have the stability to enforce that seal.

Q. And you mentioned that there's also a retention of the gasket in the vertical direction by the mouthpiece. Can you please explain how the mouthpiece does that?

A. Yes. You can see in the figure -- and it's called out as retaining pillars or fingers -- there are features molded into the mouthpiece protruding down and contacting the gasket so that it's prevented from traveling any further upward in this figure.

Q. And why did JUUL include, JLI include, those retaining fingers?

A. So that that gasket component can stay at the proper kind of elevation in this figure to ensure the seal that's created by that -- by that compressive force. If the gasket were to go -- to move upwards, which can happen under -- you know, in a number of cases, then the seal is compromised and you would have liquid leakage and, yeah, a

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number of issues with the performance of the pod.

Q. You mentioned a couple of circumstances in which the gasket could be displaced upwards. Can you please -- in your experience, can you please identify a few of those places?

A. Yes. So just by squeezing the pod, you can dislodge the gasket in that direction. Under normal use, when the pod is -- starts to be depleted -- so it starts almost full of liquid from manufacture -- when it comes from manufacture. As the liquid is depleted, air will be trapped. It will be replaced by air in the tank.

And then if there are pressure events, such as you go up in altitude or in an airplane, that air will expand and is trying to push the liquid elsewhere. That alone could, you know, exert enough force to dislodge the gasket in that direction.

That's all I can think of offhand.

Q. So without the retaining fingers and the mouthpiece in place, in that circumstance, if you're -- there's an altitude change on an airplane, the gasket could just pop off?

A. Yes.

Q. All right. And in addition to the function of retaining the gasket, what other functions does the mouthpiece serve in the JUUL1 pod, if any?

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A. Sure. It performs a couple of others. It serves as -- functionally as the mouthpiece. We call it the mouthpiece component, but it's also, you know, where the user puts their lips.

It has -- it's where the two absorbent pads that I called out before reside. You can see it here called out as that white rectangle that's behind the pillar features that we were discussing. And those pads serve to absorb large particles that might otherwise get entrained in the airway and deposited in the user's mouth or inhaled by the user. So those are important components of the pod. We wanted to prevent that from happening.

And then another important feature or function of the mouthpiece is that, as air exits the air path tube -- it's probably best seen in the right side of this slide, the right figure of this slide. You can see the gray or silver tube and then the -- because it's more like magenta gasket, and then black plastic above that.

Basically, the aerosol comes up there and hits a dead end and then has to double-back and redirect and split up before finally exiting the mouthpiece through two off-center apertures or outlet holes. And the reason this was implemented was -- there's a number of reasons, but an important one is that it provides additional mixing, circulation and mixing, of the aerosol to further drive --

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if there are any volatile compounds in the aerosol like unaerosolized glycerin or nicotine, it drives those -- it helps drive those into the aerosol -- sorry -- into the liquid phase. By "aerosolized," I mean turn gaseous compounds into micro-liquid particles, because that's the intent of the system overall, is to end up in that state.

And it also cools the aerosol, which would otherwise be uncomfortably hot on your lips or tongue or mouth.

Q. What would happen if -- in your experience, if you have any, if the end user somehow removed the JUUL1 mouthpiece and applied a suction force directly to the area containing the gasket?

A. Without the mouthpiece and the pads and all that, right?

Q. Yes.

A. Well, I think -- I think it's pretty clear that -- and I know from experience that you would get some liquid in your mouth.

Q. Okay. Why did you -- you said that you know that from experience. What were the circumstances in which you learned that from experience?

A. Well, you know, we conducted a lot of testing of specific elements of the system, of the pod and prototypes and in various configurations. In my experience, and, you

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know, I have done this from time to time, studying -- prototyping different components of the pod, you end up with liquid on your lips or in your mouth.

Q. And what would the effect of that be, if you end up with liquid on your mouth?

A. Well, it's not advisable. I mean, we're talking about kind of a few drops of liquid, at least, which is -- you know, it's not -- it's not -- it's not exceptionally hazardous. At the same time, it's enough that it could be nauseating to some people.

So it would be -- it would be a very adverse experience for just about anyone, I imagine.

Q. Are there any other effects that you're aware of that an end user would experience, other than liquid on their mouth?

A. Yeah. As I said, the mouthpiece helps recirculate the aerosol, driving more of the compounds into aerosol, any remaining gaseous compounds into aerosol, into liquid phase, I should say, and cools it.

So without the mouthpiece, you have just that air path tube shooting aerosol and vapor compounds into your mouth, which could be quite irritating, both from the standpoint of temperature, but also gaseous phase nicotine, in particular, is quite irritating.

Q. And without the mouthpiece, how would the top

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side of the JUUL, what's remaining of the JUUL1 pod, at least, be protected from dirt, debris, grime, that you would expect during normal use of the device, in your experience?

A. Well, it would be quite exposed. I mean, I think there's a real risk, without the mouthpiece, that you could get debris, foreign contaminants into the air path tube itself, which would be of concern because then it could make its way down into the heating region, heated up by the coil, and those compounds could end up being inhaled by the user.

Q. How does that concern compare to the concern that you had in your experience with debris entering into the micro-perforations?

A. It's similar. I mean, if debris were to get into the micro-aperture at the bottom, those could also end up in the heater, on the heater coil itself, and being heated up.

Q. So after you launched the JUUL1, how was that received by consumers?

A. The JUUL1 product?

Q. Yes.

A. As designed?

Q. As designed.

A. Okay.

Q. Not in this configuration that we were just discussing.

A. It was exceedingly well received. It was, you

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know, I think, quite successful.

Q. How do you know that?

A. From surveys, testimonials, reviews, you know, sales data. And, importantly, what we were looking at was, what I was interested in, was same store sales and at the user level, repeat sales, because, again, what we had seen is that previous products, there was a lot of trial, but not real adoption or repeat. And that meant that the smokers were going back to cigarettes.

So, yeah, we -- you know, I believe that the product succeeded in ways that predecessor products did not.

Q. And how was it received by the industry?

A. Well, I think initially by -- I mean I think there was a lot of skepticism about the product across the board at launch, but then when the sales started to pick up and everyone started seeing the same trends that we did, there was -- there were a lot of efforts to kind of follow in our footsteps, try to replicate our success, and there was a lot of kind of copycat products, me-too products.

Q. Thank you, Mr. Bowen.

MR. RIZK: Pass the witness.

JUDGE JOHNSON HINES: Thank you.

Mr. Pepe?

MR. PEPE: Do you want to take our break now or do you want to --

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JUDGE JOHNSON HINES: That's a good idea. Yeah. Why don't we reconvene at 3:45.

(A recess was taken at 3:27 p.m., after which the proceedings resumed at 3:49 p.m.)

JUDGE JOHNSON HINES: Thank you, be seated.

MR. PEPE: May I proceed, Your Honor.

JUDGE JOHNSON HINES: Yes, please.

MR. PEPE: All right.

CROSS-EXAMINATION

BY MR. PEPE:

Q. Good afternoon, Mr. Bowen.

A. Good afternoon.

Q. We're going to start with your demonstratives, and we will go to slide 7. We will put them up for you.

A. Okay.

Q. All right. So these are the main components that are assembled to form a JUULpod, right?

A. Yes. These are all of the components for the pod as it's used when inserted into the device. And then as we discussed there is a protective cap or hex cap that is removed before it's used.

Q. Okay. So I want to ask you a few questions about how these are all put together, okay?

A. Okay.

Q. So when you're putting these together, the

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electrical contacts that you have labeled there are inserted into the tank component, correct?

A. Yes.

Q. Okay. Then there are contact pads on the electrical contacts that pierce through plastic on the bottom of the tank and then are bent to be parallel with the bottom of the tank, correct?

A. Yes. I forget the specific form that those plates are in. They are stamped and then formed somewhat before assembly, and then -- but at least those two portions, those two contact plates or tabs are extended, extending towards the right in this figure such that they can be inserted through slots in the tank component.

Q. Okay. And then they are eventually bent, such that they are parallel with the bottom of the tank; is that right?

A. Then in a subsequent -- in a later step, they are folded to hold them in place and they are not -- they don't come parallel. It doesn't make a 90-degree bend, but it's in that direction.

Q. Then the wick and the coil that you have labeled in this demonstrative, those are also inserted into the tank, correct?

A. Yes.

Q. Okay. And the wick housing is also inserted into

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the tank, correct?

A. Yes, at one step during the assembly.

Q. Okay. And then the air path tube is also inserted into the tank, correct?

A. Yes. Eventually. I don't remember the sequence but it eventually gets inserted into the tank.

Q. Okay. And then the gasket is inserted into the open end of the tank to seal the tank, correct?

A. Then the gasket is inserted into the top of the tank.

Q. Okay. And then once the gasket is inserted, the coil, the wick, and the air path tube are all contained within the tank that's sealed by the gasket, correct?

A. Once the gasket is inserted, the other components have already been introduced into the tank.

Q. Okay. And the absorbent pads that you have shown there are not inserted into the tank component, correct?

A. No. The absorbent pads are inserted into the mouthpiece.

Q. Okay. And then after the absorbent pads are inserted into the mouthpiece, the mouthpiece is snapped on to the tank and over the gasket, correct?

A. Yes. I believe that the final step is that the mouthpiece containing the absorbent pads is snapped onto the tank.

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Q. Okay. When a JUULpod is filled with e-liquid, the e-liquid is also contained within the tank that's sealed by the gasket, correct?

A. When the pod is fully assembled, with those components shown here, then liquid is introduced into the tank.

Q. Okay. And it's the tank sealed by the gasket, correct?

A. By the combination of the gasket and the mouthpiece and the tank --

Q. Okay.

A. -- itself.

Q. The e-liquid -- just to be clear, the e-liquid is positioned -- is contained within the tank, correct?

A. Yes.

Q. Okay. And it's the gasket that seals the top end of the tank, correct?

A. The gasket when reinforced by the mouthpiece component.

Q. Okay. But, again, just to be clear, it's the gasket that is placed on the open end of the tank, correct?

A. The gasket is -- the gasket and the mouthpiece are attached to the end of the tank.

Q. And the mouthpiece is placed over the gasket after the gasket is placed into the tank, correct?

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A. Yes, I believe so.
Q. Okay. Now, you have also talked about the hex cap. Do you recall talking about that on your direct?
A. Yes.
Q. Okay. And I believe you testified that it protects the bottom of the pod before use, right?
A. Yes.
Q. And the user will remove the hex cap before inserting a pod into the JUUL device, correct?
A. Correct.
Q. And people can sometimes remove a JUULpod from a device before the pod is empty, correct?
A. Yes, it's possible.
Q. They don't always put the hex cap back on to the pod after they've removed a pod that still has e-liquid in it, right?
A. I don't know what's typical in that regard.
Q. But it's possible that they can remove the pod without putting the hex cap back on, correct?
A. It's possible.
Q. All right. I would like to now take a look at slide 9 of your demonstratives. All right. Here we go.
And so you see here on the left side of slide 9 you have labeled the mechanical connection on the side of the pod and an electrical connection on the bottom of the

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pod, correct?

A. Yes.

Q. All right. And the electrical connection is formed by the metallic pads that are on the bottom of the JUULpod we just talked about, right?

A. Yes, the connection is formed between a point on those, on the downward-facing surface of those plates and the tops of the pins that are in the device.

Q. Okay. And those pins are what are called pogo pins, correct?

A. Yes, commonly.

Q. And so the pins will compress when you insert the pod into the device, correct?

A. Yes, when the pod is inserted, the pogo pins depress or recess, yeah.

Q. Okay. And the purpose of using compressible pogo pins is to help ensure that the electrical pads and the pins maintain physical contact with each other when the pod is inserted into the device, correct?

A. Yeah, the purpose of the pins is to have a bias towards those contact plates so as to continue electrical contact.

Q. Okay. And it helps ensure there is a good physical connection between those two components, correct?

A. That they are in mechanical and electrical

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contact.

Q. All right. I would like to now go back to slide 7. My clicker is not working.

So you talked a little bit in your direct about how the air flows through the JUULpod so I have in follow-up questions on that.

Now I believe you testified that air flows through the bottom of the tank through a number of micro-perforations, correct?

A. Yes.

Q. And then after it enters the micro-perforations, the airflow will head straight up towards the heating coil and the wick, correct?

A. Well, it flows from those perforations through the region where the wick and the coil reside and then passing them.

Q. Okay. And it will head straight up towards the heating coil and the wick, correct, after it enters through the perforations?

A. Well, I don't know if straight, but it will eventually -- the direction, the flow is from the perforations to the wick and coil bundle and then the exit of what's labeled here wick housing.

Q. Okay. And we'll come back to that point in a second. Once it hits the heating coil in the wick, the

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airflow will split and it will go around the heating coil and the wick, correct?

A. The inlet air that flows into the bottom of the tank will have to -- inevitably have to go around, bend around the wick and coil and the liquid that is soaked into the wick.

Q. Okay. And when it goes around the wick and coil, it combines with the vapor that has been generated by the wick and coil, right?

A. Yes.

Q. Okay. And then that combination will continue to move straight up into the air path tube that you have identified on slide 7, correct?

A. That combination of gaseous compounds that have been evaporated from the liquid and the inlet air will end up in the -- via the wick housing to the air path tube.

Q. Then that combination will continue straight up through the air path tube until it reaches the gasket area and then it will enter into the mouthpiece, correct?

A. Yes. The air path tube terminates -- the end of that terminates at the top or about at the top surface of the gasket element and that's where it exits into the mouthpiece region.

Q. Okay. Now, I do want to go back to your testimony about the direction the airflow takes after it

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enters through the micro-perforations and enters towards the heating coil and the wick?

JUDGE JOHNSON HINES: Counsel?

MR. RIZK: Yes, Your Honor. I object. This is outside the scope of the direct. We did not discuss with Mr. Bowen during his direct testimony the direction that the air takes after exiting the micro-perforations.

JUDGE JOHNSON HINES: I will allow the testimony.

BY MR. PEPE:

Q. Mr. Bowen, you have seen data and simulations showing how the airflow flows through the JUUL pods, correct?

A. I have seen various simulations over time of airflow in -- that relate to prototypes and products.

Q. Okay. And so I would like to draw your attention in your cross binder, you should have two loose pieces of paper in the front of it.

MR. PEPE: Actually, Your Honor, I think we need to go on JLI confidential briefly before we display this.

JUDGE JOHNSON HINES: All right. Let's go on the JLI confidential record.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

EXAMINATION BY COUNSEL FOR ITC STAFF

BY MR. BUI:

Q. Mr. Bowen, my name is Vu Bui, and I am the Commission investigative attorney assigned to this investigation.

Do you recall providing testimony about an animation with respect to the different components of the JUULpod?

A. Yes.

Q. Okay. And all of the components of the JUULpod were shown in that animation, minus the hex cap, right?

A. That's right.

Q. And the hex cap would be attached to the bottom of the tank, correct?

A. That's correct.

Q. And as sold and shipped, the JUULpod would include the hex cap, correct?

A. Yes, they all come from the factory and to, you know, the end user packaged with the hex cap.

Q. As sold and shipped, does the JUULpod or JUUL device come with any instructions for use or user guides?

A. Yes. I don't remember the details, but I think there is some instructions and instructions that pertain to that aspect, that the cap is to be removed before use.

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Q. And to the best of your recollection, would any of those instructions for use or study guides instruct the user to remove that hex cap before normal use and operation?

A. Yes. I seem to recall -- it has been a while -- but I believe that we had instructions, at least at some point in time, we might still currently, that -- that make explicit that the cap is to be removed before the pod is used.

Q. To be clear, it's the hex cap, correct?

A. The hex cap.

Q. And that's because the hex cap has to be removed so that the JUULpod can be coupled to the JUUL device, correct?

A. That's correct.

Q. Okay. To the best of your recollection, are you aware of any instructions for use or user guides instructing the user to remove the mouthpiece?

A. To remove the mouthpiece component?

Q. Correct.

A. No.

Q. Are you aware of any instructions for use or user guides instructing the user to remove the absorbent pads?

A. No. In fact, we would strongly discourage both of those things.

Q. Are you aware of any instructions for use or user

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guides instructing the user to draw air through the gasket?

A. No, same answer.

MR. BUI: Thank you very much, Mr. Bowen.

That's all I have, Your Honor.

THE WITNESS: Thank you.

JUDGE JOHNSON HINES: Thank you. Redirect?

MR. RIZK: I will be brief, Your Honor.

REDIRECT EXAMINATION

BY MR. RIZK:

Q. Thank you for your patience, Mr. Bowen. Just a couple of quick follow-up questions.

A. Okay.

Q. During your cross-examination, you were asked about how JUUL1 pods are filled.

A. Yes.

Q. Can you please explain how JUUL1 pods are filled relative to the stages of assembly of the housing and the mouth -- I'm sorry, please explain how the JUUL1 pods are filled relative to the stages of assembly of the tank and the mouthpiece?

A. Sure. So, I mean, we can skip to the end if that's okay. The pod when it's fully assembled, all the mechanical and electrical components, sans liquid, that is fully assembled. And then we use a needle filling process where a hypodermic needle, a specialty designed one, inserts

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through the mouthpiece apertures -- I believe just one of them, actually, there is two apertures in the mouthpiece -- the needle goes through one of them, perforates the gasket, the liquid is filled, the needle is retracted, and the perforation that the needle makes is kind of self-healing. It reseals.

Q. Thank you, Mr. Bowen.

MR. RIZK: And can we please go back on to the confidential record for a moment, Your Honor?

JUDGE JOHNSON HINES: Yes. We will go on the JLI confidential.

MR. RIZK: JLI confidential record. Thank you.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

JUDGE JOHNSON HINES: Obviously, Mr. Bowen's testimony was a lot longer than the parties had both estimated.

MR. RIZK: That is true.

JUDGE JOHNSON HINES: So let's see how we go, but I wanted -- you raised the issue so I wanted to address it now before we go too much further.

MR. RIZK: Thank you, Your Honor. And for what it's worth, for Mr. White, if we are able to get him through, we will be able to get to him on the direct under the allocated budget, but I agree with Your Honor. Let's see where it goes and we will go from there.

JUDGE JOHNSON HINES: Thank you.

MR. HURLEY: Good afternoon, Your Honor, Matthew Hurley on behalf of JLI.

JUDGE JOHNSON HINES: Good afternoon.

MR. HURLEY: Your Honor, our next witness is Joe Murillo.

JUDGE JOHNSON HINES: Good afternoon.

THE WITNESS: How are you?

JUDGE JOHNSON HINES: Good, thank you.

Would you raise your right hand, please.

Whereupon--

JOE MURILLO,

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having been first duly sworn/affirmed, was examined and testified as follows:

THE WITNESS: I do.

JUDGE JOHNSON HINES: Thank you. Please be seated. And welcome.

MR. HURLEY: Your Honor, my intent is to stay on the public record the entire time.

JUDGE JOHNSON HINES: Excellent.

DIRECT EXAMINATION

BY MR. HURLEY:

Q. Good afternoon, Mr. Murillo.

A. Good afternoon.

Q. I understand you testified in the last ITC proceeding before Your Honor so I'll ask you to reintroduce yourself to the Court.

A. I did. And, again, my name is Joe Murillo, and I'm the chief regulatory advisor at JUUL Labs.

Q. How long have you been employed by JLI?

A. Just about five years.

Q. So since 2019, roughly?

A. Yes, since the beginning of October of 2019.

Q. Okay. Now, I understand there was some breaking news yesterday from the FDA on the regulatory front that I wanted to ask you about, but before we get to that, could

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you please provide a very brief overview of your career leading up to the time when you joined JLI in 2019?

A. Sure. I trained as a lawyer and started practicing law in New York as a commercial litigator. After ten years of that, went in-house into what is now Altria. I was there for about 24 years, not quite, in a number of jobs in the Law Department, in the business, and ultimately as a senior vice president of regulatory affairs.

Q. So that brings us to 2019. And why did you move from Altria to JLI?

A. I was and am a big believer in JLI's mission and thought that along with a new CEO that came over with me from Altria, we could make a difference to reset the category and advance the mission.

Q. What was your role at JLI when you joined the company?

A. I was the chief regulatory officer and I was responsible for all regulatory and external affairs matters, including government affairs, communications, science, regulatory, of course, a number of external areas.

Q. Now, I understand your title recently changed; is that correct?

A. Yes.

Q. And your title is now JLI's chief regulatory advisor, correct?

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A. Correct.

Q. Is there any difference between those two positions in terms of the strategic regulatory guidance that you provide to the company?

A. No, there is not.

Q. Now, a minute ago, you mentioned JLI's mission. What has JLI's mission been since you joined the company in 2019?

A. Our focus is to convert as many adult smokers as we can. There are over a billion adult smokers worldwide and many of them either can't quit or won't quit. And our mission is to provide an alternative to them, hopefully and eventually eliminate cigarette smoking, all while combatting underage use of the product in our product.

Q. Now, given that mission, what were your initial priorities when you first became JLI's chief regulatory officer?

A. Well, along with the new CEO, we felt that an entire reset of both, actually the ENDS or vapor category and JLI were necessary in order to continue advancing the mission, particularly as we were in the middle of preparing for a PMTA, a very significant regulatory process with the FDA.

And we felt that it was essential to really take a fresh look at everything and just impact the trajectory,

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particularly as it related to underage use of JUUL, which at that point was fairly high.

Q. Now, you mentioned PMTA. At a high level, what is a PMTA?

A. A PMTA is an acronym for a premarket tobacco authorization. And it is creation of the Tobacco Control Act, which was enacted by President Obama in 2009, giving the FDA jurisdiction over tobacco and nicotine products.

So it is the principal way that products seek authorization from the Food and Drug Administration, particularly the type of products that JUUL makes.

Q. Has JUUL -- has JLI filed any PMTAs during your tenure at the company?

A. Yes. We filed several.

Q. And what was your role in preparing and filing those PMTAs?

A. Ultimate responsibility for all aspects of the filing.

Q. What does the PMTA process entail?

A. Well, it is a fairly arduous process. The standard that you have to meet is that marketing the product is "appropriate for the protection of the public health." And essentially it goes through a series of types of data that you gather, scientific data you gather and present to the agency.

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I like to break it down into four categories from manufacturing all the way to population impact.

Q. Now, I understand some demonstratives were prepared at your direction; is that correct, Mr. Murillo?

A. Yes.

Q. Let's take a look at those demonstratives if we could. And we will start on the second slide.

And what are we looking at this with this slide, Mr. Murillo?

A. This is a summary of JLI's PMTA submissions to date, listing the four types of submissions that we have made since I came to the company.

Q. Let's start with the first one listed here. Can you give a brief overview of what that PMTA covered that looks like it was submitted in July 2020?

A. Right. That was the first set of PMTAs we filed, and they are for the currently marketed JUUL system. So the products that are currently in the market in the United States are the subject of this PMTA.

And we filed it in July 2020. That's where the breaking news comes in. It's a long story but we had a marketing denial order originally in June of 2022. We filed an appeal, an administrative appeal, and asked for supervisory review and just yesterday we learned that the FDA rescinded the marketing denial order and it is now back

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pending scientific review before the FDA.

Q. Okay. Without displaying this, this is a confidential document but we can stay on the public record if we just look at it in your binder first.

Mr. Murillo, if you could look in your witness binder, it is the last tab and it's marked RX-1619C.

Do you see that?

A. Yes.

Q. Okay. And do you recognize that document?

A. It is. Yeah, I do.

Q. And what is it?

A. It is a letter to JUUL Labs from the FDA rescinding the denial of the July 2020 applications.

Q. And this was the letter you just received yesterday from the FDA, correct?

A. Correct.

Q. Okay. And what is the impact of that letter on JLI?

A. It means that essentially they at least agreed in part with our appeal. They rescinded the denial order and we are back into scientific review. So we're back to essentially where we were on July 2020. We are now undergoing scientific review before the FDA.

Q. Is JLI permitted to sell its products while the FDA continues its scientific review?

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A. Oh, absolutely.

Q. Now, back to the slide with the description of the various PMTAs filed. Could you briefly describe the second through fourth -- the second, third, and fourth PMTAs that JLI filed?

A. Sure. In December of 2022, we filed PMTAs for two products, both tobacco flavors, both versions of our product that worked with the existing JUUL device, so the device that is the subject of the JUUL 2020 PMTA.

And then starting in July of last year, and into December, we filed PMTAs for what we call our next generation vapor platform, first with tobacco-flavored pods and then in December for menthol-flavored pods that also includes a locking mechanism to prevent -- meant to prevent underage access.

And those have been accepted. They have been submitted. They have been accepted, which is like two stages. And now we're into preparing or expecting news on the third stage, which is filing for scientific review.

Q. Now, a moment ago you mentioned that there are four components to the PMTA; is that correct?

A. Yeah. Four categories of data, as I try to simplify it, that the agency is looking for and applicants submit.

Q. Let's take a look at the next slide.

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What does this slide show?

A. This slide shows a PMTA process overview with the core components that I was describing earlier.

Q. Let's actually skip the manufacturing component for now and go right to risk reduction, which is the fifth slide.

What does this component describe?

A. In this area, you are really going to the heart of the matter, which is if something is going to be appropriate for the protection of the public health, it has to meet a substantial risk reduction bar.

In other words, if the point of this product is to offer an effective alternative to people who smoke that will allow them to completely convert away from smoking and reduce the harm associated with smoking, you have to start from the concept of risk reduction.

And in this area we have submitted, actually, tons of material from chemistry all the way to clinical studies demonstrating the significant reduction in toxic and exposure offered by JUUL products versus smoking cigarettes.

Q. So let's talk a little bit about that.

Do you have an understanding of how much JLI's products reduce health risk to smokers relative to combustible cigarettes?

A. Yeah. I mean, roughly both from our chemistry

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and clinical studies, we have an over 95 percent reduction in the exposure to toxicants versus smoking cigarettes.

Q. Let's move to the next slide. And this slide talks about conversion. What do you mean by conversion?

A. Right. So in this area, we're trying to demonstrate that the product can and will and in some cases does convert adult smokers away from smoking. The product, regardless of its risk reduction profile, will only be effective from a public health standpoint if it is, in fact, converting people away from smoking.

I worked on any number of products over my career that were, for example, very good at risk reduction but nobody wanted to use them so in this area you should be demonstrating your ability to convert people who smoke.

Q. Has JLI been effective in switching adult smokers from combustible cigarettes?

A. Absolutely. I mean, we've presented a lot of data to the FDA and published it in scientific journals, but in general, for example, in our purchaser longitudinal study in the United States, we have demonstrated that over, for example, a 24-month period we've been able to convert 58 percent of the people who purchased the product from smoking to our product or not using anything at all.

And that is defined as -- for us as no use of cigarettes within the past 30 days, not even one puff. So

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it's a high bar.

Q. Let's take a look at the next slide.

What is this showing?

A. This is a chart showing the data that I was just describing for what is called our ADJUSST Study. And it shows the data trend over 24 months suggesting a 58.6 percent switching rate at the end of 24 months.

Q. Mr. Murillo, do you have an understanding of how many adult smokers in the United States have completely switched to JUUL?

A. Our estimates are up to about a little bit over 2 million. So 2 million people that smoked before JUUL was introduced and use JUUL are now not smoking.

Q. What if anything do these results indicate to you about JLI's ability to convert smokers?

A. I think by any measure it shows that JUUL's products have a superior ability to convert smokers and have been quite effective. And we're very pleased with those results.

Q. Let's go to the next slide, please.

The final component or category of the PMTA as you testified is population impact. Can you describe what that component is?

A. Yes. This is perhaps the most -- the broadest aspect of it but the statute requires the FDA to consider

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the risks and benefits of marketing the candidate product as a whole, taking into account both users and non-users of the product.

So, for example, in this area, you're demonstrating that the pros of the product far outweigh the cons of the product. We're looking to see, for example, are we attracting non-users, particularly underage non-users, to the product. And that's sort of the balancing test that the FDA is required to take under consideration.

Q. You mentioned underage users. What type of data did JLI include in its PMTA submissions regarding underage use?

A. We included a lot of data, for example, characterizing youth use of the product and the category, and specifically JUUL products, but, in particular, we generated data to justify and support what we call our three pillar plan, to combat underage use of JUUL's products.

Q. If we can take a look at the next slide.

Does this summarize that three pillar plan that you just talked about?

A. It does.

Q. Okay. So let's go through this a bit. What are the three pillars to JLI's plan to mitigate underage use?

A. Well, the first part is about limiting underage appeal. And we studied the data that had been put forward

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in FDA science and in science in the public health literature, and focused on the types of products that kids were using. And we found that products that were not tobacco and menthol were much more likely to be used than products that were for starters.

Here again, we're also looking at limiting appeal by highly tailoring our marketing and foregoing a lot of marketing channels that one might otherwise imagine would reach adult smokers.

In the second area, we're talking about restricted access. And this has a lot of components but really two particular components that are useful to summarize if you want to go there.

Q. Sure. Yeah, let's just bring up the slide on -- you're moving on to restrict?

A. Yes.

Q. Let's pull that slide up. So what does that particular component describe?

A. Right. There we're talking about efforts that we can use to restrict access. And by studying the science in this area, we learned a number of things but one of the things we learned is that most kids were getting product or today get product not from purchasing it themselves, but from what is called social access. Somebody else is purchasing products, perhaps in bulk, and giving or

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reselling to those that are underage.

For example, by having product quantity limits, we can mitigate that sort of activity. In addition, we know that retailers I'm sure mean to do the right thing, but in the hurry of a transaction, don't always comply with the rules about checking ID each time.

We have a program called enhanced access control, which requires retailers to have to actually scan the ID before they can complete the transaction at the cash register.

Q. All right. Let's move on to the next pillar of the plan to mitigate underage use. That's described as enforce.

What does that one describe?

A. In this area, we're focused on the fact that there are a lot of activities that JUUL does not condone or undertake or authorize, that may have either appeal or generate access for kids. So, for example, social media, which we do not participate in for marketing, is something that we look at and try to enforce our trademark and intellectual property rights against third-party content that should not be on there.

Similarly, with respect to product, particularly in earlier years we found that there was something for example called compatible pods, where pods were coming in

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from abroad that were sold as being compatible with JUUL, even though they were not sanctioned by JUUL.

And we have taken lots of action, including litigation, to stop that.

Q. Now, Mr. Murillo, how effective has JLI's plan been, this three pillar plan that you just testified about, how effective has that plan been in mitigating underage use of JLI's products?

A. Well, I mean, I think it has been highly effective as part of any number of things, including government and public health interventions, but we have seen approximately a 95 percent downturn in regular use of JUUL products by those underage since 2019.

Q. So in looking at the next slide, is this the data that you're referring to?

A. Right. This is an example of that data, which is taken from the National Youth Tobacco Survey, put out by FDA and the Centers for Disease Control and it shows a 95 percent reduction of regular JUUL use over time.

Q. Now, this data is through 2022. Has that trend continued through 2023, if you know?

A. It has.

Q. Thank you, Mr. Murillo. I have no further questions at this time.

MR. HURLEY: I pass the witness.

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JUDGE JOHNSON HINES: Thank you.

Good afternoon, Ms. Bohanon.

MS. BOHANON: Good afternoon, Your Honor. Good afternoon, Mr. Murillo. Nice to see you again.

THE WITNESS: How are you? You too.

MS. BOHANON: I am doing well. Thank you.

CROSS-EXAMINATION

BY MS. BOHANON:

Q. You just mentioned, you testified in 1368 and I know the Court has heard a lot about the PMTA process. I am going to try to keep this very brief but I want to make sure that we have the key FDA points in the record.

A. Okay.

Q. E-cigarettes are required to file a PMTA to receive FDA authorization, correct?

A. That's correct, unless they pursue a pharmaceutical path or if for some reason there is, in fact, an e-cigarette prior to an effective date of, I believe, 2007, but I don't remember the precise date.

Q. Certainly the JUUL product on the market today was required to file a PMTA, correct?

A. That is correct.

Q. And as we heard, you have also filed one for JUUL2, correct?

A. Correct.

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Q. And ultimately, if FDA reaches a final decision on the PMTA, there are two potential outcomes; marketing granted order or marketing denial order, correct?

A. From an FDA perspective, that is correct.

Q. And you agree that eventually all e-cigarettes will require an MGO to stay on the market, correct?

A. If they are under the Tobacco Control Act, yes. The only exception that I can think of would be, again, in the pharmaceutical path.

Q. Okay. So all JUUL e-cigarettes will be required to receive an MGO to stay on the market, correct?

A. Again, unless we took a pharmaceutical path, any JUUL e-cigarette that we're currently applying for would eventually need a PMTA.

Q. Okay. And JUUL2 can't go on the market in the U.S. until after it receives an MGO through the tobacco authorization path, correct?

A. That is correct.

Q. Okay. You discussed on direct a -- let me find the exact words -- breaking news on the regulatory front.

MS. BOHANON: And I want to talk about that too but to do so I need to briefly move to the JLI confidential record, Your Honor.

JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential

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session.)

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O P E N S E S S I O N

BY MS. BOHANON:

Q. Mr. Murillo, you talked about offering effective alternatives to people who smoke on your direct. So let's talk about other products that are, in your view, effective alternatives.

As you mentioned, you testified in the 1368 matter last month. You and I were both here for that, weren't we?

A. Um-hum.

Q. All right. And you told the Court then that there are other products that you view as viable alternatives to combustible cigarettes, didn't you?

A. I did.

Q. And you listed some of those alternatives, didn't you?

A. I don't recall listing them, but I may have.

Q. All right. We can look at that in just a minute. But you view smokeless tobacco products as a viable alternative to cigarettes, don't you?

A. For certain individuals, absolutely.

Q. And you view snus as a viable alternative to cigarettes?

A. Again, for certain individuals, absolutely.

Q. And you view oral nicotine pouch products as a

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viable alternative to cigarettes, correct?

A. Again for certain individuals, yes, they could be viable.

Q. And you viewed heated tobacco products as a viable alternative to cigarettes, correct?

A. Again, for certain individuals who smoke, they could be and have been seen to be viable.

Q. And you view a number of other e-cigarettes as viable alternatives to combustible cigarettes, correct?

A. If they are effective at switching and so forth, they could be, yes.

Q. And last month you said this wasn't even an exhaustive list of all of the alternatives, didn't you?

A. I don't recall that.

Q. Let's look at it. This is tab 1 in your binder. This is your trial testimony from the 1368 matter on page 296, lines 1 through 15.

All right. And I will read that.

"Question: As the chief regulatory executive at JLI, are you aware of other harm reduction products besides the JUUL system?

"Answer: Yes, for sure.

"I mean, there are a number of different types of products that are alternatives to cigarette smokers that are in the harm reduction scale. I would include smokeless

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products, you know, oral nicotine pouch products, also called snus sometimes, heated tobacco products, and of course, a number of other ENDS products.

"Question: Is that list you just named exhaustive?

"Answer: No. I mean, it's off the top of my head.

"Question: Are all of these viable alternatives to traditional combustible cigarettes?

"Answer: Oh, yes, absolutely."

Do you see that?

A. I do.

MS. BOHANON: No further questions, Your Honor.

JUDGE JOHNSON HINES: Thank you.

Mr. Bui?

MR. BUI: Thank you, Your Honor.

May I proceed?

JUDGE JOHNSON HINES: Please.

EXAMINATION BY COUNSEL FOR ITC STAFF

BY MR. BUI:

Q. Good afternoon, Mr. Murillo.

A. Good afternoon.

Q. My name is Vu Bui and I am the Commission investigative attorney assigned to this investigation. Thank you very much for traveling to testify today.

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As JLI's chief regulatory advisor, you're familiar with both JLI's PMTA submissions and the PMTA process, correct?

A. Yes.

Q. I believe you testified earlier that the JUUL2 tobacco PMTA was submitted on July 2023, correct?

A. Yes.

Q. And the JUUL2 Polar Menthol PMTA was submitted in December 2023, correct?

A. Yes.

Q. Do you have an expectation as to when the JUUL2 tobacco system might be granted a marketing order?

A. Of course I don't know for sure, but we believe that the FDA is considering the JUUL2 products in what they call Queue 3, which is, in their words, more or less an expedited queue meant to address products that offer youth access control technology such as our JUUL2 products.

Q. Mr. Murillo, does that Queue 3 review apply both to the JUUL2 tobacco and the JUUL2 Polar Menthol?

A. That would be my understanding.

Q. Mr. Murillo, do you know what is the average length of the PMTA process?

A. Oh, goodness. I mean, it has ranged wildly. It is supposed to be 180 days. But I don't know of a product that has been adjudicated within 180 days. It has ranged

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anywhere from, I would say, I mean, a year to 18 months to, as we see here today, several years.

Q. Thank you. Now, earlier you testified about four core components of the PMTA process. Do you recall that?

A. Yes.

Q. Does JLI consider any one of those four core components to be more important than any of the other components?

A. It depends on what you mean by important. In terms of the data that is generated, they are fairly important and require a lot of evidence. I would think that a combination of the risk reduction and overall population impact would be the most important aspect of the discussion with FDA.

Q. I see. So am I correct to understand that JLI weighs the risk reduction component and the population impact component more significantly than the other two components?

A. It's hard for me to assess what you mean by "weigh." I mean, in our perspective, they are all very important because they are all how you meet the ultimate standard, which is to demonstrate that marketing the product would be appropriate for the protection of the public health.

In the absence of more specific guidance from the

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FDA, we're clearly trying to help them balance whether the benefits of the product, in this case risk reduction and conversion, well outweigh the risks of the product from the population standpoint.

So I think that to me is the crucial question.

Q. Thank you. I would like to focus on the fourth component, the fourth core component which is population impact.

A. Okay.

Q. That population includes users and non-users of tobacco products, correct?

A. Correct.

Q. And you have already provided testimony with respect to a certain group of non-users, specifically the underage users, correct?

A. Yes.

Q. Other than the underage use, are there any other subgroups that would fall under that population?

A. Yeah, I think the FDA -- I'm going to go from memory -- but I think the FDA would look at, for example, whether people that are adults but have never smoked before or used nicotine before are going to take up the candidate product in large numbers.

I think they would be looking at whether marketing or introduction of the product in the commerce

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could have the effect of impeding smokers from quitting nicotine completely.

I mean, those are examples that I can think of right now.

Q. Thank you, Mr. Murillo.

Now, earlier you also provided some testimony with regard to National Youth Tobacco Survey data, correct?

A. Yes.

Q. And that data was from 2019 to 2022, correct?

A. Yes.

Q. And I believe you testified that there was a 95 percent reduction in youth use of JUUL?

A. Correct.

Q. Okay. And notwithstanding that reduction, today, currently, is underage use still a risk that JUUL seeks to address?

A. Absolutely. I mean, personally I would like there to be zero underage use but it is something that we're always trying to mitigate against.

MR. BUI: Thank you, Mr. Murillo.

Your Honor, that's all I have.

JUDGE JOHNSON HINES: All right. Any redirect?

MR. HURLEY: Just very briefly, Your Honor.

JUDGE JOHNSON HINES: All right.

REDIRECT EXAMINATION

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BY MR. HURLEY:

Q. Mr. Murillo, you were asked on cross-examination about viable alternatives to combustible cigarettes. Do you recall that testimony?

A. I do.

Q. Were those same products in your view viable alternatives to JUUL products?

A. No. I wouldn't think of it that way.

Q. Okay. Why not?

A. Well, I mean, I have data that supports the conversion potential and actual conversion of JUUL products, and we've looked at data with respect to the interaction of the people who switch with respect to other products.

And it would be hard for me to conclude that some of those other products would be viable alternatives to JUUL. They may be viable alternatives to smokers, right, but I don't -- I wouldn't put that analysis in the same category as an alternative to JUUL.

Q. One final question. Was yesterday's news from the FDA good news for your company or not good news?

A. I would say it was fantastic news, because the FDA essentially did pretty much everything we had asked them to do in the appeal, which is to rescind the marketing denial order, put us back into scientific review, and give us a comprehensive set of substantive questions, which they

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call deficiencies, that we can tackle and go through a full scientific review whereas before we thought that we understood their decision to have a truncated review, but we certainly didn't agree with it and we think we're entitled to a full review, which is what we're now undertaking.

MR. HURLEY: Thank you, Mr. Murillo.

No further questions, Your Honor.

JUDGE JOHNSON HINES: Thank you. Anything else? All right. Mr. Murillo, thank you for your time. Have a nice weekend.

THE WITNESS: You too.

(The witness stood down.)

JUDGE JOHNSON HINES: All right. I would like to get realistic estimates for how long the next witness would take and then I would like to take a short break to discuss internally whether we will do that.

MR. RIZK: Thank you, Your Honor. On direct, I think that we can complete Mr. White in ten minutes.

JUDGE JOHNSON HINES: All right. Look, I don't want to make you truncate what you otherwise need to get into evidence. I don't want to do that. It is 5:15 on a Friday. We have been going since 9:00. It is a long day.

That said, I understand the desire for people to go home. So I am just trying to figure out what the best thing is to do. So I am not trying to crunch your time.

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MR. RIZK: I appreciate the Court's accommodation.

JUDGE JOHNSON HINES: Counsel, do you have an estimate?

MR. PEPE: I think it will be five to ten minutes, depending on what we have seen, but you never know what the witness is going to say.

JUDGE JOHNSON HINES: Mr. Bui?

MR. BUI: Your Honor, I don't believe I will have any cross for this particular witness. Thank you.

JUDGE JOHNSON HINES: If we can take a two- to three-minute break, I would appreciate it.

(A recess was taken at 5:16 p.m., after which the proceedings resumed at 5:19 p.m.)

JUDGE JOHNSON HINES: Let's proceed with the last witness.

All right, counsel, can you call the witness, please?

MR. RIZK: Yes. The Respondent calls Bryan White to the stand.

JUDGE JOHNSON HINES: Good afternoon, Mr. White. Would you raise your right hand.

Whereupon--

BRYAN WHITE,

having been first duly sworn/affirmed, was examined and

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testified as follows:

THE WITNESS: I do.

JUDGE JOHNSON HINES: Thank you very much. Have a seat and welcome.

DIRECT EXAMINATION

BY MR. RIZK:

Q. Good afternoon, Mr. White. Would you please introduce yourself for the record.

A. Sure. My name is Bryan White.

Q. And what is your current employment?

A. I currently work for JUUL Labs, otherwise known as JLI.

Q. What is your title there?

A. Senior vice president of product design, research and chemistry.

Q. And in that role, what is your connection to the JUUL1 pod and the Luna pod?

A. So my team is responsible for all new product development and sustaining engineering work at JUUL Labs. I joined concurrent to the JUUL1 product being launched and my team has supported all sustaining activities and scaling activities for that product. And for the Luna pods, all the development work was completed by my team.

Q. Thank you, Mr. White.

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MR. RIZK: And, Your Honor, if we can go on the confidential record, please.

JUDGE JOHNSON HINES: JLI confidential record?

MR. RIZK: JLI. Thank you.

(Whereupon, the hearing proceeded in confidential session.)

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C O N T E N T S

WITNESS	DIRECT	CROSS	REDIRECT	RECROSS	STAFF
GLENN VALLEE		609	679		635
THOMAS VANDER VEEN	686	752			782
ADAM BOWEN	789	811	829	843	827
JOE MURILLO	846	860	875		871
BRYAN WHITE	879	889			

AFTERNOON SESSION: 727

CONFIDENTIAL SESSIONS

640 - 647

674 - 675

695 - 740

743 - 752

762 - 788

820 - 826

831 - 844

863 - 868

881 - end

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E X H I B I T S

EXHIBIT LISTS SUBMITTED FOR ADMISSION:

CPX-0001.1
CPX-0001.2
CPX-0001.3
CPX-0002
CPX-0003
CPX-0005
CPX-0006
CPX-0007
CPX-0008
CPX-0009.1
CPX-0010
CPX-0011
CPX-0012
CPX-0013
CPX-0015
CPX-0016
CPX-0017
CPX-0018
CPX-0019
CX-0310C
CX-0311
CX-1377C
CX-1378C

NJOY Exhibit 2014.0603
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CX-1386
CX-2161C
CX-2164
CX-2987C
JX-0001
JX-0002
JX-0003
JX-0004
JX-0005
JX-0006
JX-0007
JX-0008
JX-0009
JX-0010
JX-0011
JX-0012
JX-0014C
JX-0015C
JX-0017C
JX-0019C
JX-0021C
JX-0035C
JX-0036
JX-0040C
JX-0068

NJOY Exhibit 2014.0604
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JX-0072
JX-0073C
JX-0074
JX-0079C
JX-0080C
JX-0091C
JX-0094C
JX-0106
JX-0112
JX-0130C
JX-0188C
JX-0229
JX-0231
JX-0233
JX-0239
JX-0240
JX-0242
JX-0243
JX-0244
JX-0248
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JX-0250
JX-0255
JX-0256
JX-0259

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JX-0261
JX-0262
JX-0263
JX-0264
JX-0266
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JX-0271
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JX-0273
JX-0274
JX-0275
JX-0276
JX-0277
JX-0278
JX-0279
JX-0280
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JX-0282
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JX-0297
JX-0299
JX-0300
JX-0301
JX-0303
JX-0310

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JX-0312
JX-0315
JX-0320
JX-0325
JX-0331
JX-0332
JX-0333
JX-0342
JX-0343
JX-0349
JX-0350
JX-0354
JX-0360
JX-0364
JX-0365
JX-0366
JX-0369
JX-0370
JX-0374
JX-0376
JX-0377
JX-0379
JX-0381
JX-0382
JX-0385

NJOY Exhibit 2014.0607
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JX-0387
JX-0388
JX-0390
JX-0392
JX-0412C
JX-0413C
JX-0414C
JX-0415C
JX-0416C
JX-0417C
JX-0418C
JX-0433
JX-0434
JX-0438
JX-0441
JX-0449
JX-0451
JX-0452
JX-0453
JX-0454
JX-0461C
JX-0462C
JX-0463
JX-0464
JX-0467

NJOY Exhibit 2014.0608
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JX-0469
JX-0471
JX-0475
JX-0484C
JX-0486
JX-0488C
JX-0491C
JX-0498C
JX-0502
JX-0505
JX-0506C
JX-0507
JX-0508C
JX-0520
JX-0521
JX-0541C
JX-0543
JX-0544
JX-0545
JX-0556
JX-0558C
JX-0559C
JX-0560C
JX-0562C
JX-0565

NJOY Exhibit 2014.0609
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JX-0567
JX-0568
JX-0570C
JX-0588C
JX-0589C
JX-0591C
JX-0594
JX-0595
JX-0596
JX-0627
RPX-0001
RPX-0002
RPX-0003
RPX-0004
RPX-0005
RPX-0006
RPX-0007
RPX-0008
RPX-0009
RPX-0010
RPX-0011
RPX-0012
RPX-0013
RPX-0014
RPX-0015

NJOY Exhibit 2014.0610
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RPX-0016
RPX-0017
RPX-0018
RPX-0019
RPX-0020
RPX-0021
RPX-0022C
RPX-0023C
RPX-0024C
RPX-0025C
RPX-0026C
RPX-0027C
RPX-0028C
RPX-0029C
RPX-0030C
RPX-0031C
RPX-0032C
RPX-0033C
RPX-0034C
RPX-0035C
RPX-0036C
RPX-0037C
RPX-0038C
RPX-0039C
RPX-0040C

NJOY Exhibit 2014.0611
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RPX-0041C
RX-0039C
RX-0530
RX-0532
RX-0533
RX-0934C
RX-1112C
RX-1123C
RX-1126C
RX-1184C
RX-1186C
RX-1188C
RX-1189C
RX-1190C
RX-1193C
RX-1194C
RX-1195C
RX-1196C
RX-1197C
RX-1198C
RX-1227C
RX-1308
RX-1309
RX-1324C
RX-1327C

NJOY Exhibit 2014.0612
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RX-1340
RX-1345
RX-1346C
RX-1348C
RX-1352C
RX-1353C
RX-1354C
RX-1355C
RX-1356
RX-1357C
RX-1358
RX-1359
RX-1360C
RX-1361C

NJOY Exhibit 2014.0613
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CERTIFICATE OF REPORTER

TITLE: Certain Vaporizer Devices, Cartridges Used Therewith, and Components Thereof

INVESTIGATION NO: 337-TA-1372

HEARING DATE: June 7, 2024

LOCATION: Courtroom A

NATURE OF HEARING: Evidentiary Hearing

I hereby certify that the foregoing/attached transcript is a true, correct and complete record of the above-referenced proceedings of the U.S. International Trade Commission.

Date: June 7, 2024

SIGNED: _____

Signature of the Contractor of the Authorized Contractor's Representative
1220 L Street, N.W., Suite 206
Washington, D.C. 20005

I hereby certify that I am not the Court Reporter and that I have proofread the above-referenced transcript of the proceedings of the U.S. International Trade Commission, against the aforementioned Court Reporter's notes and recordings, for accuracy in transcription in the spelling, hyphenation, punctuation and speaker identification and did not make any changes of a substantive nature. The foregoing/attached transcript is a true, correct and complete transcription of the proceedings.

SIGNED: _____

Signature of Proofreader

I hereby certify that I reported the above-referenced proceedings of the U.S. International Trade Commission and caused to be prepared from my tapes and notes of the proceedings a true, correct and complete verbatim recording of the proceedings.

SIGNED: _____

Signature of the Court Reporter

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Juul v. NJOY
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UNITED STATES
INTERNATIONAL TRADE COMMISSION

In the Matter of:	)	Investigation No.
CERTAIN VAPORIZER DEVICES,	)	337-TA-1372
CARTRIDGES USED THEREWITH, AND	)	
COMPONENTS THEREOF	)	

OPEN SESSIONS

Pages: 907 through 1253 (with excerpts)

Place: Washington, D.C.

Date: June 10, 2024

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Juul v. NJOY
IPR2024-00160

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

BEFORE THE HONORABLE DORIS JOHNSON HINES

Administrative Law Judge

In the Matter of:	)	Investigation No.
CERTAIN VAPORIZER DEVICES, CARTRIDGES USED THEREWITH, AND COMPONENTS THEREOF	)	337-TA-1372

International Trade Commission

500 E Street, S.W.

Washington, D.C.

Monday, June 10 2024

EVIDENTIARY HEARING - VOLUME IV

The Hearing commenced in Courtroom A, pursuant to the notice of the Judge, at 9:00 Eastern.

Reported by: Karen Brynteson, RMR, CRR, FAPR

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IPR2024-00160

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NJOY Exhibit 2014.0617
Juul v. NJOY
IPR2024-00160

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Juul v. NJOY
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Juul v. NJOY
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APPEARANCES (Continued):

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P R O C E E D I N G S

(9:00 a.m.)

JUDGE JOHNSON HINES: Good morning, everyone. Please be seated.

All right. Good morning. Before we get started with NJOY's next witness, is there anything that we should discuss?

Mr. Desai.

MR. DESAI: Good morning. I believe there are a few things that may be discussed later today.

JUDGE JOHNSON HINES: Okay.

MR. DESAI: Mr. Bonet's deposition designations, there's still discussion going on there.

JUDGE JOHNSON HINES: Okay.

MR. DESAI: And then we may have a dispute about a few of Mr. Leinsing's slides, but that's still a work in progress. But I think we'll have something for you this afternoon.

JUDGE JOHNSON HINES: All right.

MR. DESAI: Before he testifies. I don't believe there's anything else, Your Honor.

JUDGE JOHNSON HINES: All right.

MR. KARAMBELAS: Nothing from Respondent at this time, Your Honor.

JUDGE JOHNSON HINES: All right. Mr. Bui?

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MR. BUI: Ready to proceed with the witness, Your Honor. Thank you.

JUDGE JOHNSON HINES: Fantastic. All right.

So NJOY, can you call your next witness, please?

MR. KARAMBELAS: Respondent JLI calls Dr. Seth, Your Honor.

JUDGE JOHNSON HINES: I'm sorry. I apologize. JLI. I'm sorry about that.

Good morning, counsel.

MS. HERNDON: Good morning, Your Honor. Courtney Herndon for Respondent, JLI.

JUDGE JOHNSON HINES: Would you raise your right hand, please.

Whereupon--

PALLAVI SETH,

having been first duly sworn/affirmed, was examined and testified as follows:

THE WITNESS: Yes, I do.

JUDGE JOHNSON HINES: Thank you. Please be seated, and welcome.

Yes, thank you.

DIRECT EXAMINATION

BY MS. HERNDON:

Q. Good morning, Dr. Seth. Would you please introduce yourself to the Court.

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A. Good morning. My name is Dr. Pallavi Seth.
Q. Did you prepare any materials to illustrate your testimony today?
A. Yes, I did. I have a set of demonstrative slides, RDX-9C.
Q. Can you provide us with a summary of your educational background.
A. Sure. I have a Ph.D. in economics from Boston College. I also have an AB in mathematics and economics magna cum laude from Mount Holyoke College.
Q. Where do you currently work?
A. I currently work at The Brattle Group.
Q. And what is The Brattle Group?
A. The Brattle Group is an international economic consulting firm, provides both business support, litigation support. We have offices across the U.S., also in Canada, Europe, and in Australia. I'm a partner at the firm, principal, and also the cochair of the firm's IP practice.
Q. And what does your work entail as a principal and cochair of the IP practice?
A. Much of my practice actually involves analyzing economic issues surrounding intellectual property. I've worked in over 50 Section 337 investigations. I also regularly testify on economic damages issues in IP cases in district courts.

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MS. HERNDON: Your Honor, Respondent moves for the admission of Dr. Seth as an expert witness in economics.

JUDGE JOHNSON HINES: Any objection?

MR. SKANCHY: No. No objection, Your Honor.

MR. BUI: No objection, Your Honor.

JUDGE JOHNSON HINES: Thank you. So tendered.

BY MS. HERNDON:

Q. Dr. Seth, what were you retained to do today in this investigation?

A. I was retained by counsel for Respondent, JLI, to evaluate the impact of remedial orders that was requested by the Respondent -- by the Complainant on the four public interest factors.

Q. And if we could move to the next slide. And what is your opinion?

A. My opinion is that the Commission should not have -- not -- should decline to issue any remedial orders, given the public interest. Alternatively, the Commission should delay the requested remedial orders by at least 12 to 18 months and as much as 24 to 36 months to allow for adequate replacements for the JUUL system.

Q. Thank you. And moving to the next slide, at a high level, can you explain the basis of your opinion?

A. Sure. One of the key things we look at when analyzing public interest factors is to consider are there

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adequate readily available alternatives or not for the accused products. In this case, there are several reasons why there aren't readily available, adequate alternatives to the JUUL system.

One of them is the fact that the JUUL is a differentiated product. JUUL has been able to command a price premium from its consumers. It's robustly adopted. It is also a uniquely effective product.

Moreover, NJOY has not shown that it or any other third parties has a production capacity to be able to manufacture enough products as effective as JUUL to be able to replace the JUUL system.

And, finally, evidence shows that if JUUL is not available in the market, consumers will use other products that are not as effective as JUUL, that are more harmful than JUUL as well.

Q. Thank you, Dr. Seth.

And moving to the next slides, let's discuss your opinion that the JUUL products are differentiated beginning with the first part of your analysis, JUUL's effectiveness.

A. Sure. As I mentioned, JUUL is a uniquely effective product. I have a slide that lists what the reasons are for it being an effective product. I understand from Dr. Madl that -- I understand from Dr. Madl that -- we're waiting for the --

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Q. Go ahead.

A. Okay. I understand from Dr. Madl that JUUL is a -- is highly effective and, in fact, uniquely effective in being able to switch consumers away from combustible cigarettes to where it's the JUUL product. And so it has the highest switching rates.

And I know Dr. Madl will be here and you all will hear from her more about it. I also understand from her and from Dr. Goldenson that it's particularly effective at balancing abuse liability. It also has one of the highest product satisfactions, mimics combustible cigarettes very closely in terms of the satisfaction consumers get from it, and, finally, there's reduced HPHC exposure from JUUL compared to combustible cigarettes, almost 95 to 98 percent less toxins.

Q. Dr. Seth --

JUDGE JOHNSON HINES: Can I ask you a question? What does "balancing abuse liability" mean?

THE WITNESS: Your Honor, I have a high level understanding. Dr. Madl, I believe, will be able to explain it better than me, but my understanding is that it balances the kind of -- the addiction aspect of it and the satisfaction aspect of it.

JUDGE JOHNSON HINES: Okay.

THE WITNESS: So just, you know, at a very high

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level, my understanding is that, you know, when you're -- when you're smoking, there's kind of like a curve where you're like, oh, I want more nicotine and I need more nicotine. What JUUL is able to do is with -- it exposes you to less nicotine, but it's still able to provide you with a very similar curve to how you feel when you smoke a cigarette.

I'm sorry, I'm not the toxicologist here, so it's in my economic words almost in a way.

JUDGE JOHNSON HINES: Thank you.

BY MS. HERNDON:

Q. And I think Your Honor asked my next question, so moving on to price premium, if we could go to RDX-9C.11.

Dr. Seth, you testified that JUUL customers are willing to pay a price premium for the product. Can you explain what you mean by that?

A. Sure. In economics, we often look at consumers' willingness to pay a price premium. And by "price premium," we typically mean the maximum price a consumer is willing to pay for a product or for a brand. We often look at the willingness to pay a price premium as an indicator of consumers' loyalty, superiority of the product, and whether consumers consider other product as substitutes or not.

Q. What is your opinion -- I'm sorry.

What is your opinion that JUUL commands a price

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premium based on?

A. As you can see on the slide, RDX-9C.11, there's a table from my expert report in which I conducted a price premium analysis. And this compares the price per milligram of JUUL pods versus the Vuse Alto pods and the NJOY ACE pods. In this table, there are a couple of other Vuse products as well, which are not pods-based.

But as you can see on the lower -- the bottom-most panel of this table, for the higher concentration and for the lower nicotine concentration, JUUL commands a price premium compared to the pods for the Vuse and for -- for Vuse Alto and NJOY ACE.

Q. Dr. Seth, is the evidence you relied on for your price premium analysis listed on RDX-9C.11?

A. Yes, it is.

Q. And moving to the next slide, can you -- would you explain to us what's depicted here.

A. Sure. This is the bottom-most panel I had highlighted from the previous table. It basically highlights the fact that JUUL commands a 69 percent price premium versus the Vuse Alto in the higher concentration and 37 percent price premium, the lower concentration for the Vuse Alto.

For NJOY ACE, the price premium it commands is 194 percent in the higher nicotine concentration category

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and 138 percent in the lower nicotine concentration category.

Q. Thank you. And moving to the next slide, moving to market share, did you analyze the sales revenue for JLI and NJOY?

A. Yes, I did.

Q. And what is the results of your analysis?

A. The results show that the revenues -- JLI's U.S. revenue in 2023 from retail sales was almost 1.6 billion, in comparison to NJOY's, which was less than 200 million.

Q. And was the source of your analysis JX-35C as listed on RDX-9C.14?

A. Yes, that is correct.

Q. Do you have an understanding of the market share for JUUL, NJOY, and Vuse for 2023? If we could move to the next slide.

A. Yes, I do. As depicted in this slide, for the overall ENDS market -- this is the entire U.S. ENDS market -- based on retail sales, JUUL had a market share of a little over 20 percent. And NJOY had a market share of about 2 percent.

Q. And moving to the next slide, RDX-9C.16, what does this show?

A. This actually shows a market share by brand in the U.S. tobacco flavor ENDS segment. So just a subsegment

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of the overall ENDS market where the focus is on tobacco flavor.

And again, based on retail sales, JUUL has had the highest market share in this segment for many years now. More recently, about -- nearly 50 percent of the market at 47 percent. And NJOY has had a market share of about 5 percent in the tobacco flavor ENDS segment.

Q. Thank you.

MS. HERNDON: Your Honor, at this time, we would now need to go to the JLI confidential record.

JUDGE JOHNSON HINES: All right. Thank you.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MS. HERNDON:

Q. Dr. Seth, did you consider whether R.J. Reynolds Vapor Company, who makes Vuse Alto, whether it would be able to meet the demand created from an exclusion order impacting the availability of JUUL products?

A. Yes, I did. Based on public information that is available for RJR, my understanding is that RJR has consolidated its manufacturing operations to be highly efficient and for cost-effectiveness. So if they're continuing to be operating in an effective way, in a cost-effective way, and in an efficient way, they may not have the excess capacity necessarily to meet all of the JUUL demand.

I have not seen any documents in this investigation, NJOY has not produced any documents that support whether RJR can or cannot meet the excess demand or if they have the capacity or not.

Q. Have you considered what may happen in the event that both NJOY and Vuse are unable to meet the demand created from an exclusion order of JUUL products?

A. Yes. As I indicated before, that NJOY has not shown that it or any third party has the production capacity to meet the demand.

Q. And moving on to -- if you could move to

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RDX-9C.26.

And let's discuss the third part of your opinion, that if JUUL products are unavailable, consumers would be left with options that are less effective and were more harmful.

And what's the basis of that opinion?

A. So as I discussed earlier, my understanding from Dr. Madl is that other ENDS products that are in the market could be either less effective or could be more harmful as well. But from an economic perspective, I looked at two econometric statistical studies that, actually, what they did was they used the flavor bans that happened in the tobacco -- in the ENDS industry around 2019 or so as a natural experiment to see what would happen -- you know, what would -- how did consumers behave, what was the diversion like when those flavor bans went into effect.

So one of the studies, the JX-0428 study, examined what was the impact on e-cigarette sales from the flavor bans. They found that there was a 25 percent to 31 percent decline in ENDS sales.

Another study, which is JX-0449, you know, again, tried to evaluate what was the impact on cigarette consumption from these e-cigarette flavor bans. And they found that, for every pod not sold because of the flavor ban, there were 12 additional cigarette sales that occurred.

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One other piece of information that is helpful is the ADJUSST study that actually says that the profile of JUUL consumers is such that 90 percent of them were previous cigarette smokers. I also just want to highlight that in JX-0449, one of the econometric statistical studies I relied on, they actually highlight that on the -- in the last -- in the abstract, that any public health benefit of reducing the ENDS sales via flavor restrictions may be offset by public health costs from increased cigarette sales.

So in the next slide, what you'll see is I used the three pieces of information, just to get an understanding of, should the JUUL system not be available in the U.S., what might be the diversion towards cigarettes and how much cigarette sales might go up.

This is just an indicator of what might happen. So using the three pieces of information, and using the fact that JUUL sells about -- sold about 100 million refill kits in 2022, we could potentially see an increase of about 300 to 372 million additional cigarette sales in the U.S.

I just want to note that this is a slightly conservative estimate, because each refill kit actually has four pods in it. Underlying data indicates that. So we're looking at nearly a billion additional cigarette sales annually from the JUUL system not being available in the U.S.

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Q. Thank you, Dr. Seth.

If we could move to the next slide.

We had discussed the public interest factors. Have you formed an opinion regarding the first public interest factor?

A. Yes. It's directly from the calculation and the information I just discussed, that given that there's not readily available, if -- adequate, as effective products as alternatives available for the JUUL system, the public health and welfare would be negatively impacted.

Q. Thank you. And moving on to the second public interest factor, have you formed an opinion as to that factor?

A. Yes. Competitive conditions in the U.S. economy would also be negatively impacted. One of the things we have heard during this trial is about how regulated the ENDS industry is. This regulation causes a high level of barriers to entry in the industry. The barriers to entry, basically, result in the fact that, in the short term, there won't be new companies or new products that would be able to enter to fill the gap created by the JUUL system.

As we also saw, JUUL has a significant market share in the tobacco ENDS market. Nearly 50 percent of the market is served by JUUL. In the overall ENDS segment, it's over 20 percent. Both of those also indicate that

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competition might be impacted in the U.S.

Q. Thank you. And moving to the third public interest factor, did you form an opinion as to that factor?

A. Yes. As we discussed earlier, production, overall domestic operations, and jobs could be impacted in the United States.

Q. And then moving to the final public interest factor, did you form an opinion as to the fourth factor?

A. Yes. For U.S. consumers as well, they would be negatively impacted. Both current users of JUUL, who may not have an adequate, readily available replacement which is as effective as JUUL, but also for other users of combustible cigarettes who are looking to switch away from combustible cigarettes to a less harmful alternative, they may also not have one of the most highly effective and unique products that's available on the market.

Q. Thank you. And do you have an opinion regarding whether, if the requested remedial orders are ultimately issued, any delay is appropriate?

A. Yes. The Commission should delay the requested remedial orders for at least 12 to 18 months and maybe as much as 24 to 36 months to allow time for effective replacements to make it to the market.

Q. Thank you.

MS. HERNDON: I pass the witness.

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JUDGE JOHNSON HINES: Thank you.

Mr. Desai, yes.

MR. DESAI: Your Honor, the cross-examination will be handled by Matthew Skanchy, who is a NEXT attorney.

JUDGE JOHNSON HINES: Thank you.

And, I'm sorry, can you tell me how to pronounce your last name?

MR. SKANCHY: Yes. It's pronounced Skanchy, Matthew Skanchy.

JUDGE JOHNSON HINES: Thank you.

MR. SKANCHY: May I proceed, Your Honor?

JUDGE JOHNSON HINES: Yes.

CROSS-EXAMINATION

BY MR. SKANCHY:

Q. Good morning, Dr. Seth.

A. Good morning.

Q. I'd like to start by talking about the pod products that JUUL competes against that are on the market today. Okay?

A. Sure.

Q. NJOY ACE and Vuse Alto are both pod-based products that are available on the market, right?

A. That is correct.

Q. And in the overall ENDS market in the United States, Vuse Alto outsells JUUL, right?

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A. So in the overall ENDS market, Vuse Alto does have a higher market share than JUUL. I believe it's about 30 percent or so.

Q. Okay. And Vuse Alto has had a higher market share than JUUL in the overall ENDS market for the last two years or so, right?

A. Yes. I just want to correct that -- the market share data that I have for my expert report combines a bunch of the Vuse products together. So the 30 percent or, you know, the market share that's -- that we can see in my expert report is combined for all the different Vuse products.

Q. Okay. Why don't we pull up slide 15 from your direct examination.

A. Sure.

Q. We can look at the data that you relied on. So this is a graph that you created based on market share data that you received from JLI for the overall e-cigarette market, right?

A. Yes, that's correct.

Q. Okay. And as you said, this doesn't break down the four Vuse products by market share, right?

A. That's correct. The Circana data combines the different products Vuse sells.

Q. Okay. And you did not do anything to determine

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what percentage of Vuse's market share -- ENDS sales are attributable to Vuse Alto as compared to the other three Vuse products, right?

A. I have a general understanding that the Vuse Alto is their flagship product and, you know, is likely the larger contributor to their market share.

Q. Okay. And as we see from the graph, at the end of 2023, Vuse had the highest market share of any brand, including JUUL, correct?

A. Yes, that's correct.

Q. And it has since approximately 2022?

A. Yes. Second quarter 2022, it seems to have had a higher market share than JUUL, correct.

Q. And you consider Vuse Alto to be a significant player in the market, right?

A. Vuse Alto is a player in the market. If we look at the tobacco flavor segment, JUUL has nearly 50 percent of the market. It's the highest in that segment. So I think there are different ways we can look at the data, but Vuse does have a significant market share.

Q. Okay. And, in fact, JUUL is not differentiated from Vuse Alto on the basis of market share, right?

A. So I think it -- product differentiation can be looked at in lots of different ways. There are lots of different pieces of information that tell us whether a

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product is differentiated or not. Market share, if you look at the tobacco flavor segment, JUUL has 50 percent of the market. It has the highest market share, more than -- more than Vuse.

If we look at the overall ENDS segment, where there are hundreds of other small players as well, Vuse seems to have a higher market share than JUUL.

Q. You were deposed in this matter, correct?

A. Yes, that is correct.

Q. Could we turn to tab 1 in your binder that you just received.

A. Sure.

Q. And this is the deposition from -- your deposition from this matter. And could we turn to page 47. And then lines 3 through 8. And I can read those.

It says: "Question: In this case, is JUUL differentiated from Vuse Alto based on its market share?"

And you answered: "They're both significant players in the market. I don't think I want to say they're differentiated because of market share."

Did I read that correctly?

A. Yes, you did.

Q. Okay. Thank you.

And, Dr. Seth, if we turn back to slide 15 from your direct examination, that shows that JUUL has lost

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approximately 10 percent of its market share in the last two years, right?

A. Sorry, could you repeat that for me, please?

Q. Sure. If we look at this overall ENDS market graph, that shows that JUUL has lost about 10 percent of its market share in the last -- since 2022?

A. It has lost about 10 percent, that's correct. It seems more stable in 2023, but you're accurate in saying that it has lost some market share since early 2022.

Q. And you say that its stable, but you agree that it's not growing, right?

A. Yes, it doesn't seem to be growing with the data that's depicted in this chart. Correct.

Q. Okay. And this chart ends in 2022, but if we backed out this chart in time to late 2018 or 2019, it would show that JUUL had approximately 70 percent of the overall e-cigarette market in the United States during that time, right?

A. I don't remember the exact numbers, but I think -- they had a pretty significant share of the market, close to 60 to 70 percent, back in, you know, 2017, 2018.

Q. Okay. And since 2018, 2019, that 60 to 70 percent market share has decreased to today around 20 percent, right?

A. Yes, that's correct. JUUL's market share has

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declined. They have taken -- they voluntarily removed several of their products from the market for -- related to the flavor bans, but they did that voluntarily. They have also been, you know, as we heard from Mr. Murillo, very proactive in under -- you know, restricting underage use. They're also very restrictive about their marketing and many efforts.

Q. And during that same time frame, from 2018 to 2023, Vuse's share of the overall e-cigarette market has been increasing, right?

A. I don't remember Vuse's market share prior, in prior years, but in the chart that's in front of me, Vuse has been increasing. And that also seems to be a little bit on the -- on the stable end in 2023.

Q. Okay. If we could just turn to your deposition one more time. That's tab 1. This is page 186. And we're going to look at lines 7 through 10.

And the question -- and you can let me know when you're there, Dr. Seth, or you can look on the screen as well, if that's helpful.

And it says: "You agree that if we're looking at the all ENDS category from 2018 to 2023, for example, Vuse's market share has increased?

"Answer: Yes, that is correct."

Did I read that correctly?

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A. Yes.
Q. Okay. And you mentioned that JUUL removed its pods, other than tobacco and menthol, from the market, right?
A. JUUL voluntarily -- yes.
Q. Flavored pods.
A. The flavor pods.
Q. And --
A. That's correct, yes. JUUL removed voluntarily flavor -- flavored pods from the market.
Q. Okay. And it did that in November 2019?
A. That sounds right. I don't know the exact timeline, but I know, over time, maybe starting in 2019, they've been removing or they removed the flavor pods.
Q. And Vuse pulled its flavored products from the market just three months later in January 2020, when FDA announced a regulatory enforcement policy on flavors, right?
A. That's possible. I don't remember accurately -- I don't remember the exact date, but I know several companies removed their flavored pods with the FDA ban.
Q. Okay. And you're aware that that ban occurred in January 2020?
A. Yes, that seems right.
Q. Okay. Now, Dr. Seth, turning to your opinions about the effectiveness of various e-cigarette products,

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it's correct that you rely on Dr. Madl and Dr. Goldenson for your understanding of the effectiveness of the JUUL product, right?

A. Yes. I have a high-level understanding, but my understanding is based on my discussions and Dr. Madl's testimony and Dr. Goldenson's testimony.

Q. Okay. And if we turn to your price premium analysis that you discussed on direct, that price premium analysis does not tell you what products a JUUL consumer would go to if JUUL became unavailable, correct?

A. The price premium analysis tells you about JUUL consumer profile to the extent that it's saying if you're a current JUUL user, you're willing to pay a price premium for the product.

Q. So just a "yes" or "no" on this one. Does your price premium -- your price premium analysis does not analyze what would happen if JUUL was no longer on the market, right?

A. That's correct, yes.

Q. And, in fact, the price premium analysis that you conducted showed that another e-cigarette product holds a price premium over JUUL, right?

A. Are you referring to the Vuse Solo, I believe, in that table?

Q. Yes, I am.

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A. Okay. Yes, the Vuse Solo seems to have a price premium over the JUUL product.

Q. And it's your understanding that Vuse Solo has not been very successful in the market, right?

A. That's -- I -- that's correct. My understanding is the Vuse Alto is their flagship product, and Vuse Solo is not as successful as the Vuse Alto.

Q. Okay. And you know from your price premium analysis that the ACE pod contains about 2 and a half times the e-liquid as the JUULpod, right?

A. Yes, that's correct.

Q. Now, Dr. Seth, you also talked about the various categories of products that JUUL users may turn to if JUUL is no longer on the market. But you did no empirical analysis to quantify what percentage of JUUL users would go to each category of products if JUUL is no longer on the market, correct?

A. In an attempt to quantify, I used past, previous -- you know, the flavor ban statistical and econometric studies, which indicate what happened when the flavor bans went into effect and certain ENDS products were not available on the market. Also, the ADJUSST study indicates that JUUL consumers, their profile is such that 90 percent of them were previous smokers of combustible cigarettes.

Those two pieces of information help give us an

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indication, you know, quantify to some extent how would consumers of JUUL behave if there was a flavor -- if there was a remedy against the JUUL system.

Q. So I understand those are helpful, but you did not do an econometric analysis to quantify what percentage of JUUL users would go to each of the various categories if JUUL is no longer on the market?

A. Yes, that's correct. It didn't seem necessary to do that.

Q. Okay. And you mentioned the flavor ban studies. Those studies do not analyze what would happen if a particular e-cigarette brand is removed from the market, right?

A. That's correct. That study actually was trying to examine what would happen if flavor bans -- when the flavor bans went into effect. But one thing to keep in mind is that JUUL had the significant market share back then, like you had mentioned. JUUL was nearly 70 percent of the market back then.

So if -- in a way, if you think about it, the flavor ban -- those studies might be a conservative estimate of what might actually happen here, because back then, consumers still had their other JUUL product to go to. So if they didn't have -- for instance, this is hypothetical, but if they didn't have the blueberry JUULpod, they could

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still go to the JUUL tobacco flavor or the JUUL menthol flavor.

And now we're seeing they are not going to have access to any JUUL product at all. So, in fact, those studies might be slightly conservative in terms of estimating what might actually happen to cigarette sales because of that reason.

Q. Okay. And this is just a yes-or-no question, Dr. Seth.

There isn't any study that examines the impact of removing a specific e-cigarette brand from the market, right?

A. Not that I'm aware of.

Q. Okay. And today JUUL, NJOY ACE, and Vuse Alto are all sold in the tobacco and menthol flavored pod products, right?

A. I believe that's correct.

Q. So if JUUL is removed from the market, consumers would still have access to tobacco and menthol flavored pods, right?

A. They would have access to it. Whether they would want to use it is a different question.

Q. Okay. And we've been talking about pod-based products, but outside of pod-based products, there are other types of nicotine products that do not burn tobacco that are

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available to consumers on the market today, right?

A. Yes, that's correct. There are other products that are available.

Q. And you did not evaluate whether the companies that make these types of products would have production capacity to meet any increase in demand if JUUL was removed from the market, right?

A. So as just a starting point, these other products, the other ENDS products, so, for instance, if you take the disposable products, most of them that are sold in the market are illegal or unregulated. They are less effective, as I understand from Dr. Madl, compared to the JUUL system.

I did discuss Elfbar as one example where they make disposable e-cigarettes, they have flooded the U.S. market with, you know, these counterfeit products as well, but most of their products are actually made in China. And I don't have an understanding whether they can increase their production capacity in China.

Q. Okay. And setting aside the illegal disposable products that you discussed, there are other nicotine products that are noncombustible that are on the market today such as modern oral nicotine pouches, smokeless tobacco products, nicotine replacement therapies, correct?

A. That's correct, although, again, I understand

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those are not as effective as switching consumers away from combustible cigarettes the way the JUUL system is.

Q. Okay. And the yes-or-no question here is you did not evaluate whether the companies that make those types of products would have production capacity to meet any increase in demand if JUUL was removed from the market, right?

A. That's correct, I did not evaluate those. However, those companies have very -- their products have not been as widely accepted and have very small markets. So it seems -- I mean, without seeing the data, but just understanding markets and as an economist, it would -- it would seem unlikely they would be able to ramp up as fast to meet the entire JUUL gap. And that's assuming consumers will want to switch to their products.

Q. Now, turning to the production capacity of e-cigarette manufacturers -- and we're on the public record, so I want to be high level here.

A. Okay.

Q. You discussed the number of pods that JLI fills in the United States. But you agree that that's different than the number of pods JLI sells in the United States, right?

A. Yes. There's a slight difference there, although I understand, for the JUUL system -- I'm keeping this high level -- that the U.S. market is -- it's its largest market.

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Q. Okay. And when you analyze production capacity, you did not do an empirical analysis to determine what the increase in demand of e-cigarette products would be if JUUL was removed from the market, correct?

A. Sorry, could you say that again?

Q. Sure. You did not do an empirical analysis to determine what the increase in demand of e-cigarette products would be if JUUL were removed from the market, right?

A. I did not specifically quantify what would be the increased demand for e-cigarette products, but as I had indicated, from other studies, the natural experiments surrounding flavor bans, we would probably see a large diversion towards combustible cigarettes, actually.

Q. Okay. And turning to the production capacity opinions that you had about Vuse, Vuse Alto is manufactured by one of the -- a subsidiary of one of the largest tobacco companies in the world, right?

A. That is correct.

Q. Okay. And the only information that you relied on regarding Vuse's production capacity was a press release from September 2015, right?

A. Yes. I haven't seen any documents that have been produced in this investigation from RJR talking about their manufacturing or production capacity, so I had to rely on

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publicly available information.

Q. And that press release came out before Vuse Alto was even on the market, right?

A. It's possible. I don't remember exactly when Vuse Alto was introduced in the market.

Q. Okay. Now, turning to NJOY's production capacity, you weren't here for the testimony of NJOY's CEO, Ms. Leistra, but did you review her testimony before taking the stand today?

A. Yes, I did look at the trial transcript and her testimony from trial briefly.

Q. Okay.

MR. SKANCHY: Your Honor, for this portion we'll need to move to the NJOY confidential record.

JUDGE JOHNSON HINES: All right. We'll be on the NJOY confidential record.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

MR. BUI: May I proceed, Your Honor?

JUDGE JOHNSON HINES: Yes, please.

EXAMINATION BY COUNSEL FOR ITC STAFF

BY MR. BUI:

Q. Good morning, Dr. Seth. How are you?

A. Good morning, Mr. Bui.

Q. Thank you so much for appearing today to provide testimony. It's good to see you again.

A. Good to see you as well.

Q. Based on my review of your curriculum vitae, I would consider you to be an economic expert of extensive experience in Section 337 investigations. Would you agree?

A. You're being generous, and I appreciate that. Thank you.

Q. And in prior Section 337 investigations, you've offered your expertise as an economic expert on issues such as the economic prong of the domestic industry requirement, correct?

A. Yes, I have.

Q. And you've also offered your expertise on issues such as bond, correct?

A. That is correct.

Q. In this investigation, however, you're offering your expertise and experience on the issue of the statutory

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public interest factors, correct?

A. Yes.

Q. Okay. You're not offering any opinions with respect to the economic prong of the domestic industry requirement, correct?

A. Yes, that's accurate.

Q. And in forming your opinions on the statutory public interest factors, did you weigh any of those factors to be more important than other factors?

A. I did take all of them into consideration. I do believe the impact on public health and welfare and U.S. consumers combined definitely outweighs some of the other public interest factors.

Q. Thank you. And when you say "combined" with respect to the public health and welfare and consumers, is it your opinion that those two factors are separate and distinct factors?

A. It's hard to say, Mr. Bui. As an economist, I often look at all the factors together in a way. In this particular case, the public health -- or health and welfare impacts the consumers directly. So it's hard to separate the two -- the two pieces out.

You know, we're not simply talking about, hey, would a consumer have access to a car or not. You know, here we're talking about direct impact on their health. So

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I had to view the two of them somewhat closely related.

Q. Thank you, Dr. Seth.

Now, in addition to relying upon your professional experience and expertise as an economist, you also relied upon your conversation with Dr. Madl, correct?

A. Yes, that's correct.

Q. And that was a single conversation, correct?

A. Yes. I had a single conversation with Dr. Madl, but since then, I've also had access to her deposition testimony and also her expert report.

Q. Okay. Thank you.

So I'm going to set aside her deposition testimony and her expert report and just focus on your conversation, your single conversation, with Dr. Madl.

Do you have that in mind?

A. Yes.

Q. Okay. And that single conversation with Dr. Madl that you relied upon in forming your opinions lasted approximately one hour; is that correct?

A. That sounds correct.

Q. And that conversation with Dr. Madl occurred, I believe, one day prior to the submission of your expert report; is that correct?

A. Yes, that is correct.

Q. Now, you're not offering any opinions with

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respect to issues touching upon pharmacology, correct?
A. Yes. I'm going to leave that to Dr. Madl.
Q. Okay. And you're not offering any opinions with respect to issues touching upon toxicology, correct?
A. Correct.
Q. Okay. And so any matters dealing with pharmacology, toxicology, biochemistry, anything of that nature, you're relying upon Dr. Madl, correct?
A. Yes.
Q. Okay. And you would defer to her expertise and experience in those matters, correct?
A. Yes.
Q. Now, let's turn to your opinions in this investigation. In forming those opinions, you relied upon certain assumptions, correct?
A. Correct.
Q. And one of those assumptions was that the patents at issue are valid, correct?
A. Yes.
Q. Another assumption is that the patents at issue are enforceable, correct?
A. Yes.
Q. Yet another assumption is that the patents at issue are infringed, correct?
A. Correct.

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Q. And, Dr. Seth, what do you understand to be the products at issue, the accused products at issue, in this investigation?

A. My understanding is that the JUUL1 system, which includes the device and the pods, is the products at issue. However, I -- you know, not as a DI expert, more as a public interest expert, my understanding also is that there's the JUUL2 system and then there are some -- there are the Luna pods as well.

Q. Okay. So I'm going to try to stay on the public interest and keep it at a high level. So you mentioned the JUUL system, which would include the pods and the device, correct?

A. Correct.

Q. And you also mentioned the JUUL2 system, which also includes the JUUL2 pod and the JUUL2 device, correct?

A. Correct.

Q. Okay. And then there's another category of pods that would be compatible with the JUUL1 system, correct?

A. Yes. I believe that's -- those are the Luna pods.

Q. Okay. So we have three buckets of products at issue, accused products at issue, correct?

A. Yes.

Q. Okay. And it's your understanding that all three

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buckets of products would be subject to a remedial order, should there be a violation of Section 337 found?

A. I'm not entirely clear on that, whether the exclusion order would be applicable to all of them or not. In the U.S., my understanding is, JLI is selling the JUUL system and the JUUL -- and the JUUL pods. I understand that the JUUL2 system is pending FDA approval at the moment.

And while it's sold in the U.K. and Canada, it's not actually sold in the U.S.

Q. And you just mentioned FDA approval. You would agree that you would defer to Dr. Madl on issues such as FDA approval or the PMTA process, correct?

A. She might have a better understanding than me. I don't know.

Q. Okay. Do you have any personal or professional experience with the FDA approval process?

A. I do not. I have a general understanding from having done cases in pharmaceuticals and a few other products, but it's a very high-level, general understanding.

Q. Okay. Thank you, Dr. Seth.

So going back to the three buckets of products at issue, the accused products at issue, you would agree that those three buckets of products, you have assumed to have been found infringing in the event that there's a Section 337 violation, correct?

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A. Definitely the JUUL system. I'm not entirely clear whether the JUUL2 system and the Luna pods are accused products or not.

Q. Okay. Dr. Seth, I'm going to ask you to direct your attention to your cross-examination binder. And, Dr. Seth, I would ask you to turn your attention to tab 1, which is a copy of the transcript of your deposition.

And may I please have on the screen page 244 of the deposition transcript, please.

And, Dr. Seth, could I ask you to focus your attention first on line 6 of page 244 of your deposition transcript, please.

A. Yes. I see that.

Q. Are you there, Doctor?

A. Yes.

Q. Okay. And I would like for you to focus from line 6 all the way down to line 24 on page 244.

Do you see those lines, Dr. Seth?

A. I do.

Q. Okay. So starting at line 6: "Question: Okay. So let me unpack that. There's -- there's three different products --

"Answer: Yes.

"Question: -- at issue that you've taken under consideration. The first one is the JUUL system or call it

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the JUUL1 system. Is that fair?

"Answer: That's correct.

"Question: Okay. And the second one would be the JUUL2 system, correct?

"Answer: Yes.

"Question: And the third one would be the JUUL Luna pods.

"Answer: That's correct.

"Question: Okay. So all of those -- of those products that would be subject to the exclusion order, if there was one that was entered, correct?

"Answer: That's my understanding --

"Question: Okay.

"Answer: -- from counsel, correct."

Were you asked those questions --

A. Yes --

Q. -- and did you give those answers?

A. -- that's right, Mr. Bui.

Q. May I have RDX-9C.3, please, on the screen, slide 3 of RDX-9C, please.

Dr. Seth, in this slide, you have summarized the four PI factors, the first one being public health and welfare, the second one being competitive conditions in the U.S. economy, the third one being U.S. production of articles that are like or directly competitive with those

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subject to investigation, and the fourth one being the U.S. consumers, correct?

A. Correct.

Q. Okay. And at the very bottom of this slide, you've indicated that the Commission should delay the requested remedial orders for at least 12 to 18 months and as many as 24 to 36 months to allow time for effective replacements.

Did I read that correctly?

A. Yes, that's correct.

Q. Dr. Seth, could you explain what is the basis or bases for your opinion with respect to the 12 to 18 months' delay?

A. Both the 12 to 18 months and the 24 to 36 months takes into consideration when an adequately effective replacement, such as the JUUL2 system, may be available in the U.S. or the Luna pods could potentially be available in the U.S.

Q. Okay. And with respect to effective replacements or adequately effective replacements, can you identify for me those particular replacements?

A. My understanding is that the JUUL2 system is the closest -- is the most closely effective product to the JUUL system. This is based on my understanding from Dr. Goldenson's deposition testimony and also Dr. Madl.

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It's as highly effective, I understand, as the JUUL system.

Q. Any other products?

A. I don't know if there are any third-party products that might come into the market during that time. That's possible as well. You know, I understand that the FDA approval, the PMTA process, can take on average about 27 months. It's possible that some other third-party products that are as effective as the JUUL system may come onto the market during that time.

Q. Earlier you provided some testimony with respect to price premiums. Do you recall that?

A. Yes.

Q. And do you consider the JUUL product to be a premium product?

A. Consumers do consider the JUUL product as a superior product, as we -- you know, as seen from the price premium analysis. I -- maybe there's a certain definition of "premium" you have in mind, but they consider it superior, I think.

Q. Okay. And as a superior product, would you consider a superior product such as the JUUL product to be a best-in-class product?

A. Again, I think it depends on the definition of best-in-class. My understanding is that it is a uniquely effective product. It is highly effective in many ways.

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Consumers seem to indicate that they have strong brand loyalty towards the JUUL product.

So some of them do indicate to me that, from a consumer perspective, that -- and the technological features of the product itself, it's a unique -- it's a slightly unique product.

Q. And based on your experience and expertise as an economist, do you have an understanding of the term "best-in-class product"?

A. Sorry, could you say that again for me?

Q. Sure. Based on your experience and expertise as an economist, do you have an understanding of the term "best-in-class product"?

A. I don't think I have a standard definition of what "best-in-class" might mean, but maybe a superior product that's, like, a high-quality product, that could be one way of looking at it.

Q. Thank you, Dr. Seth.

Now, earlier you also provided some testimony with respect to market share. Do you recall that?

A. Yes.

Q. Okay. And is market share a reflection of competition among the market shareholders?

A. Yes. Market share does capture, to some extent, the competition in the market.

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Q. And does market share -- is market share a reflection of consumer choice in the market?

A. To some extent, yes. A product that is more robustly adopted, you know, one could say there's more consumer acceptance for the product. I would take other pieces of information into consideration as well, but market share is one of them.

Q. And in opining on market share in this investigation, I believe you have -- you relied upon Circana data; is that correct?

A. Yes, that's correct.

Q. Okay. And what is Circana data?

A. Circana data is scanner data. It's produced by an independent third party. And it's literally like a scanner, like, you know, as you're selling a product, you're scanning it. It's the point-of-sale data.

Q. Any other sources of information that you would consider to be reliable for purposes of opining on market share, other than Circana data?

A. So Circana data has brand-level information, which is actually very helpful to understand the different brands in the market and, you know, how the market share changes.

I did look at another data source called Statista, which is also a widely accepted source. However,

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they didn't have brand-level information, but they did have higher level, you know, for the whole market. And it seemed consistent with what Circana was saying for, like, the overall market.

Q. Now, earlier you testified about switching rates. Do you recall that?

A. Is it the switching rates from combustible cigarettes to -- yes.

Q. Correct. And would you agree that you would defer to Dr. Madl, who has more experience with respect to switching rates, than yourself?

A. Yes, that's correct.

Q. Okay. And earlier you also testified about potential abuse liability. Do you recall that?

A. Yes.

Q. Okay. And would you defer to Dr. Madl with respect to that topic?

A. Yes, I would.

Q. Your opinions with respect to the public interest in this investigation are focused on JUUL customers, correct?

A. In the short term, yes. It looks at what would happen to JUUL consumers, would they have an adequate alternative available or not. However, I think keeping the long term in mind as well, where U.S. consumers who, you

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know, perhaps currently are using combustible cigarettes, what is an alternative that they could switch to.

Q. JUUL users could include users who previously smoked combustible cigarettes solely, correct?

A. Yes, that's possible.

Q. And JUUL users could also include users who smoked a combination of combustible cigarettes and some other ENDS products, correct?

A. It's possible.

Q. JUUL users could also include users who never have used combustible cigarettes, correct?

A. I think that that is possible, though I believe from some of the studies, that's a relatively small percentage. The ADJUSST study that I have in mind, I think, indicated that 90 percent of JUUL users were previous smokers, combustible cigarette smokers.

Q. JUUL users could also include users who would be considered underage users, correct?

A. Yes, it's possible, though I understand that JUUL has taken a variety of steps to significantly undercut that, and it's reduced by 95 percent, I believe, as I understand from Dr. Murillo's testimony.

Q. And notwithstanding that 95 percent reduction, it's your understanding that today, to date, JUUL still is battling that risk of underage use, correct?

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A. I don't -- I don't know. I know that -- I know the disposable flavored products run a much significant risk. Studies have indicated that these flavors, like the blueberry flavor, the watermelon, like, just different types of fruity flavors, you know, underage users find those more attractive. But I think JLI and their witnesses might know more in terms of the amount of risk JUUL faces at the moment.

Q. Now, Dr. Seth, it's your opinion that JUUL products are superior products, correct?

A. That's what the evidence seems to indicate, that's correct.

Q. Now, less superior products than JUUL products could be alternatives, correct?

A. They could be alternatives. The way I think about, for instance, like, the price premium, right, these alternatives are in the market, and if a consumer really wanted a cheaper alternative, which is inferior, they could have gone and gotten it already, instead of paying extra for a product like the JUUL product.

Q. It's your opinion that some JUUL customers would view JUUL products and other ENDS products as interchangeable, correct?

A. Again, the price premium analysis seems to indicate that they are willing to pay a higher price, right,

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that like, that there might be an alternative product, but the fact that they're paying a higher price is a strong indicator of the fact that they consider that product as more superior and maybe not as a statute for another product on the market.

Q. Okay. So I'm going to ask for a yes-or-no answer.

A. Okay.

Q. And if you can't answer yes or no, just indicate I can't answer.

You would agree that some JUUL customers would view JUUL products and other ENDS products as interchangeable? Correct?

A. Yes, they might.

Q. Dr. Seth, you're familiar with the acronym NRT, correct?

A. Yes.

Q. And what is your understanding of the NRT acronym?

A. It's a nicotine replacement therapy.

Q. Okay. And are you familiar with what kind of products would qualify as an NRT product?

A. I think one commonly used product in the market are the little nicotine patches, as an instance.

Q. Any others?

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A. I'm not sure. I know the patches are the more popular products that are available.

Q. And, similarly, Dr. Seth, you're also familiar with the acronym ONP, correct?

A. Yes.

Q. And what's your understanding of the ONP acronym?

A. They are oral nicotine pouches.

Q. Okay. And are you familiar with any specific products that would qualify as oral nicotine pouches?

A. I have a general understanding, they're little pouches that you can put in your mouth under your tongue. That's my general understanding about ONPs.

Q. And you would agree with me that NRT products and ONP products are alternatives to ENDS products, correct?

A. Yes, they're available as alternatives to the ENDS products, although -- I'm sure Dr. Madl will talk about this a bit more -- they're just not as effective as JUUL in switching consumers away from combustible cigarettes over longer periods of time.

Q. And those ENDS products would include not only the NJOY ACE products but also the JUUL products, correct?

A. So I believe that's correct.

Q. And, in addition to the NJOY ACE products, the JUUL products, those ENDS products would include the Vuse products, correct?

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A. Sorry, could you say that again?

Q. Sure. In addition to the NJOY ACE products, the JUUL products, a third category of products that would qualify as ENDS products would be the Vuse products, correct?

A. So we're just generally talking about ENDS products; is that right?

Q. That's correct.

A. Yes, just generally, I understand that the NJOY ACE and the Vuse Alto are also other pods-based ENDS products in the market.

Q. All right. Thank you very much for your time today, Dr. Seth.

A. You're welcome.

MR. BUI: Thank you, Your Honor.

JUDGE JOHNSON HINES: Thank you.

Any redirect?

MS. HERNDON: No, Your Honor.

JUDGE JOHNSON HINES: All right. Dr. Seth, thank you for your time. You're excused.

THE WITNESS: Thank you.

(The witness stood down.)

JUDGE JOHNSON HINES: So while we're preparing for the next witness, is my understanding correct that JLI still intends to call Mr. Steiger? Is that correct?

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MR. WEINAND: Yes, Your Honor, that's correct.

JUDGE JOHNSON HINES: And Mr. Steiger will be testifying remotely?

MR. WEINAND: That is still the current plan, Your Honor. We were unable to perform a test this morning of the Court's remote system, but we plan to do so with the Court's IT team during the lunch break.

JUDGE JOHNSON HINES: Okay. Good. I've heard that lunch was the time as well, so I'm glad you have confirmed. So whatever folks need to be available for that test, please stay over lunch to have that tested. And then after that, I can get a report back of where we are.

MR. WEINAND: Great.

JUDGE JOHNSON HINES: Thank you.

MR. WEINAND: Yes, Your Honor.

MR. DAVENPORT: Good morning, Your Honor. Sam Davenport on behalf of Respondent JLI.

JUDGE JOHNSON HINES: Good morning.

MR. DAVENPORT: How are you?

JUDGE JOHNSON HINES: Good. Thank you.

MR. DAVENPORT: The Respondents will be calling Dr. Werner Dahm to the stand.

And Your Honor, you should have binders up there. I think they're quite voluminous, and I apologize for that.

JUDGE JOHNSON HINES: I do. Thank you.

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Before you sit down, good morning.

THE WITNESS: Good morning.

JUDGE JOHNSON HINES: Would you raise your right hand, please.

Whereupon--

WERNER DAHM,

having been first duly sworn/affirmed, was examined and testified as follows:

THE WITNESS: I do.

JUDGE JOHNSON HINES: Thank you very much. Be seated. And welcome.

Mr. Davenport.

MR. DAVENPORT: Thank you, Your Honor.

DIRECT EXAMINATION

BY MR. DAVENPORT:

Q. Good morning, Doctor.

A. Good morning.

Q. How are you today, sir?

A. I'm doing fine. Thank you.

Q. Could you please state your full name for the record, Doctor.

A. I'm Werner Johann Anton Dahm.

Q. And before we begin today, have you prepared a series of slides to assist you in your testimony?

A. Yes, I have.

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Q. All right. Is this the slide deck that you're referring to?

A. That's the cover page of that slide deck.

Q. All right. Let's go to the next page, Jim, please.

Is this one of the slides that you've prepared, Doctor?

A. Yes, it is.

Q. All right. I'd like to start by asking you a few questions about this slide. Starting with where you're currently employed, Doctor?

A. Sure. I'm currently a chaired professor of mechanical and aerospace engineering at Arizona State University, where I've been on the faculty for the past 14 years. And I'm also currently a professor emeritus of engineering at the University of Michigan, where I served on the engineering faculty for the previous 25 years.

Q. Doctor, what honors or recognitions have you received as a result of your work both at the University of Michigan and Arizona State University?

A. Well, as a result of my technical accomplishments in my areas of technical expertise, I was made a fellow in the Division of Fluid Dynamics in the American Physical Society. That's the main professional society relevant to fluid dynamics. I was also made a fellow of the American

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Institute of Aeronautics and Astronautics. In both of those professional societies, fellows are recognized as being in the top 1 percent of their field.

Does that answer your question?

Q. That more than answers my question, Doctor. Thank you.

Now, other than your university work, Doctor, what other roles or professional positions have you held?

A. Well, as a result of the technical accomplishments I had relatively early in my career, for 16 years I was I was asked to serve and did serve as a member of the U.S. Air Force Scientific Advisory Board. And I was then asked to serve as the chairman of the Board from 2014 to 2017, which I did.

And then as a result in part of my accomplishments on the Scientific Advisory Board, I was asked by the Secretary of the Air Force in 2008 to take a temporary leave of absence from my professorial role to serve full-time in the Pentagon at the -- a civilian role, equivalent to a 3-star general, as the chief scientist of the U.S. Air Force.

Q. Thank you, Doctor.

Let's talk about your educational background. Could you explain what education you received, Doctor?

A. Sure. I have a Ph.D. from the Division of

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Engineering and Applied Science at the California Institute of Technology. That's Cal Tech. I earned that in 1985.

I also have a Master's degree in mechanical engineering from the University of Tennessee in 1981. And a Bachelor's degree in mechanical engineering from the University of Alabama in Huntsville in 1978.

Q. Now, getting back to your work, Doctor, could you tell us what technical areas you specialize in?

A. Sure. Throughout -- pardon me.

Throughout my career, I have specialized in fluid dynamics, thermodynamics, combustion heat transfer, thermal sciences, and related areas, and including their application to a wide range of industrial applications.

Q. What types of classes do you teach, both at the Arizona State University and when you were formerly at the University of Michigan?

A. Sure. Throughout the nearly 40 years now that I've taught at the university level, I've taught courses that are relevant to the same areas of expertise that I just listed a moment ago.

Q. And what type of research did you conduct, first of all, during your 25 years at the University of Michigan?

A. Throughout that time, I conducted both Master's and Ph.D.-level research in the technical areas that I just referred to.

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Q. And how about during the 14 years that you've been at Arizona State University, same question, what kind of research have you conducted there?

A. The same as at the University of Michigan. Professors are expected -- it's part of the job -- to stay at the leading edge of their fields. And so I conduct primarily Ph.D.-level research, also Master's research in those same areas of expertise.

Q. Thank you. Doctor, what papers have you published as a result of your research and your other work?

A. Well, over the course of my career, I've published over 200 refereed; that is to say, peer-reviewed, technical journal articles in the leading scholarly technical journals in my field worldwide. In fact, just this past year, one of my research papers was awarded the 2023 fluid dynamics best paper award.

Q. What was the subject of that paper, Doctor?

A. That paper dealt with modeling and simulation of turbulent flows.

Q. And, Doctor, what experience do you have serving as a technical consultant for industry? You mentioned that earlier.

A. Sure. Well, throughout the nearly 40 years since I got my Ph.D., I have frequently served as a technical consultant, technical advisor for a wide range of industrial

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companies, national laboratories, and other organizations.

Q. Thank you. And, finally, Doctor, what experience do you have testifying as an expert in investigations before the International Trade Commission?

A. I testified in one previous case before the ITC. That was about two years ago.

Q. And what was the technology that was at issue in that case, Doctor?

A. That case dealt with vaping devices and specifically with the fluid dynamics, thermodynamics, heat transfer, and so forth of various aspects of those devices.

Q. All right. Jim, can you put up the next slide, please.

Doctor, I've put up here on the screen what I believe is RDX-6C.3 or slide 3, I'll just refer to it as. Do you recognize this slide?

A. Yes, I do.

Q. All right. Doctor, have you been engaged by any party in this investigation?

A. Yes. I was engaged and remain engaged by JLI. That's JUUL Labs Incorporated.

Q. And what was the scope of your engagement, Doctor?

A. I was asked to study the opinions of Dr. Vallee related to infringement and domestic industry technical

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prong of both the accused products -- well, the accused products with respect to infringement and the domestic industry products with respect to the technical prong in relation to both the '881 and the '864 patents and to form my independent opinions on those and put those in my report.

Q. Thank you. Now, as part of that engagement, what materials or information or documents did you review, Doctor?

A. Yeah, I put together this slide 4. And it's a wide range of documents. I've summarized them at a high level here. Official documents, obviously the two patents, their file histories, related applications and their file histories, the Court's claim construction order. It also includes testimony, such as deposition testimony, discovery responses, expert reports, inventor deposition testimony, and a variety of others, what I've listed here as party documents, so a lot of technical documentation, the PMTA and other FDA submissions associated with these products, detailed engineering drawings and CAD models of these products, a variety of presentations.

I have handled and inspected product samples of the JUUL1, Luna, and JUUL2 products, as well as the NJOY ACE and ACE 2.0. And a variety of other information of the type that I've listed here.

Q. Thank you, Doctor.

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Now, you mentioned the claim construction order in this case, Doctor, and that you reviewed that. Are you aware of whether the Court has adopted a definition of what a person of ordinary skill in the art would be at the time of the patent's filing?

A. Yes, I'm aware of that claim construction order.

Q. What's your understanding of that order?

A. Well, as listed here, that one of ordinary skill in the art would have had, at the time that these patents were submitted or were filed, a Bachelor's degree in mechanical engineering, electrical engineering, or an equivalent degree, and would have had at least two years of experience in relevant electromechanical technologies, or alternatively if they had an advanced degree in any of those fields, then at least one year of similar experience would suffice.

Q. And how does your experience, Doctor, compare with that of a person of ordinary skill in the art as has been adopted by the Court?

A. I am more than a person of ordinary skill in the art.

Q. Thank you.

MR. DAVENPORT: Your Honor, we would move for the admission of Dr. Dahm as an expert in the field of mechanical engineering and fluid dynamics.

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JUDGE JOHNSON HINES: Any objection, Mr. Desai?
MR. DESAI: No objection.
JUDGE JOHNSON HINES: Mr. Bui?
MR. BUI: No objection, Your Honor.
JUDGE JOHNSON HINES: So tendered. Thank you.
MR. DAVENPORT: Thank you, Your Honor.
BY MR. DAVENPORT:
Q. Now, Dr. Dahm, as part of your engagement, what patents -- I believe you mentioned them -- but what patents and asserted claims did you review?
A. Sure. In the '881 patent, the cover of which is shown on the left here, it's claims 1, 19, and 26, as I show at the bottom. And for the '864 patent on the right, it's claims 2, 9, 10, 12, 13, 15, 16, 20, and 26, as shown on the bottom there.
Q. All right. Now, based upon your review of those patents, Doctor, and the asserted claims and all the other materials that you've reviewed on -- reviewed in the case so far, Doctor, what opinions have you reached with respect to the accused products and the asserted claims of this case, at a high level?
A. Sure. I built the next slide to summarize that. That's my slide 7. And as I show on this slide, none of the JUUL1, Luna, or JUUL2 products infringe any of the asserted claims of the two asserted patents.

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Q. And staying again at a high level, Doctor, what opinions have you reached with respect to the asserted claims and the domestic industry products at issue in this investigation?

A. I summarize that on my next slide. None of the asserted domestic industry products practice any of the claims that are directed at them, of either the '881 or the '864 patents.

Q. Thank you. I'd like to shift gears a little bit and talk about some of the technology at issue in those patents and in this case, Doctor.

You mentioned that one of the areas of your expertise is in fluid dynamics or fluid mechanics. What is fluid mechanics, Doctor?

A. Sure. I put this slide together, slide 9, because -- just to give a high-level overview. So fluid mechanics is the science and technology that determines how fluids, and that includes liquids and gases and including air, how they flow through devices.

And a key part of that is numerous highly non-intuitive and even counterintuitive flow phenomena that occur as, for example, an airflow passes through a passageway through a device.

Q. Can you describe in a little bit more detail what some of those flow phenomena are, Doctor?

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A. Sure. I've listed a handful of them here. And there are far more than that. But the key point is that airflows are neither as simple or intuitive as I think would be understood, that most people would believe. They include phenomena like flow separation from structural elements, so as the air flows around structural elements in a device, if there are sharp corners or corners that are not sufficiently rounded, the air can't negotiate that turn.

And so the flow doesn't follow the structure of the passageway. It separates from that passageway. And that creates recirculation zones. And in those recirculation zones, the main flow direction might be this way (indicating), and it is, but because the flow separates, it produces a recirculation zone. And so at the top and bottom of those recirculation zones, the flow is going in the lateral direction. And maybe even more counter-intuitively, on part of the recirculation zone the flow is going back in the upstream direction, meaning opposite to the main flow direction.

So that flow reversal in these naturally occurring recirculation zones is very important. And also that the flow routinely becomes unsteady, three-dimensional, and turbulent. And all of those are -- and there are many other phenomena that the average person simply can't see because air is transparent and they can't see airflow, and

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so they don't have any experience with these flow phenomena.

Q. Doctor, you have a number of figures at the bottom of this slide. Can you walk us through what you're depicting there?

A. Sure. So what I tried to do here is to show a very simple but very useful example of how non-intuitive and even counterintuitive many of these flow phenomena are.

So in the panel on the left, I'm showing a very simple case. This is flow over a circular cylinder. This is in every fluid mechanics sophomore-level introductory fluid mechanics textbook. So what we have, you can see the arrows are a uniform oncoming airflow. Steady, the flow is constant speed. It's uniform vertically. We're looking end on onto a cylinder. I'm showing it in red here.

And it would be natural to think, perhaps, that the airflow path around that cylinder looks sort of like what I've sketched in the center. And, you know, when I ask sophomore students to kind of sketch what they think that airflow looks like, the sketch usually comes back something like this.

But, in fact, the flow looks nothing like that. The flow is unsteady and turbulent. If we can just play the video one more time, what you see is that even though the oncoming airflow is steady, perfectly steady, and the cylinder is perfectly stationary, and you might think the

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resulting flow would be perfectly steady, it's not. It's highly time dependent. You get this periodic vortex shedding, it's called. You get recirculation zones in which the flow is even in the counter-axial direction.

So that's just a very simple example that shows what I mean.

Q. Thank you very much, Doctor.

I think you answered my question, my next question, but I'm going to ask it anyway. These phenomena that you're talking about here, is this phenomena that someone -- a person of ordinary skill in the art as has been defined in this case would understand?

A. Oh, absolutely. I mean, anyone who has -- any undergraduate fluid mechanics course, introductory fluid mechanics course at any engineering college would teach these.

Q. Thank you. Doctor, how is all this phenomena that you have just explained to us relevant to this case?

A. Sure. I put together the second of my tutorial slides here -- I guess I'd call these tutorial -- to help make that clear. These flow phenomena that I've just referred to, these and many others, they, you know, when devices are built, designers intentionally take advantage of those flow phenomena to achieve certain performance that you would not be able to achieve if you didn't -- if you weren't

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aware of these phenomena.

And so that includes things like -- and that is relevant to vaping devices and e-cigarettes as well. That determines the airflow through the airflow passageway, how the air flows through, as I said, apertures and structures and features within the passageway, the generation of turbulence and the resulting effect of the turbulence on vapor formation, vapor-air mixing and cooling of the vapor, and then resulting aerosol formation.

And it's very important. Fluid mechanics is not one of these subjects where the effect of a geometric change is in direct proportion in a simple linear proportion to the degree of that change. Even very small geometric features and changes in geometric features in a device like this can have a very large effect on the resulting airflow.

So the key point is that when you're describing the airflow through a device such as this, through an airflow passageway, you can't simply ignore the principles and methods of fluid dynamics and instead draw simple arrows.

Q. Thank you for that, Doctor. That was helpful.

Let's shift to the accused products in this case. And we'll try to keep this brief because I know Her Honor has heard about these products many times now.

I've put up here on slide 11 what appear to be

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all the products that you described earlier; is that correct?

A. That's correct, yes.

Q. All right. And I want to focus now on the JUUL1 system, Doctor.

Can you briefly describe what the JUUL1 system consists of?

A. Sure. At the very highest level, it consists of what is called the JUUL1 device, which is basically the battery and the circuitry and so forth, and the JUUL1 pod. And when that pod or cartridge is inserted into the device and then a user draws on the mouthpiece, it delivers aerosol to the user.

Q. Now, focusing on the JUUL1 pod or cartridge, can you briefly describe what that consists of, Doctor?

A. I put that in my next slide, slide 13. This is an exploded view of all of the components. So we begin on the right with a tank. Then there are electrical contacts. There's a wick and a coil, a wick housing, an air path tube, tank cap, which is a soft gasket, and then absorbent pads, two of them, as well as the mouthpiece.

Q. Thank you. Now, I believe you have a physical -- or a box with physical samples of the JUUL1 device up there?

A. If they're here, I don't see them.

Q. You might have to reach over the side of the

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witness box there, Doctor.

A. Well, I'll go hunt for them. Just one second.

Q. Well --

A. May I?

JUDGE JOHNSON HINES: I think to the right.

MR. DAVENPORT: May I approach, Your Honor?

JUDGE JOHNSON HINES: Yes, please.

THE WITNESS: Oh, I see where they are. Yeah. Thank you. Thank you, yes. Your question?

BY MR. DAVENPORT:

Q. There's one box containing the JUUL1 device, Doctor?

A. That's correct.

Q. For physical samples. Can you read the exhibit numbers on that box, please?

A. Sure. Those are RPX-0016 and RPX-0017.

Q. Great. Thank you, Doctor. Let's move on to the Luna products.

MR. DAVENPORT: For this, Your Honor, we're going to have to go on the CBI record, the JLI CBI record or confidential record very briefly.

JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. DAVENPORT:

Q. And I'll try to proceed with the other products, at least the ACE products, without publishing the slides. I assume if counsel hears anything problematic, he will let me know.

All right. Before we get there, let's turn to the JUUL2 product, Your Honor -- or Dr. Dahm. At a high level, how does the JUUL2 product work?

A. Well, I have that on my slide 16. So it also consists of a -- what's called a device, which is the battery and the electronics and so forth, pressure sensor, and a pod, which is the cartridge. And when that cartridge is inserted into the device, it forms the entire JUUL2 system.

The user, when they draw on the mouthpiece, and aerosol is then delivered to them.

Q. Can you tell us what the JUULpod consists of, what components that pod consists of?

A. Sure. I put together my slide 17. That's the next slide. Here it is. So beginning at the right, it consists of an atomizer housing, then there's a stainless steel wick that -- sorry, a stainless steel heater and the wick, the wick is inserted into the heater, and the combination is inserted into the atomizer housing. That is

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then attached to the bottom of the collector.

The collector creates two swirling airflow -- well, two airflow passageways that induce swirl on the two airflows, and then those enter that -- an integrated air path tube that's integrated into the tank shown on the left.

Q. All right, thank you, Doctor.

Let's now turn to the NJOY products that NJOY relies on for its domestic industry case, starting with the ACE and ACE 2.0.

Can you briefly describe those two products, the ACE and ACE 2.0.

A. Sure. I put that on my slide 19. So, again, it consists of a device which is the battery and all, but the pod itself has a bottom cover. It has an atomizer assembly that consists of a holder, the atomizer itself, a cover, a tank seal, and then the tank itself and a variety of gaskets and seals.

Q. Now, on slide 20, which we won't publish, can you explain to us what the main differences are between the ACE pod and the ACE 2.0 pod?

A. Yes. If you look on the left-hand side, that's the ACE, both the upper and lower images, and on the right-hand side, it's the ACE 2.0. If you focus on the lower left, that's the ACE, and the gold parts are the electrical contacts. They are pushed onto the legs that

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come down from the atomizer itself.

In the ACE, those electrical contacts end up being flush with the bottom of the tank. And if you look on the right, in the ACE 2.0, those electrical contacts are simply recessed a bit into the tank.

Q. Thank you. Now let's move on to the Vuse Alto system, Dr. Dahm.

Can you briefly tell us how that system works?

A. Again, like the others, it's composed of a device, which holds the battery, the electronics, pressure switch, and so forth, and the Vuse Alto pod, which is the cartridge. And like with all these devices the cartridge is inserted into the device that forms the system. The user draws on the mouthpiece, and the device delivers aerosolized e-liquid to the user.

Q. Okay. And let's finally move on to the Solo systems. And again we won't publish these slides so we can stay on the public record, but can you briefly describe the two Solo systems, the G1 and the G2?

A. Let's see. Are we on the G1 and the G2 or the Alto, are you saying? I'm sorry.

Q. We'll be on slide 29, Doctor.

A. Oh, I'm sorry. Slide 29, did you say?

Q. Yes.

A. I'm sorry. Could you repeat your question?

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Q. Oh, excuse me. I need to --
A. So I can understand it.
Q. I need to put my glasses on. Slide 23. I apologize, Doctor.
A. I see. Sure. So the Vuse Alto -- sorry the Vuse Solo systems also have a device, again, the battery, electronics, et cetera. In that case, there are two cartridges or an option of two different cartridges, a generation 1, or G1, cartridge and a generation 2, or G2, cartridge.

Either of those cartridges is attached to the device. And then when the user draws on the cartridge, an aerosolized e-liquid is delivered to the user.

Q. Thank you. And now focusing on slide 24, which again we won't publish, could you explain just the main differences between the G1 and the G2 cartridges of the Solo system?
A. Sure. They're largely similar. And I've shown here exploded views of both of them. And I've highlighted the key differences. There are two of them.

The main differences are in the flow tube. If you look on the left-hand side, the G1 flow tube has a truncated upper half over part of the flow tube. That's very different from the flow tube on the G2.

And then the printed circuit board on the

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left-hand side is both different in size and orientation than it is on the right-hand side where it's called the cartomizer chip.

Q. Okay. Let's dig into your non-infringement opinions in this case, Doctor. And let's go to slide 25.

To begin, can you remind us what claims of the '881 patent -- we will stick with the '881 patent for now, Doctor. What claims of the '881 patent were asserted against which JLI products?

A. Sure. I put that on my slide 26. So it's dependent claims 19 and 26, both of which depend on independent claim 16.

Q. And at a high level, Doctor, can you explain the basis for your opinions that neither the JUUL1 system or the Luna cartridges or pods infringe claims 19 or 26 of the '881 patent?

A. Yeah, I built my slide 27 to make that clear. There are four essential claim limitations as part of claim 16 that are missing in the JUUL1 and the Luna. And I've listed those here.

Q. Thank you. Now, I notice on this slide, we have numbers, claim 16.6, 16.5, 16.8. What do those numbers refer to, Doctor?

A. That's the numbering scheme that Dr. Vallee used to identify each of the claim limitations. And for clarity,

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I simply adopted it as well.

Q. Thank you.

Let's start with the first missing limitation in the JUUL1 and the Luna products, a central and axial airflow passageway.

First of all, where in the asserted claims of the '881 patent does this limitation appear?

A. Yeah, as I show on my slide 28, it appears in claim element or claim limitation 16.6.

Q. And in analyzing claim 16.6 or the limitation in 16.6, what constructions, if any, did you apply, Doctor?

A. I have that on my next slide, 29. I adopted the Court's claim construction order for the agreed construction for "airflow passageway." Namely, "the airflow passageway extends in a straight path through the center of the housing from a first opening on the first end to a second opening on the opposite end of the housing."

Q. And did you apply that construction in your entire analysis in this case, Doctor?

A. Yes, I did, throughout all my analyses.

Q. All right. Now, based on the construction of "airflow passageway," based on your review of the '881 patent, Doctor, can you tell us what the minimum attributes are of a central and axial airflow passageway?

A. Sure. I built slide 30 to try to make that

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clear. First, as seen in all three figures of, in this case, the '881 patent, but they appear in the '864 as well, and the highlighted -- the first highlighted part of the patent specification here, the passageway has to begin at the first aperture and extend all the way to the second aperture.

And then in the second yellow highlighted part of that excerpt from the patent specification, it makes clear that the airflow passageway has to be physical structure. It refers to the wall of the air passageway. So the air passageway, at a minimum, has to be physical structure that extends from the first aperture all the way to the second aperture.

Q. And sticking with the physical structure part of your answer, what other support for there -- if any, Doctor, is there for your opinion that the airflow passageway must be a physical structure?

A. On my next slide, I show NJOY also has stated that the airflow passageway of the asserted patents has structure. So that's consistent with the physical structure I referred to.

Q. Thank you. Now, are you aware that claim 16.6 talks about an airflow passageway extending centrally and axially?

A. Yes, I'm aware of that.

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Q. And what is your understanding of what it means to extend centrally and axially?

A. Well, again, on my next slide 32, I drew on the agreed construction from the claim construction order of "airflow passageway." So in this context, "centrally and axially" means in a straight path through the center of the housing. So the straight path part refers to axially. And through the center of the housing refers to centrally.

Q. And sticking with claim 16.6, Doctor, what does it mean for that airflow passageway to extend from a first aperture on the first end of the housing to the second aperture on the second end of the housing?

A. Sure. If we'll go to my slide 32, I emphasize exactly what your question just addressed; namely, that we're talking here, or at least the claim limitation 16.6 is talking about extending from a first opening on the first end to a second opening on the opposite end of the housing.

So these are apertures on the housing.

Q. Thank you. Now, speaking of housing, what is your understanding of what "housing" refers to, meaning what is it the housing of, Doctor?

A. Yeah. My next slide tries to make that clear. That's slide 34, if we could go there.

So I'm showing here, both from the patent drawing and from the text from the patent specification, the patent

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consistently refers to the housing as the housing of the cartridge. And, in fact, I've green-underlined in that patent text that the housing refers to the housing of the cartridge.

Q. Do you know whether or not Dr. Vallee agrees with that, that the housing is the housing of the cartridge?

A. Yes, he does. And I show that here on the right, as you see in both excerpts from his deposition transcript, or at least that's my understanding of that's his deposition transcript, the cited citations.

He agrees that it's the housing of the cartridge. And he refers to the first end of the cartridge housing, exactly as I just referred to.

Q. Are you aware of whether or not NJOY has provided a definition for the term "housing" in the asserted patents and its IPR response?

A. Yes, I'm aware that they have.

Q. And what's your understanding of that definition, Doctor?

A. I've shown that in this next slide I put together. NJOY has stated that -- and I have it highlighted in yellow up here -- the housing is an outside structure containing the device internals. And the other underlined sections reinforce that that has -- it's referring to the housing of the cartridge, that outside structure containing

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the device internals.

Q. Do you agree with that definition of "housing," Doctor?

A. Yes, I do. Absolutely.

Q. Why?

A. It makes sense. A person of ordinary skill in the art, on reading the patents, that's -- the patent consistently refers to the housing of the cartridge, and that's how you would understand "housing" as outside structure containing the device internals.

Q. Now, in this definition that has been offered by NJOY, it refers to a device. Do you see that?

A. Yes, it does.

Q. And what is your understanding of what that term, "device," refers to, Doctor?

A. Well, in the context of these patents, the device is the cartridge.

Q. Thank you. All right.

Let's move on to your opinion that the JUUL1 system does not infringe the airflow passageway limitation in claim 16 that we've just discussed. First of all, in your opinion, what is the cartridge of the JUUL1 system?

A. I show that here, and I testified to this earlier when I summarized the JUUL1 system.

The cartridge of the JUUL1 system is that JUUL1

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pod. That's the cartridge. And I've identified here the device internals that are contained within that cartridge.

Q. Now, incidentally, we have a bunch of different colors on this slide, Doctor. Can you explain what those colors indicate and also what the different components are that you've identified here?

A. Sure. This is a half-plane cutaway view of a CAD model of the JUUL1 cartridge. And I've used different colors to identify the different internal parts of that device.

So starting at the top, the dark gray is the mouthpiece. There are two absorbent pads. You see them -- one of them in this half cut view. Those are shown in yellow here. The tank cap or gasket is shown in this purple. The tank itself is shown in green. The air path tube is shown in -- I guess that's silver. The wick housing in gray below that. The wick in pink. The coil in blue. And the electrical contacts in yellow.

Q. Thank you. Now, Doctor, in your opinion, what is the housing of the JUUL1 cartridge?

A. Well, the housing of the JUUL1 cartridge is shown here on the right. And I used this orange line to indicate it. It's the outside surface of the mouthpiece and the tank. And within that are contained all of the device internals.

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Q. Thank you. Okay.

So getting back to the central and axial airflow passageway limitation, Doctor, why, in your opinion, does the JUUL1 cartridge that you've identified here not infringe that airflow passageway limitation in the '881 patent?

A. There are three reasons, and I've listed those on my slide 37. First, in the JUUL1, there is no central and axial airflow passageway in the mouthpiece. There's no central and axial airflow passageway around the wick. And then, finally, there's no airflow passageway extending from the first aperture.

Q. Okay. Let's break those down one at a time.

Why is there no central and axial airflow passageway in the mouthpiece of the JUUL1 cartridge?

A. I built my next slide, slide 38, that should be -- yeah, that shows that. So, firstly, what I've done here in the color image on the left or center, I guess, in red, I've circled the internal components in the mouthpiece. And to the right, you're seeing two views of the same mouthpiece.

And what can be seen is that the airflow coming from that silver airflow tube and, thus, emerging from the hole in the purple tank cap gasket, the structures in the mouthpiece force that air to split into two. One airflow goes laterally to the left. The other one goes laterally to

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the right.

And then both of those turn and go to the end of the mouthpiece. So, in so doing, the mouthpiece creates two separate non-axial and non-central airflow passageways.

Q. How does Dr. Vallee address the mouthpiece with respect to the central and axial airflow passageway limitation, Doctor?

A. He simply excludes the mouthpiece from his analysis.

Q. Do you agree with his exclusion of the mouthpiece?

A. No, I don't. The mouthpiece is part of the housing. It houses -- it contains device internals. I just referred to -- and I'm pointing here on the left (indicating) -- you can see some of the dark gray features, the legs that push downward onto the tank cap, for example, the turbulence generating features that promote aerosol formation in the mouthpiece, the absorbent pads, among others. All of those are critical parts.

You know, if we could go back to the previous slide, I'll just say, those are essential device internals for this device to operate as intended.

And in Dr. Vallee's alleged housing where he uses the tank cap, as -- that together with the tank, as defining the housing, he's omitting device internals. And so I

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disagree with his alleged housing.

Q. Can you describe in a little bit more detail what functions those device internals in the mouthpiece -- what role they play?

A. Yeah. And that's what was on the next slide, slide 40, that was inadvertently advanced to. So I show here on the left the mouthpiece, and you can see the two absorbent pads. You can see it in white. You can see one of them easily. There's another one on the opposite upper surface. And you can also see these various geometric features that are formed into the mouthpiece.

On the right is the CAD model again where not only is it half cut now, but I've also cut it in the sideways direction so that you can see how the mouthpiece relates to these various other components.

What you can see here, first of all, is the absorbent pads shown in yellow. You can also see three of the four vertical legs in the interior of the mouthpiece that act to push down onto the purple silicon gasket tank cap. And they push that down into the green tank that you can see there.

And, additionally, you can see some of the geometric features that are associated with how those internal components of the mouthpiece, how they cause the airflow coming from the silver airflow tube and through the

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hole in the gasket, how they cause them to turn to split the airflow into these two non-central passageways, but also how they interact with features in the top of the tank gasket, the purple cap, to create turbulence and, therefore, promote aerosol formation in the mouthpiece.

Q. You talked about the mouthpiece interacting with the tank cap. Are there any ways in which the mouthpiece helps secure the tank cap, other than what you've described?

A. Sure. I described how those four legs press the tank cap into the tank and hold it secure in there. But on the next slide, I point out additionally that as the tank cap sits on the top of the tank -- and it sits on there via those barbs you can see on the extreme right-hand edge. You can see one of those green barbs that's formed into the tank itself. And once the mouthpiece snaps onto those barbs, it's rigidly attached.

As that mouthpiece then presses circumferentially around the top of the green tank, it induces hoop stress in those -- in that tank, which holds the tank rigid. You have to understand that the green tank on the JUUL1 has a rectangular cross-section. And so that means it has long -- two long faces. And those long faces, either in holding the device or pressing on it, they can deflect and that can cause the sealing between the tank and the tank gasket, the cap, to be lost.

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And so that hoop stress plays an additional role in ensuring the integrity of that seal.

Q. And did you find any support for your opinion that the tank -- excuse me -- the mouthpiece creates hoop stress that secures the tank cap?

A. Sure. I've listed that here on this slide 41, with highlights. That's testimony from Mr. Monsees, who is one of the inventors of the JUUL1.

Q. Thank you. In your opinion, Doctor, would it be possible to use the JUUL1 cartridge as intended without the mouthpiece?

A. No, it would not.

Q. You were in court for Dr. Vallee's testimony, his direct examination, correct?

A. Yes, I was here.

Q. Did you hear him testify that he popped off the mouthpiece?

A. I did hear him say that, yes.

Q. Have you tried to remove the mouthpiece, Doctor?

A. Yes, I have tried.

Q. Can you tell us how that went?

A. Well, it's not easy to remove. I tried various ways, screwdrivers and whatnot. Eventually, I needed to use two pliers and considerable force to finally rip it off. And once I did, both the mouthpiece and the tank were

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damaged.

Q. Okay. What does Dr. Vallee identify as the top of the housing of the JUUL1 cartridge, Doctor?

A. Well, he identifies this purple tank cap that's shown in this cutaway view. If you go to my next slide, slide 40, I again show the exploded view. And you can see that tank cap, that's that soft silicone gasket that sits in the top of the tank. And he identifies that as the top of what he defines as the housing.

Q. Do you agree that the tank cap is part of the housing of the JUUL1 cartridge?

A. No, it can't be because it doesn't meet even NJOY's definition of the housing as outside structure that contains the device internals. And if the outside -- if the housing stops -- is just the tank cap in the tank.

Then, firstly, you're missing the absorbent pads that you see on the left. You're missing all of the features in the mouthpiece that I just testified to.

And so you don't -- it doesn't contain the device internals or certainly not all the device internals. And without all those device internals, you don't have the device.

Q. Thank you.

MR. DAVENPORT: Your Honor, I notice it's almost 11:00. I'm happy to take a break, obviously, whenever Your

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Honor would like, but I didn't know if you would like me to continue.

JUDGE JOHNSON HINES: If you believe we're at a good breaking point, that's fine with me.

MR. DAVENPORT: This is probably just as good as any, Your Honor.

JUDGE JOHNSON HINES: All right. So why don't we reconvene at 11:15.

(A recess was taken at 10:57 a.m., after which the proceedings resumed at 11:16 a.m.)

JUDGE JOHNSON HINES: Thank you, be seated.

Mr. Davenport.

MR. DAVENPORT: May I proceed, Your Honor?

JUDGE JOHNSON HINES: Please.

MR. DAVENPORT: Thank you.

BY MR. DAVENPORT:

Q. I believe we left off at slide 43, Dr. Dahm.

And we talked about the first reason why, in your opinion, there's no central and axial airflow passageway in the JUUL1. Let's move on to the second reason.

Can you tell us what that second reason is?

A. Sure. There is no central and axial airflow passageway around the wick.

Q. And what is the basis for your opinion that there's no central and axial airflow passageway around the

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wick of the JUUL1 cartridge?

A. The wick is saturated with e-liquid so air can't flow through it. And as a consequence, if you look at the right-most image, the air has to split in two and go around both sides of the wick. And in so doing, the sides of the wick form two airflow passageways, which are not central and axial there.

Q. Thank you, Doctor.

Now, what does Dr. Vallee say about the wick in the JUUL1 with respect to the central and axial airflow passageway limitation?

A. Dr. Vallee combines the wick with the heating coil into the heating element.

Q. Do you agree with Dr. Vallee's combination of the wick and the heating coil as a claimed heating element?

A. No, I don't. I don't believe that can be claimed as the heating element.

Q. Why not?

A. Because in order to overcome an examiner's objection over Thorens prior art in a related application, the applicant stated that when the wick and the heating coil are separate elements, then the wick is not part of the heating element.

Q. Are there any other reasons as to why you disagree with Dr. Vallee that the JUUL1 cartridge's wick and

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heating coil do not satisfy the claimed heating element?

A. Yes. And I put -- well, there are several. I put the next one on the next slide. My slide 44.

As it shows at the bottom, the wick is made of silica glass fibers and so proceeding through each of the three proposed constructions for heating element, those silica glass fibers, they do not heat via resistive heating. They can't conduct electricity. They don't perform heating, meaning they don't output heat. And under the Staff's construction, they are not made of electrically conductive material and they don't output heat.

And so as a consequence, under none of the three proposed constructions does the wick meet the requirements for the heating element.

Q. In your view, Doctor, does the wick in the JUUL1 cartridge alter the direction of the airflow in the cartridge more than the heating coil?

A. Yes, it does. The heating coil alone would barely affect the direction of the airflow, but because the wick is impermeable and the flow has to go around the two sides of the wick, the wick far more redirects the airflow.

Q. Thank you, Doctor. Let's move on to the third reason and let's go to slide 46, Jim. Thank you. A third reason why, you said earlier there is no central and axial airflow passageway in the JUUL1 pod.

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Can you tell us that reason?

A. I put it here on my slide 46, it's that the airflow passageway, there is no airflow passageway extending from the first aperture.

Q. What does Dr. Vallee point to as the alleged first aperture in the JUUL1 pod?

A. I have shown that here on the CAD drawing on the right and I've circled it. It's the central micro-perforation.

Q. What is the basis for your opinion, Doctor, that there's no airflow passageway extending from that alleged first aperture in the JUUL1 cartridge?

A. Sure. We can see that on my next slide, 47.

So looking on the left, you can again see I have identified Dr. Vallee's alleged first aperture, and you can see the air that moves, passes through that aperture. There is no structure extending centrally or axially at all from that.

The air just enters this open space, this open void, and that is completely different from what's shown, for example, in Figure 2 of the patent where there is central and axially or at least axially directed structure for the passageway extending from the first aperture.

Q. Thank you, Doctor.

MR. DAVENPORT: Your Honor, we will need to go on

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the JLI confidential record just briefly, please.

JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. DAVENPORT:

Q. Okay, Doctor. Let's turn now to the second limitation in the asserted claims of the '818 patent that you said is not satisfied by the accused products.

Can you remind us what that is, Doctor?

A. I have that on this slide that the JUUL and Luna are missing an electrically conductive portion of the first end of the housing being adapted to electrically and mechanically couple to the power source.

Q. Where does this limitation appear in the asserted claims of the '881 patent, Doctor?

A. It's on my next slide, 53. It appears in claim limitation 16.5.

Q. And what constructions if any did you apply in analyzing and looking at 16.5?

A. I used the agreed construction as detailed in the claim construction order, namely electrically conductive portion means a portion that is electrically conductive.

Q. Let's start with your opinion with JUUL1 with respect to this limitation.

Can you explain to us how the JUUL1 cartridge couples to the JUUL1 power source?

A. It is actually very simple. It's shown on slide 54. So on the device end, on the left, that's a half cut

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through the device. And I have marked with the letter A the protrusions that extend from the side wall of the receptacle part that receives the cartridge in that device.

And in the center, I have shown with the letter B the detent recessed grooves that exist on the sides of the plastic tank. And when the cartridge is inserted in the receptacle, that protrusion A snaps into the recessed groove B. You can see that on the right. And that provides the mechanical coupling.

The electrical coupling comes from the yellow pins, the pogo pins in the device on the left touching the contact tabs that you see in yellow in the center. And you can see that on the right as well.

Q. Thank you, Doctor.

What is the basis for your opinion as to why the JUUL1 cartridge does not satisfy this limitation or infringe this limitation?

A. Sure. Well, there are three reasons. I have listed them here. The first is that the first end of the housing does not have an electrically conductive portion. In the CAD image on the right, I'm showing via the gold line, the first end of the JUUL1 cartridge, the housing.

And it's clear from the bill of materials that that entire green tank is made of polypropylene plastic, which is not electrically conductive. So there is no

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electrically conductive portion on the first end of the housing.

Q. Thank you. What's the next reason that I see on this slide for why the JUUL1 cartridge doesn't infringe this limitation?

A. The next reason is that the electrical contacts are not part of the housing. And I show that on my slide 56 if we can advance to that.

So here on the very left at the bottom I'm showing the electrical contacts and, importantly, what Dr. Vallee refers to as the tabs are just a small part of those electrical contacts.

In the center I show those contacts are, in fact, attached to the wick housing. And then that entire wick housing with the airflow tube and other device internals are inserted into the tank and the tab portions of the contacts protrude through holes in the housing as I have shown on the right.

Q. Few questions about that. First of all, do you believe that the electrical contacts that we see here at the bottom of slide 56 are part of the housing of the JUUL1 cartridge?

A. No. They are definitely not part of the housing. They are internals, device internals within the housing. They are attached to the wick housing, which is internal to

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the housing of the cartridge.

Q. Have you prepared an animation that explains how they are attached to the internal components of the cartridge?

A. I have. And I think that's helpful to understand how this works. So if we can just begin, that's the wick housing. It is made of plastic. The first thing that happens if we start the animation, so those are the contacts, the gold pieces. They are inserted, attached in the wick housing.

Then the coil and wick are attached. And now all of that, that whole assembly, those internals are put into the tank and then the contact tabs protrude through the holes and are bent over as shown.

Q. All right. Thank you, Doctor.

On the prior slide, you mentioned a third reason why the JUUL1 cartridge does not infringe this electrically and mechanically coupling limitation.

Can you explain what that is?

A. Sure. If we go to slide 58. There we are.

So I show the mechanically coupling features again, the protrusion in the receptacle and the recessed groove on the plastic tank. The electrical contacts are not adapted to mechanically couple, so, again, I show the electrical contacts in yellow.

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The pogo pins on the left simply touch the electrical contacts on the right, but that has nothing to do with the mechanical coupling of the cartridge to the receptacle.

Q. All right. I believe you explained already what features do mechanically couple the cartridge to the power source. I want to focus on the mechanically coupling features of the cartridge, Doctor.

What are those features made of?

A. Well, I showed those most clearly on the next slide. I mean, while we're on this slide, it's the protrusion in the receptacle as I said on the device side in the top part, that receptacle.

And the groove, the recessed groove that I show, there's one on each side of the plastic tank that I show in the diagram on the right.

Q. And focusing on the JUUL1 cartridge, what are those mechanically coupling features made of on the cartridge?

A. The entire tank is made of plastic. So the mechanical coupling features on the housing are made of plastic.

Q. Are they electrically conductive, Doctor?

A. No, they are made of plastic. They are not electrically conductive.

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Q. All right. What does Dr. Vallee point to as the mechanically coupling features of the JUUL1 cartridge, Doctor?

A. As shown on the left of my slide here, so these are his colors. He's showing on the left via the gold line, again, the bottom of the tank, which I agreed with.

But he includes parts of the sides of the tank, namely, those sloped parts that he shows and then via his circles and the red arrows, he points to the corners, the very ends of those or the corner of those sides on the tank as being the mechanically coupling features.

Q. Do you agree that those are mechanically coupling features that Dr. Vallee points to?

A. I don't for reasons I testified to. The mechanically coupling feature on the housing is the recessed groove that I show on the right. That's what engages with the protrusion in the receptacle.

Q. Do you agree that the mechanically coupling features that Dr. Vallee points to are on the first end of the housing?

A. No, I don't. The first end of the housing properly interpreted, in my opinion, is as I show via the gold line at the first end of the housing, the bottom of the housing.

Q. What is your understanding, Doctor, as to whether

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claim 16.5 requires the same portion of the first end of the cartridge housing to both mechanically couple and electrically couple the cartridge to the power source?

A. I show that on the next slide, a claim limitation 16.5, in claim 16 is unequivocal on that. And the first excerpt that I show here, for example, from the '881 patent, it's clear an electrically conductive portion, it says, adapted to mechanically and electrically coupled to an electrically conductive portion. And that's consistent throughout the patent.

Q. Okay, Doctor. Let's move on to the Luna pods. I don't think we need to go on the confidential record, but, generally, what is the basis for your opinion that the Luna pods and cartridges do not infringe this mechanically and electrically coupling limitation?

A. Yeah, there is nothing in the Luna pods -- and I show this on my next slide. There is nothing in the Luna pods that changes the electrically coupling features or the mechanically coupling features from those on the JUUL1 pod and so for the same reasons the JUUL1 pod doesn't practice this limitation, neither do the Luna pods.

Q. Thank you.

Jim, can you pull up the next slide.

Doctor, remind us what the third limitation that you believe is missing for the asserted claims of the '881

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patent with respect to the JUUL1 and Luna cartridges?

A. Sorry, I didn't mean to speak over you.

That the JUUL1 and Luna are missing a heating element extending transversely across the airflow passageway.

Q. And where in the asserted claims of the '881 patent does this limitation appear, Doctor?

A. It's in claim limitation 16.8.

Q. And in your analysis of this limitation, what constructions, if any, did you apply?

A. I show that on my slide 64, both NJOY's and the Court's construction of transversely meaning the plain and ordinary meaning, that is crosswise.

Q. And in your opinion, has the Court provided any guidance since your report on what it means for heating element to extend transversely across an airflow passageway?

A. Yes. Such guidance was given in the claim construction order. And it says that transversely across means that it extends from one end to the other end of the airflow passageway.

Q. And just to be clear, that was a reference to claim -- excuse me, heating element 222 of Figure 2?

A. That's correct. That's how it's identified.

Q. All right. What is the basis for your opinion that the JUUL1 cartridge does not infringe this limitation,

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Doctor?

A. I show that on my next slide, slide 66. So here again a CAD image zooming in on the heating element, namely, the coil, and in the lower of the two white arrows, I show the transverse extent of the coil. And you can see that that's substantially less than the full transverse extent of the alleged airflow passageway.

And that makes sense, because you wouldn't want the hot coil to be in very close proximity, let alone contacting the plastic wick housing that is shown in gray.

Q. Thank you, Doctor.

Moving on to the Luna cartridges, what is the basis for your opinion that none of the Luna cartridges infringe this limitation, "the heating element extending transversely across the airflow passageway"?

A. Well, the Luna pods don't change the heating coil design, as I show here on 67, from that in the JUUL1 pod. And so for the same reasons the JUUL1 pod doesn't infringe, neither do the Luna pods.

Q. Thank you, Doctor.

Let's move to the fourth limitation that you found was missing in the asserted claims of the '881 with respect to the JUUL1 and Luna cartridges. Can you remind us what that was?

A. It's that the JUUL1 and Luna do not have a

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heating element configured to vaporize solution for oral provision.

Q. And where in the asserted claims does this limitation appear, Doctor?

A. It's as I show on my next slide, claim limitation 16.10.

Q. Thank you.

First of all, Doctor, what does the JUUL1 cartridge provide to an individual for oral provision?

A. As I testified to earlier, they provide an aerosolized e-liquid.

Q. How do you know that the JUUL1 provides an aerosolized e-liquid to a user?

A. Well, I testified earlier there are a substantial number of features in the JUUL1 cartridge, including in the mouthpiece of the cartridge, that ensure that the vapor is converted to aerosol by the time it's delivered to the user.

Q. Can you explain to us the difference between a vapor and an aerosol, Doctor?

A. Sure. I have put a little summary on this slide but, simply put, if I take a liquid and I heat it to a sufficient temperature, the individual molecules leave the liquid and they enter the air in a gas phase. We refer to that mixture of individual solution molecules and air molecules as a vapor, it's a gas.

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If I now cool that vapor, for example by mixing it with cooler air, as I drop the temperature sufficiently, the vapor molecules will glom together. That is called nucleation. And in so doing, they will form microscopic liquid droplets suspended in the air. And that suspension is called an aerosol.

Q. Thank you, Doctor.

And some of the support for your explanation is at slide 70; is that correct?

A. That's correct.

Q. Okay. Now, turning to the Luna pods, what's the basis for your opinion that the Luna pods or cartridges don't infringe this limitation of claim 16 of the '881 patent?

A. Again, the Luna pods don't change the heating coil or any of the other aspects of the JUUL1 design that ensures delivery of aerosol to the user.

Q. Thank you. Now, Doctor, you have prepared a chart that summarizes your opinions with respect to the asserted claims of the '881 patent and the accused products?

A. I have, yes. Yeah, this is it on my slide 72. So it's a little bit of an eye chart, but in the left-most column, I list all of the claim limitations in the independent claim 16 that claims 19 and 26 depend on. And in the right-most two columns with a red X, I mark each of

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the claim limitations that is not practiced by the JUUL1 and/or the Luna.

And taken together, it's clear that the JUUL1 and Luna do not infringe the asserted claims of the '881 patent.

Q. Thank you, Doctor.

Let's turn to the domestic industry products and your opinions with respect to the '881 patent, Doctor. First of all, could you remind us what asserted claims were asserted against which domestic industry products in the '881?

A. I have that on the next slide. Only claim 1 of the '881 patent is asserted and only against the Vuse Solo G1 and G2 cartridges.

Q. At a high level again, limitation level, Doctor, can you explain to us what limitations were missing in the Solo products with respect to claim 1 of the '881 patent?

A. Yes. There are four of them. And I have listed them on my slide 75.

Q. All right. Let's start with the first missing limitation, again, a central and axial airflow passageway.

Where does that limitation appear in the asserted claim 1?

A. It's in claim limitation 1.4.

MR. DAVENPORT: Okay. Now, at this point we're going to need to go on the RJR confidential record, Your

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Honor?

JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

THE WITNESS: So I put together my slide 93 to show that. And as I show on this slide, neither the JUUL1 or Luna or the JUUL2 infringe any of the asserted claims of the '864 patent.

BY MR. DAVENPORT:

Q. Can you explain to us at a high level, limitation level, Doctor, what limitations are missing in the asserted claims of the '864 patent with respect to the accused products?

A. Yes, there are six of them. I have listed them here on my slide 94.

Q. All right. Let's start with the first one, "central and axial passageway," Doctor.

Where does this limitation appear in the asserted claims of the '864 patent?

A. It appears in claim limitations 1.7 and 25.7.

Q. And we talked about this a little bit with respect to JUUL1, but can you give us a basis for your opinion as to why the JUUL1 cartridge does not infringe the central and axial airflow passageway limitation of the '864 patent?

A. Yes. And I show on my slide 96, it's the same three reasons as was the case for this claim limitation in regard to the '881 patent. There is no central and axial

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airflow passageway in the mouthpiece around the wick and there is no airflow passageway extending from the first aperture.

Q. Okay. Let's turn to the Luna cartridges.

What is the basis for your opinion that those cartridges do not infringe that limitation of the asserted claims of the '864 patent, Doctor?

A. Again, none of those modifications in the '881 -- sorry, in the Luna pods change the opinions that I render with regard to central and axial airflow passageway for the '881 patent.

Q. Thank you. Now let's move on to the JUUL2 cartridge. I realized I forgot to introduce the physical sample of the JUUL2 cartridge when we talked about it earlier.

I believe there in the box to your right, Doctor, contains that.

A. Yes, yes, that's right.

Q. Can you read into the record the exhibit numbers for the JUUL2 physical sample.

A. They are RPX-0019, RPX-0020.

Q. Okay. To start off with, Doctor, can you remind us how the cartridge of the JUUL2 pod is configured?

A. Yes, though, may I point out, my screen has gone dark. I don't know if that is intentional or not. I can

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answer without the screen but --

MR. DAVENPORT: Apologies, Your Honor.

THE WITNESS: Could you repeat your question?

BY MR. DAVENPORT:

Q. Could you remind us how the JUUL2 cartridge is configured, Doctor?

A. Sure. I testified to that earlier today. And I show the same diagram here. There's the atomizer housing, stainless steel wick, sits in that housing -- sorry, the stainless steel heater sits in that housing. The wick fits into the heater and then that mounts to the bottom of the collector and that collector creates two swirling airflow passageways that flow through an integrated airflow channel in the tank.

Q. And just to be clear, Doctor, what in your opinion is the cartridge of the JUUL2 system?

A. The cartridge is the JUUL2 pod.

Q. All right. To begin, what in the cartridge of the JUUL2 does Dr. Vallee identify as the alleged airflow passageway?

A. He shows the entire light blue area that's shown here on my slide 99.

Q. And what does he point to as the first, the alleged first and second apertures of the JUUL2 cartridge?

A. As shown in both of those views, he points to the

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center-most aperture on the upstream end and to the opening in the opposite end.

Q. All right. Now, what's the basis for your opinion, Doctor, that the JUUL2 cartridge does not infringe the central and axial airflow passageway limitation in the '864 patent?

A. There are three reasons. And I have listed those here. The first is that there is no airflow passageway extending from the first aperture. And it's similar to what we saw for the JUUL1. The details are different here.

I show the two cutaway CAD diagrams. I again point to the alleged first aperture that Dr. Vallee points to. And you can see there is no structure having any axial character to it that extends at all from his alleged first aperture.

Q. Thank you. Let's move on to the second reason that you have listed here. What is that reason?

A. It's that there is no central and axial airflow passageway around the wick. So I have constructed these two cutaway CAD views. Let's start with the one on the right-most. That's that -- the cut in half aperture is the one that Dr. Vallee identifies.

And you can see that airflow through that has to pass around the wick because the wick is impermeable. And so that creates two airflow passageways around the wick,

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neither of which is central. And you can see that in the image on the right as well, where the two passageways that are formed by the wick are clearly visible.

Q. And that's at slide 101, Doctor?

A. That's correct.

Q. Okay. Now, how does Dr. Vallee address the issue of the wick and the airflow passageway limitation in the JUUL2?

A. Well, as he does for the JUUL1, he bundles the wick and the heater together and calls them the heating element.

Q. Do you agree with that argument by Dr. Vallee?

A. No, I disagree with it for the same reasons I testified to in regard to the JUUL1 pod.

Q. All right. Let's start or let's get to the third reason that you have listed here, Doctor.

Can you explain that third reason as to why the JUUL2 pod has no central and axial airflow passageway within the meaning of the '864 patent?

A. Sure. It's that there is no central and axial airflow passageway through the collector. Now, the collector we saw on earlier charts, it's shown here, cutaway in purple. And the important thing is that it has a divider between two separate non-central airflow passageways.

So the divider itself, which is also shown

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towards the upper right in light blue, Dr. Vallee alleges that that is the collector in the JUUL2 and I agree with him on that. It does appear to be that way.

Going back to the pink diagram, that divider and the sloped walls, they are oppositely sloped directions on those sloped walls in the two passageways. That has the effect of inducing strong swirl in these two airflows that come from each of the two airflow passageways.

And you can see that swirl in the mean flow streamlines in the numerical simulation of the JUUL2 device, in particular, the flow coming from the collector on the right.

Q. Why does Dr. Vallee say there's still a central and axial airflow passageway in the JUUL2 cartridge despite the collector?

A. I show that on my next slide, 103. He points to this yellow divider is what it properly is and what I refer to it as. And he focuses only on the divider and ignores the entire rest of the collector structure that defines those two offset non-central airflow passageways; namely, he ignores the rest of that light blue structure.

And focusing only on the obstacle, Dr. Vallee states it's merely an obstacle because its size is smaller than that of the heating element of the JUUL2 pod. And in so doing, he is misinterpreting the ruling in the RJR versus

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Fuma that, in fact, said in order to be an obstacle, merely an obstacle, it's not a size-based test, it's how much does it affect the flow. And then secondly, he says that that obstacle only affects the flow insubstantially.

Q. Focusing on the size-based test that you show here that Dr. Vallee applied, what measurements if any did Dr. Vallee provide in support of his position that the parts of the collector that we see here are smaller than the heating element?

A. He didn't provide any measurements of those parts of the collector or of the heating element.

Q. And focusing on the other argument by Dr. Vallee that we see on this slide, the obstacle only affects the airflow insubstantially.

Do you agree with that opinion, Doctor?

A. I strongly disagree with that. And there is direct evidence of that on my slide 104, if we can advance to 104.

So, again, at the very left, I'm showing exactly the collector the way Dr. Vallee had marked it. Again, he is ignoring the blue portions. In the right-most set of three figures, there is that light blue collector that appears to be exactly the same as in the JUUL2. And the numerical simulations as I testified to a moment ago show that the angled walls cooperating with that divider are

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creating two strongly swirling airflows that then mix with one another and support aerosol formation along the way towards the mouthpiece.

And the evidence is clear. On the left, namely, the center of these groups of figures, which labeled test design, so that's a collector where the sloped features are removed and they are purely vertical.

And you can see the streamlines, the mean flow streamlines are completely different. So that shows that the details of the collector that Dr. Vallee has omitted are absolutely necessary for the function of the JUUL2 device.

Q. Okay. Thank you, Doctor.

Let's move on to the second limitation that you found to be missing in the asserted claims of the '864 with respect to the accused products. Can you remind us what that is?

A. It's that none of the accused products have a substantially central and axial airflow path portions.

Q. And where in the asserted claims of the '864 does this limitation appear?

A. Claim limitation 9.7.

Q. And in analyzing claim 9.7 in this limitation, what constructions, if any, did you apply?

A. Both NJOY 's and the Court's construction of proximate, which is at, near, or close to. And in the

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context of the '864 patent claims, that identifies a relative positioning.

Q. Okay. Let's start with the JUUL1 product, Doctor.

What is Dr. Vallee's opinion as to why the JUUL1 cartridge purportedly infringes this limitation?

A. I have got that shown on my slide 107. So on the left, in fact, in the left-most, with green, this is Dr. Vallee's notation. He identifies his -- what he asserts is the first portion and the second portion.

And then he is showing via these light blue arrows that you can see most clearly on the right-most figure, he asserts that that's the airflow, the path that the airflow takes through the device and therefore through his first and second portions.

Q. Thank you, Doctor.

I would like to focus on the first portion in the JUUL1 cartridge that Dr. Vallee has identified. Do you agree that the airflow path in this first portion is substantially central and axial?

A. No, I don't agree. And I show that -- I zoom in on that first portion. His alleged first portion on my slide 108.

So you can see by his green marking, the first portion extends from the end of the micro-apertures to the

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base of the wick. And as you can see on the right, the flow upstream of the wick has to -- even in his simple, blue diagram, which is highly oversimplistic, but the flow does have to split upstream of the wick.

And so even in his part, you know, the latter part of his identified first portion, the airflow is not substantially central and axial. In fact, it is as much lateral as it is axial.

Q. You have recirculation zones on your slide here. What's that a reference to, Doctor?

A. Sure. That has to do with the bottom-most part of his first portion. And if we move to my next slide, I show more detail on that. That's my slide 109.

So beginning on the right I have circled in red the micro-perforations. Keep in mind it's the central micro-perforation that Dr. Vallee alleges is the first aperture. So we have air coming through these perforations.

And to the left of that I show results from a scholarly paper titled Numerical Modeling of the Gas Flow Through Perforated Plates. And so this is a peer-reviewed study that shows what the actual airflow path looks like when flow goes through a set of micro-perforations.

These are flow velocity vectors, mean flow velocity vectors. The important thing is that the length and color of the vectors show the local flow speed, but even

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more importantly, it's the arrowheads that show the direction of the airflow.

And you can see between the perforations the blue arrows, the flow vectors, are pointing substantially laterally and even strongly upstream, meaning opposite of the main flow direction. And that's what I testified to in my tutorial section. That's well-known in the field of fluid mechanics with regard to recirculation zones.

Q. Thank you, Doctor.

You also have on the left side of slide 109 angles of incoming flow. What do you mean by that?

A. Yeah, sure. On my slide 110, in the center diagram, I show via those orange arrows, that's how air enters the whole system, the JUUL1 system. So it comes in between the cartridge -- sorry, yeah, between the cartridge and the device, the battery pack, flows downward, and then at the very bottom of those orange arrows, it has to negotiate a sharp corner.

And as I testified to in my tutorial section, the flow separates when it does that. It can't turn that sharp corner. And so the flow down there in that upstream of the micro-perforations, namely, entering the micro-perforations, is highly unsteady and turbulent. And on top of that, that airflow also has to negotiate around the yellow electrical contacts.

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So that introduces an even wider range of flow angles at which the airflow is entering the micro-perforations. If you look in the diagram on the left, that's like the direction of the green arrows that are entering.

Those green arrows will vary widely. And the important point is they are not going to be purely axial.

Q. All right, thank you for that, Doctor.

How does Dr. Vallee's opinion with respect to the JUUL1 cartridge in this limitation account for any of these three issues you just discussed, the flow splitting around the wick, the recirculation zones, and the angles of incoming flow?

A. Dr. Vallee doesn't account for any of those. Those are all well-known flow phenomena in fluid dynamics, and he completely ignores them.

Q. Based on your experience, Doctor, what would you expect to see in that first portion of the JUUL1 cartridge that Dr. Vallee identifies?

A. I would expect to see highly unsteady, three-dimensional turbulent flow with the result being that the airflow is entering those micro-perforations from a wide variety of angles.

Q. All right. Jim, can you pull up CX-2389C, please.

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Dr. Dahm, do you recall -- first of all, do you recognize this document?

A. I do recognize it, yes.

Q. Do you recall being asked at your deposition about this document?

A. Yes, I do recall.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. DAVENPORT:

Q. Dr. Dahm, I want to focus on the first portion of the JUUL2 that Dr. Vallee has identified. Do you agree with his opinion that the airflow in this first portion is substantially central and axial?

A. No, I don't agree. And that becomes quite clear on my slide 115. Firstly, I have already testified to that there would be these recirculation zones between the exit of the apertures and, thus, in part of Dr. Vallee's alleged first portion. And the flow there is not central and axial.

Additionally, the flow splits around the wick because the wick is impermeable. It splits into two flow paths. Dr. Vallee shows that in the bottom view on the right, but you can see, even his alleged first portion includes part where the flow is oriented almost 45 degrees, meaning, as much laterally as axially. So, no, I don't agree with his testimony there.

Q. All right, Doctor.

How about the other reasons that you have provided on this slide, Doctor?

A. Sure. There were three reasons. Remember, the third has to do with the angles of the incoming flow. And it's very similar, different in detail, but similar in spirit as was the case for JUUL1.

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I show on the left, this is from the JUUL2 PMTA, a high-level view of how air enters the sides of the juncture between the cartridge and the battery part, the device. And I also show in green, these are Dr. Vallee's indication, where the first portion is.

And you can see the airflow separates around these geometric features I testified to earlier, separates both entering and exiting from the micro-perforations. And so the flow is actually approaching those perforations at a wide range of angles, not simply purely axially as Dr. Vallee has alleged.

Q. All right. Based on your experience, Doctor, what would you expect to see in the first portion of the JUUL2 pod that Dr. Vallee has identified here?

A. I would expect to see highly unsteady three-dimensional turbulent flow and, thus, the flow entering from a wide range of time varying angles.

Q. Would you consider those, that flow and those angles to be substantially central and axial?

A. No, the actual flow would not be substantially central and axial.

Q. All right. Let's focus on the second portion now that Dr. Vallee has identified. And if we can go to slide 117.

Do you agree with Dr. Vallee that this second

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portion includes a substantially central and axial airflow path?

A. No, I disagree. You can see on the left he shows his blue arrow as being purely axial. And I testified earlier, and we referred to the EVT flow simulations of the actual collector geometry that that produces two airflow passageways and the airflows between them have strong swirl induced on them by the collector.

And that that produces even mean flow streamlines in that second portion, Dr. Vallee's second portion, that are substantially non-axial.

Q. Other than the blue lines that we see here on Dr. Vallee's second portion, what other evidence if any did he rely on for his opinion about that second portion?

A. Well on the next slide I show even he refers to the EVT design, the mean flow simulations of that design, but he seems to completely overlook the swirl that that collector geometry intentionally induces on the flow coming out of the swirl. He simply declares that the airflow is axial there.

But the swirl has angular momentum and physics requires that angular momentum to be conserved. And that means that we have non-axial flow in what he identifies as his second portion.

Q. Thank you. How, if at all, does this EVT design

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simulation, Doctor, support Dr. Vallee's opinion with respect to the second portion that he identifies?

A. It doesn't. And, in fact, in my opinion, it contradicts it quite clearly.

Q. Well, based upon the simulation and based upon your experience, what would you expect to see for the actual airflow path in the second portion that Dr. Vallee identifies in the JUUL2 cartridge?

A. Yeah. Again, these are the mean flow paths. The actual airflow paths will be even more strongly three-dimensional unsteady and turbulent, and so even more non-axial.

Q. All right. Let's move on to the third limitation.

MR. DAVENPORT: Your Honor, I am happy to stop for lunch any time. We're just moving into a new module, but --

JUDGE JOHNSON HINES: We can keep going.

MR. DAVENPORT: Thank you, Your Honor. I'm sorry, Your Honor.

BY MR. DAVENPORT:

Q. Let's move on to the third limitation of the asserted claims of the '864 patent that you said was not infringed by the accused products.

Can you remind us what that was?

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A. Sure. That none of the accused products have the first end of the housing being adapted to electrically couple to the power source.

Q. Where does that limitation appear in the asserted claims of the '864 patent, Doctor?

A. In claim limitations 1.3, 9.3, and 25.3 as I show on my slide 120.

Q. All right. And starting with the JUUL1 product, can you briefly explain to us the basis for your opinion that the JUUL1 product does not satisfy that limitation?

A. Well as I show on my slide 121, remember, the housing of the cartridge, that is the tank there. That's the bottom part. And that bottom part is made of plastic, so it's not electrically able to electrically couple. And as far as the contact tabs go that protrude through the holes in the tank there, those -- the majority of those contacts reside inside the tank, inside the housing.

And you can see that both -- in both diagrams, you can see the majority of the contact showing through the transparent tank on the right. So the contact tabs, the parts that do electrically couple, are not part of the first end of the housing. They are internals to the housing.

Q. Thank you, Doctor.

Moving on to the Luna cartridges, can you briefly explain the basis for your opinion that those cartridges

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don't infringe this limitation of the '864 patent?

A. Sure. The Luna pods don't make any changes to the electrical contacts design from the JUUL1 pod. So for the same reason the JUUL1 pod doesn't infringe, neither do the Luna pods.

Q. All right. Let's move on to the JUUL2, Doctor.

I am going to show you an image from CDX-2C.125 from Dr. Vallee's presentation.

Do you remember seeing that Dr. Dr. Vallee's testimony?

A. Yes, I do.

Q. And what is your understanding of what Dr. Vallee identifies as the first end of the JUUL2 housing?

A. My screen has gone dark again. I am happy to testify but it would -- I want to make sure I am responsive.

Q. We will be right with you, Doctor.

A. Okay.

MR. DAVENPORT: Bear with me one moment, Your Honor.

BY MR. DAVENPORT:

Q. Can we go to slide 123, Jim. Thank you.

Okay. Why don't I ask the question again, Doctor.

What's your understanding of what Dr. Vallee identifies as the first end of the JUUL2 housing?

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A. He identifies the bottom surface of the atomizer housing. So in this diagram, that's the left-most flat surface of the atomizer housing.

Q. And what is your understanding of what Dr. Vallee identifies as a feature or features that are adapted to electrically couple the JUUL2 cartridge to its power source?

A. He identifies the electrical contacts, which are shown in yellow on the sides of the atomizer housing here.

Q. Okay. First of all -- and those electrical contacts are part of the heater; is that correct?

A. That's correct. And I show that on my next slide, 124, where I show the atomizer housing in dark gray. The heater by the, I don't know what color, light blue, light purple, and as I testified to earlier, that stainless steel heater sits inside the atomizer housing.

Q. Okay. Are the electrical contacts of the heater on the first end of the JUUL2 housing, Doctor?

A. No, they are not.

Q. Why not?

A. Because they protrude over the sides of the atomizer housing. And even Dr. Vallee has testified that the first end of the JUUL2 housing is the bottom surface of that atomizer housing.

Q. Is that bottom surface of the atomizer housing adapted to electrically couple to the JUUL2 device, Doctor?

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A. No, it's not. As it is shown here, it's made of polypropylene. That's a plastic. It's not electrically conductive, so it cannot electrically couple to the power source.

Q. And what is your opinion as to whether the heater is part of the JUUL2 cartridge housing?

A. The heater is not part of the JUUL2 cartridge housing. It's a separate piece. It's part of the internals of the device.

Q. Thank you. And let's move on to the fourth limitation of the asserted claims, Doctor, that you found not to be infringed by the accused JLI products.

Can you remind us what that is?

A. That the accused products do not have a heating element extending transversely to the central longitudinal axis of the housing.

Q. Where does this limitation appear in the asserted claims, Doctor?

A. It's in claim limitations 1.5 and 9.5.

Q. And regarding the JUUL2 cartridge, Doctor, in your opinion that the heating element does not extend transversely to the central longitudinal axis, remind us what Dr. Vallee points to as the claimed heating element?

A. Well, he bundles -- as I testified earlier, he bundles the wick together with the whole metallic structure

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that you see in gray on the right and calls all of that the heating element.

Q. Do you agree with him bundling the heater and the wick as the heating element?

A. No. For reasons I have already testified to, at least in relation to the JUUL1, to overcome the Thorens prior art because the wick is separate from the heating element or from the heater, the wick cannot be part of the heating element.

Q. What is the claimed heating element in your opinion, Doctor, of the JUUL2 heater?

A. It's the -- on the left, it's the area that is configured to heat. Those parts of that metal structure that are so narrow that there is a high rate of heat generation in those parts, whereas the legs to the left and right, they are wide and so they are resistivity is low. They don't generate heat.

Q. And what's the basis for your opinion, Doctor, that the claimed heating element in the JUUL2 does not extend transversely to the central longitudinal axis of the housing?

A. Well, if we go back to the CAD diagram on the right where you can see those three up and down, up and down, up and down legs of the area that's configured to heat, namely, the heater, those legs extend overwhelmingly

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in the axial direction, not in the transverse direction.

Q. All right. Thank you, Doctor.

Let's move on to the next limitation that you say is not infringed by the accused products with respect to the asserted claims of the '864.

Remind us what that is.

A. Sure. It's that the accused products don't have a heating element configured to vaporize solution for oral provision.

Q. And where does that limitation appear in the asserted claims?

A. Claim limitations 1.6, 9.6 and 25.6.

Q. And what is the basis for your opinion that the JUUL1 does not infringe this limitation?

A. Well as I show on my next slide, slide 131, the PMTA as I testified to earlier clearly states that the device vaporizes the e-liquid to create an aerosol. It delivers an aerosol.

Q. Thank you.

And what is the basis for your opinion -- moving on to the Luna pods, what is the basis for your opinion that the Luna pods don't infringe this limitation of the '864?

A. Well, the Luna pods don't change the heating coil design or any of the other features that promote aerosol formation in the JUUL1 pod. And so just as the JUUL1 pod

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doesn't infringe that limitation, so too do the -- so too do the Luna pods also not infringe.

Q. Let's move on to the JUUL2, Doctor.

What's the basis for your opinion that the JUUL2 cartridge does not infringe this limitation?

A. Here the JUUL2 PMTA specifically says that the device aerosolizes the e-liquid and creates an aerosol that's then inhaled by the user.

Q. Can you explain just very briefly, Doctor, how the features of the JUUL2 cartridge create aerosol to provide to an individual?

A. Sure. We talked about that converting the vapor into aerosol is all about mixing air into the vapor. I testified to that earlier.

And so all of the features, for example, the collector, the fact that it splits the single air passageway into two, that it induces swirl on those, that creates very rapid mixing between the airflow and vapor and ensures that only aerosol leaves the mouth.

Q. Thank you, Doctor.

Let's go to the next slide, please, 134.

This is the last limitation that you address, "only the heating element obstructing a portion of the airflow." Is that correct, Doctor?

A. That's correct.

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Q. And where does this limitation appear in the asserted claims?

A. In claim limitation 25.7.

Q. Thank you. Starting with the JUUL1 cartridge, why in your opinion does the JUUL1 not infringe this limitation?

A. As we see here in the CAD diagram, most clearly on the right, again, the wick is impermeable. It's saturated with e-liquid. The airflow cannot go through that. It has to split into two passageways. And so we have the wick obstructing a portion of the airflow.

Q. Thank you.

Let's move on to the Luna pods. And we will just need to go on the confidential record, the JLI record very briefly, Your Honor?

JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. DAVENPORT:

Q. Let's turn to the DI or the domestic industry products, Dr. Dahm.

Can you remind us what claims of the '864 patent were asserted against which DI products?

A. I show those on my slide 141, where the claims that are asserted against the NJOY ACE and ACE 2.0 and the RJR Vuse Alto in the '864 patent are identified.

Q. And at a high level, Doctor, what limitations did you find to be missing with respect to the domestic industry products?

A. Those are shown on my slide 142. There are -- these three elements are missing from the claim -- or those three claim limitations are missing, I should say.

Q. All right. Let's pick up the first reason, substantially central and axial airflow path portion. Doctor, where does that limitation appear in the asserted claims?

A. That's in claim limitation 9.7.

Q. We will need to go on the NJOY confidential record at this point, Your Honor?

JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. DAVENPORT:

Q. Doctor, have you prepared a chart that summarizes your conclusions with respect to whether the DI, the domestic industry products practice the asserted claims of the '864 patent?

A. Yes, I have.

Q. Can you briefly describe that for us.

A. Yes. It is here on my slide 155. It's the same structure as the other charts that I provided. The claim limitations on the left and, in the right two columns, I mark with an X for each of the products whether those claim limitations are practiced or not.

And taken together, it's clear that neither the ACE and ACE 2.0, nor the Vuse Alto practice any of the asserted claims of the '864 patent.

Q. Thank you.

And, finally, Doctor, have you prepared a slide that summarizes the evidence and the exhibits and documents that you have relied upon in reaching the opinions that you have just provided here today?

A. Yes, I have.

Q. Can you explain that to us, briefly? I am not going to make you read into the record every exhibit there, but can you briefly describe the categories of exhibits that

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we have here?

A. Sure. I didn't mean to speak over.

Sure, that is my slide 156. I first list four patent documents. I then list four physical exhibits. I then list a substantial number of CAD files and drawings. I list six technical product documentation documents. And then a number of other documents as well.

Q. Thank you, Doctor.

MR. DAVENPORT: I have no more further questions for you right now.

JUDGE JOHNSON HINES: All right. Thank you.

Let's break for lunch. And we can return at 1:45. Mr. Speyer will be communicating with those of you who need to be available for the test for the remote witness. All right. Thank you.

(Whereupon, at 12:43 p.m., a lunch recess was taken.)

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A F T E R N O O N S E S S I O N

(1:47 p.m.)

JUDGE JOHNSON HINES: Good afternoon. Thank you. Please be seated.

Counsel?

MR. RENAUD: Mike Renaud on behalf of JLI. If I might, Your Honor, I think we're all set with the remote system.

JUDGE JOHNSON HINES: Okay.

MR. RENAUD: So we were of the mind that if Your Honor was on board, we'd try to do Mr. Steiger now and then go back to the cross of Dr. Dahm, if that would work.

JUDGE JOHNSON HINES: All right. Is there any objection to that, Mr. Desai?

MR. DESAI: That's fine.

JUDGE JOHNSON HINES: Okay. All right. Well, then --

MR. RENAUD: Thank you.

JUDGE JOHNSON HINES: -- let's proceed that way.

MR. RENAUD: And I'm going to introduce a NEXT advocate, Paul Weinand, Your Honor.

JUDGE JOHNSON HINES: Okay.

Mr. Weinand.

MR. WEINAND: Good morning, Your Honor.

JUDGE JOHNSON HINES: Good afternoon.

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MR. WEINAND: Paul Weinand on behalf of Respondent, JLI.

Mr. Steiger, can you hear me all right? We cannot hear you.

THE WITNESS: Yes, I can.

MR. WEINAND: Great.

JUDGE JOHNSON HINES: Mr. Steiger --

THE WITNESS: Can you hear me now?

JUDGE JOHNSON HINES: Yes, we can.

THE WITNESS: Okay.

JUDGE JOHNSON HINES: Good afternoon, Mr. Steiger. Would you raise your right hand, please. Whereupon--

WILLIAM STEIGER,

having been first duly sworn/affirmed, was examined and testified remotely as follows:

THE WITNESS: I do.

JUDGE JOHNSON HINES: Thank you very much.

Mr. Weinand?

MR. WEINAND: May I proceed, Your Honor? I'd like to introduce Mr. Steven Torres, who's representing the third party, Mr. Steiger. He's also on the call.

JUDGE JOHNSON HINES: Mr. Torres?

MR. TORRES: Yes, good afternoon, Your Honor. Steven Torres from Torres Scammon Hincks & Day for the

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witness, William Steiger.

JUDGE JOHNSON HINES: Good afternoon. Thank you.

DIRECT EXAMINATION

BY MR. WEINAND:

Q. So, Mr. Steiger, could you please introduce yourself for the Court.

A. Yes. Good morning -- or good afternoon. My name is William Steiger, spelled S-t-e-i-g-e-r. I'm a licensed practicing attorney in Ohio, I have degrees in -- I have a juris doctorate degree and a Bachelor's degree in accountancy. I currently practice civil litigation and business law. Right now I'm actively engaged in two technology businesses between Florida, Ohio and -- predominantly.

Q. And what's your relationship to this case?

A. I was a member of Fuma International between 2010 and 2014.

Q. And what was your role -- how would you characterize your role at Fuma?

A. I was what I would call a -- in charge of the back office, so I handled things from invoicing to ordering, to just setting up policies and procedures for the business.

Q. And did you also serve as a de facto general counsel of Fuma?

A. Yes, I was, de facto general counsel. I was also

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de facto CFO and de facto shipper and receiver.

(Laughter.)

BY MR. WEINAND:

Q. Can you describe the circumstances of your departure from Fuma.

A. We did not part on good terms. One of the partners, Greg Conley, and I just didn't get along. At some point, we had a go-up. I had been making overtures to leave and then left on rather bad terms. He removed me from counsel. He removed me and Dan Hillenbrandt.

Q. And am I correct that there was a lawsuit that resulted from your termination?

A. Yes, there were. I filed a lawsuit, which was subsequently settled.

Q. And are your personal feelings about Mr. Conley or Fuma affecting in any way the truth of your testimony today?

A. No.

Q. So I'd like to discuss briefly Fuma's business practices. What products did Fuma sell?

A. We sold -- Fuma sold predominantly e-cigarettes and accessories like car chargers and charging devices. We also sold a product called e-hookah, which was a flavored electronic cigarette.

Q. And was Fuma in the business of importing and

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reselling e-cigarettes?

A. Oh, yeah, that was predominantly what we did. We imported from China and then sold them throughout the United States.

Q. Did Fuma repackage those products?

A. We did. We would take the products and package them into kits or any manner that we thought necessary.

Q. And I understand as part of your role as -- with many hats at Fuma, you were involved in a meeting with RJR regarding their interest in Fuma. Is that right?

A. That's correct.

Q. And what was your understanding about RJR's interest in Fuma's products?

A. We were -- they were interested predominantly in our products because we had some innovations that we learned we didn't even know we had, but their interest in us, we came to find out, was that they were interested in having assistance with manufacturing in the United States.

Q. And you mentioned innovations in Fuma's product. Can you elaborate on that?

A. Yeah. The cartridge was longer than is typical because -- and they thought that that prevented a choking hazard in children, they found that there was 110 milligrams of solution that was otherwise fatal, and they were interested in our cartridge or, rather, our chemical

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component, which had a large molecule of glycerin, and that the nicotine, being transdermic, transferred in the esophagus instead of in the lungs.

Q. And was RJR also interested in Fuma's domestic potential manufacturing capabilities?

A. Yes, they were. We went there. We pitched a large manufacturing facility. We had -- he had a design ready to go, including, you know, green energy provisions, and then proposed for the first time, to my mind, that it be located in Puerto Rico.

Q. Okay. I'd like to turn topics a little bit and bring up Exhibit JX-507 at page 3.

Mr. Steiger, can you see the document on the screen?

A. No, I don't. Let me see if I can find it. Yes, I do now.

Q. And do you recognize this document?

A. I do.

Q. What is it?

A. This is a document that I've seen before, where it shows the heating element and various parts of a cartridge.

Q. And were you involved in drafting this document?

A. No.

Q. Okay. Was Mr. Conley involved?

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A. I believe he was.
Q. Okay. When did you first see this page of this document?
A. I want to say August, September-ish of 2010.
Q. And were you already working at Fuma when you saw this document?
A. Yeah, I had just started working with them.
Q. Does this page of this document look now how it did when you first saw it?
A. No, it does not.
Q. What, if anything, is different?
A. When I first saw the document, there was no date. And the words "initial date" were not there either.
Q. Do you know when the words "initial date" and the date, July 31st, 2009, were added to this document?
A. I don't. It would be some point after I saw it.
Q. So after summer of 2010?
A. Yes.
Q. Are you sure that this date was added to this document after summer of 2010?
A. Yes, I am.
Q. How sure are you?
A. 100 percent.
Q. And when did you next see this document after summer 2010?

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A. I believe it was handed to me in litigation between RJR, I believe it was RJR, and Fuma was involved in it somehow through another company.

Q. And when you --

A. I don't remember the case. It was '21 or '22.

Q. When you saw this document in connection with the RJR and Fuma matter --

A. Yes.

Q. -- did it have this July 31st, 2009 initial date?

A. Can you say that again?

Q. Yes. When you next saw this document in connection with your RJR and Fuma matter, did it have the July 31st, 2009 initial date?

A. Yes, it did.

Q. Did you notice at that time that the initial date had been added?

A. Yes, I did.

Q. And the circumstances of that adding of the date are privileged; is that correct?

A. It is a very close call. It's probably 50/50, and I'm -- in my opinion, and I'm just throwing the extra to Greg Conley.

Q. All right. So I think I understand your answer to mean you are -- you do consider it to be privileged; is that correct?

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A. I do.
Q. Okay. Thank you.
MR. WEINAND: No further questions.
JUDGE JOHNSON HINES: Thank you.
Mr. Desai.

CROSS-EXAMINATION

BY MR. DESAI:

Q. Hello, Mr. Steiger. Can you hear me?
A. Yes, I can.
Q. Okay. Mr. Steiger, you were not working at Fuma in 2009, correct?
A. No, I was not.
Q. And you don't know who wrote "July 31st, 2009, initial date" on the document JX-507, correct?
A. Correct.
Q. You didn't observe anyone editing this document, correct?
A. That's correct.
Q. And you can only guess as to when the date was placed on that document, correct?
A. Well, I can guess that it was after I saw it.
Q. Well, let's take a look at your deposition testimony. You were deposed on March 29th, right?
A. I believe it was.
Q. And you testified --

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A. It was 29th or 25th? I think I was deposed twice, so I'm confused.

Q. Well, let's take a look at your March 29th deposition.

A. Okay.

Q. Can we go to page 13.

A. All right.

Q. Lines 19 to 24. You were asked: "Do you know when that date was added to the document?"

And your answer: "I'm going to guess the following year, probably late, late the following year, maybe a year later. He -- when I saw this document, there was no date on it at all."

Okay. And your --

A. Yeah.

Q. That's your testimony? That was your testimony, right?

A. Yeah, that's what I said.

Q. And your guess was that the date was placed on this document August through December of 2010, but you would say closer to August 2010, correct?

A. That's correct, August -- between -- sometime after August 2010.

Q. Now, you also testified that when you saw this document, it could have been in 2010 or 2011, but you don't

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remember, right?

A. Yeah, that's what I said, but I'm pretty sure it was -- it was in 2010.

Q. Okay. Well, let's take a look at your deposition testimony again, where you testified under oath.

A. Okay.

Q. We're going to go to page 14, lines 9 to 18.

"Question: I believe if I understand your testimony correctly you saw an earlier version of this document that did not have the date written on it?

"Answer: I saw this document in August of, I want to say, 2010, or it could have been -- I'm sure about the time of the year, but I don't remember the exact year. It could have been '10 or it could have been '11. I know it wasn't in 2009. But when I saw this document, this document was presented without a date."

That was your testimony?

A. That's what I said, yes.

Q. Okay. Now, if the date was placed on the document in August 2010 as you were guessing, it doesn't make sense that you saw it in 2011 without a date, right?

A. That's correct.

Q. Now, you also testified under oath in 2020 that Mr. Conley never provided this document to you, correct?

A. I'm sorry, in 2020, I said that?

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Q. Yes.
A. I don't recall saying that in 2020.
Q. Well, let's take a look.
A. I think you got a year wrong there or something.
Q. Let's take a look at your North Carolina deposition --
A. Okay.
Q. -- of June 17th, 2020.
A. Okay.
Q. We're going to go to page 41.
A. Okay.
Q. You were deposed in that North Carolina case, correct?
A. I -- I believe I was, yeah. This is the Reynolds case, correct?
Q. Yes.
A. Okay. Yes, I was.
Q. We're on page 41.
A. Okay.
Q. Lines 10 to 16 where you were discussing this document, JX-507.
"Mr. Steiger, I'm going to show you a third page of this exhibit. Can you see it?
"Answer: Yes, I can.
"Question: Is this a document that was ever

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provided to you in response to your request for design documents?

"Answer: No. This was -- Conley has never provided this to me."

That was your testimony, correct?

A. Maybe. That deposition was horrible. They couldn't hear me half the time, and I couldn't hear them half the time. None of us could hear the court reporter. So the only thing I was going to say about that is I don't recollect the entire conversation there, and never had a chance to review that deposition, even though I asked for it, but that deposition was by any means -- and I've been practicing over 20 years -- the worst deposition in my entire life.

Q. Okay. But now --

A. So I would not -- I -- honestly, to answer your question, I have no idea.

Q. Okay. But now four years later in your deposition in this case, you testified under oath that Mr. Conley actually sought your advice about this document, right? That's your new testimony now, right?

A. No. My new testimony, they asked me specifically if I had ever seen this document and if it looked the same. And the answer is I had to answer that one no.

Q. Well, you didn't testify in this case that now

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it's your view that Mr. Conley sought your advice about this document?

A. I have an attorney-client privilege. And so I have to be very careful. And when I answer the question, I was being very specific.

Q. Okay.

A. To answer your question about the first deposition, I honestly haven't the slightest idea if I was even looking at that document or what was going on at the time. I'd have to read what the -- I would be glad to read, as well, anything you might have to say there, but to answer what I think you're getting to, I don't believe that -- to answer, it's just point blank, look, the document that I originally saw had no date on it. That's the best I can do.

Q. You have an opinion that Mr. Conley is a liar, correct?

A. Yes.

Q. Okay. But you don't feel the same way about Dan Hillenbrandt, right?

A. You have to be careful with Dan, but -- but you can wag him down. You've got to ask him very specific and break it down. Eventually, he'll tell the truth.

Q. You testified under oath that you believe he's a pretty honest person, correct?

A. I do believe he's a pretty honest person.

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MR. DESAI: No further questions.

JUDGE JOHNSON HINES: Thank you.

Mr. Bui?

MR. BUI: Thank you, Your Honor. May I proceed?

JUDGE JOHNSON HINES: Yes, please.

EXAMINATION BY COUNSEL FOR ITC STAFF

BY MR. BUI:

Q. Good afternoon to you, Mr. Steiger. Thank you so much for taking the time to testify remotely today.

A. Thank you.

Q. My name is Vu Bui and I am the Commission investigative attorney assigned to this investigation. I'd like to ask you some follow-up questions.

A. Okay.

Q. You provided some testimony with respect to the July 31st, 2009 initial date, correct?

A. Yes.

Q. And when you refer to the document, are you referring to this specific page with that July 31st, 2009 initial date or all of the pages in the Exhibit JX-507?

A. I'm sorry, I lost you. I can barely hear you.

Q. Okay. Let me try again.

A. I'm turning up the volume too. I didn't want to cause feedback, but go ahead.

Q. Okay. You provided testimony about the July

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31st, 2009 initial date on a document, correct, sir?

A. Yes.

Q. Okay. And when you refer to the document, are you referring to specifically this single page with the July 31st, 2009 initial date or are you referring to all the pages in this exhibit that has been marked as JX-507, sir?

A. The -- I don't know about all the pages in the exhibit because I can't see them, but the page in particular that I'm talking about had the date on it, and when I first saw it, did not have a date on it.

Q. Okay. Very good.

So let's just focus on the page with the date July 31st, 2009, initial date.

How were you able to recognize this specific page without that date?

A. Ah. When I first came to the company, to Fuma, I was working at the Bailey Law Firm, and they wanted me to join, but, you know, I had other clients and I agreed to try to help out. My fear was that they wouldn't have enough for me to do. I didn't really want to abandon my other clients. And so they made an office for me in that they believed I'd be able to see law clients and that I would be able to just, like, sort of work remotely there and meet clients.

I was really touched. That meant a lot to me because they went out of their way. There was a conference

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room. They cleaned it out and made it like my own sole office. And I remember that being -- I was very touched by that.

And I was standing in the doorway, you know, and he came by and asked me -- to talk to me about that document. And, you know, it was one of the first things I had to tell him, well, gee, I haven't the slightest idea about patent law, so I let him know.

So it's visible in my mind because of that circumstance.

Q. Okay. And, Mr. Steiger, outside of that circumstance or as part of that circumstance, are there any particular figures on this page with the July 31st, 2009 initial date that stand out to you?

A. No, there are not.

Q. All right. Thank you so much for your time today, Mr. Steiger.

A. Thank you.

MR. BUI: Thank you, Your Honor.

JUDGE JOHNSON HINES: Thank you.

Any redirect?

MR. WEINAND: No, Your Honor. Thank you.

JUDGE JOHNSON HINES: All right. May we excuse Mr. Steiger?

THE WITNESS: Thank you very much.

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JUDGE JOHNSON HINES: Thank you very much, Mr. Steiger.

Thank you, Mr. Torres.

MR. TORRES: Thank you, Your Honor.

(The witness stood down.)

MR. DAVENPORT: Your Honor, I'm going to go get Dr. Werner. I'll be right back.

JUDGE JOHNSON HINES: Thank you. Thank you.

Whereupon--

WERNER DAHM,

having been previously duly sworn/affirmed, was examined and testified as follows:

MR. DESAI: Ready to start?

JUDGE JOHNSON HINES: Yes. Thank you.

Good afternoon.

THE WITNESS: Good afternoon.

CROSS-EXAMINATION

BY MR. DESAI:

Q. Good afternoon, Dr. Dahm.

A. Good afternoon.

Q. A few questions about your background before we get into some of the substance. You consulted on a prior ITC case; is that right?

A. I was engaged as a technical expert, yes.

Q. And that was the 1286 investigation that was

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brought by Shenzhen Smoore?

A. I don't know the number. Shenzhen Smoore was the Complainant. I think there were about a dozen Respondents. I was engaged by one of them, and I ended up being the technical expert for them all.

Q. And that case involved e-cigarette devices?

A. No. It was technically their vaping devices, their -- I think it's CBD oil that is the liquid in that case.

Q. Okay. I understand. So they were vaping devices, but not devices that included nicotine solutions, for example?

A. Whether they added -- had nicotine in the fluid, I don't know. It's the viscosity that was the biggest difference.

Q. Okay. Now, aside from that investigation, setting that aside, you have not done any consulting work related to e-cigarettes, correct?

A. That's correct.

Q. Okay. And you have never designed an e-cigarette, correct?

A. Not an e-cigarette, no.

Q. And you have never been involved in any way with the manufacture of an e-cigarette, correct?

A. That's correct.

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Q. And, again, setting aside that prior ITC case, you have never done any consulting work on anything that you describe as an e-cigarette or other device for producing either vapor or aerosol, correct?

A. Not quite correct. I've done other devices that produce aerosol, but not e-cigarette-type devices.

Q. Right. Well, why don't we just take a quick look at your deposition testimony to clarify. We're going to go to the April 15th deposition, page 41. Starting at line 6.

The question was: "Have you ever done any consulting work related to alternatives to combustible cigarettes?

"Answer: No. I mean, my consulting has been in the fields of specialization that I referred to earlier, and a wide range of applications within those fields, but not specifically beyond that one case to anything that could be described as an e-cigarette or CBD oil or other device for producing either a vapor or an aerosol."

That was your testimony, correct?

A. That's correct, yeah.

Q. Let's start with the housing-related issues in this case. And I'd like to pull up claim 1 of the '864 patent.

You're familiar with this claim, of course?

A. Yes, I am.

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Q. Okay. And at the end of the preamble, it states, a cartridge -- or "the cartridge comprising."

Do you see that?

A. Yes, I do see that.

Q. And you're familiar with patents. You've dealt with patents quite a bit, right?

A. A fair amount, yes.

Q. You understand what a comprising claim is, right?

A. You know, the word "comprising" has always given me a bit of difficulty, but if you'll clarify it for me, I'll be able happy to adopt.

Q. Actually, do you understand what a comprising claim is?

A. I believe it means including but not limited to.

Q. So, for example, in this situation, it means the cartridge must include what is listed in the claim, but it can also include additional components or features that are not specifically listed in the claim, right?

A. Yes, that's consistent with what my understanding was.

Q. And you understand the claim language here does not list a mouthpiece, correct?

A. That's correct.

Q. And the claim language does not list absorbent pads in a mouthpiece, correct?

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A. That's correct, yes.
Q. Let's pull up the '864 patent. We're going to go to column 5, lines 39 to 41.
A. Okay.
Q. And this sentence that we've got here says, "Furthermore, a wood tip may be positioned upon the second end 124, wherein the wood tip is configured to be received orally by the user."
Did I read that correctly?
A. Yes, you did read that correctly.
Q. Now, you have an expert report that you prepared in this case, right?
A. That's correct, yes.
Q. And you have a copy of that with you, I believe, somewhere in that pile?
A. Oh, someone has put it -- I believe there's a big binder here. This might -- this is thicker than my report. Uh-huh. It's the first part of this.
Q. Okay. And that report was 429 pages long, right?
A. I -- it was fairly long. Do you want me to check the last page? Yes, the last page number is 429.
Q. And nowhere in that report did you discuss or cite this passage from the asserted patents, correct?
A. I didn't feel that was necessary, yes.
Q. And you certainly didn't address this passage

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during your direct testimony, correct?

A. Not in my direct testimony today, that's correct.

Q. But you do agree this is a description of a mouthpiece being positioned upon the second end, correct?

A. It's a wood tip that, once its positioned on the end of the housing, becomes part of the second end of the housing.

Q. Okay. You didn't answer my question. So we'll go to your deposition. And we're going to go to page 82 of your deposition. And we're going to go -- starting at line 3 there.

And the question was: "All right. So here the specification at line 37 does not say that the wood tip may be the second end 124, but rather that the wood tip may be placed upon the second end 124; is that correct?"

And your answer: "So what this literally says -- so what it literally says is that a wood tip may be positioned upon the second end 124, and then in that instance, the wood tip is -- the means by which the product is received orally by the user."

Next question: "And so the wood tip described here is that a mouthpiece?"

And your answer: "To the extent that this sentence says the wood tip may be positioned. So I would argue that when it is positioned as described, and then when

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a user either uses or intends to use it to deliver the product of the device to their mouth, I think then it's fair to call it a mouthpiece."

And that was your testimony under oath, correct?

A. That's correct. And I don't disagree with that today.

Q. Okay. Let's talk about the electrical contacts.

I'm sorry, backing up one moment, could we pull up RDX-6, slide 13.

This is your demonstrative about the JUUL1 system?

A. Yes, it looks that way.

Q. Right. And I think we can all agree at this point that the JUUL1 cartridge includes a mouthpiece that is snapped onto the tank component, right?

A. It snaps onto barbs that are on the tank, yes.

Q. Right. Now, and we can all agree that inside that mouthpiece are those two absorbent pads, right?

A. Among other things, yes.

Q. Right. Now, if the JUUL1 cartridge did not include absorbent pads of the mouthpiece -- I want you to start with that assumption, okay?

A. Okay. Yes.

Q. Have you got that?

A. I'm with you, yes.

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Q. Okay. Would it still be your opinion that the mouthpiece is part of the claimed housing?

A. Absolutely, yes.

Q. Now, why?

A. Because even if you were to remove the mouthpiece -- the absorbent pads, you've only removed some of the device internals that I referred to in my direct testimony.

Q. What are the other device internals?

A. I talked about the four legs within the mouthpiece that push vertically downward on the tank cap to keep it pressed into the top of the tank. I talked about the turbulence-generating features in those legs that direct the airflow laterally and, in so doing, induce turbulence in the flow and therefore aerosol formation.

And I talked about the hoop stress that the mouthpiece induces circumferentially around the top of the tank to further assist in keeping the tank sealed.

Q. Okay. You just mentioned the mouthpiece and aerosol formation. And that's where I was going to go next.

Did you look at the PMTA?

A. I -- I looked at it very early in this case, yes.

Q. Okay. Now, your view is that there's aerosol generation occurring primarily in the mouthpiece; is that right?

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A. At a minimum, the aerosolization is completed in the mouthpiece. There's turbulence elsewhere and some turbulent mixing that also occurs elsewhere.

Q. But you would agree that the PMTA describes that the aerosol travels up the airflow tube, correct?

A. I'd have to go back and check that. That's going by memory.

Q. Okay. Well, why don't we take a look. So we'll start at CX-2221C. Actually, let's not put that up on the screen. Let me just check with counsel, if they think that's confidential.

MR. DESAI: We just have to go on the confidential record, Your Honor. JUUL.

JUDGE JOHNSON HINES: All right. We're on the JLI confidential record.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. DESAI:

Q. CDX-2, page 31. Oh, sorry, CDX-2. Okay.

You agree this is a depiction of the JUULpod and the JUUL device?

A. The JUUL1, yes.

Q. Yes, JUUL1. And the electrical contact tabs, you can see those, right, on the left side?

A. Yes, I do see them.

Q. Okay. And those tabs, those contact the JUUL device pogo pins when the JUULpod is inserted into the power source, right?

A. That's correct, yes.

Q. Okay. You would agree that those electrical contact tabs are not internal, right?

A. That's correct. That's what I testified to this morning.

Q. Okay. And then a portion of the electrical contacts are internal, right?

A. I'm sorry, I didn't hear that.

Q. A portion of the electrical contacts are actually internal, correct?

A. Yes, a major portion.

Q. Right. You understand the patent itself expressly states that an electrical contact, a portion of it

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can reside in the interior of the housing, right?

A. Yes, I'm familiar with that. Yeah.

Q. Okay. Thank you.

So let's go to the atomizer housing of JUUL2. And we're going to look at RDX-6, page 17 of your demonstrative. This is the JUUL2 pod, right?

A. Those are the internal components -- well, the whole JUULpod in an exploded view.

Q. Okay. So it's not just the internal components, right?

A. Well, it contains the tank, right. So that's the outside structure. And there are device internals that are also shown.

Q. And it's your opinion that the atomizer housing is a structure that's internal, right?

A. That's correct.

Q. And because you believe it's internal, you have said that a component positioned on the interior cannot form a part of the housing, right?

A. That's correct. Yes, I'll agree with that, sure. Certainly.

Q. I want to understand what you mean by it being internal, so let me first ask you about the wick.

Do you see the wick up there?

A. Yes, I do.

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Q. Okay. We can all agree that the wick is located in the interior, right?

A. In the interior of the housing, yes.

Q. Right. Can you -- you can't -- when the JUULpod is assembled, you can't see or touch that wick, can you?

A. That's correct.

Q. Right. But when you have an assembled JUULpod, you can touch and see the atomizer housing, right?

A. Yes, you can.

Q. Okay.

A. You can see the bottom surface of it for sure.

Q. You can also see the side surfaces of it too?

A. I believe you will be able to, yes.

Q. Right. And you understand that JLI has taken the position that the surface of the atomizer housing is an exterior surface, right?

A. That may or may not be JLI's position. I can give you my views.

Q. Okay. Well, why don't we just -- why don't I show you what they've said, and you can tell me if you disagree with it.

We're going to look at CDX-4. This is from the 1368 case. And this is going to be 298. This is a demonstrative that was put on at the trial that happened a month ago. And that's the JUUL2 pod.

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Do you see that?

A. I do see that, but just to note, I was not a part of this case.

Q. I understand.

A. Yeah.

Q. That's why I'm showing it to you.

And you could see that is a JUUL2 pod, right?

A. It appears to be, yes.

Q. Okay. And you can see that they're pointing right there -- you can see the atomizer housing, right?

A. I can see the bottom of the atomizer housing, at least.

Q. But you can also see those electrical contacts, can't you, on the sides?

A. I can. They're not part of the atomizer housing.

Q. But you can see the sides of the atomizer housing?

A. I will tell you, I can see the bottom clearly. I can see the electrical contacts. I'm not as sure, and perhaps the screen here just doesn't let me see it, but I don't see the sides --

Q. Okay.

A. -- of the atomizer housing, at least not clearly.

Q. If we were to rotate it a little bit more, you would be able to see the sides, right?

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A. I believe properly rotated, you could see the sides, yes.

Q. And JLI's position, as you can see with the arrows, is that those -- that's an exterior surface of the cartridge, right?

A. That's what the annotations say. I'm not sure whose annotations they are. I say I wasn't part of this.

Q. But you disagree? You would call those internal surfaces, right?

A. No. My point is that I was not asked to take a position on that. I was asked to evaluate Dr. Vallee's position. And he stated that the bottom surface of the atomizer housing is the first end.

Q. You've just taken the position, sitting here today, that that's an internal component, have you not?

A. Not just today. I mean, it has been my view all along. In my deposition, I drew, for example, the first end of the housing as I understand that, and that certainly included all of the atomizer housing.

Q. So then you disagree that that would be an exterior surface, right?

A. I'm sorry, could you ask that again?

Q. You disagree with what's shown on that slide, that the bottom of the atomizer housing is an exterior surface?

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A. Well, are you asking me as I drew in my deposition -- I drew my understanding of what the first end of the JUUL2 atomizer -- JUUL2 housing is. Is that what you're asking me?

Q. I'm asking you about the difference between internal and external or exterior. You understand those words, right?

A. Yes. And I'm -- my only clarification I need to ask for is whether you're asking me under Dr. Vallee's interpretation or under my interpretation.

Q. I don't think this has anything to do with interpretations. So I'm going to try again.

Do you agree or disagree that the bottom of the atomizer housing is an exterior surface?

A. It's not exterior to my understanding of the housing of the -- as I drew it in my deposition -- of the JUUL2 cartridge.

Q. Okay. So you would call that an internal surface, then, correct?

A. Under my understanding of the JUUL2 atomizer housing, yes.

Q. All right. All right. Let's take a look at the '864 patent at column 3, lines 51 to 61.

And towards the middle you can see -- well, you understand that this passage discloses that the housing can

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have a cylindrical shape, but it can also have other shapes, correct?

A. I'd want to skim it, but it does appear to be saying that. But go ahead. I'll agree with that from what I see here, skimming.

Q. All right. And then you also can agree that this passage discloses or describes that the housing can comprise two end caps or it can only have one end cap, right?

A. Let's see. At the -- yeah, at the very last sentence, in still yet another embodiment, I recognize that sentence. I'm not used to seeing it this large.

Q. Okay. You are familiar with how the JUUL2 pod is assembled, right?

A. How the JUUL2 pod is what?

Q. Assembled.

A. Assembled? Yes, I am.

Q. Okay. The liquid is filled into the tank, and then the collector and atomizer housing are inserted to seal the tank, right?

A. That's my understanding, yes.

Q. Let's take a look at that.

MR. DESAI: And we have to go on the confidential record for this. This is JLI's confidential record.

JUDGE JOHNSON HINES: Thank you.

(Whereupon, the hearing proceeded in confidential

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session.)

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O P E N S E S S I O N

BY MR. DESAI:

Q. Okay. Let's take a look at your demonstrative 10. RDX-6. Sorry.

This was your fluid mechanics background demonstrative, right?

A. It's one of two slides that I put together to give a brief background.

Q. And here you're stating that, you know, fluid mechanics matter for this litigation and can be used to determine the airflow that is produced in any given vaping device, right?

A. That's correct.

Q. Okay. And then if we go to the next slide --o r, sorry, the slide before. No, slide 9. Right.

This was your other slide on fluid mechanics, right?

A. That's correct.

Q. Now, in the middle, there's three figures. I want to focus on the middle one at the bottom. Do you see that?

A. That's correct. I see it, yeah.

Q. And this is a figure depicting air going over a cylinder, right?

A. When I discussed that this morning, I said this

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is how students typically draw the airflow paths going over a cylinder.

Q. Students, right? So that would be wrong for the students to draw it like that, right?

A. Not necessarily. At very, very low Reynolds number, when you're in the creeping flow regime, what's called the creeping flow regime, the airflow paths are that way. At higher Reynolds number, they're not.

Q. Okay. So when you wrote "no" and stated it's unsteady and turbulent, that doesn't apply to all situations, right?

A. It depends on the Reynolds number. Under the conditions that are typical of e-cigarette and vaping devices, the Reynolds numbers are high enough so that that statement is exactly correct.

Q. First of all, you cited the textbook, the Munsen textbook, right here, right?

A. That's correct, yes.

Q. Okay. I'd like to go through some of the figures in the Munsen textbook. So why don't we do that. That is RX-918. This is the 5th edition. If we go to the next page, I think this shows the cover page. Keep going. Right there.

Do you recognize this?

A. It looks like the cover page of some edition of

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the fifth edition, yes.

Q. Okay. Why don't we look at page 337 and Figure 6.26. Do you see that?

A. Yes, I do.

Q. All right. And this is labeled the flow around a circular cylinder, right?

A. That's what the caption to that figure says. I would need to see the text in which it's placed, whether this is potential flow, whether this is creeping flow, et cetera.

Q. Well, this doesn't include your label "no. Unsteady -- it's unsteady and turbulent," exclamation, does it?

A. As I just said I would need to see what context this is in. There is a subject called potential flow, which neglects the viscosity of the fluid. In that case -- which is not the actual situation. It's often used as an approximation.

I'd need to see if this is in a potential flow section or a low Reynolds number section.

Q. Okay. So it's all about the Reynolds number, right?

A. Well, that's a broad statement. The Reynolds number is central and incompressible flows.

Q. Let's go back to your demonstrative. And you've

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got the animation that you showed on the right, of a video with the airflow after the air passes over a cylinder, right?

A. That's correct. It's not an animation technically. It's a video from a laboratory experiment.

Q. Well, this is actually -- this is actually comes from the Munsen textbook, right?

A. From -- yes, it does, I believe. It's an embedded video.

Q. Right. So if we go to -- we're going to go to a different version of the Munsen textbook, which is tab 9 in your binder. And I think we can -- it's in the binder.

It's not the whole text; it's the relevant chapters.

MR. DESAI: And I think, Your Honor, we'll mark this with an appropriate exhibit number. I just don't know where we are in the exhibit numbers at this point.

BY MR. DESAI:

Q. So why don't we go to page 363. And if we blow up the bottom half of the page, we can see your video on the left.

A. That's correct. That's the link to the video.

Q. Okay. And the text says, in the middle of the paragraph, "This type of unsteady flow may develop when a fluid flows past a solid body such as a wire or cable placed

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in the moving stream." Right?

A. That's correct. And it refers to a wire or cable because the diameter is typically small compared to the viscosity, so you're in the low Reynolds number regime.

Q. Okay. Now, the flow in this animation is not constrained after passing the cylinder, correct?

A. You mean like with sidewalls or something like that?

Q. Yes.

A. That's correct. It's in a free space, so to speak.

Q. Right. So in the animation that you showed, the flow, after going over the cylinder, doesn't go through an aperture or into a tube, correct?

A. That's correct, because I was using the animation to make a point about the non-intuitive flow phenomena.

Q. It doesn't relate to the JUULpod, right?

A. Well, I wouldn't go quite that far. I mean, the wick is fairly approximated by a circular cylinder, and so when the Reynolds number is large enough, you would expect to see vortex shedding. And I think, as I said, the flow phenomena are often used in devices like this to get, for example, rapid mixing of vapor with air.

Q. Right. But in the JUULpod the airflow goes through apertures, goes around the wick and coil, and then

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flows into a tube, unlike your animation -- the video, right?

A. Well, there's still flow separation occurring around the wick, but it does enter a tube a short distance after that.

Q. Unlike the video, right?

A. Well, that's not the point of the video. Yeah.

Q. Okay. Now, during your direct, you referred to, several times, recirculation zones where flow can be going in different directions opposite the main flow direction, right?

A. Yes, that's right.

Q. Okay. And those recirculation zones relate to a phenomenon called vena contracta that you discussed in your expert report, right?

A. Those are substantially different phenomena. The vena contracta is a flow phenomenon that happens at the entrance to a sharp-edged pipe. The recirculation zones happen in a far broader range of contexts.

Q. Right. But they do -- in your expert report, you did refer to them in relation to the entrance to passageways or sharp-edged entrances, right?

A. That's correct.

Q. And you did refer to that in the context of the vena contracta phenomena, right?

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A. I'm not quite understanding your question. I talked about, in my report, recirculation zones and vena contracta at the entrance to the airflow tube and the micro-perforations.

Q. The recirculation zones are a result of separated flow as air enters the hole or a passageway, for example, right?

A. That's correct.

Q. Okay. And why don't we take a look at your expert report. It's -- we're going to look at pages 233 and 234. Why don't we grab paragraph 428 and the also the rest of it on the -- including the figure.

And this is where you were discussing the vena contracta phenomena and the recirculation zones, correct?

A. It's where I was discussing the vena contracta, at least. I believe I discussed the recirculation zones either shortly after that or some short distance after that.

Q. If we look at your report right here, "this phenomenon is shown in the diagram below. It occurs as a result of the flow separating as it attempts to turn around the corner and around the interior periphery of the micro-perforation, it produces a recirculation zone, in which the flow is moving in the opposite direction."

Right? That was in your report, right?

A. That's correct. And I think you may be confusing

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the recirculation zone that you see in blue here in the vena contracta from the recirculation zones, for example, that I show in my report as a result of flow on the downstream side of micro-perforations.

Q. Okay. Well, I think my questions are clear, and if you want to talk about something else, you can talk about that later, but I'm talking about what's in your report right here.

A. I'm sorry. I am truly trying to answer your questions. Your -- I believe, your question suggests --

Q. I don't have a question pending right now.

You included that figure from the Munsen textbook, right?

A. Yes, I did.

Q. Okay. And your opinion here is that the phenomenon produces a recirculization zone that forces the stream lines in the resulting flow through the micro-perforation to be curved, not straight, and therefore cause the airflow path not to be directed purely centrally and axially. Do you see that?

A. Yes, that's correct. Within the micro-perforations, not downstream. There's a different recirculation zone.

Q. You understand that the claim language in this case does not require purely central and axial, right?

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A. It requires substantially centrally and axially.
Q. Now, this is the figure you included from the Munsen text. I want to look at some other figures. So why don't we go back to the seventh edition. And we'll start with the figure that you took, which is at page 435.
Sorry, we need to go to tab 9, the later edition. Page 435. Okay.
At the top, there's a figure. And that matches the figure that you included in your report, right?
A. I believe this is a more recent edition, so the coloration is a bit better.
Q. Same figure, different colors?
A. It's the same figure, I agree.
Q. All right. And this figure does not illustrate how the flow proceeds through the pipe after the line that's labeled vena contracta, right?
A. That's correct. But someone with ordinary skill in fluid mechanics is familiar with vena contracta and knows what the airflow paths would look like past the vena contracta.
Q. Right. Actually, if you go to the previous page, page 434 -- why don't we take a look -- Figure 8.22 shows the separated flow that we've talked about, as well as how air flows through the pipe after that line or that was labeled, for example, vena contracta, right?

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A. That's correct. And certainly panel A I agree with. Panels B and C, whoever the artist was, is not a fluid mechanician. It's impossible for those lines to remain straight. They have to follow the contour of the recirculation zone at the recirculation zone.

Q. So you think this textbook here, you disagree with this Figure B, C, and D?

A. I said the artist that drew that is not -- has probably not had a fluid mechanics course.

Q. Okay. Let's go to page 119 of the Munsen textbook. And we're going to take a look at Figure 3.13.

And this is labeled "vena contracta effect for a sharp-edged orifice." Do you see that?

A. Yes, that's what it says. Yes.

Q. Right. And that's showing the airflow turning and going through a sharp-edged orifice, right?

A. That's correct, but here there's a liquid penetrating into air. That's very different than what was on the previous vena contracta, which was pure liquid or pure gas in that case, but -- whichever one, but this is where you have separation off of the sharp edge of the corner.

Q. Let's go to the next page, 120.

Here's some more figures that you didn't show in your report, Figure 3.14. This is labeled "typical flow

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patterns for various round exit configurations," right?

A. Yes. And includes both knife edge and round edges.

Q. Right. And this shows the holes straightening out the air regardless of the angle that they enter into the hole, correct?

A. Yes. But, remember, the previous figures we were looking at were showing the vena contracta.

Q. Okay. You understand that not all airflow is turbulent flow, right?

A. Of course, not all airflow is turbulent. That's correct.

Q. Right. You understand that laminar flow is smooth and streamlined, right?

A. Yes, it is. When the Reynolds number is low enough, you can have laminar flow.

Q. And in contrast, turbulent flows are irregular and chaotic, right?

A. That's correct.

Q. Okay. Let's stick with the Munsen textbook. We're going to go to page 402 at the bottom. Let's look at Figure 8.3.

Figure 8.3 illustrates laminar transitional and turbulent flow through a pipe, correct?

A. That's correct. And which one you have depends

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on the Reynolds number.

Q. Let's go to page 403. Next page. And we'll take a look at -- no, I don't need that figure. Sorry. We're going to go to the bottom paragraph, please.

And this is the Reynolds number, which you've mentioned a few times now, right?

A. That's correct.

Q. And it says here, "for general engineering purposes, the flow in a round pipe is laminar if the Reynolds number is less than approximately 2100." Right?

A. It says that. That's a rather broad statement. It actually depends on the particular flow geometry you're looking at.

Q. The flow in a round pipe is turbulent if the Reynolds number is generally -- is greater than approximately 4,000, right?

A. That's correct, for a round pipe flow.

Q. That's what the textbook says?

A. That's for a round pipe flow. Yes, I agree.

Q. Okay. You would agree that the Reynolds number for airflow through the apertures in the JUULpod is going to be well below 2,000, right?

A. Yes, but that's not a pipe flow. We're talking about the entrance through a sharp-edged micro-perforation.

Q. Let's go on the confidential record.

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JUDGE JOHNSON HINES: And --

MR. DESAI: JLI.

JUDGE JOHNSON HINES: JUUL confidential. Thank you.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. DESAI:

Q. And I want to highlight the claim language that says, "the heating element being configured to vaporize at least a portion of the solution for oral provision to an individual in the airflow."

Yeah, you've got it right there. Do you see that?

A. Yes, I do see that.

Q. Okay. Now, you would agree the JUUL1 heating element does vaporize a portion of the nicotine solution?

A. Absolutely, yes.

Q. And then aerosol is generated that is orally provided to a consumer using the device, right?

A. I'm sorry, could you say that again?

Q. That was a bad question. I'll state it better.

An aerosol is generated that is orally provided to a consumer, right?

A. Under what circumstances? I'm not sure I grasp the question.

Q. When a user is drawing on the device.

A. How much vapor is delivered and how much aerosol is delivered depends on how the device is designed.

Q. I'm sorry. I thought we're still talking about the JUUL1.

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A. I thought we were talking about the claim language here.

Q. Well, let's start over, then. The JUUL1 heating element does vaporize a portion of the nicotine solution, correct?

A. Yeah, absolutely.

Q. Okay. Staying with JUUL1, an aerosol is generated that is orally provided to a consumer that's drawing on the device, right?

A. At least some of the vapor is converted to aerosol, yes.

Q. Okay. And you would agree that the aerosol comprises the vaporizeable solution and air, right?

A. I think you said the vaporizeable solution? That's not correct.

Q. Okay. That's what I said. Let me try again.

You would agree that the aerosol that is generated comprises the vaporizeable solution and air?

A. Well, again, I can't agree with that. That's not correct.

Q. Okay. Well, I think we have a conflict here again with what was put forward in the 1368 investigation. So, again, we need to go on the confidential record.

JUDGE JOHNSON HINES: All right. We're on the JLI confidential record.

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(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. DESAI:

Q. And here is a description which says, "the heating element 222 can comprise wicking material that draws the liquid solution from the absorbent material 204 towards the heating element 222."

Do you see that?

A. Yes, I do see that.

Q. Okay. Now, your opinion is that based on the prosecution history of an earlier application, a person of ordinary skill in the art would understand that this disclosure in the patent requires that the heating element itself be made of wicking material, right?

A. That's correct.

Q. Okay. And by that, do you mean that the resistive material, for example, the current flows through must also be a wicking material?

A. That would be the most common way to do it, for example, with a metal foam or open cell metal foam.

Q. Okay. And that's based on the prosecution history, right?

A. It's based on my understanding of how the applicant in that related case overcome the Thorens objection from the examiner.

Q. All right. Let's go to your slide RDX-6.44. 44,

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please. Okay.

And this was your slide on the '955 prosecution history, correct?

A. That's correct.

Q. Okay. And now you showed here the applicant's statement in the '955 file history, right? That's at the bottom?

A. Which one do you want me to look at? I'm sorry.

Q. The bottom box. That was the applicant's statement, right?

A. Yes.

Q. All right. But you didn't show the context of the examiner's office action, right?

A. Well, I put this excerpt on here. That's correct.

Q. That's the applicant's statement, right?

A. That's correct, yes. It's the response.

Q. Right. So let's take a look at what the examiner was asserting, just to be clear. So we're going to go to JX-521 and we're going to go to page 75 at the bottom. Let's pull that up, the whole paragraph.

At the very bottom, we can see here that the examiner was asserting that wick 207 in Thorens was the claimed solution holding medium -- at the bottom, please. Solution holding medium cartridge 203, wick 207. Do you see

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that?

A. I do see that, yes.

Q. Okay. So the examiner was at least asserting that the wick 207 in Thorens was also the solution holding medium in the claim, correct?

A. Let me just real quickly refresh my memory here. Yes, he's saying Thorens discloses, so I agree.

Q. Okay. And now if we go -- pull up your slide, the claim language at issue, slide 44, the top, said, "the heating element comprises a wicking material to attract the solution from the solution holding medium to the heating element."

Do you see that?

A. I do see that, yes.

Q. Okay. And the examiner was asserting that the heating -- sorry -- that wick 207 was both the wicking material and the solution holding medium, right?

A. I believe that's correct, yes.

Q. Okay. And if we look at Thorens Figure 2, if we pull up Thorens Figure 2 -- it's RX-527. Next page. Let's take Figure 2. That's it. There we go. Just Figure 2.

You can see where 207 is pointing to in Figure 2, right?

A. I do see that, yes.

Q. All right.

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MR. DESAI: No further questions, Your Honor.

JUDGE JOHNSON HINES: Thank you.

MR. BUI: May I proceed, Your Honor?

JUDGE JOHNSON HINES: Thank you, yes.

EXAMINATION BY COUNSEL FOR ITC STAFF

BY MR. BUI:

Q. Dr. Dahm, how are you, sir?

A. I'm doing fine. Thank you.

Q. Thank you very much for traveling today to the evidentiary hearing and providing your testimony.

Dr. Dahm, based on my review of your curriculum vitae, I would consider you to be one of extraordinary skill in the art. What, if anything, did you do to ensure yourself that you were providing opinions from the perspective of a person of ordinary skill in the art for the patents at issue in this investigation?

A. That's a great question. I teach students, and they start out as people of much less than ordinary skill in the art. And when they finish that introductory fluid mechanics course, they're typically persons of ordinary skill in the art with that background.

And when I consult in industry, I deal with huge numbers of engineers of various flavors who have the background of a person of ordinary skill in the art in relation to these patents.

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Q. Now, it's your opinion that one of ordinary skill in the art of the patents at issue in this investigation would have a basic understanding of fluid mechanics, correct?

A. Yes, I think so.

Q. And would a person of ordinary skill in the art be familiar with the concept called the Venturi effect?

A. That's taught in an introductory sophomore fluid mechanics course. It's fundamental in fluid mechanics.

Q. What is the Venturi effect?

A. It's where, if you have a flow that's accelerating typically through a small orifice, the pressure drops and then you can use that low pressure for all sorts of reasons, like in a carburetor of an old car or any manner of devices that are used.

Q. And a person of ordinary skill in the art of the patents at issue would also have familiarity with the concept called Bernoulli's principle, correct?

A. Yes, that's correct.

THE REPORTER: "Concept called" --

MR. BUI: Bernoulli's principle, B-e-r-n-o-u-l-l-i.

BY MR. BUI:

Q. And what is Bernoulli's principle, Dr. Dahm?

A. For incompressible flows, which are what's

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relevant here, it expresses the relation between the flow speed, the pressure, and the potential energy, the elevation of the fluid. And so as a fluid moves through a passageway, its elevation may change, its flow speed may change, and it shows how those three variables are related.

Q. Okay. So there would at least be a correspondence between the velocity flow and the pressure; is that correct?

A. That's correct.

Q. Now, earlier you provided some testimony with respect to the Reynolds number. Do you recall that?

A. Yes, I do.

Q. Okay. And can you briefly explain for us what is a Reynolds number, please?

A. Sure. There are two competing effects that go on in any flow. The viscosity acts to smooth the flow out, make it simple and smooth, and the inertia of the fluid acts to disrupt that smooth flow. So there's always that competition going on.

And it's the ratio of the disruptive effect, the inertia effect, over the smoothing effect, the viscous effect, that's what the Reynolds number is.

Q. And, generally, would you agree that a Reynolds number would fall within a range or ranges?

A. I'm sorry, could you ask that? I didn't --

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Q. Would you generally agree that a Reynolds number would fall within a range or ranges?

A. So I think I understand what you're asking. The particular Reynolds number for any given device or use of that device, that's determined by the size and the operating conditions. Certainly, very low Reynolds numbers, creeping flow, laminar flow at moderate Reynolds numbers, transitional, and then turbulent flow at increasingly higher Reynolds numbers.

Q. I'd like to ask you about the airflow passageway at issue in the patents at issue. Do you have that in mind, sir?

A. I'm sorry, I couldn't --

Q. Do you have the airflow passageway that's claimed at the patents at issue in mind?

A. Which device?

Q. Just generally, the airflow passageway in the patents at issue.

A. Oh, of the patents, sure.

Q. Okay. May I have RDX-6C.30, please, on the screen, slide 30 of RDX-6C, please. Thank you.

So, Dr. Dahm, on the screen, we have slide 30 of RDX-6C. And you have here annotated Figures 1, 2, and 3 from the '881 patent, correct?

A. That's correct, yes.

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Q. And what you have colored in is the airflow passageway. Is my understanding correct?

A. That is correct, yes.

Q. And so if we look at Figure 1, would you agree or disagree that the airflow passageway in Figure 1 has a uniform or substantially uniform diameter?

A. A uniform what? I couldn't understand that.

Q. Diameter.

A. Absolutely a uniform diameter.

Q. Thank you, Dr. Dahm.

And if we look over on the right-hand side of this slide at Figure 3 that you have annotated there, and do you see the colored airflow passageway there, sir?

A. Yes, do I.

Q. And would you agree or disagree that the airflow passageway in Figure 3 of your demonstrative has a diameter that is uniform or substantially uniform?

A. Certainly substantially uniform. The only reason I have to caveat that is because the dashed line, in my understanding, shows at least the possibility of a permeable wall. And depending on how large the viscosity is, those -- porosity or whatever the openings are, the perforations, they may or may not effectively make the passageway larger than the merely perforated part.

Q. I see. And so when you say the wall having

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perforations or being permeable, are those perforations apertures, micro-apertures, perforations, micro-perforations, or something else?

A. The way that a patent describes this, you would understand them to be small perforations. They certainly wouldn't be large holes.

Q. Let's look at the middle figure, Figure 2 of the '881 patent, please. And would you agree or disagree that the airflow passageway in Figure 2 is not substantially uniform with respect to its diameter?

A. I definitely agree with that, yes.

Q. Okay. And would you agree or disagree that the diameter of the airflow passageway, if we begin from the bottom, aperture 212, and continue up to the top aperture, 210, that diameter expands?

A. That diameter is what?

Q. Expands.

A. Yes, it does.

Q. Okay. And so you would agree that the diameter at the center post 218 is smaller than the diameter of the airflow passageway 214 above the O-ring 220, correct?

A. I do agree with that, yes.

Q. And the O-ring is an example of an electrical isolator, correct?

A. I'm sorry, an example of what?

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Q. An electrical isolator.
A. Yes.
Q. It's your opinion that the airflow passageway claimed in the patents at issue must have a physical structure, correct?
A. That is correct, yes.
Q. Now, in forming your opinions in this investigation, you applied the parties' proposed definition for airflow passageway that was accepted by the Administrative Law Judge, correct?
A. That is correct, yes.
Q. And do you have an understanding where that agreed-upon construction for the airflow passageway terms came from?
A. As I sit here right now, by memory, I don't. Certainly, the process is typically all three parties, the Staff and the two parties, propose constructions and then there's some adjudication of that.
Q. In forming your opinions, did you review or rely upon any documents that were produced from the Fuma litigation?
A. Certainly the RJR/Fuma decision, I saw a document related to that. I believe that may or may not have been the only one.
Q. And, Dr. Dahm, when you say "decision," are you

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talking about a claim construction order or a summary judgment order or some other order?

A. I have to plead stupidity here. I'm a technical person, so I read documents and -- and study them and absorb them for their value.

Q. May I have RDX-6C.47 on the screen, please, slide 476 of RDX-6C, please.

Now, Dr. Dahm, in this slide, again, you have on the right-hand side your annotated Figure 2 of the '881 patent. Do you see that, sir?

A. Yes, I do.

Q. And on the left-hand side, you have a CAD for the JUUL1 pod. Do you see that, sir?

A. That's correct, yes.

Q. And you have annotations here with respect to Dr. Vallee's alleged first aperture. Do you see that, sir?

A. Yes, I do see that. Yeah.

Q. And you have an arrow pointing to a micro-perforation in the CAD for the JUUL1 pod. Do you see that, sir?

A. Yes.

Q. Okay. And would you agree or disagree that that alleged first aperture is the center-most micro-perforation in the CADs of the JUUL1 pod?

A. That is how Dr. Vallee identified it, yes.

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Q. Okay. And so my question is, would you agree or disagree with that identification?

A. It appears to be that way, yes. I agree.

Q. Okay. Now, immediately above that annotation, Dr. Vallee's alleged first aperture, there's another annotation that indicates "only open space."

Do you see that, sir?

A. Yes, I do.

Q. Okay. And would you agree or disagree that the "open space" refers to an area within the atomizer?

A. Within the wick housing that open void that I testified to a moment ago.

Q. Okay. And that open void, as you say, is within the wick housing, correct?

A. It is within the wick housing and the surface with the perforations at the end of the -- of the tank.

Q. And as we discussed earlier with respect to Figure 2 of the '881 patent, which is also shown here on the right-hand side of this slide, there is no requirement in the claims for the diameter of the airflow passageway to be substantially uniform in the independent claims, correct?

A. That's my understanding. I see -- I've seen no such limitation.

MR. BUI: Your Honor, I need to go on the confidential record, please. And this will be JUUL's.

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JUDGE JOHNSON HINES: All right. We'll go on the JLI confidential record.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

BY MR. BUI:

Q. Column 6, please, lines 5 through 8. Thank you.

So, Dr. Dahm, on the screen here, we have the disclosure from the '864 patent. Do you see that, sir?

A. Yes, I do.

Q. Okay. And I'll just read it in for the record. "The cartridge 200 includes a first end 206 and a second end 208 that is opposite the first end 206, wherein the first and second ends 206 and 208 can be removable caps, respectively."

Did I read that correctly?

A. Yes, I see that.

Q. And what does that disclosure inform you as a person of ordinary skill in the art?

A. Well, as you were asking a moment ago, it refreshes my memory that the caps can be removed or at least are removable.

Q. And based on your review of the patents at issue, you understand that the housing may comprise only a cylindrical wall, correct?

A. Could you ask that again? I want to make sure I understand correctly or answer correctly.

Q. Sure. Based on your review of the patents at issue, you understand that the housing may comprise only a

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cylindrical wall?

A. Again, if you have the text there that you can refresh my memory on, I'd appreciate that.

Q. Okay.

A. Certainly, the embodiments that are disclosed in the patent and most of the discussion surrounding those in the patent is consistent with a cylindrical structure.

Q. Okay. You also understand that the specification teaches that the housing is not limited to a cylinder; it could take on different shapes, correct?

A. I've seen no constraint on the housing to be only a given shape.

Q. Okay. So let's turn back to the cylindrical shape. It's your understanding, based on your analysis of the patents at issue, that the housing can include a cylindrical wall and end caps, correct?

A. That's correct, yes.

Q. It's also your understanding that the housing may comprise a cylindrical wall and a single end cap, correct?

A. I -- that's correct.

Q. In analyzing the patents at issue, do you recall disclosures with respect to a center post?

A. Yes, I do.

Q. Okay. And what's your understanding of the center post?

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A. That's the patent drawings, and we looked at one of them just a moment ago, Figure 2, I believe it was, and the associated text refers to a central post that can be inserted through the first opening.

Q. May I have Figure 2 of the '864 patent on the screen, please. So not the ends, but Figure 2 of the '864 patent, please. Thank you.

So on the screen, Dr. Dahm, we have Figure 2 of the '864 patent, correct?

A. Yes, that's correct.

Q. Okay. And you understand that the center post is item 218 in Figure 2, correct?

A. That's correct.

Q. And that center post extends from the bottom aperture 212, correct?

A. That is correct, yes.

Q. It extends past the O-ring or the electrical isolator 220, correct?

A. That's correct.

Q. And then it meets up with the airflow passageway 214, correct?

A. That is correct.

Q. Okay. I'd like to ask about your understanding of the configuration and operation of the cartridge that's disclosed in Figure 2.

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Now, you understand that the cartridge 200 comprises a heating element 222, correct?

A. That is correct, yes.

Q. And that heating element is coupled to the electrical isolator 220, or the O-ring, correct?

A. That is correct, yes.

Q. And it's also coupled to the conductive element 216, correct?

A. That is correct.

Q. And it's coupled to that conductive element, 216, by way of the conductive lines 224 and 226, correct?

A. Again correct, yes.

Q. So when the cartridge 200 is coupled to a power source, the conductive element 216 is electrically coupled to a negative terminal of the power source and the center post 218 is electrically coupled to a positive terminal of the power source, correct?

A. It can be that way, or I forget whether the patent requires that arrangement or the opposite, but it's certainly the two different polarities on the -- on the contacts and the center post.

Q. Thank you. And then when a user draws a breath by way of the airflow passageway 214, a circuit is closed, thereby providing current to the heating element 222, correct?

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A. That is correct, yes.
Q. And then that heating element, 222, acts to vaporize the liquid solution in the absorbent material 204, correct?
A. Well, the -- it's not in direct contact with the absorbent event material, 204. The e-solution, the liquid, is supposed to wick through that absorbent material to the walls of the airflow passageway, and then that heated air either directly vaporizes it there or it vaporizes in the air.
Q. And that liquid solution is vaporized, correct?
A. It is eventually vaporized, yes.
Q. And that resulting vapor is received by the user, correct?
A. And as drawn here, there would be very little aerosol formation, so the vapor would be received by the user.
Q. Now, Dr. Dahm, you yourself are a patentee with at least five patents, correct?
A. I believe that's correct. It's about the right number.
Q. And have you participated in the process by which one obtains a patent?
A. Yes. Again, I work at a university, so typically there's a technology transfer office that handles most of

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the patent process, but I've always been fairly closely engaged with that.

Q. And as a patentee, you understand that you are free to claim whatever you want to claim in the claims versus what's disclosed in the specification, correct?

A. That is correct. It's the claims that rule.

Q. And is it your opinion that the gap 228 disclosed in the patents at issue is not claimed?

A. It does not appear explicitly in the claims, as I recall, but it is in the specification.

Q. Thank you, Dr. Dahm. That's all I have.

MR. BUI: Thank you, Your Honor.

JUDGE JOHNSON HINES: Thank you.

MR. DAVENPORT: We have no further questions, Your Honor.

JUDGE JOHNSON HINES: All right. Anything further?

MR. DESAI: No.

JUDGE JOHNSON HINES: All right. Dr. Dahm, thank you for your time.

(The witness stood down.)

JUDGE JOHNSON HINES: Let's take our afternoon break. And we can start back up at 3:45.

(A recess was taken at 3:28 p.m., after which the proceedings resumed at 3:47 p.m.)

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JUDGE JOHNSON HINES: Thank you. Be seated, please.

Counsel?

MR. DESAI: Just one thing, Your Honor. The new textbook, the Seventh Edition, we're going to mark it as CDX-2991.

JUDGE JOHNSON HINES: Say the number again?

MR. DESAI: CX-2991.

JUDGE JOHNSON HINES: Thank you.

Counsel?

MR. DOKHANCHY: If Your Honor is ready, we're ready for our next witness.

JUDGE JOHNSON HINES: I'm ready.

MR. DOKHANCHY: JUUL calls Mr. Karl Leinsing.

JUDGE JOHNSON HINES: Thank you.

Good afternoon. Before you sit down, could you raise your right hand.

Whereupon--

KARL LEINSING,

having been first duly sworn/affirmed, was examined and testified as follows:

THE WITNESS: Yes, I do.

JUDGE JOHNSON HINES: Thank you. Be seated and welcome.

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Counsel.

MR. DOKHANCHY: May I proceed?

DIRECT EXAMINATION

BY MR. DOKHANCHY:

Q. Good afternoon, Mr. Leinsing.

A. Good afternoon.

Q. Would you please introduce yourself.

A. Yes. My name is Karl Leinsing. I'm a medical device engineer from Dover, New Hampshire. I am married, have three daughters and a dog.

Q. What are you here to testify about today, Mr. Leinsing?

A. I'm here to testify about the invalidity of the two asserted patents in this case.

Q. Did you prepare any demonstrative slides to assist in your testimony today?

A. Yes, I did.

Q. I see we have on the screen RDX-2. Are those your slides?

A. Yes, they are.

Q. All right. Could you give us a little information about your educational background, your work experience, and we will dig into more details?

A. Yes, sure. I have an undergraduate degree in mechanical engineering from the University of New Hampshire.

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I also have a Master's degree in mechanical engineering from North Carolina A&T State University.

Since then, I was a senior engineering manager at Alaris Medical Systems for ten years. I was also a engineering manager at Onyx Medical and a director of biomedical engineering at Mitralign.

Currently I'm the president of ATech Designs, where I do a lot of medical device development, consulting, and some expert witness work.

Q. And does any of your work experience relate specifically to the technologies at issue in this case, the accused products, the asserted patents? Do you have experience with that?

A. Yes. A few things. I have worked on CPAP devices. I have developed a device. It is continuous positive airway pressure for people with sleep apnea. There is devices that are -- not my particular invention but devices that use vapor that I compared for my device which is similar to this case.

I also did some consulting work for a company called Chrysalis Technologies, and that was a division of Philip Morris. It was a confidential company at the time to develop an aerosol generator, which has been known as the precursor to the modern day e-cigarette.

I have also worked with nebulizers and other

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vaporizers. And I have consulted on e-cigarette devices, smokeless cigarette devices, and vaping devices.

Q. And are you an inventor on any patents?

A. Yes. I currently have 40 and others pending.

Q. Okay. On slide 4 here, what are we seeing regarding your awards and recognitions?

A. Yes. I have received many awards. One is a Medical Design Excellence Award from the Medical Device and Manufacturing Organization. I have also received one from Governor Hunt of North Carolina for developing a device that was a medical device and also maintained manufacturing within the state of North Carolina.

Also one from National Society of Professional Engineers, previous year was awarded to the Boeing 777 team, also received a prototype award. Also shown on the screen here is where MDDI, it is Medical Device and Diagnostics Industry, recognized me as one of the 100 most notable medical device engineers in the country.

Q. All right. On slide 5, you have a number of e-cigarette devices. Can you please go into your experience with those devices?

A. These are just a sampling of some of the devices that I have looked at and I have torn apart and examined. For example, there is some there on the left. Those are cig-a-like-type devices, the Puritain, 21st Century Smoke

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and some other devices, pod-type devices are the Inova, the iPh-8 and the Vuse Vibe, for example.

Q. What sort of work did you do in connection with these devices. You mentioned tearing them down. Did you analyze them in any particular way, can you describe that?

A. Depending on the device, I tore them completely apart. I looked at each of the different components, understand the different materials, and in some cases performed CT scans on them to see them in the fully assembled state.

Q. Have you ever been accepted by a court in any similar case to this one as an expert?

A. Yes, I have. In a previous case, it was Altria versus RJR, I was accepted there as an expert in the field of mechanical engineering, product design, and industrial design.

MR. DOKHANCHY: Your Honor, JLI offers Mr. Leinsing as an expert in the area of mechanical engineering and the design and function of electronic vaporizer devices.

JUDGE JOHNSON HINES: Is there any objection?

MR. DESAI: No objection, Your Honor.

MR. BUI: No objection, Your Honor.

JUDGE JOHNSON HINES: Thank you. Counsel, could you just speak up a tad.

MR. DOKHANCHY: Yes.

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BY MR. DOKHANCHY:

Q. Mr. Leinsing, what level of skill in the art did you apply in reaching your opinions in this case?

A. So both JLI and NJOY, as well as myself, developed a definition for the level of skill in the art. And I applied both definitions. They apply in my analysis.

Q. Would your opinion be any different under either definition?

A. It would not be any different, no.

Q. Okay. Could you please summarize your opinions that we're going to be walking through today.

A. Okay. So today, we're going to be looking at some prior art to the two asserted patents. And what I found was that they are invalid by clear and convincing evidence. And that evidence is going to be the Fang '044 patent, in view of Wang '554 for showing that it's obvious against all the asserted claims. Then we're going to be looking at the Red Dragon device in view of Fang '044 and show that it renders obvious all the asserted claims.

We're also going to look at the Xia '610 patent and show that that anticipates the '864 patent claims 2, 9, 10, 12, 13, 15, 16, 20 and the '881 patent claims 1, 19, and 26. We will also look at the Xia in view of the Wang '554 and show that it renders obvious all of the asserted claims.

Then we will look at another device, it's the

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NJOY NPRO and show that that anticipates the '864 patent claims 2, 9, 10, 12, 13, 15, 16, and 20, and the '881 patent claims 1, 19, and 26.

Then we will look at the NPRO device again in view of Wang '554, and that it renders obvious all the asserted claims. And then we will look at the Fuma prototype device as it anticipates all the asserted claims of the '864 patent.

Q. You mentioned the Red Dragon and NPRO devices. Are those physical devices?

A. Yes. Those are physical devices as well as the Fuma prototype.

Q. Do you have a physical exhibit up there with you. There should be three of them with the Red Dragon -- two Red Dragons and an NPRO?

A. Yes.

Q. And are those RX -- excuse me, RPX-7 for the NPRO and RPX-9 and 10 for Red Dragon?

A. Yes.

MR. DOKHANCHY: Your Honor, if you ever would like to have a look at any of those, we're happy to hand them up as we go through this analysis.

BY MR. DOKHANCHY:

Q. Okay.

And, Mr. Leinsing, did you cover the second and

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third bullets on your slide here?

A. Yes. We will also be looking at the asserted patents and show that they are not entitled to the effective filing date any earlier than February 26th, 2019. And we will also be looking at the NJOY secondary considerations and that they failed to establish the considerations for non-obviousness.

Q. All right. On slide 9, what are we looking at regarding the state of the art before the patents?

A. So here, when we look at these asserted patents and looking prior to July 2009, what we're going to clearly see is that e-cigarettes with cartridges, horizontal heating coils, central and axial airflow passageways, solution holding mediums, wicks, and different size apertures and pathways and electrical and mechanical connections and apertures on both ends all existed in the prior art.

Q. Okay. And you have reviewed the deposition transcript of the inventor on both of the asserted patents, Mr. Conley; is that right?

A. Yes, that's correct.

Q. And what did he say here on slide 10 regarding the state of the art before his patents?

A. Yes. So this is a deposition, RX-1117C. And Mr. Conley was one of the inventors, said that the e-cigarettes that had a cartridge already existed. He also said that

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there were cartridges that comprised the housing and an interior.

He also mentioned that there is some of the first end and a second end. He talked about the housings having an interior, there was also multi-piece assemblies and that the cartridges would comprise a heating element.

Q. And given all those admissions and the state of the art at the time, what does NJOY say to the Court about what it's invention, the invention in the Fuma patents, was?

A. So NJOY is saying that their design is revolutionary and that the -- basically, that a transverse heating coil in a two-piece e-cigarette or vaping device was their revolutionary design. As we're going to look at the prior art, that's just simply not the case.

Q. And is there also the concept of a central and axial airflow passageway recited in the asserted claims?

A. Yes, that's correct.

Q. And have you seen any evidence that anybody associated with Fuma had in their possession, before the time of the invention, an e-cigarette with a central airflow passageway and a horizontal heating coil?

A. Yes. So I saw some evidence of one of the inventors, Mr. Gregory Conley, and he indicated that he saw a device that is called a KR808D-1, and that that was a device that he had looked at and when you look at the

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information related to the KR808D-1, we learned that it's known as the Vapor King. And the Vapor King device or the KR808D-1, was discussed on April 25th, 2009.

Q. The deposition transcript of Mr. Conley you're referring to is JX-548C at page 97, line 24 to 98, 13?

A. Yes.

Q. And the other piece of evidence JX-602.1.

Now, did you attempt to analyze the KR808D-1 product, Mr. Leinsing?

A. No, I did not.

Q. And why was that?

A. I couldn't get my hands on one.

Q. And is the KR8 -- who is the manufacturer of the KR808D-1?

A. So it is my understanding that the KR808D-1 is manufactured by a company called KangerTech.

Q. And were you here in the various points in this trial where testimony was given regarding Fuma's relationship with KangerTech?

A. Yes, I was.

Q. Okay. And what do we see here on slide 13 regarding the Vapor King that you mentioned was connected to KR808D-1 and how does it compare to the Fuma prototype device?

A. Very similar. As you can see here in the

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pictures, on the left is JX-617. And on the left is RX-78.22 -- on the right, I mean. And the right is the Fuma prototype and they look very similar with a horizontal coil and a wick going through it with the -- what NJOY alleges is the central and axial airflow passageway.

Q. All right. You have a number of slides here that demonstrate the asserted claims. Are these just for reference? Can we skip past these for now?

A. Yes. These are the asserted patents and the asserted claims and claim elements.

Q. All right. Let's jump to claim construction. And what claim constructions did you apply in rendering your opinions and coming to your conclusions in this case?

A. So there is some agreed-upon claim constructions and then there are some that were in the Court Order Number 36. And I have applied both in my analysis.

Q. And do you understand that there is an outstanding claim construction dispute?

A. Yes.

Q. And what is that and which did you apply?

A. So NJOY is saying that -- the construction is heating element. And NJOY has a construction of that as well as Staff and JLI have a construction of the heating element.

Q. And what is the construction that you applied?

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I'm sorry if you already said.

A. My analysis under both constructions, in either construction, wouldn't affect my analysis on invalidity.

Q. Okay. On slides 28 and 29, I believe you grouped the claim elements into some sort of logical organization. Could you explain that, please?

A. Yes. So there's a lot of asserted claims. There's a lot of different elements. So to make things kind of go a little bit quicker, I grouped them into four different groups here as shown on pages 28 and 29 of my slides.

Those four groups are the cartridge and power source limitations, the passageway and aperture limitations, and the heating element limitations, and then the solution holding medium limitations. And then the associated claims and claim elements are listed on these two pages of my slides, 28 and 29.

Q. And do these very small numbers indicate, do they correspond to the mapping of the claim limitations we skipped through earlier?

A. Yeah. Those are the claim limitations in that grouping.

Q. Okay. All right. So what's the first ground we're going to be looking at today?

A. So the first prior art that we're going to take a

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look at, this is Fang. We might call it Fang '044 or Fang. It's a Chinese patent. It's -- should I -- do I need to read the --

Q. Yeah. So we can skip to the next slide.

A. So we're going to look first at this Fang patent. It's a Chinese patent. It's Patent Number CN201085044Y. And I'll refer to that as the Fang or the Fang '044 patent.

This was published in July 16th, 2008, keeping in mind we're looking at everything before July of 2009, so this satisfies the prior art requirement.

Q. Okay. And which asserted claims do you contend are invalidated by Fang in view of Wang?

A. So all of the asserted claims.

Q. Okay. Let's look at a little more detail on Fang. What are you seeing on slide 32?

A. So here in RX-1621, page 17 and page 5, you can see the Fang reference. And here in purple you can see the battery portion. And then the blue highlights the airflow passageway.

And then you can see in red is the heating element. And then in gold is the solution holding medium. It is also in this patent called the oral conservator or the oil storage device. And then we have the wick in yellow or shown as 15.

Q. And I think you mentioned this is a Chinese

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patent. We're looking at a translation; is that right?

A. Yes, that's correct.

Q. Does that explain some of the kind of strange wording?

A. That's correct.

Q. Okay. Now, you mentioned the supplementary reference that you are combining with Fang is called Wang '554. Could you tell us about that reference?

A. Yes. This is another Chinese patent. This is the Wang '554. It's -- the Patent Number is CN101366554A. And I will refer to that as the Wang patent or the Wang '554. It was published February 18th, 2009.

Q. All right. And what does the Wang patent regard?

A. So the Wang patent regards a cig-a-like or e-cigarette devices known as the cig-a-like. We can see a picture of it here in the right on Figure 2, which is CX-2954. You here you can see it is a cartridge-type device as well. You can see the cartridge on the right in Figure 3 of the patent and it shows the conductive threads on one end that then mate with the male conductive threads on the battery portion or the power source.

Q. And how do you propose to, in your analysis, modify the Fang reference with the Wang '554 reference?

A. Yes. So if we look at the Fang '044 reference, you can see a natural division point in the Fang '044, which

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is right here (indicating), right between where the cartridge here would be and then you can see the battery portion down here where there is a pressure sensor.

Here what I have done in view of Wang '554 on the right, which shows the same type of division between the cartridge and the power source, and applied that combination with Fang '044 and divided it as shown, so you can then see the next point here where it is divided, and then took the male threads here, which are shown here on the battery portion of Wang, and then that is just simply applied to the battery portion here of Fang. The same thing on the female end is applied here on the cartridge portion for Fang.

Q. Okay. Now, I think the big question is why would a person of skill in the art do such a thing?

A. So there's a lot of reasons, a lot of motivations that you would split Fang. Of course Wang shows that, as well as teaches options to do that for these type of cig-a-like devices. It allows the user to exchange the heating element, so a lot of times when you're using these devices within a week or two the heating element will get a black charred taste to it and it's advantageous to have a fresh coil with each time you, you know, after that time period.

So it's nice to be able to swap that out without paying for the price of a whole new battery portion and

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sensor. And also it improves the manufacturing cost. And it is just a natural separation point when you look at Fang.

Q. Okay. And why is it that this sort of architecture in your proposed modification of Fang would reduce manufacturing costs and consumer expense?

A. So to reduce the manufacturing cost, it reduces the cost then to the user because now you're not having to purchase a battery portion with the pressure sensor, and then a user is not having to buy that each time. And it also makes it easier to manufacture the device and to assemble the device instead of having to put all the components down a really long tube.

Q. And what is the relative price difference between the components in this section, this top portion that you are saying would be replaced, compared to the price and reusability of this bottom portion?

A. Yeah. So the bottom portion contains the expensive components such as the battery, in particular, the lithium rechargeable battery. You have a light that's at the very end of it. You also have a pressure sensor. You also have the electronics that is used to accurately control the amount of power that goes to the heating element in comparison to the cartridge portion, which has the cheaper components.

Q. And what about the expense of -- were you here in

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the opening statements where counsel said that this coil would be more expensive than an ordinary coil?

What's your view on that?

A. Yes. I recall that. And that's just simply not true. And, in fact, film-type heating elements are actually more popular and actually cheaper in higher volumes.

In particular, the Wang reference even talks about using a film-type heating element and that is actually a cartridge-type device as well and uses that in the disposable part of the cartridge. So that is just simply not true.

Q. And that's the same type of heating element in Fang?

A. That's correct.

Q. Okay. What about more broadly speaking, why would a person of skill in the art viewing the Fang reference think to look at something like the Wang '554 reference?

A. So, yes. They are both cig-a-like-type devices. So you would consider both. I guess -- I think that is called analogous art to each other. They both include a central and axial airflow passageway.

They are very well-known types of components in both devices. And combining the two just involve really simple institutions, as I have shown. You're simply

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dividing it at a natural point and just adding threads and a fitting to each one, which is a very simple thing to do and well-known in cig-a-like devices. They are both Chinese patents, references. And they are both published within a close proximity to each other as well.

Q. Okay. Now, we're going to start to march through the claim limitations.

So you have organized these slides, I believe, by the same headings you introduced earlier in those four categories. So we're going to sort of refer to them by that structure.

And unfortunately, the first time we go through I am going to have to read every word on these slides. So your first bucket is cartridge being mechanically and electrically coupled to power source and battery. That is embodied in the '864 patent, claim 1, preamble in 1c, 9 preamble and 9c, 25 preamble and 25c, and those claims recite in the preamble, "a cartridge configured to couple to a power source of an electronic vaporizer, the cartridge comprising."

And then C, the first end of the housing being adapted to electrically couple to the power source. And '864 patent claims 2, 10, and 26 in this category, they state, "the cartridge of claims 1, 9, and 25, respectively, further in combination with a power source adapted to be

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electrically coupled to the first end of the housing, the power source including a battery."

And this category also includes '881 patent claim 1-preamble, 1a, 1b, 1c, 1d, and 1h, which recite, "an apparatus comprising a power source, wherein the power source includes a battery, wherein the power source includes an electrically conductive portion, where a cartridge having a housing that comprises an interior."

And in h, "wherein the first end of the housing includes an electrically conductive portion that is adapted to mechanically and electrically couple to the electrically conductive portion of the power source."

And it also includes '881 patent claim 16-preamble, and d, stating respectively, "a cartridge configured to mechanically and electrically couple to a power source of an electronic vaporizer, the cartridge comprising."

And then in d, "the first end of the housing having an electrically conductive portion adapted to mechanically and electrically couple to an electrically conductive portion of the power source."

And did you find that group of claim limitations met in your combination?

A. Yes, I did. I clearly see in my modification of Fang in view of Wang that the cartridge mechanically and

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electrically couples to the power source by the -- you can see the red threads that are here between them, where they can both electrically and mechanically couple. The battery portion is down below in purple. And the cartridge is shown in yellow.

Q. And --

A. This is RX-1621.17.

Q. And does that coupling on the top part of your modified Figure 1 on slide 40, does that occur on the first end of the housing?

A. Yes, that's correct.

Q. Okay. The next grouping of claim limitations, you showed earlier was, "housing the solution holding medium inside.

Embodied in '864, patent claims 1a, 9a and 25a, stating, "a housing having an interior and a solution holding medium adapted to hold a solution."

Also including 881 patent claim 1i, stating, "wherein the housing includes a solution holding medium adapted to hold a solution in the interior of the housing."

And also in '881 patent claim 16a, stating, "a housing having an interior and a solution holding medium adapted to hold a solution in the interior of the housing."

Here on slide 41, have you found that those elements and claim requirements met in your modification of

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Fang with Wang '554?

A. So, yes, I found that, as you can see in the figure here, which is RX-1621.17, you have the solution holding medium there in gold. Interior of the housing, which is shown in yellow.

There's also support for this analysis in the specification at RX-1621.6, where it says, "the oil conservator is in contact with the oil storage device 14 and supplies nicotine oil to the oil storage device 14."

And then it goes on to say, "the oil conservator 17, the oil storage device 14, and the temporary oil storage device 15 are made of cotton yarn or sponge materials that can absorb nicotine oil."

Q. Okay. And are you indicating in orange here items 7 and 14 as your solution holding medium?

A. Yes, that's correct. I think I mentioned that.

Q. Sorry. Okay. The next category, first and second apertures being proximate or on first and second ends. Embodied in '864 patent, claims 1b and 9b which state, "the housing having a first end and a second end that is opposite the first end, the housing having an first aperture proximate the first end and the second aperture proximate the second end."

And also in '864 patent claim 25b, "the housing having a first end and a second end that is opposite the

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first end and a central longitudinal axis extending from the first end to the second end, the housing having a first aperture proximate the first end and a second aperture proximate the second end."

And also in the '881 patent claim 1e, where we see the "on" language, stating, "wherein the housing includes a first end and a second end that is opposite the first end, wherein the housing includes a first aperture on the first end and a second aperture on the second end."

And also in this category is '881 patent claim 16b, "the housing having a first end and a second end that is opposite the first end, the housing having a central longitudinal axis extending through the first end and second end, the housing having a first aperture on the first end, and a second aperture on the second end."

Here on slide 42, Mr. Leinsing, what are we seeing and do you find those elements to be met in your combination?

A. Yes. What we're looking for here in this group is for the first and second apertures to be proximate or on the first and second ends. You can see here in Figure 1 of the Fang patent, RX-1621.17, that the first aperture is shown here in purple, using NJOY's construction, and on the first end, and then it shows the second aperture in green on the second end, you see the housing in yellow.

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And then you also see the central longitudinal axis showing that both the first and second apertures are centered on that axis.

Q. Okay. Quickly, '881 patent claim 19, which you have termed the first aperture central and axial. That claim requires, "wherein the first aperture on the first end is located centrally and axially with respect to the housing."

On slide 43, do you see that limitation met, Mr. Leinsing?

A. Yes. Here you can see the first aperture is clearly located on the first end as I show on the previous slide. And it's centered on the central longitudinal axis.

Q. Okay. Let's talk about the airflow through the Fang device. Slide 44 has your grouping of the -- what are called apertures permit airflow through housing. And that corresponds to '864 patent claim 1d and 9d, which state, "the first aperture and the second aperture being in communication with one another to permit an airflow through the housing from the first aperture to the second aperture."

And '864 patent claim 25d which states, "the first aperture and the second aperture being in communication with one another to permit an airflow through the housing."

So what are we seeing on this slide? Could you

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please explain how you know that the air flows in this manner?

A. Yes. So here we're looking for the apertures if they permit airflow through the first and second apertures. I have identified those here in purple.

And then over here on this side (indicating), and then the second aperture is here (indicating). And the part that I've shown there in red is the part of the pressure sensor. So in order for that to operate, there has to be air in that area that pulls -- this is like a diaphragm or kind of like a trampoline.

When you take a puff on the device, it deflects this red part which has a magnet in it and it goes close to this little hall effect sensor. And that is what switches on the battery to power the heating element. We know air has to come in here (indicating) and goes through the center past the heating element and the wick, and then out through the second aperture.

Q. And this figure shows the unbroken-up image, but as we saw earlier, your first aperture is with respect to after the separation in your modification, correct?

A. That's correct.

Q. Okay. Do any portions of the specification on slide 45 explain the airflow that you just mentioned?

A. Well, yes, the specification talks about the

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pressure sensor and that air needs to operate that pressure sensor and then talks about all of the other elements, so a person of skill in the art understands how the air flows through the device.

Q. And that's on pages 5 and 6 of RX-1621?

A. Yes, that's correct.

Q. Slide 46, you have this category called transverse heating element in the housing. That's '864 patent claim 1e and '864 patent claim 9e stating, "heating element located in the interior of the housing, the heating element extending transversely to a central and longitudinal axis of the housing and being at least partially exposed to the airflow."

What are we seeing on this slide regarding this claim element?

A. Yes. So this time we're looking for that heating element to look for its orientation. So if we look in the left picture in Figure 1 of the patent, it's RX-1621.17, you see that heating element I have indicated with the red arrow is, in fact, transverse to the central longitudinal axis or the airflow shown in a purple arrow.

Then in Figure 2 of the Fang patent, you can see that's identified by 16, the heating element, which is, in fact, shown transverse to the airflow passageway.

Q. On slide 47, a similar term, "the heating element

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is a coil transverse to airflow direction."

This involves '864 patent claim 25e, which states, "a heating element located in the interior of the housing, the heating element including a coil extending transversely to the central longitudinal axis of the housing and transversely to a direction of the airflow."

And also '881 patent claim 18a, which states, "wherein the heating element is a coil having a maximum diameter."

Did you find those met for similar reasons?

A. So, yes. I found this looking at the -- this is the heating element, is a coil transverse to the airflow direction. If we look in the specification, RX-1621.5, it says the electric heating film wire, 16, which is shown there in red, is wound on the temporary oil storage device 15.

So that tells us that the heating element is, in fact, a coil, which is also shown in Figure 2 of the Fang patent.

Q. And on slide 48, another similar term, "heating element extends transversely across the airflow passageway. And that is embodied in the '881 patent claim 1j, which states, "wherein the housing includes a heating element located in the interior of the housing, wherein the heating element extends transversely across the airflow passageway."

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And in claim 16i of the '881 patent stating, "a heating element located in the interior of the housing and extending transversely across the airflow passageway."

Did you find that limitation met and, in particular, does the heating element extend across the airflow passageway?

A. Yes. As we can see here in Fang, Figure 1, RX-1621.17 again, that heating element extends completely across the airflow passageway or at least to the extent that NJOY understands that term going all the way across the airflow passageway showing -- shown there in blue.

Q. Slide 49, we have a series of vaporization terms titled here Heating Element Vaporizes Solution in Airflow embodied in '864 patent claims, 1f and g, 9f and g, which state, "the heating element being configured to vaporize at least a portion of the solution for oral provision to an individual in the airflow."

The '864 patent, 25g and h, which state, "the heating element being configured to vaporize at least the portion of the solution drawn to the heating element for oral provision to an individual in the airflow."

Also '864 patent, claim 20, which states, "the cartridge of claim 9, wherein the heating element includes a material that when powered by the power source is adapted to vaporize the solution brought into contact with the heating

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element."

And lastly in '881 patent, claims 1m and n, and 16n and o, which state, "wherein the heating element is or being electrically configured to vaporize at least a portion of the solution to be contained in the solution holding medium for oral provision to an individual in an airflow from the second aperture."

What is your opinion as to this limitation being met here on slide 49 in view of Fang and the Wang '554 reference?

A. Yes. It's clear that the heating element vaporizes solution in the airflow in Fang as shown in RX-1621.5-6 here, where it says the action of the capillary tubes, the temporary oil storage device 15 sucks in nicotine oil stored in the nicotine oral storage device 14. When the electric heating film wire 16 is powered on to heat, the nicotine oil in the temporary oil storage device 15 is fumed to produce nicotine oil smoke.

And then in addition, it shows, again, when the electric heating film wire 16 is powered on to heat, the oil within the device, the nicotine oil smoke is produced by the user through the gas pipe 8 and the smoking channel 10.

Q. Okay. The slide 50 has the group heating element receives power from power source and housing portion.

Embodied in '864 patent, claim 1h, 9h, and 25i

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that state, "heating element being responsive to electrical power received from the power source."

'881 patent claim 1o which states, "responsive to electrical power received from the battery through the electrically conductive portions of the cartridge of the power shores.

And '881 patent, claims 16m and p, which state, "the heating element being connected to the electrically conductive portion of the first end of the housing," and also in p, "responsive to the electrical power received from the power source through the electrically conductive portions of the cartridge."

How is that met, if so, in the combination you propose, Mr. Leinsing?

A. So in Fang, as I discussed earlier, there's a switch 4 that is in here in this area where when a user takes a puff, the vacuum draws a sensor to activate the battery. And here in RX-1621.3, it says the electrical heating film wire 16 is electrically connected with the battery 3, through the fuming device control switch 4.

Q. And when you separate the device and add the conductive threads that you mentioned, does that connection still get maintained when connected?

A. No. If you disconnect, where I'm proposing that you would modify the device, the connection would be broken.

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Q. And then when you add the connectors back on and you screw the device together, does it work as in Fang?

A. Yes. Then it would satisfy the claim language. You would then make the connection. It would be electrical and mechanical coupling between the two.

Q. Okay. Slide 52, we have the central and axial airflow passageway terms, which are '864 patent, claims 1i, and 25j, and also '864 patent claim 15, which state, "an airflow passageway in the housing, at least a portion of the airflow passageway extending centrally and axially with respect to the housing."

'881 patent claim 1f, which states, "wherein the housing includes an airflow passageway that extends centrally and axially with respect to the housing intermediate of the first aperture on the first end of the housing and the second aperture on the second end of the housing."

'881 patent, claim 16e, which states, "an airflow passageway in the interior of the housing of the airflow passageway having a length extending centrally and axially with respect to the housing intermediate of the first aperture on the first end of the housing and the second aperture on the second end of the housing."

Also '864 patent, claim 1j, which states, "wherein the airflow passageway extends centrally and

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axially from the first aperture to the second aperture.

'846 patent, claim 25k, which recites, "wherein the airflow passageway extends in a straight path from the first aperture to the second aperture."

And '881 patent, claim 1g, which states, "wherein the airflow passageway is configured to allow an airflow through the cartridge from the first aperture to the second aperture of the housing."

And lastly claim 16f of the '818 patent reciting, "the airflow passageway being configured to allow an airflow through the cartridge from the first aperture to the second aperture of the housing."

Okay. We talked about the airflow earlier. Now we have got the airflow passageway on slide 53. What is your opinion regarding the claim limitations that I just met -- read and whether they are met?

A. Yes. So here on this slide 53, and on the Figure 1 of the Fang '044, which is 1621.17, I have highlighted in blue the airflow passageway. As you can see, it extends central and axial from the first aperture to the second aperture along the central longitudinal axis.

Q. Okay. And the central and axial airflow path term, '864 patent, claim 9i, which states, "wherein the airflow through the housing follows an airflow path, a first portion of the airflow path proximate the first aperture

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being defined substantially centrally and axially with respect to the central longitudinal axis of the housing, and a second portion of the airflow path proximate, the second aperture being defined substantially centrally and axially with respect to the central longitudinal axis of the housing."

And is that met in your analysis here on slide 54, Mr. Leinsing?

A. Yes. I think the previous slide showed this as well, that the airflow path is, in fact, central and axial as shown here in RX-1621.17, shown by the blue line.

Q. And is that true all the way through the airflow passageway?

A. Yes, that's correct, from the first end to the second end.

Q. All right. Slide 55, we have, "solution holding medium surrounds an airflow passageway."

The '881 patent, claim 1l, "wherein the solution holding medium surrounds the airflow passageway, and the heating element in the interior of the housing and intermediate of the first end and the second end."

And '881 patent, claim 16k, which states, "a plane perpendicular to the central longitudinal axis of the housing passing through the heating element and the solution holding medium."

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On slide 55 here, Mr. Leinsing, do you believe those limitations to be met? And what are you pointing to?

A. Yes. So you can see here in the gold kind of color, it's the solution holding medium, which is also noted as item 7 and item 14 in Figure 1 of the Fang patent, which is RX-1621.17, and that that completely surrounds the airflow passageway shown in blue?

Q. And what about this "plane" term?

A. Oh. Yes. And if you draw a plane through the center axis of the heating element, then that plane would be perpendicular to the central longitudinal axis.

Q. And would that plane pass through the housing -- would it pass through the heating element and the solution holding medium?

A. Yes, it would.

Q. Okay. Slide 56, "airflow passageway exterior adjacent to solution holding medium," is in '881 patent claim 16g, which states, "the airflow passageway having an exterior adjacent to the solution holding medium along a majority of the length of the airflow passageway."

Did you find that met in your modified Fang embodiment?

A. Yes. As you can clearly see here in Fang Figure 1, again, that the orange or the gold solution holding medium is adjacent to the blue airflow passageway.

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Q. Is that along a length -- excuse me. Is that along a majority of the length of the airflow passageway?

A. Yes, it is. And just to clarify the drawings here, that these lines here (indicating), these are called long sectional lines. So -- are break lines, I'm sorry. These are called long break lines. These sections of the part here and here (indicating) are actually longer. It's drawn so that you can fit something long into a shorter -- into the figure.

Q. All right, the wicking material terms on slide 57, in '864 patent, claim 12, which recites, "the cartridge of claim 9, wherein the heating element includes a wicking material being operative to permit at least a portion of the solution to be held in the solution holding medium to be drawn toward the heating element to be vaporized."

And '881 patent, claim 26, which states, "the cartridge of claim 16 wherein the heating element is in operative connection with the wicking material and the wicking material is operative to attract a portion of the solution from the solution holding medium located immediately adjacent to opposite ends of the heating element toward the heating element."

Did you find that limitation met here on slide 57, Mr. Leinsing?

A. Yes, I did. As you can see in Figure 1 of the

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Fang patent, you see item 15 which is the wick.

Then if we read the specification, RX-1621.6, it says, "due to the action of the capillary tubes, the temporary oil storage device 15, which is the wick, sucks in the nicotine oil stored in the nicotine oil storage device 14, when the electric heating film wire 16 is powered on to heat. Nicotine oil on the temporary oil storage device 15 is fumed to produce nicotine oil smoke."

Q. All right. Slide 58, the terms regarding airflow passes on both transverse sides of the heating element.

That is '864 patent, claim 25f, which states, "such that the airflow passes on both transverse sides of the heating element during use of the electronic vaporizer."

'881 patent, claim 1k, which states, "wherein the airflow through the passageway passes on both transverse sides of the element.

And '881 patent, claim 16j, which states, "the airflow through the passageway passing on both transverse sides of the heating element."

Is that met in the combination you have proposed, Mr. Leinsing?

A. Yes, it is met as shown by Fang, Figure 2. You can see the heating element coil 16 and you can see the wick 15 and the airflow shown in blue going on the two transverse sides of the heating element.

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Q. And in your opinion and expertise, is that how the air would flow with respect to the heating element?

A. I'm sorry, I can barely hear you.

Q. I'm sorry. In your expertise with regard to fluid dynamics and the like, is that how the air would flow with respect to the heating element?

A. Yes. Particularly with the wick present, it would definitely be on the transverse sides.

Q. Okay. Only the heating element obstructing a portion of the airflow, '864 patent, 25l, which states, "with only the heating element obstructing a portion of the airflow through the airflow passageway along the central longitudinal axis of the housing."

Mr. Leinsing, is there anything in the airflow passageway other than the heating element?

A. No, there is not.

Q. That's under NJOY's interpretation in which the wick is okay?

A. That's correct.

Q. Okay. Slide 60, majority of an airflow passageway has substantially uniform cross-section. This is '864 patent, claim 16, which states, "the cartridge of claim 15, wherein a majority of the portion of the airflow passageway has a substantially uniform cross-sectional area measured perpendicular to the central longitudinal axis of

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the housing between the heating element and the second aperture."

Did you find these requirements met here on slide 60?

A. Yes. Again, in Fang, Figure 1, we can see the blue airflow passageway is substantially uniform in cross-section. And then even especially with the long break lines, that that whole area gets even longer so it is even more substantial.

Q. Okay. Slide 61, you have "airflow passageway has uniform cross-section along the majority of length," and that is '881 patent, claim 16h, which states, "the airflow passageway having an interior, having a uniform cross-sectional area measured perpendicular to the central longitudinal axis of the housing and extending continuously along a majority of the length of the airflow passageway."

Did you find that met for similar reasons as the last one?

A. Yes, that's correct.

Q. Okay. Slide 62, '864 patent, claim 13, which you called, "first aperture smaller than the second aperture," did you find this limitation met in claim 13, reciting "the cartridge of claim 9 wherein the first aperture proximate the first end is smaller than the second aperture proximate the second end"?

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A. Yes, I found that in Figure 1, if you take the red line, I believe there is AN animation here, if we drag that red, we can see that it's -- the first is smaller than the second aperture, and which is also shown in Fang '554, Figure 3.

Q. Are there scientific benefits and technical benefits to having a larger exit aperture?

A. Yes. That can -- what it will do, it can help with the flow in the beginning when you want it fast. And then at the exit, it's slower but also easier, less drag for a user to take a puff.

Q. Slide 64, airflow passageway no smaller than first aperture, I believe may have another animation or that may be a later slide. '881 patent, claim 16c, "the first aperture having a cross-sectional area measured perpendicular to the central longitudinal axis of the housing."

And '881 patent, claim 16l, which states, "the airflow passageway having an interior between the heating element and the second aperture no smaller in cross-sectional area than the cross-sectional area of the first aperture."

Did you find that to be met, Mr. Leinsing?

A. Yes. So he we have the first aperture here shown with the red line in RX-1621.17. And then again if we drag

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that arrow up to the airflow passageway, we will see that it's no smaller than the first aperture.

Q. Slide 66, "we have diameter of coil smaller than airflow passageway cross-section," and that's '881 patent, claim 18b, which states, "and the uniform cross-sectional area of the airflow passageway is a circle having a diameter."

And '881 patent, claim 16C, which is the maximum diameter of the coil being smaller than the diameter of the circle of the uniform cross-sectional area of the airflow passageway."

Did you find that to be met on slide 66, Mr. Leinsing?

A. Yes, shown in Figure 1, we see the diameter of the coil. And with a little help of the graphics people, I was able to rotate that and show that it is, in fact, smaller than the airflow passageway.

Q. And how do you know that the airflow passageway is a circle having a diameter?

A. Well, because this is -- well, first, it calls that section of it a pipe, which is known to a person of skill in the art as being circular.

Q. Okay. Slide 68, what is your ultimate conclusion with Fang in view of Wang '554 and the asserted patents?

A. So when you take Fang and you make the

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combination in view of Wang, it's clearly obvious. The claims become obvious to a person of skill in the art. And if you compare even the figure of the modification to Figure 2 of the asserted patent, they look very similar.

Q. All right. What is the second ground we're going to be looking at, Mr. Leinsing?

A. So the next one we're going to look at is the device, the Red Dragon device in view of the Fang reference that we just reviewed. This should be a little bit quicker. We have already read all the patent claims into the record this time.

Q. I hope so. Okay. What are we looking at here on slide 70 here? These are Red Dragon kits you received?

A. Yes. I received two kits, Kit Number 1 and Kit Number 2.

Q. And what are we seeing is an overview on slide 71 of the structure of the Red Dragon e-cigarette?

A. Yes. So these devices, they are from 2008. They are quite old. But yet you can see the device here shows the power source and the cartridge, the threaded electrical coupling, so you have the battery on the left and the cartridge on the right.

The top image is a CT scan, so I was able to scan it and you can see the complete device in Kit Number 2 while still in the package.

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Q. And did you work with a CT scan company to accomplish that?

A. Yes. The company is 3D ProScan in Clinton, Massachusetts.

Q. Is this a so-called cig-a-like device?

A. Yes.

Q. Okay. What are we seeing here on slide 72 regarding the Red Dragon cartridge? Could you please identify some of the components you have pointed out here?

A. Yeah. Here we can see in the Red Dragon the upper left shows the cartridge. It has the first end and a second end. And it has some threads on the first end.

In the bottom left-hand picture, I have taken the second end cap off so you can see inside. And you can see some batting material. And then you can see the central axial airflow passageway.

And you can see the wire that is connected to this part here (indicating), which is a vertical heating element here, which I have identified in red. You can also see the batting material, which is gold that's around the central airflow passageway. And the blue is the airflow passageway.

Q. And in NJOY's opening statements, I think you were here, counsel showed a sort of zigzag structure for the Red Dragon cartridge.

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Could you explain what happened with that device?

A. Yes. So some of the devices over time, keeping in mind these are from 2008, that this wire over here over time has pulled the central -- these tubes. It's a woven material, has pulled it over to the side and some of them are a little bit crooked; but some of them are straight.

Q. Okay. Let's talk about "the mechanical and electrical coupling."

Did you find that met in the Red Dragon device?

A. Yes. So we're looking at that -- so this is the mechanical and electrical coupling. We can see here clearly on the left, you have a male threaded portion; and on the right a female threaded portion. This is RX-74.45.

And then on the back of the packaging of the Red Dragon device, it says that you unscrew the cartridge from the battery portion and that the two devices are actually screwed together to operate them.

Q. Okay. And I believe we can skip these overview slides because we're going to get to the element-by-element analysis. Let's jump into it.

I guess before we do, the airflow passageway term, did you review the dep transcript of Mr. Nick Evans, the founder and CEO of Red Dragon?

A. Yes. So Mr. Nick Evans stated in his deposition, which is RX-1126C, that there's a small amount of absorbent

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media which wraps around the coil itself that is separate from the absorbent media, which wraps around the entire assembly before inserted in a cartridge.

This is a small-like fabric wicking material that is around the heating element, which I have observed myself, that is separate and different from the batting material here (indicating).

Q. And what's the relationship between the wick and the spacers with regard to your definition of the passageway?

A. That helps to form the airflow passageway structure.

Q. Let's talk about the first sale and the public availability of Red Dragon. What do we have here on slide 78 regarding the sale of the Red Dragon cartridges that you analyzed?

A. Yeah. So here we're looking at an invoice and it's dated January 6th, 2009. It has the SKU number here that matches the SKU number on the back of the two packages I received of the Red Dragon kits.

Q. Okay. And, Mr. Evans, did he testify about the relationship between the Red Dragon Kit Number 2, which is the bulk of the photographs in your presentation, and Red Dragon Kit Number 1, whether they are the same or different?

A. Yes. He testified in his deposition, RX-1126C,

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that the two kits are the same.

Q. With regard to the cartridges?

A. Yes, with regard to the cartridges of January 2009.

Q. Okay. Now, you also propose a modification to Red Dragon that in your view a person of skill in the art would find obvious in view of the Fang reference.

Can you explain what that modification is?

A. Yes. So there's -- in this analysis, I am taking Red Dragon in view of Fang '044, and Fang shows amongst other devices in the prior art that you can have a coil in the horizontal direction, so I'm taking that knowledge and applying that to the Red Dragon and just simply rotating the coil from a vertical to a horizontal position.

Q. Okay. Are the -- well, you have a slide here 81 on motivations to combine. Could you please tell us what that's all about?

A. Yes. So both of these devices are cig-a-like devices. We have looked at both Fang and the Red Dragon. They are both cig-a-like devices.

They both include a central and axial airflow passageway. They have similar components that achieve similar functionality. It would just involve simple modification. Here we're just turning it 90 degrees.

The Fang patent and the Red Dragon were offered

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for sale, also within a six-month period.

Q. And what are we seeing here on slide 82 regarding why a person of skill in the art would be motivated to change the orientation of the coil in the Red Dragon device?

A. Yes. So there is a lot of motivation to turn the coil, as we have even seen through the history of e-cigarettes. The part of the reason and part of the motivation is when you have a coil in a vertical position within a long tube like that, you're putting the coil within the area of flow that is nearly zero velocity.

So if -- the air along the sidewalls of a tube or a pipe is near zero and near the middle of the pipe is the highest velocity. So by turning the coil, you're putting the coil now in the velocity.

It is kind of like thinking of like the radiator on your car. You don't put it around the outside of the opening. You need to create obstacles for the wind to transfer that heat and create the turbulent flow. And that is part -- that is the motivation to turn this horizontal.

Q. I think you go on in slide 83 with some additional motivations. Could you explain those?

A. Yes. This is another important motivation. When you turn it, so the coil is going to be also naturally shorter, and when you do a shorter distance in Ohm's Law, you actually create a lower resistance and lower resistance

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means quicker and higher heat.

And that's important so that you -- when you take a puff, you're not getting droplets. You want to be able to immediately vaporize that liquid that's within the cartridge.

Q. What are you showing in this equation down here on the bottom of the slide?

A. Yes. So this equation comes from Ohm's Law and applying this to power and heat. And when you lower the resistance with the amount of heat that you want and the voltage being held constant, the voltage in the battery would be constant and the heat that you want is constant, by lowering the resistance, you get a quicker time to heat.

Q. You have some additional motivations to turn the coil in the Red Dragon device in view of the Wang reference -- in view of the Fang reference, excuse me.

Could you explain what we're seeing here on slide 84?

A. Yes. So when you look at the Red Dragon, it becomes really obvious that when you -- if you can rotate the coil, now you don't have that coil coming out the end of the vertical end, which has to loop over the tube. As we saw what happens, when you loop that wire over, it bends the top of the tube and can create quality defects and manufacturing defects.

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You also have defects because you have to solder now wires to that coil and droop them over and then put insulation on those wires to prevent them from shorting out. So the insulation could be potentially toxic. And any time you solder something, like I have spent a lot of time teaching people to solder, not to get cold joints where they can break apart so there is a lot of motivation to move that horizontal and eliminate those wires in those manufacturing defects.

Q. And we talked about this briefly, but this is the zigzag image that I think you explained was due to over time the passage drifting. Is that correct?

A. Yes. So some of the samples over time have bent over. This is actually part of the motivation to rotate the coil but you can see here in the left image that it kind of bent it over. And so NJOY's argument is that it is no longer central and axial.

But if you look at all of the samples that I analyze, including the Kit Number 2, you can see that they are, in fact, central and axial airflow, at least to the extent that they feel that the Fuma prototype is central and axial.

Q. And what's your opinion of what the device looked like when it was manufactured? Was it central and axial?

A. Yes. It is clear that the intent of the design

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and the manufacturing is to connect the pathway on the left with the pathway on the right. It wouldn't make sense to try to make it off center.

Q. Okay. Let's go to the cartridge mechanically and electrically coupled to the power source and battery terms. I believe we can refer to the record and I won't have to read these in again.

Let's go to slide 87. What are we seeing here as to why you believe those are met?

A. Yes. So in the Red Dragon shown here in RX-74.45, we clearly see the threaded, metal threaded connections which create the mechanical electrical coupling.

Q. Okay. All right. The solution -- excuse me, the housing with solution holding medium inside category of limitations on slide 88, did you find that met in your analysis with Red Dragon?

A. Yes. As you can see in RX-74.62, I could see the batting material when I took off the -- this little cover on the end, you can see that batting material right there (indicating). As I identify, you can also see the housing. And those are clearly met. Also RX-77.22.

Q. Okay. The first and second apertures being proximate or on the first and second ends, what is your opinion with regard to that term on slide 89?

A. Yes. As we can see in RX-74.45, we have a first

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aperture and RX-74.26, we have the second aperture on the second end.

Q. Okay. And is that at least the case under NJOY's interpretation of the first end?

A. Yes, that's correct.

Q. And what do you mean by that?

A. Meaning that if -- when you're looking at something, whether it's on or proximate, that it doesn't have to be right at the very end or right on the surface. They are looking at both the JUUL and the JUUL2, where there's apertures that are slightly in from the end of the housing.

Q. Okay. Is the first aperture central and axial, slide 90?

A. Yes. RX-74.23, the first aperture looks pretty centered to me.

Q. On slide 91, what is your opinion regarding the bucket of terms apertures permit airflow through the housing, is that met?

A. Yes. RX-77.22, we can see the apertures, the first and the second allow the airflow to pass right down the center of the cartridge.

Q. I am not sure if we established it, but why is there a big white area on the left of RX-77.22 (indicating)?

A. So that's because in the CT scan, different

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densities of material show up in different brightness. So that we can see the insides of the batting material and the woven spacers, you have to change the density to see those. When you do that, the metal just glows like a light bulb.

But we can see the features of the threaded parts on the actual parts that I analyzed in those pictures.

Q. Okay. Transverse heating element in the housing, I think we have covered this a bit, but what are we seeing on slide 92?

A. Yes. So RX-77.22, you can see where I have just simply rotated the coil in the transverse direction.

Q. Okay. Slide 93 is the heating element is a coil transverse to airflow direction. Is that met for the same reasons?

A. Yes. That's met through the same reasons.

Q. How do you know the coil has a maximum diameter?

A. Well, because it has a diameter. It is a coil. And I rotated it.

Q. Slide 93, did you find the limitation "heating element extends transversely across the airflow passageway" to be met in the Red Dragon combination with Fang?

A. So, yeah. So we can see that the coil here, when I rotate it, it would clearly be transverse across. In fact, you have to make it a little bit shorter to fit in that airflow passageway but it would definitely be all the

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way across.

Q. Okay. The bucket, "heating element vaporizes solution in the airflow," is that met by the Red Dragon device?

A. Yes, it is. As I show here, that the solution here in 77.22 would be brought from the batting material through the wick and to the coil.

Q. And would that also be true in the modified version where the coil is turned?

A. That's correct.

Q. Okay. And how do you know its vaporization that is occurring in the device here on slide 96?

A. Because I see it on the back of the packaging for Red Dragon, which is 74.81. And it says the Red Dragon cigarettes produce a non-offensive vapor that simulates smoke. There is no worry of secondhand smoke. I guess I don't need to read the rest of that. It is pretty clear.

Q. I think that's enough.

Let's skip to slide 97. The category "heating element receives power from power source and housing portion," can you please explain why that is met in your view in Red Dragon as modified by Fang?

A. Yes. So I can see the metal contacts that are on the battery portion. Those connect with the metal contacts on the cartridge portion. And then using the CT scan, this

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is a 3D rendering or view of the results of my CT scan.

And you can see where the wires go to each of the electrical contacts in order to energize the heating coil from the battery.

Q. And in the modified version of Red Dragon in view of Fang, how would this limitation be met, if it would?

A. Yes. When you turn it 90 degrees, you would just simply connect the ends of that heating coil right directly to the electrical contacts.

Q. Okay. Regarding the bucket of terms "central and axial airflow passageway," what is your opinion as to whether that is met and how do you know?

A. Yes. In the top picture in my lab I analyzed the device, the picture here, RX-74.51, and that metal pin there is a pin gauge showing that you can put the pin all the way through the central and axial longitudinal pathway. And you see it in the picture below that, RX-77.22.

Q. Okay. Slide 100, what is your opinion regarding the central and axial airflow path terms?

A. Yes. So another CT image here, it is RX-77 .22, we see that the first portion of the airflow path is proximate the second aperture. And then the second portion of the airflow path -- I think that is a typo, it should be the first portion of the airflow path is proximate the first aperture and then the other one should be second portion of

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the airflow path proximate the second aperture.

Q. Thank you.

And slide 102, what is your opinion regarding the terms within "the solution holding medium surrounds airflow passageway" category?

A. Yes. So we can see here the gold portion that batting material identified, and it's clearly surrounding the airflow passageway. It starts to look very similar to Figure 2 of the asserted patents.

Q. Okay. On slide 103, what about "the majority of the airflow passageway exterior being adjacent to the solution holding medium," term, is that met?

A. Yes. Again, in the same CT scan image, you can see that the airflow passageway is clearly adjacent the solution holding medium.

Q. Okay. Slide 104, I think you covered this, but is there a wicking material in Red Dragon and would it be there in the combination?

A. Yes. In the same CT scan image, you can see the wicking material either in the vertical or the horizontal position is present.

Q. Okay. Do the apertures permit airflow through the housing in the Red Dragon reference as modified by Fang on the bottom image here?

A. Yes. That's clear. There's an airflow

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passageway. There is apertures on the beginning -- in the beginning or the first end and the second end. I show that through with the gauge pin. There is clearly a path that goes all the way through.

And Nick Evans, who is the founder and CEO of Red Dragon, he said that there's that small amount of material that forms the wick, which helps to form the airflow passageway.

Q. And you also saw that, correct?

A. And I also saw that in my analysis.

Q. And I have been informed I missed a slide. The central and axial airflow passageway, are those terms met as you see here on slide 100?

A. Yes. That's correct. I drew a central longitudinal axis through the device, and the airflow passageway is right down the center. And that's shown in the same CT scan image, RX-77.22?

Q. The airflow passes on both transverse sides of the heating element. Can you let us know if that limitation is met in your analysis of Red Dragon as modified by Fang?

A. Yes. Now, after I'm making the simple modification, turning the coil 90 degrees, we now have the airflow passing on both transverse sides of the heating element as shown here in blue on my figure, slide 106.

Q. All right. Slide 107, is it correct that only

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the heating element obstructs a portion of the airflow in the Red Dragon device as modified by Fang?

A. Yes. That's part of the motivation to turn it 90 degrees to now make it obstruct the airflow passageway, so now it clearly obstructs the airflow.

Q. And is there anything other than the heating element in the airflow passageway?

A. No.

Q. What about the terms in category "a majority of airflow passageway has substantially uniform cross-section," is that met here on slide 108 in the Red Dragon device?

A. Yes. As we can see in the same CT image, the airflow passageway is very uniform all the way through.

Q. And the similar term, "airflow passageway has uniform cross-section along a majority of the length," the '881, claim 16h, is that met in Red Dragon as modified by Fang?

A. Yes. You can measure these diameters in the CT scan images or the digital information that you get from the scan. I can clearly see that the uniform diameters of the airflow passageway are uniform and that can be seen in the picture.

Q. Slide 110, "first aperture smaller than second aperture," did you confirm that with testing?

A. Yes. I tested this with two gauge pins that are

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calibrated. One is .054 inches in diameter. That's the first aperture on the first end. And the second aperture was measured to be .095 inches in diameter.

Using a gauge pin, and 95 thousandths is larger than 54 thousandths.

Q. All right. Slide 111, "airflow passageway no smaller than first aperture," I think this is what you were alluding to on the last slide.

Is that limitation met by Red Dragon with Fang?

A. Yes. The airflow passageway was measured to be .09 inches. And that's bigger than .054 inches.

Q. Slide 112, "diameter of the coil smaller than airflow passageway cross-section," did you find that to be met and how do you know?

A. Yes. The coil fits into that area that's being made of the woven tube. So it fits in and, hence, is smaller than the diameter of the airflow passageway.

Q. And is that because the wick surrounds it and is part of the passageway?

A. That's correct.

Q. Okay. Where would one look for more evidence regarding Red Dragon?

A. So there is some additional evidence of my -- of the physical exhibits here, and some photos. The exhibits are RPX-9, my photos are at RX-74, CT scans are JX-407, and

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then for the Red Dragon Kit 2, you can look at here. It is RPX-10. The photos are RX-76, and my CT scans are RX-77.

Q. Okay. What is your ultimate conclusion regarding Red Dragon in view of Fang with respect to the asserted claims?

A. That the Red Dragon, in view of Fang, renders the asserted claims obvious. And you can see here when you make that modification, that even looks very similar to Figure 2 of the asserted patents.

Q. Okay.

MR. DOKHANCHY: Your Honor, we're at a good breaking point. I don't know if you want to continue or would rather wrap for the day?

JUDGE JOHNSON HINES: I would like you to continue.

BY MR. DOKHANCHY:

Q. What is the next ground you analyzed, Mr. Leinsing?

A. So the next we're going to look at is the Xia reference and anticipation of that Xia reference against the '864 claims 2, 9, 10, 12, 13, 15, 16, and 20. And the '881 patent claims 1, 19, and 26.

Q. Okay. Tell us about the Xia reference.

A. Okay. The Xia reference is a Chinese patent. It's Patent Number CN201238610Y. We will refer to this as

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the Xia reference or the Xia '610 reference.

It was published in May 20th, 2009. So it is prior art. And as you can see here in Figure 2 of the Xia patent, we have, again, a cig-a-like device with a cartridge on the right and a battery portion or power source or controller on the left.

Q. And we have this category of limitations, cartridge being mechanically and electrically coupled to the power source and battery, and you have a note here. For simplicity, we're going to be discussing the claims together, but you're not asserting anticipation for claims 25 or 26.

Is that right?

A. Yes, that's correct. I am not going to be asserting anticipation against those two claims.

Q. Okay. And did you find the cartridge mechanically and electrically coupled to power source and battery set of limitations to be met in the Xia reference and the anticipation capacity here on slide 118?

A. So, yes. In Xia, Figure 2, which is RX-1622.35, I identified a single stainless steel shell. And that is mechanically and electrically coupled to the power source. In the specification, on page 8, it is easy this stainless steel shell of the generator. And then it talks on page 7, it mentions that all the components of the cartridge are put

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together and connected with the generator or the power source.

Q. And that is --

A. And the controller, I mean.

Q. Sorry, continue.

I just wanted to establish when you said page 7 and 8, you're referring to RX-1622, correct?

A. That's correct, yes.

Q. Okay. And actually let me go back.

So how many stainless steel shells does the specification describe surrounding the cartridge in Xia?

A. I believe it talks about two; one is on the generator and one is on the controller.

Q. Right. So focusing just on the generator, which is the cartridge, does the cartridge have one shell or does it have more than one shell?

A. On just the cartridge, there is one shell.

Q. And is that indicated by the word "the" stainless steel shell of the generator?

A. Yes, that's correct.

Q. And what is NJOY's argument as to why the Xia reference doesn't have the claimed cartridge?

A. So NJOY modifies one of the figures within the patent. And they break it up into parts and is arguing that it's -- it actually has two parts to it. But Xia does not

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disclose that these two parts come apart and, regardless, you would analyze the two together.

Q. And if NJOY were correct that one could separate the components of the cartridge in Xia and unassemble it, does the specification in the '864 patent allow for such a thing while still being a cartridge of Figure 2?

A. Yes. The specification of the '864 patent and the '881 patent both talk about that the device can be broken up into multi-piece assemblies. So it's not really relevant to analysis of analyzing the cartridge.

Q. Are we seeing that at JX-1, column 1, line 47 to 50 and column 6, lines 12 to 26 here on your slide 120, Mr. Leinsing?

A. That's correct.

Q. Okay. We talked about the cartridge. Let's talk about the power source.

Does Xia describe a power source?

A. Yes. Xia discusses the power source in the specification. It's RX-1622.7. And here in Xia it says comprising a detachable controller and a generator with an indicating lamp 14, a signal indicating lamp -- I'm sorry, an indicating lamp cover 14, a signal indicating lamp 1, rechargeable lithium battery 2, and an integrated circuit board 3, and an electric microphone 4, and a hollow connecting conductor B6 that are sequentially arranged

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inside the controller from left to right.

Q. All right. Slide 122. Do you see any evidence of mechanical and electrical coupling of the controller and the generator in Xia?

A. Yes. So you can see this is Figures 1 and 2 of Xia, which is RX-1622.35, you see the male and female connections. And then when you read that along with the specification at RX-1622.7 and .10 you see the mechanical and electrical connection support respectively.

Q. Okay. Slide 123, the grouping of terms you have termed housing with solution holding medium inside. Were you able to find that as present in the Xia reference?

A. Yes. As you can see here in an annotated Figure 2 of Xia, which is RX-1622.35, you see the gold portion there, which is item 12 of the cartridge is the solution holding medium. And, in addition, we have items 10 and 11, which are within the stainless steel shell or the housing.

Q. And does the specification describe why those elements, 10, 11 and 12, would constitute a solution holding medium on slide 124?

A. Yes. There is specification at RX-1622.10, which describes Figure 2 of Xia. And it says "the chemical liquid flows from the liquid storage chamber 12 into the liquid storage chamber 10 through the liquid-guiding mechanism 11. The heater 9 is wrapped with the liquid-guiding mechanism

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11."

Q. Okay. Slide 126, the first and second apertures proximate or on the first and second ends. Why do you find this met under NJOY's interpretation of the claim scope and what is the first aperture?

A. Yes. So what I have here on slide 126 is a picture of Figure 2 that I have annotated. And I have identified the first end and the second end under NJOY's interpretation of the claim scope.

And I have identified where the first aperture is there in purple and then the second aperture in that area where it's green.

Q. And what do you mean by under NJOY's interpretation of the claim scope?

A. So NJOY's interpreting apertures that are some distance in from the end. And I have done that using that same logic as applied to the JUUL devices or the other DI products. I have identified the same first aperture location.

Q. On slide 127, is the first aperture central and axial?

A. Yes, it is. As shown here in red, it is right on the axis shown in purple.

Q. Slide 128, can you describe how the air flows through the Xia to meet the apertures permit airflow through

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housing limitations?

A. Yes. So the airflow comes in two holes in the side, just below the male threads, and then it goes past this black kind of flappy valve. And then it converges through a water droplet barrier there and then finally converges where I have identified the first aperture.

Then it goes straight through the device past the heater coil and then out the second aperture.

Q. Again airflow around the liquid storage medium 12?

A. Yeah, it goes around the solution holding medium, like, it is kind of like the airflow passageway is cylindrical and it goes around that and then converges back and goes straight out the second aperture.

Q. Okay. Is there a transverse heating element in the housing in Xia?

A. Yes. So we look at Xia, again, RX-1622.35. I have annotated the heating element in red. We can see it is clearly transverse to the central axial longitudinal axis which is also shown in RX-1622.36.

Q. Is that element 901?

A. Yes, identified as 901.

Q. The next two terms, heating element is a coil transverse to airflow direction," is that met for the same reason?

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A. Yes, it is.

Q. And "heating element extends transversely across the airflow passageway," slide 135, is that met for the same reason under NJOY's interpretation?

A. Yes, it's clearly transverse.

Q. And why is it under NJOY's interpretation?

A. Because if you look closely at the image, the heating element is not quite all the way to the sidewalls of that H pattern portion of the device.

Q. And that's the way it is in JUUL?

A. Same as JUUL, correct.

Q. Okay. 136, "heating element vaporizes solution," does the heating element you identified vaporize the solution?

A. Yes. In the specification, it shows in RX-1622.10. It shows that the heater 9 starts working, the chemical liquid is instantly vaporized and an atomized working room of the heater 9. You also see in -- oh, on page 12 and 13 the heating wire, 901, may be made of some different materials here and is used to heat and vaporize the solution.

Q. All right. "Heating element receives power from power source and housing portion" on slide 137, I believe you cite to RX-1622.10.

Does that indicate this element is met?

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A. Yes. Here we're looking for, does the heating element receive power. And the specification at 1622.10 says the heater is powered by the rechargeable lithium battery 2 through the connecting conductor A5. And the connecting conductor B6, and the integrated circuit board 3.

Q. Okay. Are the central and axial airflow passageway terms met in your view under the NJOY's interpretation of the claim scope here on slide 139?

A. Yes. Under NJOY's interpretation of the claim scope for the airflow passageway, we have seen where obstacles, such as a big PC board in the Solo device and other interpretations by NJOY. For that same reason, the solution holding medium here in RX-1622.35 would also have an airflow passageway for the same reasons.

Q. And you're referring to the annotation in green on slide 139?

A. That's correct.

Q. Is there a central and axial airflow path in the Xia device?

A. Yes.

Q. And which portion is that?

A. So it would be central and axial airflow path from the first aperture and then all the way to the second aperture.

Q. And what about just in the area around the first

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aperture, the area proximate first aperture right here (indicating), is that a central and axial airflow?

A. Yes, that's correct. It is just a small tube there at the first aperture for quite some distance there until it gets to the H. That would all be central and axial airflow path.

Q. And on the other end, you were talking about over on the exit side, that's the portion you're referring to (indicating)?

A. Yes. And you can see the tube there where I am pointing to, the second aperture. And that whole flow path would be central and axial.

Q. The middle portion, though, would not be central and axial, is that fair?

A. That's correct.

Q. Okay. Of the airflow path.

Slide 141, "solution holding medium surrounds an airflow passageway."

Do you find this element met under NJOY's interpretation?

A. Yes. The solution holding medium here is in gold, which is, as you can see, surrounding the airflow passageway, which is shown here in green. And this is RX-1622.36.

Q. Thank you.

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Okay. "Airflow passageway exterior adjacent to solution holding medium," slide 143, what is your opinion regarding Xia?

A. I'm sorry, I can barely hear you.

Q. Oh. So slide 143, the airflow passageway exterior adjacent to solution holding medium, what is your opinion regarding the Xia reference?

A. Yes. So we can see here the solution holding medium here in gold in both the images shown, RX-1622.35 and 36, are both adjacent to the airflow passageway shown in green.

Q. Is there a wicking material in the Xia reference?

A. So, yes, there's a wicking material. It is identified in RX-1622.13. And it says here "through a capillary action of the liquid-guiding mechanism 11, the chemical liquid stored in the liquid storage chamber 12 is guided into the secondary liquid storage chamber 10."

And you can see an image of that in RX-1622.

Q. Slide 145, airflow passes on both transverse sides of the heating element. Did you find that met by the Xia reference?

A. Yes. It's as supported by the specification in RX-1622.13 and shown in my figure here in blue, RX-1622.36. It goes on both transverse sides of the coil for the same reasons we looked at the other horizontal coils.

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Q. Okay. Slide 146, "majority of airflow passageway has substantially uniform cross-section," did you find that met by Xia?

A. Yes. If we look at the area here shown in the red bracket, we see that the cross-sectional area of the interior airflow passageway is substantially uniform in cross-section.

Q. That's between the first -- sorry between the heating element and the second aperture; is that right?

A. That's correct.

Q. Slide 147, "the airflow passageway has uniform cross-section along a majority of the length," did you find a majority of the length of the passageway with such a uniform cross-sectional area?

A. Yes. For the same reasons as the previous slide, it has a uniform cross-sectional area.

Q. Okay. Slide 148, did you find that the first aperture is smaller than the second aperture?

A. Yes. As we see here in annotated Xia Figure 2, 1622.35, the first aperture is identified in purple, which is smaller than the second aperture identified in green.

Q. Okay. And the airflow passageway no smaller than the first aperture, did you find that met on slide 149?

A. Yes. As we can see, the airflow passageway here in green is definitely much larger than the first aperture

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there shown in the brackets.

Q. Okay. What is -- excuse me. "Diameter of the coil being smaller than the airflow passageway cross-section," do you find that met by Xia?

A. Yes. The airflow passageway here in Xia is quite large, so it's definitely larger than the heating element coil.

Q. Okay. And what is your conclusion regarding whether Xia invalidates by anticipation all asserted claims except for '864 claim 25 and 26?

A. Yeah, the Xia '610 patent anticipates the claims that I identified earlier of the '864 and '881 patents.

Q. Okay. Let's talk about obviousness over Xia in view of Wang '554. Is that all asserted claims?

A. Yes.

JUDGE JOHNSON HINES: I think we can adjourn for the day. One thing I would like to get input on is the parties; timing estimates, given that we are scheduled to conclude tomorrow.

There remain a number of witnesses. And from the time estimates, the times look fairly substantial. So I just want to get an understanding from the parties that this is going to be doable tomorrow.

MR. RENAUD: Your Honor, if I might. Mike Renaud.

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JUDGE JOHNSON HINES: Thank you.

MR. RENAUD: I think we could finish this witness, Your Honor, I know it's pushing it, but in like 15 minutes or so. And if we do, by my calculation, I think we will just fit the hearing in tomorrow. I haven't had a chance to confer with Staff or with NJOY.

MR. DESAI: If we can do it in 15 minutes, I'm onboard with that.

JUDGE JOHNSON HINES: All right.

Yes, Mr. Bui.

MR. BUI: So my estimated cross-examination times, I am pretty confident it is not going to be anywhere near as long as that. So if Your Honor prefers to adjourn for the day, I think we can wrap up tomorrow but if you want to push through tonight, that's perfectly fine with me as well.

JUDGE JOHNSON HINES: All right. I guess my preference would be to finish the direct today, if we can do that, and begin with the cross-examination tomorrow morning. So if your estimate is 15 minutes, then I think we can push through for 15 minutes.

MR. DESAI: That's fine, 15 minutes, but if we start going 30 and longer --

JUDGE JOHNSON HINES: No, I understand. I understand.

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MR. RENAUD: I have 17 on my piece of paper here, so I thought I would round it down, but if the Court were to indulge us, that would be awesome. And we will finish it today.

JUDGE JOHNSON HINES: Okay. Let's press ahead.

MR. RENAUD: Thank you.

BY MR. DOKHANCHY:

Q. Let's do this in expedient fashion, Mr. Leinsing. Let's address the first major issues NJOY has raised regarding the Xia reference. One will be the first aperture location and one will be the fact that there is an obstruction in the airflow passageway.

In view of those arguments, have you found any pieces of prior art that a person of skill in the art would look to modify the Xia reference to address those issues?

A. Yes. So looking at Xia, looking again to the Wang '554 reference and combining those two to make my obviousness arguments for the asserted claims.

Q. And is that in relation to where the Wang first aperture is all the way on the end?

A. That's correct.

Q. Okay. What are the motivations for a change in design like that?

A. So quite a few reasons here. And a lot of motivation. One is to -- it makes the device less

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expensive. You don't need this rubber, this little flapping valve here. It makes a vibrating noise, which is then picked up by a microphone, which is on the inside of the battery portion.

So then it picks up that frequency of the noise. And that's what actually turns on the power to the heating element. So that device, when you put a microphone, it's susceptible to dirt and oil that's in the device and wouldn't be as reliable. So replacing with an air pressure sensor would make a lot more sense. And would be more reliable.

So then it would be cheaper to manufacture because now you don't need this rubber flapping valve, you also don't need this water droplet catch because now you just have a natural water droplet catch here that you couldn't do here because you had outlets in that area.

Q. Okay. And I think you described this operation of this vibration detection system, so we can just maybe cite where that is in Xia and move along.

A. Yes. So it talks about this vibratory diaphragm in RX-1622.10 --

Q. Okay.

A. -- of Xia.

Q. Slide 155, Wang's pressure sensor, you propose combining with Xia. What is that all about?

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A. Yes. Wang has a better solution for turning on the heating element, which is a pressure sensor. And it is shown here in CX-2954.6 and .8.

Q. Slide 156. You depict the modification. How does it affect the -- excuse me.

We're moving on to the second modification, that is the airflow passageway under JUUL's view of what is required. And what do you propose doing with the Xia reference in view of Wang?

A. Yes. So here we're taking the more centered airflow passageway that is shown in Wang '554 and applying that to the Xia reference. And I show the modified picture of what that would look like in RX-1622.35. And the figures from Wang are coming from CX-2954.22 and 23.

Q. Why would a person of skill in the art looking at Xia choose to modify it to have a passageway down the middle like the Wang reference?

A. Yeah, for a lot of good reasons. One, it would simplify the manufacturing. You would have a fewer parts. You would also make the area where the solution holding medium is contained larger. You would create some thermal insulation that's in there and you would also have less restriction when taking a puff on the device.

Q. Okay. With those two modifications, what is your opinion with respect to Xia as modified with Wang and the

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asserted claims?

A. That it would render all of the asserted claims obvious under this modification of Xia and Wang.

Q. Let me jump to 174, Jim.

All right. Let's talk about anticipation by the next reference. That's the NPRO reference. What is your opinion and which claims are you looking at?

A. So here the NJOY NPRO device is going to be looked at in anticipation against '864 patent claims 2, 9, 10, 12, 13, 15, 16 and 20, and the '881 patent claims 1, 19, and 26.

Q. Okay. Do you have evidence of sale of the NPRO device prior to the alleged conception date in 2009?

A. Yes. This is an NJOY sales spreadsheet, JX-501, and it shows a date of January 2nd, 2009 for the NPRO device.

Q. Okay. Can you give us a brief overview of the components of the NPRO device?

A. Yes. So the NPRO device looks very similar to other cig-a-like devices we have looked at. We see again the cartridge mechanically and electrically coupled to the power source. That is shown in RX-82.59.

And then we have on the left, we have RX-82.67. I have taken apart the cartridge. And you can see inside a bridge with some mesh, the wick and the coil there. And

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then you also on the other half, we see the absorbent material and the housing of the NPRO in RX-82.83.

Q. Okay. What is your conclusion regarding NPRO as compared to the Xia reference in terms of anticipation of the cartridge elements and the solution holding medium elements?

A. Yeah, that it would render the claims anticipated for the same reason as Xia.

Q. And can you explain the airflow in NPRO and its similarities to Xia?

A. Yes. So similar to Xia, the air comes in as we look in the picture, JX-0404.16, and it comes in some two holes that are on the side just below the threads that are shown in the blue dashed lines. It goes down a center hole within that H pattern area. And then the air goes around the solution holding medium, and then out the second aperture. And --

Q. Oh, sorry, continue.

A. I was just going to mention and that is shown in JX-404.16 and .35. Oh, I'm sorry, 1622.35.

Q. Thank you. What is your conclusion regarding anticipation by NPRO in terms of Xia for the apertures and passageway-type limitations?

A. Yes. So for all these groupings under NJOY's interpretation of the claims, the passageways, the central

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axial passageways, all the apertures would anticipate the claims as I have identified for the same reasons as Xia '610 patent.

Q. Slide 183, what about the heating element, is there a transverse heating element in the Xia reference -- excuse me -- NPRO reference?

A. Yes, there is a transverse heating element in the NPRO device that goes from one end to the other.

Q. And how is it different or the same as compared to the Xia reference?

A. It's very similar to the Xia reference. And it goes across or at least to the extent that NJOY considers the heating coil going across the airflow passageway.

Q. Is there a wick that the coil wraps around in the NPRO?

A. Yes. There is a wick present in the NPRO in this device, which is -- which is not present in the Xia device.

Q. What is your conclusion regarding the heating element terms and the related comparison of sizes to the passageway regarding NPRO as compared to Xia?

A. So under NJOY's interpretations of the claim scope, all of the heating element and airflow passing that heating element on transverse sides would anticipate the claims as I have identified by NPRO.

Q. Okay. Does NPRO have a solution holding medium

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and how does it compare to Xia in that component on the right there?

A. Yes. The NPRO also has the solution holding medium similar to the Xia device that we looked at earlier. My picture is RX-82.83. And you can see the Xia reference 1622.35 identified there as 12 in yellow.

Q. Okay. What is your conclusion regarding anticipation by NPRO with respect to Xia as to the solution holding medium and wicking terms?

A. So the NPRO would anticipate the claims as I have identified for the same reasons as Xia '610 under the NJOY's interpretation of the claim scope regarding the solution holding medium and the airflow passageway being adjacent to it, in addition, the wicking material.

Q. Okay. And what is your ultimate conclusion regarding NPRO anticipating all asserted claims except for '864 patent claims 25 and 26?

A. So for the same reasons as discussed with respect to Xia, the NPRO anticipates the '864 patent claims 2, 9, 10, 12, 13, 15, 16, 20, and the '881 patent claims 1, 16, 18, 19, and 26.

Q. Okay. Your next ground is obviousness over NPRO in view of Wang; is that correct?

A. Yes.

Q. Does that apply to all asserted claims?

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A. Yes.

Q. And I believe you state there is a motivation to modify NPRO in a similar way to Xia. Could you explain that, please?

A. That's correct. The Wang device has that more centered airflow passageway. You would apply that the same way that you would apply it to the Xia reference. It would create a larger liquid storage area. You create less resistance. You would enable the removal of some of the components and be able to shift the other components to the left, reducing the cost in both the parts and the manufacturing.

Q. Okay. What is your conclusion with regard to NPRO in view of Wang and invalidation of all asserted claims?

A. That NPRO in view of Wang '554 renders obvious all of the asserted claims.

Q. All right. Let's talk about the Fuma prototype. What are your opinions regarding Fuma prototype?

A. So the Fuma prototype embodies all the claim limitations under NJOY's view of the claims and the claim elements.

Q. And what's your second related opinion?

A. That the Fuma prototype invalidates the '864 patent because there is no specification support for

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proximate, prior to the February 26, 2019 amendment, which adds the label for the aperture 212.

Q. Okay. Let's jump to that analysis.

Can you explain why you believe there is no support for "proximate" before that amendment in 2019?

A. So in the Court's claim construction order, Number 36, it states that the specification supports the interpretation for "proximate." And specifically it states that the first aperture 210 is located at the first end 206; while the second aperture 212 is located near but not at the second end 208.

Q. And so why is that relevant to this label?

A. Because before the 212 was added to the Figure 2 of the specification, which was added in the '881 application, there was no clear indication of where 212 was. In fact, it was more directed towards 208 being in line with 208, which I believe the Court has identified it in line or on the 208 surface.

So with that information you would need to know where 212 is to try to determine or have support for the term "proximate."

Q. And is there anything in the specification of the '881 patent that, without the label 212, would lead you to think that the second aperture, 212, is located exactly aligned with element 208?

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A. No. There is no information that would lead you to believe that it would be, other than on the surface, 208.

Q. Is there anything to indicate that it would be exactly at 208, without the label?

A. Yes. There is some language that says in the -- as I show here, JX-5, which is the '881 patent, at 6, column 6, lines 10 to 14, and here it says that the second end 208 comprises a second aperture 212. And that that second aperture 212 are positioned at approximately the centers of the first and second ends, 206 and 208.

Q. Okay. Let's talk about secondary considerations. Can you give us a summary of your opinions there?

A. Yes. So this is secondary considerations of non-obviousness. Through my analysis I found there was no presumption of nexus between the claims and the Fuma product because there are unclaimed features in the products; for example, the praised features that are discussed.

The other claimed features include the battery adapter and switch and sensor components, which we have heard earlier, and those are not claimed features. The alleged evidence, including the praise, does not relate to the claimed features. You must have a nexus between those two. And I did not see that in the evidence.

There is no evidence also that RJR copied or mimicked the Fuma device. Next, there is no evidence of any

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party besides RJR was even aware of the Fuma device.

And then, lastly, the alleged commercial success does not prove sales were due to -- that they were due to the claimed aspects of the device.

Q. Okay. Let's jump to slide 207. This is an e-mail from R.J. Reynolds, Mr. Denny Potter, JX-554C.

Were you here in the court when Dr. Vallee opined that RJR really was fond of the Fuma products and that leads to secondary considerations that might warrant validity, even in the face of prior art?

A. Yes. I was present for that discussion, and I reviewed this e-mail myself, which is JX-0554C.

Q. And what is Mr. Potter praising about the Fuma device?

A. Yes. So the things he is praising are particularly four that I identify here is no propylene glycol. That was something they thought was advantageous. They liked the metal cartridge. They liked the no time delay cutoff, that was that speed to getting the heater heating up right away, so you don't pull in fluid in your mouth. It tastes horrible.

And they liked that it didn't leak. And all four of those are not related to the claimed elements.

Q. Thank you, Mr. Leinsing.

MR. DOKHANCHY: I pass the witness.

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JUDGE JOHNSON HINES: Thank you very much. Unless there is anything else we should talk about, what I would like the parties to talk about for tomorrow morning is the exhibits and getting the exhibits in evidence, as many as we can do tomorrow in the morning so we have as short as delay as possible before we close the record tomorrow. All right.

I see nodding, so thank you. I will see you tomorrow.

(Whereupon, at 5:45 p.m., the hearing recessed, to reconvene at 9:00 a.m. on Tuesday, June 11, 2024.)

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C O N T E N T S

WITNESS	DIRECT	CROSS	REDIRECT	RECROSS	STAFF
PALLAVI SETH	914	934			951
WERNER DAHM	970	1097			1150
WILLIAM STEIGER	1082	1088			1094
KARL LEINSING	1171				

AFTERNOON SESSION: 1080

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1160 - 1163

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CERTIFICATE OF REPORTER

TITLE: Certain Vaporizer Devices, Cartridges Used Therewith, and Components Thereof

INVESTIGATION NO: 337-TA-1372

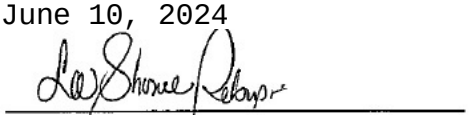
HEARING DATE: June 10, 2024

LOCATION: Courtroom A

NATURE OF HEARING: Evidentiary Hearing

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Date: June 10, 2024

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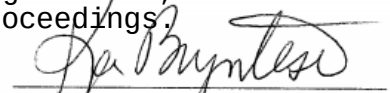
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Washington, D.C. 20005

I hereby certify that I am not the Court Reporter and that I have proofread the above-referenced transcript of the proceedings of the U.S. International Trade Commission, against the aforementioned Court Reporter's notes and recordings, for accuracy in transcription in the spelling, hyphenation, punctuation and speaker identification and did not make any changes of a substantive nature. The foregoing/attached transcript is a true, correct and complete transcription of the proceedings.

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I hereby certify that I reported the above-referenced proceedings of the U.S. International Trade Commission and caused to be prepared from my tapes and notes of the proceedings a true, correct and complete verbatim recording of the proceedings.

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Signature of the Court Reporter

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Juul v. NJOY
IPR2024-00160

UNITED STATES
INTERNATIONAL TRADE COMMISSION

In the Matter of:	)	Investigation No.
CERTAIN VAPORIZER DEVICES,	)	337-TA-1372
CARTRIDGES USED THEREWITH, AND	)	
COMPONENTS THEREOF	)	

OPEN SESSIONS

Pages: 1254 through 1560 (with excerpts)

Place: Washington, D.C.

Date: June 11, 2024

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IPR2024-00160

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

BEFORE THE HONORABLE DORIS JOHNSON HINES

Administrative Law Judge

In the Matter of:	)	Investigation No.
CERTAIN VAPORIZER DEVICES, CARTRIDGES USED THEREWITH, AND COMPONENTS THEREOF	)	337-TA-1372

International Trade Commission

500 E Street, S.W.

Washington, D.C.

Tuesday, June 11, 2024

EVIDENTIARY HEARING - VOLUME V

The Hearing commenced in Courtroom A, pursuant to the notice of the Judge, at 9:00 Eastern.

Reported by: Karen Brynteson, RMR, CRR, FAPR

NJOY Exhibit 2014.0904
Juul v. NJOY
IPR2024-00160

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NJOY Exhibit 2014.0905
Juul v. NJOY
IPR2024-00160

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NJOY Exhibit 2014.0906
Juul v. NJOY
IPR2024-00160

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NJOY Exhibit 2014.0907
Juul v. NJOY
IPR2024-00160

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NJOY Exhibit 2014.0908
Juul v. NJOY
IPR2024-00160

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P R O C E E D I N G S

(9:01 a.m.)

JUDGE JOHNSON HINES: Good morning, everyone. Please be seated.

All right. Before we get started, can I ask a question about exhibits and where we are in getting exhibits admitted?

MR. DESAI: We're getting close.

JUDGE JOHNSON HINES: Okay.

MR. DESAI: There's a few things that still need to be worked out, but I believe that we should be done by the lunch break. That's what I was informed.

JUDGE JOHNSON HINES: Okay. That sounds good.

Mr. Rizk, anything to add?

MR. KARAMBELAS: Nothing to add, Your Honor. That's as to the exhibits up through yesterday. I suspect we'll be with a list by lunchtime.

JUDGE JOHNSON HINES: Okay. Good. Thank you.

Mr. Bui, anything?

MR. BUI: Nothing to add, Your Honor. Thank you.

JUDGE JOHNSON HINES: All right. Is there anything else we should address before we go on?

MR. DESAI: Well, there's just a few things I want to preview that I think will be addressed a little bit later.

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JUDGE JOHNSON HINES: Okay.

MR. DESAI: The Bonet deposition designations, there has been some agreement, but there is an impasse on some portions. I think we'd prefer to argue that after the lunch break.

JUDGE JOHNSON HINES: All right.

MR. DESAI: And then for Dr. Vallee, his demonstratives, there may be one lingering dispute, but I think there has been some efforts to resolve it. If it's not resolved by the time Dr. Vallee takes the stand, I think we can quickly argue it at that point.

JUDGE JOHNSON HINES: All right.

MR. DESAI: And I believe that's it.

JUDGE JOHNSON HINES: Okay.

MR. WEINAND: We agree, Your Honor.

JUDGE JOHNSON HINES: Great. Thank you.

Please.

Whereupon--

KARL LEINSING,

having been previously duly sworn/affirmed, was examined and testified as follows:

CROSS-EXAMINATION

BY MR. DESAI:

Q. Good morning, Mr. Leinsing.

A. Good morning.

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Q. Why don't we get right into it, and we'll start with your demonstrative RDX-2.35. And this is discussing your obviousness combination of Fang and Wang.

A. Yes, that's correct.

Q. All right. And you say here that the benefit of splitting Fang like Wang is that you can replace e-liquid and replace the cartridge without discarding more expensive components, right?

A. Yes, that's correct.

Q. Okay. So your position is that Fang doesn't already disclose a separate cartridge with liquid, right?

A. Yeah, Fang does not disclose where I separated, but Wang does disclose that possibility or that option. And I think it's on page 6 of Wang.

Q. But just to be clear, your position is that Fang doesn't already disclose a separate cartridge with e-liquid, right?

A. No, Fang alone does not. That's why I combine with Wang. And as I said, Wang, page 6, describes that separation.

Q. Okay. Let's pull up -- I'd like to pull up two portions of the Fang reference, RX-1621, at pages 5 and 6.

Okay. And looking at the portion on page 5, Fang discloses that the sucker 1 is connected with the cigarette rod shell 2, correct?

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A. That's what it says, correct.
Q. Right. And then on the next page, it says that the oil conservator 7 is nested in the sucker, right?
A. That's correct. That's what it says.
Q. Right. And the oil conservator, it's kind of unusual language, but that's really just the solution holding medium, right?
A. That's -- that's correct. That's part of it.
Q. Now, Fang separately discloses, going back to the left side, that the battery, the fuming control device switch 4, which is the pressure sensor, and the nicotine oil fuming device, which is the atomizer, are sequentially nested in the cigarette rod shell, right?
A. That's correct. That's what it says.
Q. And, again, the nicotine oil fuming device that's nested in the cigarette rod shell includes the electric film heating wire, right?
A. That's correct.
Q. Okay. So according to Fang, the liquid storage oil conservator 7 is nested in the sucker, while the heating film wire 16 is nested in the cigarette rod shell, correct?
A. At the end of the assembly, they all sit into the whole rod shell.
Q. Where -- where in Fang does it say that the oil conservator is nested in the cigarette rod shell?

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A. Because the oil conservator, 7, is in the sucker and the sucker is nested in the rod shell.

Q. Does it actually say that the sucker is nested in the rod shell?

A. It doesn't use the word "nested," but as you highlighted here in the upper left, it says the sucker 1 is connected with the cigarette rod shell 2.

Q. Okay. So you agree, then, it doesn't say that the sucker is nested in the cigarette rod shell, right?

A. Well, connected. It's connected to the rod shell.

Q. Okay. Thank you. Now, if we go to your demonstrative, RDX-2, page 38, one of your motivations to combine Fang and Wang is that they are both Chinese references. Do you see that?

A. Yes.

Q. If they were both German patents, would that be a reason to combine them?

A. Yeah, so in this time period, Chinese were -- were instrumental in bringing the cig-a-like devices around, so there was a lot of people of skill in the art looking at those patents. If they were German, and there was -- they were both German, and that technology was instrumental in that area, then, yes. If one was Chinese, one was German, not likely -- not as likely.

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Q. So there are a lot of U.S. patents in this time frame on e-vapor devices too, right?

A. Yes, and well before into the '90s.

Q. Right. So would it be obvious to combine two U.S. patents, because they're two U.S. patents?

A. Well, you're more likely to see them when they're in the U.S. So when they're in the same country, it's -- it's easier to see them.

Q. So your answer is that the motivation to combine here is based on the country of the patent?

A. No, it is not. I listed six motivations, and I'm happy to include more if you'd like.

Q. I'm asking about this one.

A. Well, you misstated saying that that was my motivation. And that's not my only motivation.

Q. Why don't we look at the first bullet here. It says both devices use a heating element to vaporize a liquid solution. Do you see that?

A. Are you looking at the first bullet?

Q. Yeah. Both use a heating element to vaporize a nicotine e-liquid solution, right?

A. Yes, that's correct.

Q. Right.

A. And they both use the same type of heating element.

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Q. Oh, okay. So you would -- but you don't agree that they take different approaches to the configuration of their heating element and liquid storage?

A. No, they don't. As I outline, they talk about a film-type heating element, and it can be either in a separate cartridge or it could be part of the cig-a-like. It contemplates both, if you look at Wang, page 6 of 6.

Q. Okay. Why don't we take a look at Fang first, page 17, which is the figure, and then also page 5. And we've got a portion there.

Fang's heating element is wound -- sorry. Fang's heating element, as we discussed, is nested in the cigarette rod shell, right? We already discussed that, right?

A. That's correct, yes.

Q. Okay. And that heating element is spaced away from the oil conservator 7 that's nested in the sucker, right?

A. It's away from that section 7, but it's adjacent to the other portion 14 that I outlined. It's called the oil storage device 14.

Q. But you would agree that it's spaced away from the oil conservator 7 that's nested in the sucker, right?

A. I don't know that I would. It's not that far away. It's just below it, and then it's, as I said, adjacent to the rest of the solution holding medium.

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Q. What do you mean it's not that far away? I just asked if it was spaced away. Is it spaced away from the oral conservator 7?

A. The way you say you make it, you sound like it's really far away. It's not that far away.

Q. Is it touching the oil conservator 7?

A. Not that section of the solution holding medium. It is to the item 14, which is just below it.

Q. Okay. So to be clear, the heating element in Fang is not touching the oil conservator 7 that's nested in the sucker, right?

A. It's not touching that directly, no. It's indirectly communicating with it.

Q. And that heating element is wound on a wick that contacts the oil storage 14, right?

A. Yes, that's correct.

Q. So the heating element, the wick, and the oil storage 14 are nested in the cigarette rod shell, correct?

A. Yes, that's correct.

Q. Okay. Now, if we look at Wang -- and we can pull up page 7. Actually, maybe we can also grab that figure from the first page. Okay.

Now, in Wang, the heating element is nested in the cartridge, correct?

A. Yes, that's correct.

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Q. And it's nested in the cartridge with that organic fiber wrapped around it, right?

A. That's correct.

Q. And the organic fiber wrapped around it is what you would call the solution holding medium, right?

A. That's correct, yes.

Q. Okay. And in Wang, there's no wick, because the heating element directly contacts the solution holding medium, correct?

A. That's correct. I'm not looking to Wang for that feature.

Q. Okay. All right. Why don't we take a look at Red Dragon. And we're going to go to your slide 85.

For Red Dragon, there were two samples, one referred to as Red Dragon Kit Number 1 and another one referred to as Red Dragon Kit Number 2, right?

A. Yes, that's correct. I had two kits of Red Dragon.

Q. And you've primarily -- in your discussion yesterday, you were primarily talking about Red Dragon Kit Number 2, right?

A. Yes. And I mentioned Kit Number 1 as well, that had the damaged central axial passageway.

Q. Right. And so if we go to page 75, here you include a CT scan of Red Dragon Kit Number 2, right?

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A. That's correct.
Q. And you testified that Red Dragon Kit Number 2 has a central and axial airflow passageway, right?
A. That's correct.
Q. Okay. There are other views, CT scans of Red Dragon Kit Number 2 that you didn't show the Court, right?
A. I did -- I did not show the Court, but I've examined all those and they look as shown here.
Q. Okay. Well, let's take a look at RX-77. And we're going to go to page 6. If we can blow up, like, the top of that. Maybe, like, the entire passageway. I'm sorry, we're on the other side, the bottom part. There we go.
Okay. Now, if we go -- you would agree that this was a CT scan of Red Dragon Kit Number 2, right?
A. I can't tell from these numbers.
Q. Okay. Well, we can back up and we can show that. So let's back out. And the Bates number there in the bottom, do you see that, ends in 980879?
A. Okay.
Q. Got that?
A. I see that.
Q. Okay. Now, if we go to your March 19th invalidity report, the cover document, you had a listing here of what corresponded to what, right? And you see Red

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Dragon Kit Number 2? And there's a list of the range of Bates numbers for rendered CT images?

A. Okay.

Q. So now you agree 980879 falls in that range for Red Dragon Kit Number 2?

A. Okay. That appears correct, yes.

Q. Thank you. So let's go back now to that figure. And this is a different view of the Red Dragon Kit Number 2, right, that you didn't show?

A. Yes.

Q. And your testimony was that this shows the parts of the airflow passageway are not central and axial, correct?

A. Well, the way Dr. Vallee was looking at the Fuma device and calling -- it has a slight off center in that same central axial flow path, and through that understanding, I identified this one as also central axial flow path.

Q. All right. Let's see what you said at your deposition. We're going to go to page 145, lines 15 to 25, first. And here, just to be clear, you were testifying about 980879. Do you see that?

A. I see that, yes.

Q. Okay. And if we go to the next page, 146, 17, to 147, lines 8.

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"Question: So are you saying that it's not central and axial in this image?

"Answer: So in the -- in the image, parts of it are -- are -- are not central and axial, but the -- there are devices that are -- that I reviewed that are, in fact, central and axial, as I showed in my report, and that the Red Dragon's, you know, clear intent is to make that central and axial, but because of the wire, when you solder that on, and you can see the wire in the CT image, which is bright, that's why it's pulling it over to the edge. That's a manufacturing kind of defect. So I mean it's clear that Red Dragon has -- or at least was designed with the intent, and I had some examples of where it is completely central and axial."

That was your testimony, correct?

A. That's correct. And I stand by that. There's two other samples of that package in the lower left, which are in that same scan, which are also central and axial. And then after this deposition, I learned that Dr. Vallee took the position of that same slight off center was considered central and axial when he reviewed the Fuma prototype. And so to that extent, that's why I'm saying it would be at least as central and axial as that device.

Q. So far in this hearing, we've seen images of Red Dragon Kit Number 1 and Red Dragon Kit Number 2, right?

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A. Not of the entire kit, no.
Q. Okay. Why don't we move on to the Xia reference. And you would agree that Xia discloses a secondary liquid storage chamber 10, right?
A. I'm sorry, can you repeat that, please?
Q. Why don't we just pull it up, RX-1622, page 13.
And you see that there's a secondary liquid storage chamber 10 is arranged on the left side of the heater, right?
A. Can you -- what document are we looking at?
Q. This is Xia '610, RX-1622.
A. Okay.
Q. Xia discloses a secondary liquid storage chamber 10, correct?
A. That's correct.
Q. And it's formed by filling the bottom and periphery of the heat insulation seat 902 with the multilayer foam nickel mesh, right?
A. That's what it says. That's correct.
Q. And you would agree that the secondary liquid storage chamber inside is not the housing of the Xia device, right?
A. Under the JLI understanding, it would not be. Under NJOY's understanding of the claim terms, it would be.
Q. So you think that NJOY has taken a position in

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this case that the interior liquid chamber -- or, sorry, an interior nickel foam mesh is part of the housing?

A. No. They've taken other inside components, such as the tank or such as plastic behind metal contacts that are identified as the housing, and those would be -- and labeling those interior components, and then saying that those would be part of the housing, which would be incorrect, but I'm taking the same view as he is taking in his analysis.

Q. So you think, for example, JLI -- NJOY, sorry, has taken the position that the tank of, say, the JUULpod is an interior component?

A. Yes. It's inside the housing of the cartridge.

Q. Okay. Well, let's take a look at your demonstrative, page 126. And we'll blow up the part you identify as the first aperture.

The first aperture you identify is in the secondary liquid storage chamber 10, correct?

A. I believe that's correct. Do you have a view that shows the identifying number?

Q. Sure. Why don't we pull up RX-1622, page 36, middle figure there, Figure 4.

A. Yes. Thank you. Yep, that's correct.

Q. All right. So to be clear, the first aperture you have identified is in the secondary liquid storage

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chamber 10, right?

A. That's correct, under NJOY's understanding of the claim terms.

Q. And if we go back to the slide, the airflow you identify -- we can go back to the main. Yeah.

The airflow you identify between the heating element and the second aperture is shown with the blue arrows, right?

A. Between -- what are the two items again?

Q. The heating element and the second aperture.

A. And then could you repeat the rest of your question?

Q. I just want to focus on -- you've identified with blue arrows the airflow between the heating element and the second aperture, right?

A. That's correct, just the general flow path.

Q. Okay. Let's pull up a few portions of Xia '610. I've got Figure 4 and 5, and then a paragraph from pages 13 and 14. I want both figures and the text. Can you do that? Okay. Well, why don't we pull up the text. There we go.

This explains, with respect to Figure 5, that the left end 1301 of the soft suction nozzle 13 extends to the bottom of the liquid stopping sheet 8. Do you see that?

A. I see that. It's written there, yes.

Q. Okay. And then it describes the path of the

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atomized chemical liquid flowing out from the overflow holes 903, right?

A. Correct. That's what it says.

Q. And it flows through an airflow channel between the liquid storage chamber 12 and the soft suction nozzle, right?

A. Correct. That's what it says.

Q. Okay. Now, if we look at Figures 4 and 5 -- okay. Do you have those? They're up on the screen.

A. Okay. I see that.

Q. We can see, on the left side, the hole 903 that the atomized liquid comes out of, right?

A. I don't believe that's correct. I think the atomized liquid transfers to 1102 and then down around the outside of the heating element, and then it wicks through that 902, the part that looks like an H.

Q. The part of the patent we just read said the atomized chemical liquid flowing out from the overflow holes 903, flows through the gap between the soft suction nozzle and the liquid storage chamber.

A. I think what you were reading was the airflow, not the liquid flow.

Q. Sorry, I met the atomized airflow.

A. Okay. Yeah, can you rephrase your question --

Q. The atomized airflow comes out of 903?

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A. That's correct. That's what it says.
Q. And then it flows in that channel we see between 1301 and 12, right, on the right figure?
A. That's what it talks about. And I don't know if it says it's atomized liquid at that stage. I think it just says the airflow. I don't know if you can pull up the text again.
Q. It says there's an airflow channel between 12 and 1301, right?
A. Okay, yes. An airflow channel, yeah, not atomized.
Q. Right. An airflow channel. And that airflow channel is on the outer perimeter, correct?
A. Yes, it goes around it in the shape of a tube. It's cylindrical around that area.
Q. It's on the outer perimeter, correct?
A. Yes, it's on the outer perimeter. It's going around the obstacle of the solution holding medium like the Vuse Solo.
Q. Okay.
MR. DESAI: No further questions, Your Honor.
JUDGE JOHNSON HINES: Thank you.
MR. BUI: May I proceed, Your Honor?
JUDGE JOHNSON HINES: Yes.
EXAMINATION BY COUNSEL FOR ITC STAFF

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BY MR. BUI:

Q. Welcome back, Mr. Leinsing. Good morning to you, sir.

A. Good morning. Thank you.

Q. It's good to see you again.

A. Good to see you.

Q. I'd like to start off with your experience.

A. Okay.

Q. And I understand from your curriculum vitae that you have extensive experience with medical devices, such as CPAP devices. True?

A. Correct -- what did you say, CPAP devices?

Q. CPAP devices.

A. Yes, that's correct.

Q. And you also have extensive experience with analyzing and testing vaping devices. True?

A. That's correct.

Q. And your professional experience includes work with Philip Morris, correct?

A. Directly Chrysalis Technologies, a division of Philip Morris, a confidential division at the time.

Q. Thank you for that clarification.

Now, Mr. Leinsing, based on your work with Philip Morris or Chrysalis, are you familiar with the acronym CAG?

A. No. I don't recall.

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Q. Are you familiar with the term "capillary aerosol generator"?

A. Yes.

Q. Okay. And what's your understanding of capillary aerosol generator?

A. Well, there's two different forms, that the capillary is basically the process of pulling solution from a solution -- like a tank or another solution holding medium, delivering it to either a vapor generation device or it could be an ultrasonic generation device or some other device that either creates aerosol directly or creates a vapor.

Q. And, Mr. Leinsing, the Chrysalis device utilized ultrasonic technology; is that correct?

A. That was the particular technology that I was looking at, yes.

Q. And the Chrysalis device utilized ultrasound technology to create an aerosol, correct?

A. That's correct.

Q. Now, the products at issue in this investigation do not utilize ultrasonic technology, correct?

A. That's correct. They do not.

Q. And the claims at issue in this investigation are directed to various elements, including a heating element that is directed to vaporize liquid solution for oral

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provision to a user, correct?

A. That's correct. That's what the claims are directed towards, that heating element method of vapor.

Q. Mr. Leinsing, based on my review of your curriculum vitae, I would understand you to be a person of extraordinary skill in the art. What did you do, if anything, to assure yourself that you are providing opinions from the perspective of a person of ordinary skill in the art?

A. So I put myself back in this time frame, which is the -- approximately the 2008/2009 time frame, which is why I had the real strong opinions in this case about the patents being really based on cig-a-like-type devices. And I remember that time frame. I lived it. I used to drive through the tobacco fields twice a day for ten years going to work in North Carolina.

Q. Did you do anything else to ensure yourself that you were providing your opinions from the perspective of just one of ordinary skill in the art?

A. Yes. I did under the -- as I mention in my direct, under the two definitions of a person of skill in the art, with that more limited experience.

Q. You would agree that one of ordinary skill in the art of the patents at issue would have an understanding of the Venturi effect, correct?

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A. Yes, if they were paying attention in class.

Q. And could you describe for us what is your understanding of the Venturi effect, please.

A. Yeah. So the Venturi effect, I think, was mentioned earlier, and I mention at my deposition. It's how carburetors work. So Venturi effect, you go from a large diameter, when you go to a small diameter, you speed up the airflow, and when you do that, you create a suction in that area.

If you put a nozzle right in the middle of the Venturi, so it goes large to small to large again, then you create the vacuum which helps to pull the fuel in to mix the fuel with the air.

Q. And, Mr. Leinsing, in connection with the Venturi effect, one of ordinary skill in the art would have an understanding of Bernoulli's principle, correct?

A. Correct. I believe he was the one who discovered that principle. He came up with equations that we can use to determine the pressure drop.

Q. Now, before turning to your opinions on the issue of invalidity, I would like to touch upon, briefly, the issue of claim construction. Do you have that in mind?

A. Okay.

Q. Now, you of course reviewed the claim construction order that was issued by the Administrative Law

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Judge, correct?

A. Yes, I did.

Q. May I have RDX-2.23 on the screen, please, slide 23 of RDX-2.

So on this slide, Mr. Leinsing, you have on the left-hand side recited the airflow passageway terms, and on the right-hand side, we see the claim construction, Order Number 36, correct?

A. That's correct.

Q. Okay. And the claimed airflow passageway terms have been construed to mean "the airflow passageway extends in a straight path through the center of the housing from a first opening on the first end to a second opening on the opposite end of the housing." Correct?

A. That's correct.

Q. Mr. Leinsing, do you recall participating in the claim construction phase of this investigation?

A. Yes, I do recall. And I wrote a declaration for that phase of the case.

Q. And in that declaration that you submitted in support of JUUL's opening claim construction brief, do you recall JUUL originally proposing a slightly different construction for the claimed airflow passageway terms?

A. I do recall that. I think it was a little different. I don't recall exactly what it said.

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Q. Okay. Do you recall that JUUL's originally proposed construction for the airflow passageway claim terms was "the airflow passageway extends in a straight path through the center of the cartridge from a first opening on the first end to a second opening on the opposite end of the cartridge"?

A. Okay. I'll take your word for that, but that sounds right.

Q. Mr. Leinsing, in your opinion, is there any significance to the recitation of the word "cartridge" instead of the word "housing" in JUUL's originally proposed construction for the airflow passageway claim terms?

A. I don't see a significant difference. I think "cartridge" makes it more clear. The specification talks about a cartridge, and then it talks about the components that make up that cartridge and the housing being the outer-most shell of the entire cartridge.

Q. Thank you, Mr. Leinsing. I would like to focus your attention on the left-hand slide of RDX-2.23, please. And you would agree with me that the claimed airflow passageway must extend centrally and axially, correct?

A. Yes, that's correct.

Q. And you would agree with me that the terms "centrally" and "axially" have different meanings, correct?

A. I'm sorry, I didn't hear the last part.

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Q. You would agree with me that the terms "centrally" and "axially" have different meanings, sir?
A. That's correct.
Q. And it's your opinion that "centrally" means that the airflow passageway is centered, correct?
A. Correct.
Q. And it's also your opinion that "axially" means that the airflow passageway extends along the axis, correct?
A. That's correct.
Q. And so if we have a cylinder, for example, for something to be centered, it would have to be in the center of the circle or about the circle -- I'm sorry, or about the center of the circle, correct?
A. Yes, that's -- that's correct.
Q. Mr. Leinsing, can an airflow passageway that occupies the entire interior of the housing still be considered central to the housing?
A. So under JLI's construction and my understanding of the claims, no. Under NJOY's construction and understanding of the claims, yes, particularly with the analysis of the Vuse Solo device. And then in discussions about the gap, where the gap would be included in that passageway, as we heard from Dr. Vallee.
Q. Now, with respect to the gap, such as the gap 228 in Figure 2 of the patents at issue -- do you have that in

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mind, sir?

A. Yes.

Q. Okay. Do you have an opinion --

A. I know it well.

Q. I'm sorry. I didn't --

A. No, I said I know it well.

Q. I think we all do, sir. All right.

So back to the gap 228 in Figure 2 of the patents at issue. Do you have an understanding as to whether the gap 228 is claimed in the patents at issue?

A. No, I don't believe it's part of the claims of the patents, asserted patents -- or asserted claims. But it doesn't mean it can't -- like, you can have a gap, but the claims don't call out a gap or identify a gap.

Q. So is it your opinion that the claims do not explicitly recite gap?

A. You worded that better. Yes, that's correct.

Q. May I have RDX-2.24 on the screen, please, slide 24 of RDX-2. Thank you.

Now, Mr. Leinsing, in addition to the airflow passageway claim terms, there are additional claim terms at issue in this investigation, correct?

A. That's correct.

Q. Okay. And one additional claim term at issue is the claim term "proximate," correct?

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A. That's correct.
Q. Okay. And on the right-hand side of the slide, you see the claim construction for that term from Order Number 36; is that correct?
A. That's correct.
Q. Okay. Now, it's your opinion as a person of ordinary skill in the art that the claim term "proximate" is indefinite, correct?
A. That's correct. And for the reasons, the problems we've been having with, once it's proximate, where that can be.
Q. And another term at issue is the claim term "transversely," correct?
A. That's correct.
Q. And on the right-hand side, we see the claim construction from Order Number 36 for that claim term, correct?
A. That's correct.
Q. But it's your understanding as a person of ordinary skill in the art that the claim term "transversely" is indefinite, correct?
A. Yes. When reading the specification, that was my initial belief because of the way the coil was and that it would be difficult to determine that.
Q. And based on your opinions with respect to the

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claim term "transversely," it's also your opinion that the claim term "both transverse sides of the heating element" is also indefinite, correct?

A. That's correct.

Q. Okay. But we see on the right-hand side, that that claim term should be given its plain and ordinary meaning, which is the claim language itself, correct?

A. Yes, "transversely" would be plain and ordinary meaning that is crosswise. That's the claim construction from the Court.

Q. Now, based on your review and your analysis of the patent specification, the patent claims, it's your opinion that the claim term "the portion of the solution" is indefinite, correct?

A. That's correct. That was my initial read looking at the patent and the specification.

Q. And we see on the right-hand side of the slide that "the portion of the solution" should be construed -- I'm sorry.

The claim term "the portion of the solution" should be given its plain and ordinary meaning; that is, the words of the claims; correct?

A. That's correct.

Q. And with respect to the last set of claim terms on this slide on the left-hand side is the "electrically

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configured" claim terms. Do you see that, sir?

A. Yes, I see that.

Q. And, again, based on your review and your analysis of the patent specification, the patent claims, it is your opinion that those claim terms are indefinite, correct?

A. Are also what? I still couldn't hear you.

Q. It's your opinion that those claim terms are indefinite; is that correct?

A. Yes, but I applied the Court's construction in my invalidity analysis.

Q. Okay. So in forming your opinions on the issue of invalidity, you set aside all of your opinions with respect to indefiniteness and applied the claim construction set forth in Order Number 36 issued by the Administrative Law Judge, correct?

A. That's correct. I applied the Court's construction on all the terms and did my analysis overall under NJOY's understanding of the terms within the claims.

Q. Okay. And in forming your opinions on the issue of invalidity, you applied your understanding of NJOY's interpretation of the claim terms, correct?

A. That's correct.

Q. And so if --

A. In some places, I do talk about JLI's

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understanding of the claim terms, but overall that's correct.

Q. I apologize for interrupting. I'm going to try to slow down, so I don't speak over you, sir.

So let's set aside your understanding of JLI's interpretation of the claim terms. I just want to focus on NJOY's interpretation of the claim terms. Do you have that in -- do you have that mind?

A. Yes, I do.

Q. Okay. And so in forming your opinions on the issue of invalidity, you applied your understanding of NJOY's interpretation of claim terms, correct?

A. That's correct.

Q. And so if your understanding of NJOY's interpretation is incorrect, your conclusions on the issue of invalidity would also be incorrect; is that true?

A. If that's -- yes, if that's true, that's correct.

Q. Now, as a person of ordinary skill in the art, you have -- you would have an understanding of end caps, correct?

A. Yes. In a general sense and in the way the specification talks about them.

Q. And in the context of the specification of the patents at issue, what is your understanding of end caps?

A. That there can be an end cap on either end of the

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housing. They can be removable, and they help to make up the housing of the cartridge.

Q. And is it your understanding that end caps can include a soft, flexible tip?

A. Yes, that end cap could be a soft, flexible tip, but that's not necessarily what would be considered a mouthpiece. I just want to make that part clear.

Q. Is it your understanding that end caps could include a wood tip?

A. Yes. That end cap could become a wood tip and then would be part of the housing.

Q. Mr. Leinsing, in forming your opinions on the issue of invalidity, did you rely upon any other claim construction orders?

A. No. I only relied on the claim construction order for this case.

Q. Are you aware of the claim construction order that issued in the Fuma litigation?

A. I understand there is one. I might have reviewed that. I've reviewed a lot of documents, but I did not use that order. I used the order for this case.

Q. May I have RDX-2.72 on the screen, please, slide 72 of RDX-2. Thank you.

So on the screen, Mr. Leinsing, we have photographs of the Red Dragon cartridge, correct?

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A. That's correct.
Q. And I want your attention on the right-hand side of the slide, specifically with respect to the airflow passageway. Do you see that annotation there, sir?
A. Yes.
Q. Okay. And do you recall reviewing the Fuma prototype in this investigation?
A. Yes.
Q. Okay. And do you recall identifying the airflow passageway in the Fuma prototype?
A. Yes, I believe the analysis of the -- when I first looked at it from NJOY's analysis, then I reviewed it, and then reviewed the CT scans, which I did. I believe -- yeah, all the CT scans are from my CT scans, so yes, I did.
Q. Okay. So let's set aside for the moment your CT scans, and I just want you to focus on the physical devices, the physical cartridges.
Do you have that in mind?
A. Okay.
Q. Okay. And do you recall whether the airflow passageway in the Fuma prototype could be described as a woven spacer?
A. Yes, it could be described as a woven spacer. Yes.
Q. And in your CT scans or in the CT scans, how

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would that woven spacer appear in the CT scan?

A. Well, in the Fuma prototype, it is a little bit conical on the proximal end or the end closest to the user. It would be -- it's slightly cylindrical, and then it tapers outward. But NJOY or Dr. Vallee, regardless of that taper and all that construction, considered that airflow central and axial airflow passageway.

Q. And it would taper out at the bottom, where the heating element is located, correct?

A. That's correct, because it was split, and then the heating element in a coil was put into the woven spacer.

Q. Okay. So let's turn back to the Red Dragon cartridge.

Can you describe for me the airflow passageway in the Red Dragon cartridge?

A. Yes. So it's the blue shading that you see here from the inlet, which you need to see in another picture that shows the actual first end and first aperture that's in the center, where the female threads are. I believe it's female threads.

And then from that center first aperture, it goes straight all the way through, as shown here in blue, through the woven spacer and then to the other second end or second aperture, as shown here.

Q. You just mentioned woven spacer. Is the woven

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spacer in the Red Dragon cartridge similar to the woven spacer in the Fuma prototype?

A. Yes, it's similar. In the Red Dragon, it's actually two pieces, and then in the middle there's a wick that then helps complete that structure for the airflow passageway.

Q. Thank you, Mr. Leinsing.

I would like to focus your attention on the annotation "second end" in RDX-2.72. Do you see that, sir?

A. The second -- which end?

Q. Second end.

A. Second end, yes.

Q. Okay. And in addition to the second end, there's a "second aperture" annotation. Do you see that?

A. Yes.

Q. Okay. Do you have an understanding as to whether the airflow passageway extends all the way to the second aperture of the second end?

A. Yes. It would extend all the way through it, at least with NJOY's understanding.

Q. Does the woven spacer in the Red Dragon cartridge extend all the way to the second aperture on the second end?

A. No, the woven spacer stops at the -- it's an end cap. In this case, I believe it's a rubber end cap. And then it stops just at the -- at the edge of that. And in

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some of the samples, a little bit before. And then the end cap helps to continue the structure for that passageway.

Q. You would agree with me that in the Red Dragon cartridge, the solution holding medium is a batting material, correct?

A. That's correct.

Q. And is it your understanding that the batting material extends all the way to the second aperture on the second end?

A. No. The batting material doesn't extend all the way to the second aperture. It stops right where that rubber end cap is. I can point to it, if you'd like. It ends right where the orange or the gold, so you can see it. You can see it in the CT scan here (indicating). And then this is the rubber end cap.

This one is in the package, which you can see here (indicating). So it has a little plug that's put in it to keep it from leaking, the fluid from leaking out, during shipping.

Q. Thank you for pointing that out, Mr. Leinsing.

Now, it's your opinion that one of ordinary skill in the art would be motivated to combine Red Dragon with Fang, correct?

A. That's correct.

Q. Is the solution holding medium in Fang a batting

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material?

A. I'd have to look at the specification again. I believe it might mention batting materials. I don't recall what it says for the -- I think it calls an oil conservator and another name, the oil -- solution oil term.

Q. So you did provide testimony earlier today with respect to the oil conservator in Fang. Do you recall that?

A. Okay. So, yeah, I might be thinking of that one, but there's so many specifications, I would need to look at what it says, but really what I'm relying on in Wang is the orientation of the coil. There's many in the prior art that show a horizontal coil, and we agreed to narrow the, you know, the analysis to specific ones.

And here I'm looking at Red Dragon in view of Wang, which is just simply rotating that coil horizontal.

Q. Turning your attention back to the Red Dragon cartridge on RDX-2.72, is it your opinion that the airflow passageway extends centrally and axially all the way to the second aperture on the second end?

A. Yes. Again, with the Red Dragon, it would extend from the first aperture all the way through to the woven tube and then through the wick that goes -- wraps around. It's a rectangular sheet that goes around just the heating coil area separate from the batting material, then continue with the wicking tube from here (indicating).

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And then in some of the samples, you know, this -- there could be a small little gap here (indicating), but then it -- you can see it continues right on to the end cap to the second aperture. So it goes all the way from one end to the other.

Q. And, Mr. Leinsing, you mentioned tube. Is your use of the word "tube" synonymous with woven spacer?

A. With what spacer? With --

Q. Woven spacer?

A. Oh, woven spacer, yes.

Q. Okay. Is it your opinion that the woven spacer or tube extends centrally and axially all the way to the second aperture on the second end?

A. No, it doesn't. The woven spacer or tube, again, stops right at this -- this end cap (indicating), which has a hole in it. And then the hole in the end cap continues the structure for the airflow passageway.

Q. May I have RDX-2.123 on the screen, please, slide 123 of RDX-2. Thank you.

So on this slide, Mr. Leinsing, you provide opinions with respect to the solution holding medium for Xia '610, correct?

A. That's correct.

Q. And I'd like to focus your attention on the solution holding medium that you have annotated there. Do

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you see that, sir?

A. Yes, that's item 12.

Q. And, in parentheses, you have three components. Do you see that?

A. And item 10, actually. Sorry.

Q. Underneath your annotation "solution holding medium," you have in parentheses three components. Do you see that?

A. Yeah, that's correct. Thanks. I should say that the solution holding medium is made up of 10, 11, and 12.

Q. Thank you. So I'd like to focus on item number 12 that you have identified as one component of the solution holding medium. Do you have that in mind?

A. Yes.

Q. Okay. And is it your understanding that item 12, which is one component of the solution holding medium, occupies the width of the housing?

A. It doesn't occupy the full width of the housing. There's a gap that's all the way around the solution holding medium to allow for the airflow to go around it.

Q. Okay. Would you agree that the item number 12, which is one component of the solution holding medium, occupies substantially the entire width of the housing?

A. Yeah, I would say it's substantially, but it's not fully the width because, obviously, you need to have air

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go around. The solution holding medium is an obstacle. And the point of this analysis was that obstacles are allowed under NJOY's construction and, therefore, this would be that similar type of obstacle.

Q. Thank you. And, Mr. Leinsing, you mentioned like a gap. Is that with reference to a gap at the top and at the bottom of item number 12 to allow for airflow?

A. That's correct. It would be between the orange here (indicating), the gold. You could see it right here (indicating) between there. So keep in mind this is a cross-sectional view.

Q. Yes.

A. So the gap would look like a tube. It would be all the way around.

Q. Would you agree or disagree that item number 12, which is one component of the solution holding medium, prevents the airflow path from being located centrally with respect to the housing?

A. Can you repeat that again, please?

Q. Sure. Would you agree or disagree that item number 12, which is one component of the solution holding medium, prevents the airflow path from being centered with respect to the housing?

A. No, it wouldn't prevent it from being centered because you're -- the airflow path would be the shape of a

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pipe, and then that pipe would be centered. And it would also be axial, but it has a big obstruction, which is allowed under NJOY's understanding of the claim terms.

Q. You would agree with me that the airflow path is at the top of item number 12 and at the bottom of item number 12, correct?

A. I wouldn't agree with that characterization. I would say that it's all the way around circumferentially around item 12.

Q. You would agree with me that that airflow path does not extend through item number 12, correct?

A. It does not go through it. It goes around it circumferentially in the shape of a tube.

Q. And so is it your testimony that an airflow path that goes around or circumferentially is still an airflow path that is centered with respect to the housing?

A. It's still centered, and it's actually axially and -- and centered. It just has an obstacle in it. And, again, where obstacles appear to be allowed under NJOY's construction, particularly in view of the Vuse Solo device, where there's a big giant PC board in the middle of the airflow passageway.

Q. Could I please have Figure 4 of the '864 patent on the screen, please. Thank you.

Now, in addition to Figure 2 and Figure 3, you

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also reviewed Figure 4 of the patents at issue, correct?

A. That's correct.

Q. And it's your understanding that Figure 4 shows three separate portions, correct?

A. That's correct. That's the way the specification describes those.

Q. And item number 402 is a cartridge, correct?

A. It calls it a cartridge portion, 402, I believe.

Q. And would you agree that item number 404 is a second cartridge?

A. That's correct. 404 would be the second cartridge portion.

Q. And as depicted here in Figure 4, would you agree that the heating element is depicted as extending transversely to the central longitudinal axis?

A. I don't know that there would be enough information from that figure to come to all of those conclusions because it's kind of a label. I don't think the specification is clear as to orientation.

Q. You would agree with me that that label is oriented perpendicular to the central longitudinal axis of the housing, correct?

A. Yes, that's the way the label is going. I think I would be giving it disservice if I then came to that much of a conclusion of the orientation on the heating element

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based on the label.

Q. So is it your opinion as a person of ordinary skill in the art that the orientation of the heating element label provides you no additional information with respect to the orientation of the actual heating element?

A. Yeah, I don't think that particular label would give information of orientation for the same reason, like, the battery and the left-hand part is off to the side. I wouldn't think it would have an off-center battery or that the process controller would be necessarily off to the side.

I don't -- I think it would be improper to read this drawing for orientation. I think it just would indicate what elements are within those portions, and that's all.

Q. How about the liquid solution that's labeled there in item 404, would you hold the same opinions with respect to the orientation of the liquid solution?

A. That's correct. That that portion would contain the liquid solution, but it wouldn't indicate any kind of orientation.

Q. Okay.

A. Unless the specification said otherwise.

Q. Okay. Could I please also have on the screen Figure 1 of the patents at issue. And if we could keep Figure 4 on the screen, please.

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Now, Mr. Leinsing, you're of course familiar with Figure 1 of the patents at issue, correct?

A. I'm sorry, I can barely hear you with the air conditioner behind me.

Q. I apologize. You're familiar with Figure 1 of the patents at issue, correct?

A. Yes.

Q. Okay. And I'd like for you to focus your attention on the cartridge on the right-hand side of Figure 1. Do you see that, sir?

A. Yes, I see that.

Q. And do you see an annotation "liquid solution"?

A. Yes, I see that.

Q. Do you see another annotation, "heating element"?

A. Yes.

Q. And as a person of ordinary skill in the art, is it your understanding that Figure 1 does not disclose the orientation of either the liquid solution or the heating element?

A. That's correct. Figure 1 would not indicate orientation or location of either the liquid solution or heating element.

Q. Let's turn back to Figure 4 of the patents at issue.

A. Or at least location within that section. I

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mean, it's in the cartridge, but where it is would not be indicated by just where the label is placed.

Q. Okay. Let's focus back on Figure 4 of the patents at issue. Do you have that in mind, sir?

A. Yes.

Q. Okay. Agree or disagree: The first cartridge 402 and the second cartridge 404 may have airflow passageways extending axially therethrough?

A. I would need to read the specification to see what it says about those cartridge portions.

Q. Okay. Let's --

A. I believe that -- yeah, I don't recall whether it says it goes -- it's not depicting that in the figure.

Q. Let's take a look at the specification. Can we keep Figure 4 on the screen, take down Figure 1, and in place put up column 8, lines 56 through 60, please. Thank you.

So, Mr. Leinsing, here the specification discloses, "the first cartridge 402 and the second cartridge 404 may have airflow passageways (not shown) extending axially therethrough, such that the switch/sensor 112 can determine when the user is drawing air through the airflow passageways."

Did I read that correctly?

A. That's correct. I thought it did say something

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about an airflow passageway through those.

Q. And what does this disclosure in the specification teach you as a person of ordinary skill in the art?

A. It would say that there's at least an airflow passageway that extends axially but not necessarily centrally.

Q. Thank you very much for your time today, Mr. Leinsing.

A. You're welcome.

MR. BUI: Thank you, Your Honor.

JUDGE JOHNSON HINES: Thank you.

MR. DOKHANCHY: Brief redirect, Your Honor.

JUDGE JOHNSON HINES: Thank you.

REDIRECT EXAMINATION

BY MR. DOKHANCHY:

Q. It seems we have a directional problem. Well, I'll put this up this way.

You were asked about --

A. Can you focus it?

Q. You were asked about whether the sucker in Fang is separable, Mr. Leinsing? Do you recall that?

A. I don't recall if he asked if it was separable. Just, I think he was indicating it was like a separate component.

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Q. Even if the sucker is separable, as NJOY claims, do the benefits that you listed regarding the replaceability of the heater that degrades, replacing the cartridge without discarding the more important components, all those benefits, setting aside the e-liquid, which in their theory would already be replaced, are those reasons to still split it at the same point that you testified?

A. Yes. Those would still all be motivations or very strong motivations to move that separation point.

Q. And is this still, then, a cartridge as we saw in the specification yesterday, even if it's a separable piece by the user?

A. Yes, it would be.

Q. Thank you.

MR. DOKHANCHY: No further questions.

JUDGE JOHNSON HINES: All right. Anything else?

MR. DESAI: No, Your Honor.

JUDGE JOHNSON HINES: Thank you, Mr. Leinsing. You're excused.

THE WITNESS: You're welcome.

JUDGE JOHNSON HINES: Thank you.

(The witness stood down.)

MR. KARAMBELAS: Your Honor, Respondent JLI calls next Mr. Vincent Thomas.

JUDGE JOHNSON HINES: Thank you.

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Why don't we wait until everything gets settled.

THE WITNESS: Sure.

JUDGE JOHNSON HINES: All right. Good morning.

THE WITNESS: Good morning.

JUDGE JOHNSON HINES: Would you raise your right hand, please.

Whereupon--

VINCENT A. THOMAS,

having been first duly sworn/affirmed, was examined and testified as follows:

THE WITNESS: I do.

JUDGE JOHNSON HINES: Thank you very much. Please be seated. And welcome.

DIRECT EXAMINATION

BY MR. KARAMBELAS:

Q. Good morning, Mr. Thomas.

A. Good morning.

Q. Would you please introduce yourself to the Court.

A. Sure. My full name is Vincent Alexander Thomas.

Q. Did you prepare a set of demonstratives to assist with your testimony today?

A. I did.

Q. Jim, could we pull up RDX-0007C.

Mr. Thomas, are these the set of demonstratives

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you prepared?

A. They are.

Q. I'd like to go to slide 2, which provides a roadmap, and first ask if you could briefly walk us through your educational background.

A. Sure. I received a Bachelor of Arts in economics from DePauw University, and I also received a Master's in business administration from Indiana University with a concentration in finance.

Q. Do you have any professional credentials?

A. Yes. I'm a certified public accountant, I'm a certified valuation analyst, certified in financial forensics, certified patent valuation analyst, and I'm a certified licensing professional as well.

Q. Are you currently employed?

A. I am. I'm a senior managing director with FTI Consulting. I lead our firm's dispute advisory service practice, I lead our intellectual property practice, and I serve on the executive leadership team for the forensic and litigation consulting segment for FTI.

Q. How long have you worked with FTI?

A. I've been at FTI for more than 20 years.

Q. Have you provided testimony in ITC investigations?

A. I have. I've provided testimony in more than 20

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investigations, primarily on issues involving domestic industry and bond, remedy, and public interest.

MR. KARAMBELAS: Your Honor, at this time, JLI would offer Mr. Thomas as an expert in the field of economics relating to the economic prong and bond issues in this investigation.

JUDGE JOHNSON HINES: Any objection, Mr. Pepe?

MR. PEPE: No objection.

JUDGE JOHNSON HINES: Mr. Bui?

MR. BUI: No objection.

JUDGE JOHNSON HINES: So tendered. Thank you.

BY MR. KARAMBELAS:

Q. Mr. Thomas, have you been asked to provide opinions in this investigation?

A. I have.

Q. And can you describe the opinions that you've provided in this investigation?

A. Yes. I've been asked to provide opinions on domestic industry, and, in particular, responding to the analysis set forth by Dr. Vander Veen on that issue. I've also been asked to provide opinions on bond and the assessment that Dr. Vander Veen put forth as well.

Q. And can you describe your ultimate opinions?

A. Yes. So if you will recall, Your Honor, for the '864 patent, Dr. Vander Veen relied on investments from NJOY

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for domestic industry for the NJOY ACE and ACE 2.0. In my opinion, the expenditures that he relied upon, I think there are significant flaws and unreliability in whether those should be included or not. But, in any event, his analysis of the significance of those expenditures, I think, is somewhat flawed as well.

Also, if you will recall, he used RJR-based domestic industry investments from other investigations, the 1199 and the 1381 investigations. In my opinion, those particular analyses or his particular analysis in that regard is insufficient and flawed and unreliable and I don't think it shows that there's a domestic industry for the products he has identified.

The other thing I would point out is that he only is relying on RJR-based investments for the '881 patent. So because the RJR investments are not appropriate there wouldn't -- certainly wouldn't be a domestic industry for the '881 patent on that alone.

And then, lastly, with regard to his bond analysis, I think that the information that he provided was not the entire picture and I don't think is representative of what a bond would be in this investigation.

Q. Thank you, Mr. Thomas. I'd like to ask you first about NJOY domestic industry, and at a high level, can you describe the fundamental flaws in your opinion? And we'll

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keep this on the public record for the moment.

A. Sure. Before we get into the specifics, generally speaking, I believe that Dr. Vander Veen failed to validate or test the expenditures that he includes in the analysis. And also, it's my opinion that in several instances he has cherry-picked certain items that I don't think are representative of what, for example, significance would be and other information that should be included in the analysis.

MR. KARAMBELAS: Your Honor, at this time, we will need to go onto the NJOY confidential record.

JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

JUDGE JOHNSON HINES: Thank you. Be seated, please.

Mr. Karambales, yes.

MR. KARAMBELAS: Thank you, Your Honor. Respondent, JLI calls Dr. Amy Madl.

JUDGE JOHNSON HINES: Thank you.

Good morning. Before you sit, would you raise your right hand, please.

THE WITNESS: Yes.

Whereupon--

AMY MADL,

having been first duly sworn/affirmed, was examined and testified as follows:

THE WITNESS: I do.

JUDGE JOHNSON HINES: Thank you very much. Please be seated and welcome.

THE WITNESS: Thank you.

DIRECT EXAMINATION

BY MR. KARAMBELAS:

Q. Good morning, Dr. Madl.

A. Good morning.

Q. Could you please introduce yourself to the Court.

A. Yes. My name is Amy Madl. I'm a board certified

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toxicologist, and my area of specialty is inhalation toxicology. I am the president as well as senior principal health scientist with Valeo Sciences.

Q. Did you prepare a set of demonstratives to assist in your testimony today?

A. I did.

Q. I would like to show RDX-0008C. Is this the set of slides that you prepared?

A. Yes.

Q. Could you walk us through a summary of your educational background.

A. Yes, I can. I have that illustrated on this slide. So I have a Bachelor's degree in biochemistry, as well as a Master's and Ph.D. in pharmacology and toxicology. I have received all of those degrees from the University of California at Davis.

Q. Could you tell us a little bit about your experience as a toxicologist.

A. Yes. So as I mentioned, my area of specialty is inhalation toxicology. And over the course of my career, 25-year career, I have studied a lot of different chemicals, particles, fibers in different settings, whether it's consumer products, cosmetics, occupational industrial settings, environmental settings and then I have also studied nicotine -- reduced harm nicotine products.

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Q. Are you familiar with electronic nicotine delivery systems or ENDS?

A. I am.

Q. Have you conducted any research with respect to ENDS?

A. I have, yes, in two different capacities. So as a researcher, I'm a coinvestigator for several grants at the University of California at Davis. And in that research, we have studied the chemistry of e-cigarette aerosols, as well as understanding the toxicology and health effects of those aerosols.

And then secondarily as my role as a consultant, I have led as a principal investigator, designed and executed research programs to understand the chemistry, toxicology, human health risk, as well as clinical and behavioral aspects of e-cigarettes as it informs on individual as well as public health impacts.

Q. In total, about how many years have you spent working in the areas of inhalation toxicology and studying the health effects of airborne chemicals?

A. 25 years.

MR. KARAMBELAS: Your Honor, at this time Respondent offers Dr. Madl as an expert in the field of the public interest issues in this case relating to tobacco harm reduction and public health?

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JUDGE JOHNSON HINES: Any objection, counsel?
MR. ROSENTHAL: No objection, Your Honor.
JUDGE JOHNSON HINES: Mr. Bui?
MR. BUI: No objection, Your Honor.
JUDGE JOHNSON HINES: Thank you. So tendered.
BY MR. KARAMBELAS:
Q. Dr. Madl, at a high level, could you explain the opinions in this investigation that you're offering?
A. Yes. So I was asked to provide expert opinions as to what would be the public health impacts if JUUL products were not on the market. So at a very high level, my opinion is that if JUUL was taken off the market, that there would be an adverse and detrimental health impact to the population.
And I have got my opinions, the basis of those opinions summarized in four different components here on this slide. And I can walk through that, if you would like.
Q. That's okay. I will start with your first opinion regarding JUUL offering reduced harmful products.
Could you please explain your opinion regarding reduced risk with respect to JUUL?
A. Yes. So my first opinion is that JUUL delivers far fewer harmful constituents, and, as a result, has a reduced health risk compared to combustible cigarettes, as well as other ENDS products.

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Q. Do you have an understanding of the risks associated with cigarettes?

A. I do.

Q. Could you explain that?

A. Yes. So combustible cigarettes is the most preventable cause of disease and death in the United States. And, in fact, smokers that smoke combustible cigarettes on average, 480,000 individuals die of combustible cigarette smoke every year.

And FDA has acknowledged that it's not the nicotine that's so hazardous, it's all the different chemicals that are in combustible cigarette smoke. And I have a quote here from the FDA that acknowledges that, that the nicotine is not what makes tobacco so deadly. It's tobacco and tobacco smoke and the thousands of chemicals that are hazardous.

So this is the mix of chemicals, not nicotine, is what causes serious disease and death in tobacco users. And, in fact, with reduced harm nicotine products, this is an opportunity to have the greatest impact positive and beneficial impact on public health and move smokers away from combustible cigarettes.

Q. Thank you.

MR. KARAMBELAS: Your Honor, at this time we will need to move on to the JLI confidential record.

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JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

CROSS-EXAMINATION

BY MR. ROSENTHAL:

Q. It is still barely good morning, Dr. Madl.

A. Good morning.

Q. I was looking at the clock. If JUUL were removed from the market, your opinion is that current JUUL users are most likely to go to those products most similar to JUUL, correct?

A. My opinion is that if JUUL is removed from the market, that they may go to other products such as combustible cigarettes or illegal products or products that are less effective in switching smokers away from combustible cigarettes.

Q. And I understand that, but your view is that a JUUL user would be most likely to go to those products most similar to JUUL, correct?

A. Well, there are a lot of different options available, but in terms of JUUL -- what's available to JUUL users are other products that may or may not be satisfying to them. And so in terms of products that would be available, there's evidence that show if individuals don't have their preferred product, they may go back to smoking or may go to other ENDS products.

Q. You were deposed in this case, correct?

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A. Yes.
Q. Can you turn to tab 1 in your binder, which is your deposition. And turn to page 153.
Let me know when you get there.
A. Okay.
Q. And focus on your start at line 18. And you were asked.
"Question: Right now on, I'm talking about the people already using JUUL. These are people who use JUUL. You told me there are 2 million people who use JUUL and don't use cigarettes, and I'm curious where they would go, and isn't the most likely place they would go to the products that are most similar to JUUL?
"Answer: That's true."
And that was your testimony, correct?
A. Yes.
Q. And the products most similar to JUUL today are other pod products, correct?
A. Yes, that's correct.
Q. And the two other pod products on the market are NJOY ACE and Vuse Alto, correct?
A. Yes.
Q. And both of those products have markedly fewer harmful constituents compared to cigarette smoke, correct?
A. They do, but JUUL is better in terms of risk

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reduction.

Q. Okay. We will get there. And that means both those products are markedly less hazardous than cigarette smoking, correct?

A. Yes, they are. Again, but JUUL is in a better position in terms of risk reduction.

Q. Okay. And FDA, when FDA authorized the NJOY ACE device, it concluded that the health risk of NJOY ACE was likely to be similar to that of other e-cigarettes in the market, correct?

A. Yes, I think that's correct.

Q. Okay. And you talked a little bit about NJOY switching. FDA also concluded in that same authorization order that NJOY ACE was capable of switching smokers, correct?

A. They did acknowledge that, but they also acknowledged several and significant limitations to NJOY's switching study.

Q. And Vuse Alto, your view is that Vuse Alto has a dominant position in the e-cigarette market, correct?

A. Between JUUL and Vuse Alto, they have a dominant position in the marketplace, yes.

Q. In fact, your view is that Vuse Alto has a dominant position standing alone, right?

A. Yes. Both of them, both JUUL and Vuse Alto have

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a dominant position in the marketplace.

Q. Okay. And you talked very briefly about the other kinds of non-combustible products out there on the market. There are other products besides pods that deliver nicotine to the user without lighting the tobacco on fire, correct?

A. What kind of products are you referring to?

Q. I mean, there is smokeless products, there is NRTs --

A. Sure.

Q. -- modern oral patches, those are all products that deliver nicotine without lighting tobacco on fire, correct?

A. Yes, that's correct, but they are not very effective in switching smokers.

Q. Okay. But they are all, because they do not rely on combustion, less hazardous than cigarettes, correct?

A. Yes, they are all considered reduced harm nicotine products.

Q. Okay. So I want to focus now on a comparison between JUUL and NJOY ACE and Vuse Alto. Okay?

A. Sure.

Q. And you believe that one of the primary factors in whether a product -- an e-cigarette is going to be successful in switching smokers is its nicotine delivery,

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correct?

A. That's one of the factors. So nicotine delivery, obviously, is important in determining whether a product is satisfying in relieving the urge to smoke. So that is one of a few factors.

Q. Right. And the other primary factor you identified in your deposition was what you referred to as subjective effects, correct?

A. Yes, that's correct.

Q. Okay. So let's start with nicotine delivery. And if an e-cigarette doesn't provide enough nicotine, it is going to struggle to switch smokers, correct?

A. Yes, that's right.

Q. And there's a point at which you deliver so much nicotine that it becomes adversive, correct?

A. Yes. So basically for a product to be ideal in switching smokers and also not being in a position of abuse liability, it needs to deliver enough nicotine but you don't want it to be so much that it would be more than cigarettes.

Q. Exactly. In other words, there's a sweet spot where the e-cigarette gets the nicotine right?

A. Sure, yes.

Q. And JUUL -- JUUL's primary offering is in the 5 percent nicotine strength, correct?

A. That is in the e-liquid.

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Q. Yes. Their e-liquid has 5 percent nicotine strength, correct?

A. Yes, that's correct.

Q. And JUUL as we have heard throughout these proceedings also uses something called nicotine salts?

A. Yes.

Q. And you think both the 5 percent nicotine strength and the nicotine salts are good features of JUUL?

A. Yes. But it also delivers nicotine in the aerosol to the extent that it is satisfying to the users and delivers sufficient nicotine to have a good profile in comparison to combustible cigarettes.

Q. Okay. And just like JUUL, both NJOY ACE and Vuse Alto come in 5 percent nicotine strength, correct?

A. Yes, but the aerosol delivery of nicotine may be a bit different. So that's -- you really have to look at the aerosol delivery of nicotine.

Q. We will get there in a second.

A. Yeah.

Q. And both NJOY ACE and Vuse Alto use nicotine salts, correct?

A. Yes, that's correct.

Q. And you talked a little bit about, I love this word, pharmacokinetics, right?

A. Yes.

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Q. You can shorten it PK. That's a little easier to say.

A. Yes.

Q. If you want to determine whether a product effectively delivers nicotine, you need first to look at the PK evidence of the product, correct?

A. That's one aspect that you look at, yes.

Q. In fact, you said in your deposition that's the first thing you looked at, right?

A. It's -- well, I said that nicotine is a driver for -- one of the primary drivers for switching. And so that's one thing that you would look at is nicotine delivery in profile in a pharmacokinetic study.

Q. So when you wrote your report and you formed your opinions, you had not seen any pharmacokinetic evidence for NJOY ACE, correct?

A. No, I have not. And that wouldn't influence my opinions in this case.

Q. Okay. And your assumption is that NJOY would have submitted pharmacokinetic evidence to FDA as part of its PMTA, correct?

A. Yes.

Q. And you did not ask for NJOY ACE's PMTA?

A. No. And, again, it wouldn't influence my opinions in this case. My focus was to understand JUUL and

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what would happen on the public health impact if JUUL was taken off the market.

Q. Okay. But you have seen studies that directly compare the pharmacokinetics of JUUL to Vuse Alto, correct?

A. Yes, in the published literature.

Q. Right. And so can you turn to tab 14 in your binder.

And this is JX-0072. And this is a JUUL study that directly compares the nicotine delivery of Vuse Alto to JUUL, correct?

A. Yes.

Q. And what this study found is that Vuse Alto delivered a little more nicotine than JUUL, but without it being adversive to the user, correct?

A. Yes.

Q. And so, in other words, this is evidence that Vuse Alto is in the sweet spot of nicotine delivery, correct?

A. Yes, but if you translate that to switching rates, what's interesting is that Vuse Alto doesn't have as good a switching rate as JUUL.

Q. So the other primary factor you mentioned was subjective effects and you talked about this a little bit on direct. This is when you ask questions of users of whether they find the product satisfying, provide relief, whether

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they intend to purchase it again, things like that?

A. Yes.

MR. ROSENTHAL: And now, Your Honor, I need to go on the JLI confidential record.

JUDGE JOHNSON HINES: All right.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

MR. BUI: Thank you, Your Honor.

EXAMINATION BY COUNSEL FOR ITC STAFF

BY MR. BUI:

Q. Dr. Madl, good afternoon to you.

A. Good afternoon.

Q. Thank you for traveling to provide testimony at the evidentiary hearing. It's good to see you again.

You have a Ph.D. in toxicology and pharmacology, correct?

A. Yes, that's correct.

Q. And you also have extensive experience with ENDS products, correct?

A. Yes.

Q. And could you describe for us what your experience with ENDS product is as a principal investigator or a coinvestigator of studies?

A. Sure. Absolutely. So I mentioned on direct my role as a coinvestigator. So that's at the University of California, Davis, where we're funded by the tobacco-related disease research program to evaluate the chemistry of e-cigarette aerosols, the toxicology, and human health risk assessments.

And then secondarily, as a principal investigator for my work as a consultant is to evaluate the chemistry,

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toxicology, as well as individual and public health impacts as a product may be appropriate for the protection of public health. So there's a lot of research that goes into that -- those kinds of evaluations.

And I have designed, overseen, analyzed all that research to go into that evaluation.

Q. Thank you, Doctor. And as part of your experience as either a principal investigator or a coinvestigator on research relating to ENDS products, you're familiar with the PMTA process, correct?

A. Yes, I am.

Q. Okay. And you're familiar with the FDA framework as well?

A. Yes.

Q. Okay. And could you briefly describe what is your understanding of the PMTA process as it relates to ENDS products, please?

A. Yes. So there are multiple components of a premarket tobacco application. And each of those components need to inform on whether a product is appropriate for the protection of public health.

So that includes, you know, the manufacturing of a product, the non-clinical aspects, so that means the chemistry, toxicology, human health risks, as well as the individual and public health impacts as it relates to, you

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know, pharmacokinetic studies and behavioral studies to inform on how individuals will use and relate to that product but also ultimately how that impacts the health of the population.

And so with FDA, there's a balance between the risks and the benefits of ENDS products and ensuring that that's appropriate for the protection of public health.

Q. Dr. Madl, you're familiar with MGOs and MDOs?

A. Yes.

Q. And what's your understanding of MGOs and MDOs?

A. MGO is a marketed granted order, and MDO is a marketed denial order.

Q. And based on your experience with PMTA submissions, are you aware of the average length of the PMTA process?

A. Well, in general, it can range in time, but based on the evidence that we have from FDA in terms of submission time and then when they deliver a decision or marketing granted order. For example, it's between 12 and 36 months.

Q. Now, Dr. Madl, in determining whether a new tobacco product is appropriate for the protection of the public health, there are certain risks and benefits that are weighed, correct?

A. Yes.

Q. Okay. And those risks and benefits would apply

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to the population as a whole, correct?

A. Yes.

Q. Okay. And the population as a whole would include both users and non-users, correct?

A. Yes.

Q. Do you recall providing some testimony with respect to the ADJUSST study?

A. Yes.

Q. Okay. Actually, before we go on the confidential record, you would agree that comparable ENDS products include the NJOY ACE products, correct?

A. NJOY ACE is a comparable to JUUL, is that what you are asking?

Q. Yeah.

A. Yes, NJOY ACE is a pod-based ENDS product similar to JUUL.

Q. And another comparable ENDS product would include the Vuse Alto products, correct?

A. Yes.

Q. Okay. Are you familiar with Blu products, B-L-U?

A. Yes.

Q. What are Blu products?

A. Blu is also a pod-based device.

Q. And do you have an opinion as to whether Blu products --

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A. Actually I think my Blu is -- is a Pod-based device.

Q. Okay.

A. Yeah.

Q. So for the Pod-based Blu products, do you have an opinion as to whether those pod-based Blu products are comparable ENDS products?

A. Well, it depends on what you mean by comparable. So as I discussed in my direct examination, that, you know, there's different pod-based devices, but they have differences in how they deliver nicotine, their risk reduction profile, as well as their switching profile.

Your Honor, I need to go on the confidential record. And this is JUUL's.

JUDGE JOHNSON HINES: All right. We will be on the JUUL confidential record.

(Whereupon, the hearing proceeded in confidential session.)

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O P E N S E S S I O N

A F T E R N O O N S E S S I O N

(1:30 p.m.)

JUDGE JOHNSON HINES: Be seated. Thank you. Good afternoon.

MR. DESAI: Starting with exhibits.

JUDGE JOHNSON HINES: Sounds good.

MR. DESAI: An e-mail is being either sent or in the process of being sent to the court reporter which will have the list that has been agreed to from the parties. So I think we're all good there.

JUDGE JOHNSON HINES: Okay. So where does that bring us with respect to, like, what witness are we through with respect to the exhibits that are on that list?

MR. DESAI: I believe everybody up until Dr. Vallee right now.

JUDGE JOHNSON HINES: Oh, great. Okay. Fantastic.

MR. DESAI: I'm getting a lot of nods, so yes.

JUDGE JOHNSON HINES: Thank you.

MR. DESAI: Yeah. I think when Dr. Vallee is done, it will be a few minutes of housekeeping to get that sorted out, and we should be done at the end of the day.

JUDGE JOHNSON HINES: Sure, sure.

(Exhibits, as submitted by counsel and reflected

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in the attached index, were received into evidence.)

MR. DESAI: Okay. Mr. Bonet.

JUDGE JOHNSON HINES: Yes.

MR. DESAI: Okay. So if I may approach, Your Honor, and hand you --

JUDGE JOHNSON HINES: Yes. Thank you.

MR. DESAI: So the e-mail correspondence I just handed you, if you flip to the second page, Your Honor, there's -- I've annotated what's -- those are agreed-to designations on the second page, what I've outlined right there. So that's -- we're all good there.

On the first page what I've highlighted in yellow is what -- the first and second page, there's highlighting in yellow. That remains at issue. That's testimony that JLI seeks to designate and that we object to.

And I'm happy to start with the reasons for the objections, if you're ready, Your Honor.

JUDGE JOHNSON HINES: I don't think I need that. What I would like to understand is whether there's a proposal for how to -- how I should resolve this, short of looking at all this testimony and ruling on these objections now. So something other than that.

MR. DESAI: Well, then I think probably the best proposal, Your Honor, would be for us to file either letters or motions or short briefs addressing them. I can't think

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of another way to do it.

What would be the timing of those filings? The reason I'm asking is --

MR. DESAI: Yeah.

JUDGE JOHNSON HINES: -- right, because you're going to be doing your post-hearing briefs. A party is going to want to rely on this or not and know the answer to that. I don't want to change the schedule for the post-hearing briefs, if at all possible.

That said, there -- notwithstanding what I assume were good efforts by the parties, there seems to be still a fair amount of disagreement about what is appropriate.

MR. DESAI: I would propose we could file by Friday. The parties could each just submit simultaneous -- I don't think we need back-and-forth briefing. Everyone knows what the issues are. So I would propose that we file simultaneous submissions on Friday.

JUDGE JOHNSON HINES: All right. Mr. Renaud, I see you standing.

MR. RENAUD: Yes, Your Honor. Thank you. First, we have made some significant progress. We've got it down, I guess, to 100 pages, which may sound like a lot, but it's much less than where we were. So we've made progress.

I agree, the simultaneous exchange of short briefs would work for us, and Friday would also work, so

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long as Your Honor and Staff would agree.

JUDGE JOHNSON HINES: All right. Mr. Bui, what do you think? And there's this proposal for simultaneous submissions, and I'm not sure if that includes the Staff or should. And I would like your views on that.

MR. BUI: If that's the preferred course of action of the private parties and it's acceptable to Your Honor, I could follow that proposal. I would just note that the parties have narrowed it down. It does seem like it's a lot of pages, but if you break it out by certain categories, it's easier to see where the battle lines are.

I think the ruling on the MILs, Order 51, I think, provides some guidance for the parties. As Your Honor may recall, we put forth a position that Mr. Bonet should be able to provide testimony based on his personal and professional experience. With respect to the testimony, the deposition designation testimony that's at issue, I think Your Honor provided some guidance in that ruling with respect to certain testimony that may fall into expert testimony area. And I think if the parties take a look at your ruling in conjunction with the excerpts that were provided in the MIL itself, perhaps that would help to further narrow down designations that would need resolution, based on a further ruling by Your Honor.

I apologize, I have not had a chance to go

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through all of the outstanding deposition designations. I've gone through a handful. And for those handful, they do appear to the Staff to fall under the umbrella of opinion testimony, expert opinion testimony. And so -- again, I'm happy to follow whatever proposal that the private parties might be in agreement that would be acceptable to Your Honor.

JUDGE JOHNSON HINES: Okay. Thank you.

I have a question, Mr. Desai. The second page of the e-mail correspondence you gave me, Item Number 4 says NJOY objects to certain testimony as discussing an attachment to an exhibit. Can you tell me what that is?

MR. DESAI: So in categories 2 and 3, you see that there's some exhibits listed there that were part of that testimony. That was opinion testimony that included markings and things of that nature.

And so this other testimony that's objected to relates to -- falls under those categories, as I understand it, but it's just sort of broken out into a fourth category.

JUDGE JOHNSON HINES: So do I understand right, the items 2, 3, and 4 and the testimony that's identified there, is it overlapping between 2, 3, and 4, or is it put in separate buckets?

MR. DESAI: No, so I think -- I do think 3 includes -- 3 has a foundation issue, plus it would fall

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under the bucket of opinion testimony as well, in many instances.

JUDGE JOHNSON HINES: Okay. So they're not separate buckets; they are overlapping. All right.

MR. DESAI: Yeah.

JUDGE JOHNSON HINES: So why don't we do this: Since the private parties agreed that providing a submission or a filing on Friday would not create them a hardship, why don't we set that date, and I'll limit you to ten pages. I'd like the Staff to respond to those submissions by either the 20th or the 21st. If you want to pick the later date, that's fine with me. So why don't we say the 21st with a limit of 15 pages.

Does that work for everyone?

MR. RENAUD: Thank you, Your Honor.

JUDGE JOHNSON HINES: Do you want to discuss --

MR. RENAUD: That works for us.

JUDGE JOHNSON HINES: Okay.

MR. DESAI: Thank you, Your Honor.

JUDGE JOHNSON HINES: All right.

MR. DESAI: I believe we're ready to move on to our last witness.

JUDGE JOHNSON HINES: All right. I thought there was one more thing but maybe --

MR. DESAI: Oh, there was Dr. Vallee's --

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JUDGE JOHNSON HINES: Demonstratives.
MR. DESAI: There's no issues anymore.
JUDGE JOHNSON HINES: All right.
MR. DESAI: Resolved.
JUDGE JOHNSON HINES: Okay. I thought there was a third, and it was resolved. Thank you.
Yes.
MR. RIZK: Good afternoon, Your Honor.
JUDGE JOHNSON HINES: Good afternoon.
MR. RIZK: A quick clarification, if I may. If I understand correctly, it's 10 pages for the parties, 15 pages for Staff?
JUDGE JOHNSON HINES: Yes.
MR. RIZK: Okay. Thank you.
MR. ANSLEY: Good afternoon, Your Honor. Sutton Ansley for NJOY. We would like to call our next witness, our witness in our rebuttal case, Dr. Glenn Vallee.
Whereupon--

GLENN VALLEE,

having been previously duly sworn/affirmed, was examined and testified as follows:

JUDGE JOHNSON HINES: Good afternoon. You remain under oath that I administered previously.
THE WITNESS: Understood. Thank you.
JUDGE JOHNSON HINES: Have a seat, and welcome.

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DIRECT EXAMINATION

BY MR. ANSLEY:

Q. Good afternoon, Dr. Vallee. Welcome back.

A. Good afternoon.

Q. Can you please explain what you will be testifying about today?

A. Yes. Today I'll be testifying regarding validity of the asserted patents in this case.

Q. And, Dr. Vallee, were you present in the courtroom when Mr. Leinsing testified as to invalidity?

A. Yes, I was.

Q. And do you agree with the conclusions reached by Mr. Leinsing?

A. No, I do not.

Q. And did you prepare slides to assist with your testimony today?

A. I did.

Q. Okay. So let's take a look at those. We're on slide 2. This is CDX-4.

And what materials did you consider in forming your opinions with respect to validity?

A. Well, all the materials that I cited in my testimony last week, and these additional materials, including the asserted references, additional sworn testimony and admissions. There were physical devices and

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associated literature, and photographs and CT scans indicated on this slide.

Q. Now let's discuss your opinions on validity. We're on slide 4.

And what do you understand to be Mr. Leinsing's invalidity theories in this investigation?

A. His 102 arguments are listed here, as are his obviousness arguments on the right.

Q. And in your opinion, do any of these alleged pieces of prior art anticipate or render obvious any of the asserted claims?

A. No, they do not.

Q. Turning to slide 5, and before we dive into Mr. Leinsing's anticipation and obviousness opinions, I want to ask you about some e-cigarettes that were discussed yesterday.

A. Okay.

Q. Specifically, the KR808D-1 and the e-cigarette known as Vapor King. Now, one of the materials cited to is an Internet forum post from 2009.

Does this piece of evidence prove that the two devices, the KR 808D-1 and the Vapor King, are the same?

A. No, in my opinion, it doesn't. This is something -- an anonymous forum post. We don't know who posted it, and we're not sure what the background or accuracy of this

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person's opinion is.

Q. And I want to talk about another piece of evidence cited yesterday. Have you seen any evidence that the KR808D-1 possessed by Mr. Conley had a horizontal coil?

A. No, I have not.

Q. Now -- oh, sorry, I want to go back one slide. And what are you citing here at the bottom of slide 5?

A. Yeah. This is a Fuma and Trans-Power purchase order. All it indicates is that he was ordering batteries.

Q. What kind of batteries?

A. They are batteries with logos. They're the KR808D-1, 118-millimeter and 100-millimeter white batteries with logos.

Q. And are you citing CX-2161?

A. That's correct.

Q. All right. Now let's go to slide 6. And there was also in Mr. Leinsing's slides a picture of -- an image labeled VaporKing.jpg. What is the actual date of this photo?

A. The date of the photo is actually from the file was taken from 7 -- July 13th of 2011.

Q. And what's your support for that?

A. Again, this information was taken from the -- I believe it was the Altria file history documents that indicated what the dates of each document were.

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Q. Is that JX-621C?
A. That is correct.
Q. Okay. And are you aware of any evidence showing that the KR808D-1 from 2009 had a vertical coil?
A. No --
Q. Sorry, had a horizontal coil?
A. No, I have not. In fact, in this photo, you can see the end of a wire presumably going to the heating coil. That's indicative of the longitudinal coil, which snakes its way down the airflow passageway.
Q. And what exhibit are you citing there?
A. That would be from the YouTube video, CX-2804C.
Q. And have you seen any evidence in this investigation proving that e-cigarette cartridges prior to the Fuma e-cigarette had transverse heating elements?
A. I have not.
Q. All right. Let's move on to your opinions on -- addressing Mr. Leinsing's invalidity grounds. We'll start with his anticipation arguments concerning the Xia and NPRO. So we're now on slide 8.
And can you please provide a short summary of what Xia discloses?
A. Sure. The figure above JX-0596, that shows figures from the Xia patent. And it shows that it's a three-piece e-cigarette. It has a generator portion that has a

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heater, I'll call that an atomizer unit, and a liquid storage chamber like a disposable tank and a lithium ion battery shown at the bottom from Xia Figure 2.

Q. Let's move on to slide 9.

Now, what's your opinion on how a consumer would use Xia's e-cigarette?

A. Well, first, the consumer would connect the power source to what I'm calling the first cartridge that contains the heating element and the atomizer.

Q. Okay.

A. And once that's connected, the user can simply take the disposable cartridge and slide it over the end of the atomizer housing.

Q. And what happens next?

A. Well, the user would take a puff -- well, before they take a puff, once the second cartridge is connected, the liquid wicks down into what's called the liquid guiding mechanism in the secondary liquid storage container. And now that area has the e-liquid in it from the cartridge.

Q. Okay. Let's move on to the next slide. There's an animation here, but in the interest of time, I think I'll just go to the end.

And, Dr. Vallee, can you please explain for us what we're seeing here?

A. What we're seeing is a section with some critical

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components in the Xia reference. First of all, we see vibrating diaphragms. When a user takes a puff these -- these diaphragms vibrate. A microphone in the power source senses it and turns the unit on. There's a liquid blocking plate that's used to prevent the large droplets from entering the chamber. We see an airflow channel as well.

And you can see the airflow enters on the sides of the unit in the device and passes through the center of the blocking plate. Then it travels through a path. And that's where it would pick up the e-liquid droplets, are picked up in the airflow, and they're sprayed onto the heating element. It enters this atomizer chamber, vortex chamber, which swirls around, so that partially takes out some of the larger droplets, and it follows the airflow path around the liquid storage chamber through a liquid blocking tank, which I'll refer to as fingers, and then out the right side of the device.

Q. And what's the purpose of the liquid blocking tank?

A. The liquid blocking tank, in addition to the lengthy airflow channel, is used to pull more droplets out of the airflow since when the droplets are thrown into the heating element, not all of them will be vaporized. So there will be large droplets remaining.

Q. And does Xia disclose that its heating element

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has a wick passing through it?

A. No, it does not.

Q. Let's go to slide 11, and let's turn to the NPRO device for a moment. Is the NPRO a two-piece or a three-piece device, in your opinion?

A. Like Xia, the NPRO is a three piece. And you can see the three pieces, the power source, atomizer, and replaceable cartridge, in the top figure.

Q. And what is contained in the replaceable cartridge of the NPRO?

A. That's simply the e-liquid.

Q. And is this device assembled in the same manner as Xia?

A. Yes, it is. A user would screw the atomizer onto the power source and then simply pop on the replaceable cartridges onto the outside of the atomizer.

Q. And what did you review to form your opinions about the NPRO device?

A. Well, I looked at, obviously, the photographs and then a CT scan from Mr. Leinsing's report shown at the bottom.

Q. And here I see on slide 12, have you made annotations to the bottom image? What are you trying to represent?

A. Well, in red, I'm annotating what I'm calling the

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atomizer. It has a threaded connection, and it's in the stainless steel housing of the atomizer. And then in blue, I'm annotating the replaceable cartridge that fits over the atomizer.

Q. We're on slide 13 now. And on this slide, you've added a yellow box over the CT scan. What's that intended to show?

A. That's the liquid storage tank in the replaceable cartridge.

Q. Moving on to slide 14, based on your review of Xia's device and the NPRO, how do these devices compare?

A. Well, as you can see, they're very similar. They have many of the same components.

Q. And could you please list the features that are in common, as you see them, between Xia and the NPRO?

A. Sure. We'll start at the left and move to the right. You can see the air inlets above the threaded region. You can see those on both. They both have a liquid blocking plate and a secondary liquid storage area that I've highlighted in yellow.

They both share very similar atomizing rooms, above the heating elements. They both have airflow channels that extend around the liquid storage chamber, which is shown on both. And they both have the liquid blocking tanks, which I again call the fingers, at the right of the

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device.

Q. Now, how did Mr. Leinsing treat his analysis of Xia with respect to NPRO?

A. I think he considered them equivalent.

Q. Now, you mentioned -- I'm on slide 15. You mentioned that Xia discloses a three-piece e-cigarette. Sorry. Now, Mr. Leinsing contends, however, that the section of Xia's device that he calls a generator is made from a single shell of stainless steel.

Do you agree?

A. No, I do not.

Q. All right. Does Xia Figure 2 depict a single stainless steel shell?

A. No. In fact, when you look at the device itself and the atomizer, the dark black lines that are the outside of both structures, those are what I believe are stainless steel, the same material.

If you look at the actual second cartridge, that is not annotated with a black line. It's a thicker cross-section.

Q. On slide 16, what are you intending to show here?

A. Well, I'm trying to show how the stainless steel shell of the atomizer is inserted into the suction nozzle. And I cite there from Xia -- I'm sorry, this is RX-1622 on page 13. And that says, and I'll just read it, "a left end

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1301 of the soft suction nozzle," which is on the right, "extends to the bottom of the liquid stopping sheet 8," which is that liquid blocking plate that you can see on the left of the atomizer. "It may be made of environmentally friendly materials such as polypropylene," indicated as PP, "which may effectively prevent internal heat from being transmitted out."

So it tells you that you wouldn't have stainless steel on the suction nozzle, and for insulatory purposes, it would make sense to, when it's slid over, protect the user's -- I would think, the fingers from getting burned because of the heat built up from the atomizer.

Q. And how does this information factor into your understanding about whether Xia is a two-piece or three-piece device?

A. It makes it clear to me that this cartridge portion is made of two pieces, and the whole thing is a three-piece device.

Q. Let's move on to slide 17. And if Xia is a three-piece device, how does it match up with the NPRO?

A. As you can see in the figure, the NPRO is also a three-piece device comprising a power source, an atomizer, and a replaceable cartridge.

Q. In your opinion, are Xia's device and the NPRO the same device?

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A. Yes, they are.
Q. And are -- are your analyses and opinions concerning Xia applicable to the NPRO?
A. Yes, they are.
Q. We're on slide 18.
Dr. Vallee, did the Patent Office consider Xia and NPRO before issuing the '864 patent?
A. Yes, they did. In the References Cited section of the '846 patent, you can see in the top text highlighted in yellow that NJOY NPRO device was disclosed, and it also shows that the Xia '610 was disclosed to the Patent Office.
Q. All right. I'd like to talk about your opinions relevant to the anticipation grounds based on Xia and based on NPRO. In your opinion, what limitations from the asserted claims are missing in Xia and NPRO?
A. Well, there are a number of limitations missing. For example -- excuse me -- the claims reciting a cartridge, that comprises a housing with a solution holding medium and a heating element located in the interior of the housing aren't met. Nor are housing having a first aperture at proximate the first end.
There's no central or axial airflow passageway between the first and second apertures. Nor is there central and axial first portion of the airflow path. There's no uniform airflow passageway disclosed or a

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cross-section of the airflow passageway that's no smaller than that of the first aperture between the heating element and the second aperture, and there's no wicking material that draws liquid toward the heating element.

Q. And one other question on this slide.

Do the limitations that you just read and that are recited here on this slide, are those the exact phrasings of the limitations or are they shorthand?

A. Oh, no, they're shorthand just to save time.

Q. Okay. And do you have here on slide 19 in the last two columns where these limitations are found in the claims?

A. Yes.

Q. All right. We're on to slide 20. And let's take a look at the first limitation that you say is missing from Xia and NPRO. It recites "a cartridge comprising a housing having a solution holding medium, and a heating element located in the interior of the housing."

How many cartridges are recited by each of the asserted independent claims?

A. How many cartridges?

Q. How much -- how many cartridges does each asserted independent claim recite?

A. Oh, it's one cartridge.

Q. And then how many housings are recited by each

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independent claim?

A. There's one housing.

Q. And what do the claims say must be in that one housing of the cartridge?

A. It must have, as it states, the solution holding medium and the heating element.

Q. And let's talk about the specifications of the asserted patents. Do they describe both two-piece and three-piece e-cigarette configurations?

A. They do. You can see -- we were just discussing Figure 1 that talks about the two-piece, which is claimed. It also identifies that they were aware of the three-piece design that has the battery portion and a first cartridge that contains just the heating element and the second cartridge containing the liquid solution.

Q. And regarding two-piece and -- excuse me -- three-piece configurations, which are the asserted claims directed to?

A. Just the two-piece. A single piece cartridge.

Q. Do they consider three-piece cartridges?

A. They do not.

Q. We're on slide 21.

Let's take a look at Xia and how that compares to the '864 patent. Does Xia reflect the claimed two-piece device or the unclaimed three-piece device?

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A. Xia is the three-piece device.

Q. Okay. And next slide. We're on 22. Let's take a look at the NPRO.

A. Okay.

Q. How does that compare to the '864's disclosure of two- and three-piece devices?

A. It's also a three-piece device.

Q. Turning now to slide 23, what claims have this particular requirement of a cartridge having a housing including a heating element and a solution holding medium?

A. Well, it's all asserted claims.

Q. Okay. And, Dr. Vallee, I see in the upper right-hand corner of you slide that it states all asserted claims implicated. What does that mean?

A. Well, what the table says is the independent claims of the '864, claim 1, 9, and 25, would implicate in that patent all the dependent claims following thereto.

Q. Okay. We'll take a look at the next limitation that you say is missing from Xia and NPRO. But, first, when you analyzed the prior art references, did you apply the constructions that are governing in this investigation?

A. I did.

Q. Okay. And remind us, how was the term "proximate" construed?

A. It was construed as follows: Proximate is

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construed as meaning at, near, or close to, which in the context of the '864 patent claims identifies relative positioning.

Q. And did you apply that analyses in your -- I'm sorry that construction in your analyses?

A. I did.

Q. All right. We're on slide 25 now.

And I want to look at the next set of limitations that you contend are missing from Xia and NPRO. They require a housing -- or having a first aperture on or proximate the first end of that housing.

Do you understand that in Figure 2 of Xia, Mr. Leinsing identified the entrance to the secondary liquid storage chamber as the first aperture?

A. I do.

Q. Do you agree that this is the first aperture in the housing?

A. No, I do not.

Q. And why not?

A. Well, for two reasons. First of all, it's actually not on the housing. It's an interior component which is that secondary liquid storage area.

And also it's not proximate at or near the -- what he would consider the first end at the left. It's quite a bit within the device itself.

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Q. Okay. Let's move on to slide 28.

And what claims have this requirement for a first aperture on or proximate a first end?

A. Well, in the '864 patent, there are claims 1, 9, and 25. In the '881, it's 1 and 16.

Q. And which asserted claims are affected or implicated by this claim requirement?

A. That would be all the asserted claims.

Q. Moving on -- excuse me. Sorry.

MR. ANSLEY: Sorry, Your Honor.

BY MR. ANSLEY:

Q. Moving on to slide 29. And let's turn to the next limitation. This requires a central and axial passageway.

Can you please explain for us what Mr. Leinsing identifies as this central and axial passageway in Xia?

A. Well, he's identifying that large region in green on the cross-section of Xia.

Q. And is Mr. Leinsing's coloring of Xia in Figure 2 an accurate characterization, in your opinion, of the airflow passageway?

A. No, it is not.

Q. And does air flow in all those regions shaded in green?

A. No, it does not. It only flows where the blue

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arrows indicate around that, you know, solution holding medium, as it indicates in the figure.

Q. Let's skip to slide 31.

Now, on this slide, what have you annotated in yellow in Figure 2 of Xia?

A. That is, in fact, the solution holding medium.

Q. Okay. And does air flow through the solution holding medium as taught by Xia?

A. No, it can't.

Q. Is the solution holding medium, in your view, an obstacle?

A. No, it's much larger than an obstacle. It's almost the entire width of the device.

Q. I'll ask you some follow-up questions about that. We'll move to slide 32.

What are you showing in the upper right portion of this slide?

A. This is a portion of the summary judgment, CX-2116, page 14. And what I've highlighted says that what -- these obstructions do not alter the direction of Ciro's airflow passageway any more than the heating element.

So what was determined, the guidance here is that to be considered an obstruction, it can't alter the direction of the airflow -- in this device, it was the Ciro -- any more than the heating element. And from the

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figure, clearly that solution holding medium would deflect the airflow much more than just the heating element.

Q. In your opinion, does the solution holding medium in Xia define the airflow passageway in that portion of the device in which it occupies?

A. No, it does not.

Q. Sorry. Does it --

A. Could you speak up, please. I'm having a little trouble hearing you.

Q. Does the solution holding medium in that portion of Xia, does it define the airflow passageway?

A. Oh, does it define it? Yes, because the airflow passageway travels outside that solution holding medium in a channel that's located between the outside of the solution holding medium and the inside of the soft suction nozzle, which is the outside of the disposable portion.

Q. All right. Let's turn our attention now to slide 33.

And here you depict -- can you tell us what you're depicting here in the upper left?

A. Yes. This is actually an image from the Han patent. This happens to be Figure 1 of it. That's JX-0544.

Q. Okay. And during prosecution of the '864 patent, did the examiner reject the claims of the '864 patent in view of Han?

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A. Yes. Initially, they did.
Q. And can you explain what Han discloses?
A. Well --
Q. In Figure 1? Sorry.
A. I'm sorry. Sure. It discloses an airflow path that is very similar to Xia. It starts at the left, it travels around a solution holding tank or medium, and then exits the right side of the device.
Q. And in response to the examiner's rejection, what did the applicants argue?
A. Well, I highlighted that in the text box up top. That's taken from JX-0008, pages 9008 and 9. And what was argued was that Han's shell B does not include a central airflow passageway and instead places the perforated component of the liquid storage 9 in the middle of the shell, thereby forcing the airflow around the peripheral surface of the perforated component for the liquid storage.
Q. And are you reading from JX-8 at pages 9008 through 9?
A. Yes, I am.
Q. All right. And did the examiner find the applicants' arguments persuasive?
A. Yes, the examiner did. As I put in the text box below, which is '864 patent file history, the examiner 's response, JX-0008, page 9016, says "the applicants'

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arguments with respect to Hon (sic), as previously applied under 35 U.S.C. 102, have been fully considered and are persuasive."

Q. Let's move to slide 34 and look at Xia.

Can you please explain for us how Xia's disclosure supports your opinion that the airflow passageway does not include the liquid storage chamber?

A. Yes. The figure is from Xia, and the black arrow is taken from the figure. And that shows the airflow channel.

And in that excerpt at -- from Xia '610 at 13 to 14, it states, and I'll briefly say the atomized chemical liquid flowing out from the overflow holes 903, which are on the left and are not shown, flows through the gap between the soft suction nozzle and the liquid storage chamber 12. So you can see that gap I discussed earlier between the tank and the soft nozzle. And it defines that as the airflow channel that I've highlighted.

And then it follows that it passes -- it continues on to the liquid blocking tank with the fingers 15, and then flows through the blocking sealing cover, which is -- looks like that end cap that's black 17, and then it's sucked into the smoker's mouth. So that defines the airflow path.

Q. And did you say those black arrows are from Xia?

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A. Yes, they're from the Xia figure.
Q. And let's look at slide 35.
Now, when you look down the liquid storage element of the NPRO, which is depicted at RX-82 at page 83, do you see a central and axial airflow passageway?
A. No, I don't. I see two channels that I annotate there. That's along the periphery, nothing in the center.
Q. Dr. Vallee, what claims require a central and axial passageway?
A. From the '864 patent, it would be claims 1 and 25, and from the '881, claims 1 and 16.
Q. And what asserted claims are affected by these limitations?
A. In the '864 patent, it would be claims 2 and 26, and in the '881, it would be all asserted claims.
Q. Let's move on to slide 37. I want to take a look at the next limitation that you think is missing from Xia and NPRO. It requires the airflow path proximate the first aperture, substantially central and axial to the longitudinal axis of the housing.
Dr. Vallee, to the extent that Xia discloses housing apertures, what are those?
A. Well, you can see here they're just above the threaded region of the left part of the atomizer, the one I label -- excuse me -- "air inlets."

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Q. And is the airflow path proximate those apertures substantially central and axial?

A. No, not at all. As you can see -- I've highlighted in green -- they're actually quite curved.

Q. And what claim has this requirement that we've been discussing?

A. The '864 patent, that would be claim 9.

Q. And which of the asserted claims are implicated by this limitation?

A. For the '864 patent, it would be claims 9, 10, 12, 13, 15, 16, and 20.

Q. Let's move to slide 38, and we're going to look at the next set of limitations missing from Xia and NPRO. They require a substantially uniform airflow passageway along a majority of the passageway or from the heating element to the second aperture.

Does Xia disclose these limitations?

A. No, it does not.

Q. And are the airflow channels -- let me ask you this: Why not?

A. Well, first, if we look at the claimed invention, Figure 2 of the '864 patent, it shows between the heating element and the second aperture, it's a cylindrical shape. It's very uniform. But if we look at Xia, when you consider the heating element in the middle of the atomizer, it is not

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uniform at all. It tapers as it passes around the tank, and then it goes around, kind of squiggles above, and widens a bit, then it widens significantly as it enters the fingers and above the fingers, and then narrows again as it exits the device. So it's not uniform at all.

Q. All right. We're on slide 39. And what claims have these limitations?

A. Well, of the '864 patent, it would be claim 16. Of the '881, it's also 16.

Q. And what asserted claims are affected by the absence of this limitation?

A. For the '864 patent, it would be again claim 16. For the '881, it would be claims 19 and 26.

Q. All right. Let's move on to the next limitation not disclosed by Xia or NPRO. We're on slide 40. It requires that the airflow passageway has no smaller cross-sectional area than the cross-sectional area of the first aperture.

Does the alleged aperture meet this requirement?

A. No, it does not. So I've highlighted from Xia '610 at page 13, it explains that when the e-liquid is instantly atomized, it flows out of the heater 9 from the overflow holes 309 (sic).

Now, I've labeled that in the figure on the left at the bottom in blue. It says "smaller overflow holes."

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So you can see that the airflow enters the device and goes through the heating element, and at some point, it exits the overflow holes. And you can see from the figure those holes are very small, in comparison with Mr. Leinsing's first aperture. So Mr. Leinsing's aperture is not the smallest.

Q. Did you say overflow holes 903?

A. I did.

Q. Okay. I might have misheard. I just wanted to correct.

Now, what claims include this limitation?

A. Excuse me?

Q. What claims include this limitation?

A. Oh, I'm sorry.

Q. Sorry.

A. For the '881 patent, it would be claim 16.

Q. And what asserted claims are affected?

A. Again for the '881 patent, it would be claims 19 and 26.

Q. Let's turn to the next limitation. We're on slide 41.

The limitation requires wicking material operative to bring liquid from the liquid storage toward the heating element. And looking at Xia Figure 2, does liquid guiding mechanism 11 wick the liquid toward the heating element or away from the heating element?

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A. No, if you look at the figure, it actually brings it away from the heating element. It brings it down to the secondary storage chamber that's beneath the heating element.

Q. And what claims include this limitation?

A. On the '864 patent, it would be claims 12. On the '881 patent, claim 26.

Q. And then what asserted claims are implicated by this?

A. Again for the '864 patent, it's claim 12. For the '881, it's claim 26.

Q. All right, Dr. Vallee. To summarize, in your opinion, does Xia or NPRO anticipate any of the asserted claims?

A. No, it does not.

Q. And does your opinion and analysis for Xia apply equally for NPRO?

A. Can you repeat again please?

Q. Yes. Does your opinion and analysis for Xia apply equally for NPRO?

A. Yes, it does.

Q. All right. Let's move on to Mr. Leinsing's and Respondent's obviousness arguments concerning Xia in view of Wang '554 and NPRO in view of Wang '554.

We'll start with slide 44. And can you please

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describe what the main components of Wang are for us?

A. Well, it's a two piece device, as you can see. There is what I'll call a cartridge in the center figure, and that cartridge has a heating element and some tobacco extract. It's an inorganic fiber. I'll just call that a batting material. And two end caps. And that's a connected to a device I show on the right that has a hollow battery actually and a pressure sensor down below.

Q. Let's move to slide 45 and take a look at the proposed combination of Xia or NPRO with Wang.

Dr. Vallee, how does Wang compare to the Xia device and NPRO?

A. Well, if you look at the Wang device, it's very simple. I believe that's intended to be a disposable cartridge because there's not much in it.

But the NPRO, if you look at that device, it's far more complicated. It has many components. It has, you know, a support structure for a heating element. It has, you know, a separate tank and fingers. It's much more complicated.

Q. And do you understand that one of Mr. Leinsing's modifications to Xia and NPRO is to add a central through-hole?

A. A central, like a tube, you mean?

Q. Sure.

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A. Yes, it is.

Q. And does Wang disclose any kind of air passageway like that?

A. No, it doesn't disclose anything that looks remotely like a tube.

Q. And what's your opinion about whether Wang discloses a central and axial airflow passageway at all?

A. No, I simply don't see anything like that in that device. I see no tube.

Q. We're on slide 46. And how does Wang describe its airflow in its cartridge?

A. Well, it's not extremely clear in the specification, but what it does tell us, it teaches us that there are three main components. At the bottom, there's an air inlet -- I'm referring to the figure on the left. There's an air inlet 106, and then around the batting material, there's an internal gap, and then there's an air outlet that you can see at the top.

Q. And does the disclosure of Wang support this interpretation?

A. That it does. From Wang '554, at page 8, it says that there's an internal gap of the cigarette rod near outlet 108 of the cigarette rod, an inlet 106 of the holder, an internal gap of the cigarette holder, and an air outlet 101. So it does describe that.

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Q. Is Wang's air inlet 106 in fluid communication with air outlet 101?

A. It simply says, you know, it does have communication.

Q. Okay. Is the internal gap that's described by Wang -- is that a central and axial airflow passageway through the organic fiber of Wang?

A. No, it is not.

Q. We're on slide 47. And, Dr. Vallee, could you please read the passage from page 7 of Wang '554 that you have here.

A. Sure. It says, "the interior of the shell 102 provides a space for the electric heater 104 and tobacco extract 103 and organic fiber 105 wound around it, and also provides a space for smoke produced when the tobacco extract 103 in the organic fiber 105 is heated by the electric heater."

Q. And does that text disclose a central and axial airflow passageway?

A. No, it does not.

Q. Let's skip ahead to slide 49, and let's turn to the proposed combination and modification of the Xia and NPRO devices.

In your view, does Xia in view of Wang render obvious the asserted claims?

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A. No.
Q. And is your opinion the same with respect to NPRO in view of Wang?
A. It is.
Q. Okay. And what is your opinion about whether a person of ordinary skill in the art would have found it obvious to add a central and axial through-hole to either Xia or NPRO based on the disclosure of Wang?
A. As I stated earlier, I do not see that as obvious at all.
Q. And why?
A. Well, I don't see -- basically Mr. Leinsing is taking a tube and putting it in the middle of the solution holding medium, but I don't see where he got the tube. There's just no tube in the figure. No one in the art would look at Wang and see that, in my opinion.
Q. And other than adding a through-hole to Xia and NPRO, is Mr. Leinsing making any other changes?
A. Yes, he's actually making quite a few changes to the device.
Q. Let's walk through some of those.
A. Okay.
Q. So we're on slide 50.
First, you have here eliminate liquid blocking plate. So what is the purpose of the liquid blocking plate?

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A. Well, the excerpt from the patent on page 16 on the right says, "liquid blocking plate 8 prevents chemical liquid from flowing into the controller and affecting the circuit." So they're talking about flow into the battery compartment, basically.

Q. And does Wang say anything about the merits of including or excluding a liquid blocking plate?

A. It says it's very important to include it.

Q. Sorry, maybe I maybe misread it. Does Wang '554 --

A. Oh, I'm sorry.

Q. -- does it address the merits of including or excluding a liquid blocking plate?

A. No, Wang does not mention anything like that.

Q. Okay. And would a person of ordinary skill in the art have been motivated to remove the liquid blocking plate from Xia or NPRO?

A. No, they would not.

Q. And why is that?

A. Well, as Xia explains, it's a critical component, but Wang doesn't mention that at all.

Q. Let's go to slide 51. I want to talk about the next modification to Xia.

Now, do you understand Mr. Leinsing contends that removing the liquid blocking plate is -- well, actually, I

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guess we're still on liquid blocking plate. Do you understand that contends it would be okay because the areas that you've shaded in pink in the bottom would capture the liquid?

A. I understand that.

Q. And do the shaded regions perform the function of Xia's liquid blocking plate?

A. No, I don't believe so because he has eliminated the blocking plate and brought the secondary solution holding medium very close to -- I'll call it that pin-shaped component on the left -- so close I don't see how droplets -- the intent is to protect the battery compartment from droplets. I don't see how the droplets could even enter that, they're so close together.

So if it doesn't enter that, it would simply enter the battery compartment.

Q. Moving to slide 54 and we're going to turn to the vortex chamber that's in Xia.

What happens in the vortex chamber according to Xia's teachings?

A. I'm sorry, including -- according to Xia's --

Q. According to Xia's teachings --

A. Teachings.

Q. -- what is the vortex chamber?

A. Okay. I'm sorry. Well, I cite here on page 16

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from Xia, it says large-diameter droplets after atomization are attached to a wall under the action of vortex to be reabsorbed. So what it explains is that the flow in the turbulence inside the vortex chamber, if there are any unvaporized portions of the droplets, they collect on there. That's what it's for.

Q. And do you want large droplets in a vapor stream?

A. No, you don't because you don't want them inhaled by the user.

Q. And is there a need for a vortex chamber -- well, let's talk about Wang, Wang '554.

A. Wang. Okay.

Q. Is there a need for a vortex chamber in Wang?

A. No, not in Wang.

Q. And would a person of ordinary skill in the art have been motivated to remove the vortex chamber from Xia?

A. No.

Q. We'll turn to slide 53, and we'll next look at the liquid blocking tank. Does Mr. Leinsing's proposed modification eliminate the liquid blocking tank?

A. It does.

Q. And what is the purpose, according to Xia, of the liquid blocking tank?

A. Again, the Xia device is trying in many places to get as many droplets out of the airflow as possible. So it

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states, "the liquid blocking tank 15 is made of a soft silica gel to prevent liquid from being sucked into the mouth."

Q. And now let's turn our attention to Wang '554. Is there any disclosure in Wang discussing the merits of including or excluding a liquid blocking tank?

A. No, there is not.

Q. And would a person of ordinary skill in the art have been motivated to remove Xia's liquid blocking tank?

A. No.

Q. All right. Let's move to slide 54. And we will take a look at the vibrating diaphragm. Excuse me.

Does Mr. Leinsing's proposed modification eliminate Xia's diaphragm?

A. Yes, it does.

Q. And what is the purpose of the vibrating diaphragm?

A. Well, the vibrating diaphragm is a very simple component that when air is drawn past it when the user draws a puff, it vibrates, and that sound is picked up by a microphone in the power supply. And that's what actually actuates the -- activates or energizes the heating element.

Q. Now, Mr. Leinsing's modification, that's a pressure sensor to Xia's battery portion to compensate for removing the vibrating diaphragms. Would a person of skill

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in the art have been motivated to move the sensing mechanism to the battery portion?

A. Could you repeat that just once more please. I couldn't quite hear you. Sorry.

Q. Would a person of ordinary skill in the art have been motivated to move the sensing mechanism to actuate the heater from the cartridge to the battery portion?

A. No, they would not.

Q. And why?

A. Because it wouldn't make sense to do so. This is a very simple device, and also it's -- let's put it that way: It's so simple as it is, I don't see a reason to change that.

Q. Let's move on to slide 55, and let's take a look at the air inlet holes.

So do you understand the modification here to move the air inlet holes from the heating component to the battery component or power unit area?

A. I do.

Q. With respect to Wang '554, does it disclose air inlet holes on the battery unit?

A. No, it does not.

Q. Okay. Let me -- I'm sorry. Does it disclose air inlet holes in the battery connector?

A. Oh, yes.

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Q. Okay. No, the -- let me reask this question.

Does Wang '554 teach or disclose air inlet holes on the battery connector?

A. The connector?

Q. Yeah.

A. Yes.

Q. Okay. And that would be the air inlet holes in the cartridge, correct?

A. That's right.

Q. Okay. And where in Wang does air actually entering the device from the outside -- let me reask that.

Where in Wang '554 does ambient area enter the entire device?

A. It enters it at the -- from the outside to the bottom of the cartridge and then travels through the cartridge.

Q. Okay. Now, are there -- looking back at the proposed modification to Xia, are there problems with moving air inlet holes to the location proposed by Mr. Leinsing?

A. Yes, there are. As you can see in the figure in the bottom, you have to drill through quite a bit more material to do that, which would add to the cost of manufacturing. It would be more difficult to do.

Also, such holes would be prone to clogging. You know, people keep these things in their pockets, and if the

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air inlet on the atomizer of Xia were to clog, you could replace that. But if you combine everything, if the air -- if the air inlet on the modified device clogs, you'd have to throw away basically the whole power supply because it's connected to it.

Q. Now, in the modified device, if the consumer were to overtighten the cartridge onto the battery unit, could that be a problem?

A. Yeah, there's a potential of that overtightening. You can see the threads are right above that -- those inlets, and it could actually, you know, compress them and cause an interference.

Q. Now, there's a contention that moving the air inlet holes to the battery portion would reduce the turbulence in the airflow.

Is reducing turbulence desirable in Xia?

A. No. Xia is relying on turbulence to help remove unvaporized liquid that was drawn to the heating element but didn't contact it. So Xia wants turbulence.

Q. Moving on to slide 56, are there any other problems with the proposed modification to Xia?

A. Yes, I think there are a number of problems.

Q. And what are those?

A. Well, first of all, there would be a completely new air path that would be required. And I can talk about

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these individually. Without the blocking plate, there is going to be the potential for liquid to enter the battery compartment. There would also be a reduced aperture size. I don't know why that would be done. It would impede the flow. I can only assume it was done to meet the claim requirements.

You would have to have a more expensive liquid storage medium because now you need more complicated mold. Excuse me. You would have to figure out how you're going to calculate the wall section. Now you have a tube in it, so that's going to be more expensive.

And you would have a completely different air path. And the result of that would be, without the fingers and the other devices in the airflow around the tank to remove those droplets, the user would almost certainly receive this very hot, wet, vapor with air droplets.

Q. And how does -- moving on to the next slide. Would adding a central air tube through the liquid storage of either Xia or NPRO result in more liquid storage or less liquid storage as compared to the unmodified device?

A. There's more liquid storage in the unmodified device.

Q. In the unmodified device. So does that mean there's less liquid storage in the modification?

A. Exactly. Exactly.

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Q. And how -- according to Mr. Leinsing's proposed modification, how does he attempt to remedy the reduced liquid storage from the air tube?

A. Excuse me. I'm sorry. Could you just ask the question once more on the next slide, please?

Q. Right. So how does Mr. Leinsing's proposed modification attempt to remedy the reduction of liquid storage from the through-hole through the liquid storage compartment?

A. Well, what he proposes is lengthening the liquid storage chamber. And that requires that he has to move all the components to the left of it even farther left.

Q. And does he remove components from the device to make room?

A. Yes, he does, and we discussed those previously.

Q. We'll move to slide 58. And on this slide, you identified one of Mr. Leinsing's demonstratives listing motivations to make the proposed modification.

Do you agree with his reasons?

A. No, I do not.

Q. All right. In the interest of time, we'll keep moving on. I think we've covered much of it.

On slide 59, you also list Mr. Leinsing's reasons to make the proposed modification. Do you agree with these?

A. No, I do not.

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Q. And do you agree or disagree that the modification would be easier to manufacture?

A. I disagree. It would be more difficult to manufacture.

Q. And what is your basis for that?

A. Well, as I discussed before, it would be harder to manufacture the liquid storage tank and assembly. You would have to find a way to put batting material in a long, thin tube with a central tube. And these things are assembled by hand. It would be difficult to do that by hand.

The original design, it would be very easy to fill the liquid storage medium with batting. You would just stuff it in axially.

Q. So let's move to slide 60.

Now, Dr. Vallee, much of our discussion was in the context of Xia. Does your reasoning apply equally to NPRO?

A. It does.

Q. And to sum up, what is your opinion concerning the obviousness of Xia and separately NPRO in view of Wang?

A. In view of Wang, those combinations wouldn't be at all obvious.

Q. All right. Let's move on to slide 61, and we're going to take a look at Mr. Leinsing's opinions that the

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Fang reference in view of Wang '554 renders obvious the asserted claims.

Turning to slide 62, is it all right if we refer to this patent as Fang?

A. Yes, that's fine.

Q. Okay. Slide 63. Can you please provide us with a short description of Fang?

A. Well, Fang is a two-piece device. It has a liquid sucker region, which is basically a liquid storage tank. They call it oil conservator with a tube through the center. And that's inserted on what's called the cigarette rod shell. And that's a much more complicated device that has an electronic heating film, heating element. It has a pressure sensor and a battery.

Q. Does Fang have a cartridge?

A. Yes, Fang has -- it's the liquid cartridge that I call the sucker.

Q. Okay. And are there any electrical components in Fang's sucker?

A. No.

Q. Does the sucker have an electrically conductive portion?

A. It does not.

Q. And of the two pieces, the sucker and the cigarette rod holder, is one more complex than the other?

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A. Yes. The rod holder is much more complicated, as you can see in the figure.

Q. We're on slide 64.

And what else supports your opinion that Fang discloses a two-piece device comprising the cigarette rod shell and the sucker as the cartridge?

A. Well, it talks about this on page 17. That's Fang JX-0595. You can see it discusses that the sucker 1 is connected with the cigarette rod shell, so they're put together. And a battery, fuming device control switch, and nicotine oil fuming device are nested in the rod shell. So it explains all the components of the rod shell and that the sucker is simply connected to it.

Q. Let's turn to slide 65.

Now, in your opinion, does Fang disclose a one-piece device?

A. No, it does not.

Q. If Fang were a one-piece device, does it disclose any way to refill Fang's liquid storage?

A. No, it doesn't.

Q. Is the oil storage 14, as you've shown in orange, the same as the oil conservator 17, as you've shown in blue on slide 65?

A. No. They're different structures.

Q. Okay. And what are your thoughts about whether a

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person of ordinary skill in the art would consider Fang, the entirety of it, the cigarette rod holder and the sucker, to be a disposable device?

A. No, the entire device wouldn't be a disposable. There are a lot of expensive and complicated components in -- you know, in the rod shell part of it.

Q. We'll move on to slide 66. Can you please explain what we're seeing here?

A. All right. This was an animation that showed how the user would use the device. They'd slide on the sucker of the liquid cartridge onto the device, and then they would use it.

Q. On slide 66, what are you demonstrating here?

A. Well, I'm demonstrating that when a user takes a puff, the wire film heating element would be energized, and then the solution holding medium passing through that heating film would vaporize a portion of the solution, and aerosol would be delivered to the user.

Q. I believe we're on slide 67. Still.

Now, I see in your animation that airflow begins at the electric heating film. Why have you not identified where the air enters Fang?

A. Fang simply doesn't disclose exactly where the air enters.

Q. Okay. Dr. Vallee, can you hazard a guess where

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air might be entering Fang?

A. Well, I look at the internal structure and it's quite symmetric everywhere except in that area where I labeled "possible air inlet" in blue. That seems to be the only place that air could enter.

Q. I believe we're on slide 68.

Now, Mr. Leinsing opined that air enters through a tube that is just to the right of the pressure sensor. Do you agree with Mr. Leinsing that air enters or at least travels through there?

A. No, I do not.

Q. Is there any disclosure in Fang of air entering that tube that's just to the right of the pressure sensor?

A. No, there is not.

Q. Now, how -- if air does not enter that tube that's just to the right of the pressure sensor, how can Fang's device experience or detect a negative pressure when the user is drawing on it?

A. I'm sorry. You said if air doesn't enter the tube? Could you repeat it, please.

Q. Let me rephrase. When a user is drawing on Fang to inhale, how does Fang's device -- how could Fang's device detect that inhalation in the pressure sensor, in your opinion?

A. Oh, I see. So I'll call -- there is a solid

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structure in green there. What I believe happens is when the user draws, that -- I'll call it a diaphragm for lack of a better word -- can deflect. So that would change the volume in that tube section to the left of it.

And since that would be connected to the pressure sensor, that would help detect a change in pressure, which would activate the device.

Q. Did you hear Mr. Leinsing testify with respect to this solid wall, I think as you called it, in light green?

A. No, I did not.

Q. Let's turn to slide 69. And here you cite descriptions from Fang, the bottom passage on pages 5 to 6.

Could you read those for us?

A. Okay. From the first text block on page 5.

Q. The bottom one, please.

A. Just the bottom one? I'm sorry. "When the utility model is in use, the smoking channel 10 generates a negative pressure in the atomizer control switch 4 by suction of the user."

Q. And could you please read the sentence in the passage in the top from page 5.

A. At the top, it says, basically -- well, I'll start with the yellow. "At the other end of the support 13 is communicated with the smoking channel 10 on the sucker."

Q. Okay. And if the structure that you highlighted

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in light green on the prior slide -- and I believe it's highlighted here on slide 69 -- is a solid structure, how would pressure -- how would the pressure sensor communicate with the smoking channel?

A. Well, what would happen is, in the smoking channel, when a user draws, it would lower the pressure, and as I explained in the previous slide, it must deflect and that would change the pressure in that blue tube section, which would communicate that to the pressure sensor.

Q. Let's move on to slide 70.

And before we jump in to discussing Mr. Leinsing's invalidity opinions based on Fang, was Fang disclosed to the Patent Office?

A. Yes, it was. We look at the '864 patent, and Fang, which is the '044 patent, is disclosed in the foreign patents document section. And also the RJR, there was a trial brief from 2021. That's disclosed, as are a number of preliminary invalidity contention exhibits, the claim charts, as I show highlighted in yellow.

Q. And did the Patent Office issue the '864 patent, despite having reviewed these prior contentions comparing Fang to the '881 claim elements?

A. They did.

Q. All right. Let's discuss Mr. Leinsing's invalidity opinions based on Fang. So we're on slide 71

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now. And, Mr. Leinsing contends it would have been obvious to combine Fang and Wang '554. Do you agree?

A. No, I do not.

Q. And let's talk about the modifications that are proposed.

What is his proposed modification, given his assumption that Fang discloses a one-piece device?

A. Well, essentially, he suggests making a cut around the middle of the device to separate two pieces -- again, this is assuming, under his assumption, it's a one-piece device -- and separating it through what I'll call the -- you know, the blue tube that connects the green diaphragm to the pressure sensing device, just to cut it there and then reassemble it with some kind of connector that is taken from Wang.

Q. Now, if Fang were a two-piece -- well, let me ask you this: Did you hear Mr. Leinsing testify on redirect this morning that if Fang was already a two-piece device instead of a one-piece device, that you could move the separation between the sucker and cigarette holder down to the place that he proposes to cut? Did you hear him testify about that?

A. Yes, I did.

Q. And would a person of ordinary skill in the art have been motivated to make that modification?

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A. No, they would not.
Q. All right. We're on slide 74, and let's talk about the obviousness of combining Fang and Wang.
First, how does Wang '554 compare to Fang?
A. Well, we discussed this earlier. It's a very simple device. It's a cartridge 3 with very few components. And it's simply screwed onto a power supply. On the left, it has a battery and a pressure sensor.
Q. And --
A. In -- I'm sorry. And Fang, again, is very complicated. It has all those parts that are shown on the left.
Q. And as -- comparing Wang '554 to the proposed cartridge where Mr. Leinsing takes everything above the cut in Fang, what has more components internally?
A. Oh, well, the Fang device has far more components.
Q. And what are some of those structures that would be in Fang, the Fang cartridge above the proposed cut, according to -- in Mr. Leinsing's proposal?
A. Well, we see the heating element, the support structure for it, a secondary storage area. There's the flow tube, that would be cut. There are O-ring seals. There is all those components in there that would be moved.
Q. And comparing the proposed Fang cartridge to Wang

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'554's cartridge, what would be more expensive to manufacture and assemble?

A. Oh, the proposed Fang cartridge would be much more expensive because it has all the components that I just listed.

Q. And does it make sense for Mr. Leinsing's proposed Fang cartridge to be disposable?

A. Not his cartridge, because if it were disposable you would be throwing away the heating element, the diaphragm, and all those components as well. So you would be throwing away a pretty expensive part.

Q. Let's move to slide 75.

Now, Mr. Leinsing proposes that it would be natural to cut Fang, the pressure sensor, because there are few components along that line. Do you agree with that?

A. No, I don't, and I think it was selected here because that blue tube, I'll call it, that's in the middle figure, that's critical to making sure that the device senses the draw. Cutting it there introduces a number of problems. I mean, it's sensitive, you can see tell, because there's an O-ring gasket above that area.

So there are a number of problems. For example, the user would -- if you replace the cartridge there, you would have to make sure there was no debris, it would have to be kept clean, you'd have to figure out a way to seal

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that because that area would be very sensitive to pressure changes. Without it, the device may not even work.

Q. Let's move on to slide 76. Let's focus specifically on the obviousness of Mr. Leinsing's proposed modification, which assumes Fang is a one-piece.

Would the benefits cited by Mr. Leinsing have motivated a person of skill in the art to make the proposed modification?

A. No, they wouldn't.

Q. And why?

A. Well, I listed some on the right. First of all, the reusable heaters that Fang uses don't fail that often. In fact, the foil heater actually lasts longer because it doesn't need to get as hot. It draws less power. So that's not replaced frequently. It would be simpler to have, as I say, just the liquid storage portion to be replaceable because that's very inexpensive.

And, again, the cutting through the area he suggests would be very complicated. You would have to do a lot to reseal that. And there would be a very expensive infrastructure -- components to do that. That would increase the cost to the sucker if it were disposable. You wouldn't want to do that. And, again, that negative pressure zone that I talked about, that would be cut through. It compromises that design.

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Q. Let's move to slide 78 and look at the specification of Fang. Does Fang identify any problems with the prior art?

A. Yes, it does. In fact, it lists -- the problems it was trying to solve were shown in Fang at page 4. It recognizes that existing electric cigarettes are high in manufacturing cost and complex in circuit and inconvenient to use.

Q. And what is Fang's proposed solution?

A. Well, basically, to create a removable cartridge that's inexpensive to replace. When the e-liquid runs out, you don't have to replace the entire device; you can just replace the e-liquid cartridge.

Q. And how -- does that support your opinion that it would have been obvious to make the proposed modification? Do these passages support your opinion that it wouldn't have been obvious to make the proposed modification?

A. Yes, it would not have been. Yes.

Q. Let's move on to slide 79. And assuming that -- just for the sake of argument, that a person would have made this proposed combination, does this combination render asserted claims obvious?

A. No, it does not. Even if they made the combination, there still would be no central and axial passageway between the first and second apertures, there

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would be no solution holding medium surrounding the airflow passageway and heating element, there's no coil element since Fang's is a foil type heating element, there's no uniform airflow passageway, and there's no coil, of course, smaller than the uniform cross-sectional area of the passageway, and there's no airflow passageway that has a cross-section no smaller than the first aperture.

Q. Okay. Moving on to slide 80, let's look at the first set of limitations you say is missing from the modified Fang device, an airflow passageway from the first aperture to the second aperture.

Do you agree with Mr. Leinsing about whether air flows through his purported aperture up past the heating film -- sorry, heating film heating element and out the second aperture?

A. No, I don't agree. In fact, there's no way I can see that the air could possibly get past that solid wall I show there and out through the second aperture.

Q. And, again, if air does not enter the heating chamber in the way Mr. Leinsing proposes, how could it enter the device?

A. The only other way it could would be that possible air inlet that I circled. That's how it would have to get in.

Q. Okay. Do you know that that, in fact, is an air

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inlet?

A. I said "possible," so I'm not really sure. As we discussed before, it's the only thing that comes close to being an air inlet.

Q. On slide 81 here. So with that in mind, let's talk about limitations that require an airflow passageway. What claims are those?

A. In the '864 patent, it's claims 1, 25, and 9. In the '881, it's claims 1 and 16.

Q. And what asserted claims are implicated by these missing limitations?

A. All claims.

Q. Moving to slide 82, let's look at the next limitation, requiring that the solution -- sorry, the liquid holding -- the solution holding medium in the cartridge housing surrounds the heating element in the cartridge or that a plane passes through the heating element in the solution holding medium.

So what is your opinion with respect to the Fang -- the proposed Fang cartridge?

A. That's not disclosed. It doesn't satisfy that claim.

Q. And is the oil conservator 10, as you shade in blue -- is that part of the oral storage device 14 that you shade in orange?

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A. No, it's not. They're two separate parts.
Q. Do they have different cross-hatching?
A. They, in fact, do.
Q. And does the oil conservator in blue surround the heating element in Fang?
A. No, it doesn't. The heating element is far below it.
Q. So what claims of the asserted patents recite this requirement?
A. Well, for the '881 patent, it would be claims 1 and 16.
Q. And what asserted claims are implicated by this limitation?
A. In the '881 patent, all claims are implicated.
Q. Let's talk about the next limitations. They require a heating element as a heating coil. And what conclusions do you reach with respect to Fang?
A. Fang doesn't disclose a coil. It says on page 3 -- and I've highlighted on the excerpt from the top text block -- that it provides an electric heating film wire. It says that twice, so it's not a coil. It's a wire.
Q. And what is a heating film wire?
A. It's basically that a heating element is you have, like, a substrate and etched into it is, like, a labyrinth there that's like a wire. And, you know, that's a

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heating element. It's not coiled. It's simply an etching, really.

Q. And do you understand that there's a contention that the heating film wire is nonetheless a coil because it is wound on the temporary oil storage device 15?

A. I understand that's the contention.

Q. And does this mean that the heating film wire is a heating coil?

A. No, it's not. If it were, he would have stated it in the patent. It's a coil.

Q. Have you ever seen a heating film wire fashioned as a coil?

A. No, I haven't.

Q. And Mr. Leinsing -- what claims does this limitation appear in?

A. In what claims does this limitation appear? It appears in the '864 patent, claim 25; in the '881, in claim 18.

Q. And what asserted claims are implicated by this?

A. For the '864 patent, that would be claim 26, and for the '881, it would be claim 19.

Q. Let's turn now to slide 84 and look at the limitations requiring a majority portion of the airflow having a substantial uniform cross-sectional area measured between the heating element and the second aperture and then

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also the limitations requiring a uniform cross-sectional area extending continuously along the majority of the length of the passageway.

Does Fang disclose these, or at least does the modified Fang device disclose these?

A. No, it does not.

Q. And you have three red arrows on the screen. What are you pointing out here?

A. Right. Well, those three red arrows point to three different structures that are in the device above the heating element that all have different diameters. There's a -- it's explained somewhat on page 4 of Fang. It says there's a gas pipe, which is in that area. Nested in the center of the oil conservator, the gas pipe is connected with a gas pipe support. So it discusses some of the structure there. And as you can see, there are three different diameters.

Q. Do you see those horizontal lines in the figure from Fang that cut across the device?

A. I do. Those are break lines.

Q. Okay. What are break lines?

A. Well, basically, to save room on a sketch, that indicates that there could be varying lengths above the break lines.

Q. And due to those break lines, is it possible to

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tell the relative lengths of the cross-sections you've identified with the three arrows?

A. No, it's not.

Q. Is it -- because of that, could the cross-sections identified by your top two arrows, that is the gas pipe and the area of the passageway above that, could they have the same length?

A. They could.

Q. Would -- if those had the same length, would they constitute a majority?

A. No, they wouldn't.

Q. And, Dr. Vallee, what limitations -- or, sorry, what claims recite these limitations we've been discussing?

A. For the '864 patent, it would be claim 16. Claim 16 also for the '881 patent.

Q. And what asserted claims are implicated here?

A. In the '864 patent, it's claim 16, and in the '881 patent, it's claims 19 and 26.

Q. Moving to slide 85, let's turn to the next limitation, which requires the heating coil diameter must be smaller than the diameter of the uniform cross-sectional area of the airflow passageway.

Does the modified Fang device disclose the heating coil having a diameter?

A. No, it doesn't. Again, it's a film wire. It's

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not a coil.

Q. And does Fang even have a uniform cross-sectional area extending continuously along the majority?

A. No, as we just discussed, it does not.

Q. And what claims does this limitation appear in?

A. That would be, in the '881 patent, claim 18.

Q. All right. Let's move to next slide.

A. I'm sorry. I forgot to mention that it also implicates claim 19 of the '881.

Q. Thank you. Let's move on to slide 86, and let's talk about the next missing limitation, which requires that the alleged airflow passageway is not smaller in cross-sectional area than the first aperture.

And what can you tell from Figure 1 in Fang?

A. Well, I see -- in Figure 1, I see the alleged first aperture down at the bottom, but what I see really is that gas pipe has two small apertures that I pointed to there. They're in the gas pipe. They're basically -- have very small cross-sections, and they are, as you can see, much smaller than the diameter of the alleged first aperture.

Q. And what claims have this requirement?

A. For the '881 patent, it's again claim 16.

Q. And what claims, asserted claims, are implicated by this limitation?

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A. On the '881 patent, it would be claims 19 and 26.

Q. All right, Dr. Vallee, can you sum up what limitations are missing from Mr. Leinsing's proposed combination of Fang and Wang '554?

A. Yes. Again, there are a number that are missing. First of all, there's no central and axial passageway between the first and second apertures. There's no solution holding medium surrounding the airflow passageway in the heating element. There's no coil element nor is there a uniform airflow passageway. And since there's no coil heating element, there's no coil smaller than a uniform cross-sectional area of the passageway. There's also no uniform cross-sectional area. And there's no airflow passageway having a cross-section no smaller, as we just discussed, than the first aperture.

Q. And so, to summarize -- we're on slide 88 -- has Respondent or Mr. Leinsing shown by clear and convincing evidence that the asserted claims are obvious in view of Fang and Wang?

A. No, he has not.

Q. Let's move on to Red Dragon now. To start, we're on slide 90. What is Red Dragon?

A. Well, Red Dragon is a two-piece e-cigarette. It has a power unit and a cartomizer. There's a heating element in it. And what we're looking at here are the two

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kits that Mr. Leinsing looked at, Red Dragon Kit 1, which is CX-2770, and Kit 2, which is CX-2757.

Q. Let's take a look at slide 91. Respondent contends that Red Dragon was offered for sale as early as January 6th, 2009. Do you agree with that assessment?

A. No, I do not. What I show here is a UPC on the packaging, basically, that says November 23, 2008. But that's not a sale date. It's a simply date on a UPC code.

Q. Okay. Okay. And so in your opinion, does the packaging for the Red Dragon support an on-sale date of January 6th, 2009?

A. No, it doesn't.

Q. All right. Moving on to slide 92, Mr. Leinsing also cited an invoice to support an on-sale date. What's your opinion concerning this invoice?

A. Well, clearly, the UPC on the invoice that I highlighted in the right figure labeled "invoice," which is RX-1308, is different than the UPC on the packaging in kit 2. They're different.

Q. And that's RX-1308 that you're citing?

A. Yes, that's what I said.

Q. All right. Let's move to slide 93. Mr. Leinsing also cites a Wayback Machine web page to support his opinion about the sale date. JX-604.

Does this web page include pictures of an

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e-cigarette?

A. No, it does not.

Q. Does it include any pictures of the internals of an e-cigarette?

A. No, it does not.

Q. And so what is your opinion about whether the web page supports an on-sale date that's being alleged?

A. For that reason, and also the fact there are no serial numbers or any other information on there, it doesn't support that.

Q. And now we're on slide 94, and we're looking at -- it looks like you've depicted here JX-611.

A. Okay.

Q. Does this web page support an on-sale date of the physical samples of the Red Dragon that you reviewed?

A. Again, for similar reasons, I see no UPC codes. I see no photographs or other images to support that.

Q. Okay. And in your opinion, has it been established that the Red Dragon samples that you reviewed are, in fact, prior art?

A. No.

Q. Moving on to slide 95. Now, you mentioned earlier there were two samples of the Red Dragon Kit 1 and Kit 2.

A. Yes.

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Q. Which did Mr. Leinsing use for his analysis?
A. Well, he used both.
Q. And does either have a -- excuse me. Do the airflow passageways of Kit 1 and Kit 2 look the same?
A. No, they're a little bit different. As you can see in the Kit 1, I call that an x-ray -- I know he said it was CT scan, but the x-ray in Kit 1, you can see a very jagged airflow passageway. And when you look at the x-ray for Kit 2, it's simply a passageway that tilts to one side. They don't look the same.
Q. And when you were considering the Red Dragon physical samples, what else did you review?
A. Well, I reviewed the samples themselves.
Q. Okay. And what else?
A. Excuse me? I'm sorry.
Q. Did you review the CT scans and x-rays that were produced?
A. Yeah, I did the CT scan and I also did the actual cartridge I show up top. So I reviewed what's in the photographs.
Q. All right. We're on slide 96 now.
And can you please summarize briefly the internal components of the Red Dragon samples?
A. Well, based on these CT scans and x-rays, they have woven spacers and a longitudinal heating element that's

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located between the spacers. There's a liquid storage area surrounding it. And it also indicates the airflow paths that travel through the device.

Q. Now, in the Red Dragon samples, is the coiled heating element in contact with the liquid solution?

A. Yes, it has to be. You can see that in the figures. That's the way the solution contacts the heating element for vaporization.

Q. Is it in direct contact?

A. Yes, it is.

Q. And is the entire length of the outside of the heating coil in direct contact with the liquid solution in the Red Dragon devices?

A. Yes, it is.

Q. Now, Dr. Vallee, we're on slide 97. Do you understand that Mr. Leinsing is arguing that it would have been obvious to combine Red Dragon with Fang?

A. I do.

Q. Okay. And slide 98. How does Mr. Leinsing propose modifying Red Dragon samples in view of Fang?

A. Well, my understanding is he simply considers taking heating elements like -- I'm sorry. Just taking a transverse heating element shown in Fang and using that idea to take the heating element that's in the Red Dragon and simply rotate it 90 degrees.

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Q. And does Mr. Leinsing propose placing a wick inside the modified coil?

A. No. He proposes placing a wick as shown there, keeping, like, the wick on the outside and just having the ends of the heating element contact that wick, which is really just the sleeve that passes over the original heating element.

Q. And other than changing the orientation of Red Dragon's heating coil and shrinking it, does Mr. Leinsing propose any other changes to Red Dragon?

A. No.

Q. Let's move on to slide 99. Do you agree that it would have been obvious to combine Red Dragon with Fang?

A. No, I do not.

Q. And how do Red Dragon and Fang compare as e-cigarettes?

A. Well, Fang is much more complicated, as you can see, and it would be much more expensive. Fang also doesn't have any electrical connections on the cartridge that Red Dragon does. Fang uses that electric heating wire, as opposed to coil like Red Dragon. And they just operate differently.

Q. Now, do you agree that the Fang's components are off-the-shelf components?

A. No, I don't. They certainly look like custom

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components to me.

Q. Now, what's the disposable component in Fang?

A. In Fang, it's simply the tank, the blue tank, the cartridge.

Q. That's sucker 1?

A. Yes, sucker 1.

Q. And does it include a heating coil?

A. There's no heating coil in the sucker.

Q. All right. Let's move on to slide 100, and let's focus on the proposed modification.

Now, in your opinion, would a person of ordinary skill in the art have been motivated to change Red Dragon's heating coil from being axial to being transverse?

A. No, there would not. There are a number of reasons I list there.

Q. And as between Red Dragon's axial heating coil and Mr. Leinsing's proposed transverse coil, which has greater contact with the liquid solution in the cartridge?

A. The original longitudinal one does. The one proposed by Mr. Leinsing seems to only contact the solution that -- in that figure, the top and bottom.

Q. And as between the Red Dragon axial heating coil and the modified heating coil that's transverse, which would be more effective at vaporization, in your opinion?

A. The longitudinal coil, the original orientation

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would be much more effective.

Q. And why is that?

A. Again, because there's very little contact with the red coil that Mr. Leinsing proposes between the solution holding medium and the coil itself.

Q. Would a transverse heating coil in the Red Dragon stay transverse when assembled into the device?

A. Well, I would say no. There's really no -- he doesn't explain how you would actually orient what structure would be in there. But I think it would be inclined to just the way it looks here, just to kind of tilt to either side because there's no support structure.

Q. And -- did you mention support structure?

A. I did.

Q. Okay. Would it be more costly to include support structure in Red Dragon to hold the transverse heating element transverse?

A. Oh, yes, it would. In this figure, they simply butt it against two woven sleeves, but what he's proposing requires a completely different mechanism to do that. There has got to be some additional components to hold it in place.

Q. And we're on slide 101 now. I want to zoom more closely in on the proposed quote from Red Dragon.

So how much of the coil in this image can you see

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is actually in contact with the solution?

A. Again, it would only be the very ends of the coils, the top and bottom there. That's it.

Q. And in this image, where would vaporization occur?

A. The only place it could occur is where there would be contacts. Only where you see the red arrow overlap the -- I'll call that yellow bars, yellow lines.

Q. And what about the portion in red that spans the airflow passageway, is that in contact with solution?

A. No, it's not.

Q. Sorry. Are the portions of the coil that span the airflow passageway and exposed to air, are they vaporizing anything?

A. No, because they're not in contact with any solution.

Q. Would a person of ordinary skill in the art want to take Red Dragon's vertical heating coil and implement Mr. Leinsing's proposed modifications shown on slide 101?

A. No, they wouldn't.

Q. Let's look at slide 102 and turn to the asserted patents.

Can you tell me what limitations are missing from Red Dragon --

A. Again --

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Q. -- as modified by Mr. Leinsing?

A. I'm sorry. Again there are a number. So it has no central axial airflow passageway. There's no airflow path that extends in a straight path. And there's no substantially uniform airflow passageway. There's no max diameter of a coil smaller than the airflow passageway. And there's not a heating element only obstructing the airflow.

Q. Move on to slide 103, and let's take a look at the first limitation you mentioned.

Does Red Dragon as modified have a central and axial airflow passageway?

A. No, it doesn't. You can see from the x-rays of Kit 1 in the photograph, that it's quite jagged, the airflow passageway. It's not central or axial. And you can see in the top figure how the passageway skews to the top away from the center.

Q. All right. And we'll go to slide 104. How about in Kit 2?

A. Again, no. It's not a central or axial airflow passageway.

Q. And what's the difference between the figure on the left and the figure on the right in slide 104?

A. Well, they -- both x-rays are CT scans of Kit 2. But the one in Mr. Leinsing 's report is rotated 60 degrees away along the axis of rotation, which is a longitudinal

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axis, from the other scan that I show on the right. So it's simply just rotated with respect to the image.

Q. All right. We're on slide 106. And in view of what you just said, what's your opinion with regards to the modified Red Dragon and the limitations requiring a central and axial airflow passageway?

A. It does not meet the limitations. Here we can see it does not meet, in the '864 patent, limitation 1; in the '881 -- I'm sorry, claim 1. In the '881, it doesn't meet claims 1, 16, or 19.

Q. Okay. And what claims, asserted claims, are implicated by this?

A. In the '864 patent, it would be claim 2. And in the '881, it would be all claims.

Q. All right. Moving on to slide 107. Let's turn to limitation requiring a straight airflow passageway.

Does Red Dragon have a straight airflow passageway?

A. No. That's pretty clear to see from the figures from Kit 1 and Kit 2.

Q. And what claims have this limitation?

A. For the '864 patent, it's claim 25.

Q. And what asserted claims does this implicate?

A. And claim 26 of the '864 is implicated.

Q. All right. We're moving on to slide 108, and

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looking at the limitation requiring a uniform airflow passageway either along a continuous majority or a majority between the heating element and the second aperture.

And what is your opinion with respect to the Red Dragon combination here?

A. It doesn't meet this limitation. You can see what I've done is I've taken green double arrows, they all have the same length, and I have distributed them across the airflow passageway.

And as you can see, there are definitely sections where -- if we start with the heating element, for example, where the arrow is longer than the distance between the two red lines, and there are areas on the right of the pathway the arrow is actually shorter. So that indicates that you can't take a constant length double arrow and distribute it without having either gaps or overlaps in that passageway. So it's not uniform in diameter.

Q. All right. Let's go to slide 109, and I want to take a look at Mr. Leinsing's analysis here.

How does he argue that this limitation is met in his slides?

A. Well, he's arguing -- he's using the same technique I did, I believe, that equal length arrows are, in fact, distributed throughout that passageway, and it meets the structure, the internal structure, of the passageway.

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Q. How does Mr. Leinsing -- we're on slide 110 -- how does he reach a different conclusion than you with respect to whether the Red Dragon includes a uniform airflow passageway?

A. Well, if we look closely, if you look at the heating element, which is the white dust to the left, you can actually see that horizontal line, blue line, isn't really in line with the inside of the passageway for that piece of the woven spacer. It's actually below it.

Similarly, if you look all the way to the right, you can see that blue reference line. It's actually below, again, the spacer. So if you look at that the way it's drawn, it looks to be the same, but if you were to more accurately place those bottom lines, that would not be true.

Q. All right. And we're on slide 111.

And what claims have limitations requiring the uniform airflow passageway we've discussed?

A. For the '864 patent, it's claim 16. And for the '881, it's claim 16.

Q. All right. And which asserted claims are implicated?

A. For the '864 patent, it would be claim 16 again. And for the '881, it would be claims 19 and 26.

Q. And moving on to slide 112, let's look at the next limitation requiring that the diameter of the heating

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coil is smaller than the cross-sectional area of the airflow passageway.

And on this slide, we can see Mr. Leinsing's analysis of this limitation. Do you agree with his analysis?

A. No, I do not. It's pretty clear to see that the heating coil is larger in diameter than the outside diameter of the woven spacers on the left and right, so it contacts -- so it needs to be so it will contact the solution holding medium. So it actually -- so the coil doesn't fit through the inside diameter of either woven spacer.

Q. And is Mr. Leinsing's identification of the diameter of the airflow passageway accurate?

A. I don't believe it is because if you look at the red arrow that's indicating that, there is an extension line that's even with, I believe, close to the yellow wick, but if you look closely, that line goes far below the bottom of the woven spacer on the right. So there's a gap between that extension line he's measuring to and the actual inside of the airflow passageway at that point.

Q. Okay. Let's move to slide 113, and let's look at your analysis, now that we've looked at Mr. Leinsing's for this limitation.

What are you showing here?

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A. Well, I show the outside diameter of the heating coil that's contained within the two red lines in the middle. And I have a -- again I have constant length double arrows in blue, and you can see that that outside diameter heating coil that I indicate there between the two red lines, that is larger than the inside diameter of the woven spacer on the left, and it's also larger than the diameter of the woven spacer and even the aperture on the right.

Q. All right. Moving on to slide 114, what claims recite this limitation that we've been discussing?

A. That would be -- of the '881 patent, it would be claim 18, and also on the '881 patent, claim 19 is implicated.

Q. All right. Moving on slide 115, let's turn to the next limitation, requiring that only the heating coil obstructs a portion of the airflow through the airflow passageway along the central axis.

And what are you showing on the left?

A. Well, on the left is Mr. Leinsing's proposed modification with the vertical heating coil.

Q. And then what are you showing on the right?

A. That's an x-ray scan of Kit 2, and you can see I've shown the central longitudinal axis of the housing. And you can see that the airflow passageway actually obstructs that central longitudinal axis.

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Q. And now, what claims recite this limitation?

A. Well, for the '864 patent, it's claim 25, and for the '864, claim 26 is also implicated.

Q. All right. We're on slide 116.

Can you please sum up what limitations are missing from the Red Dragon modification, in your opinion?

A. Well, I think what we've seen is that the central and axial airflow passageway is not present. There's no airflow passageway extending in a straight path, nor is there a substantially uniform airflow passageway. The max diameter of the coil is not smaller than the airflow passageway diameter, and there's more than just the heating element obstructing the airflow.

Q. Now, to summarize, has Respondent or Mr. Leinsing shown by clear and convincing evidence that the combination of Red Dragon and Fang render obvious the asserted claims?

A. No, he has not.

Q. All right. We'll talk briefly next about Mr. Leinsing's contention that the Fuma prototype anticipates the asserted claims.

Now, first, is the Fuma prototype prior art?

A. No, it's not.

Q. And we're on slide 119. To be prior art, is it your understanding that the Fuma prototype would have to be made or sold more than one year before July 27, 2010, which

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is the filing date of the '917 application?

A. That's correct.

Q. And when was the first sale of the commercial Fuma e-cigarette that you analyzed in this investigation?

A. Well, the invoice shown on the left shows it was September of 2009.

Q. Is that less than a year before the filing date of the '917 application?

A. Yes, it is.

Q. And do you understand that the earliest Mr. Leinsing contends that the Fuma e-cigarette was publicly available was August 2009?

A. That's true.

Q. Is August 2009 less than one year before July 27th, 2010?

A. It is.

Q. And then, briefly, on slide 120, now, do you understand that Respondent contends that the asserted patents are not entitled to claim priority to the '917 application?

A. I do.

Q. Do you agree with him?

A. No, I don't.

Q. And did we already discuss last week in your testimony how the '917 application fully supports the claims

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of the asserted patents?

A. Yes, we did. And I indicate the text in the text block there.

Q. Okay. And just a few follow-up questions here.

Does the '917 application provide support for claims reciting a first aperture proximate a first end and a second aperture proximate a second end?

A. Yes, it does.

Q. And can you explain your reasoning?

A. Well, you can see from Figure 2 and the language there I cited at page 29, it talks about that there is a -- and I'll use the claim language -- there's a first aperture at the first end. You can see it at the bottom.

It locates the first end being at the bottom of the cartridge, being the blue surface that goes through surface 208 in the center post, 218, and it shows the center aperture at the bottom of that. It also clearly talks about the second end being 206 and the second aperture 211.

Q. Okay. Now, in the '917 application, Figure 2, what you labeled as the first aperture here on this slide, the label 212 is not present, correct?

A. That's correct.

Q. All right. Would a person of -- would a person of ordinary skill in the art understand that aperture 212 is what you've labeled as the first aperture in Figure 2?

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A. Sure. I mean the aperture -- there are only two apertures, and one is on the top. So 212 has to be the first aperture at the bottom, as I indicated.

Q. And is what you labeled as the first aperture -- is that at, near, or proximate -- sorry, at, near, or close to the first end?

A. Yes, it is.

Q. And is the aperture that you labeled as the second aperture in Figure 2, is that at, near, or close to what you labeled as the second end?

A. It is.

Q. Okay. Finally, to summarize, Dr. Vallee, what are your opinions as to whether Respondent or Mr. Leinsing have shown by clear and convincing evidence that any of the asserted claims are invalid?

A. I'm sorry, could you just read that one more time. I didn't quite hear it.

Q. It's important, so I'll try again.

To summarize, what are your opinions as to whether Respondent or Mr. Leinsing have shown by clear and convincing evidence that any of the asserted claims are invalid?

A. He has not shown that.

Q. Okay.

MR. ANSLEY: I'll pass the witness. Thank you.

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JUDGE JOHNSON HINES: All right. Thank you. Let's take our break, and we can return at 3:30.

(A recess was taken at 3:12 p.m., after which the proceedings resumed at 3:31 p.m.)

JUDGE JOHNSON HINES: Please be seated.

Mr. Rizk.

MR. RIZK: Thank you, Your Honor. May I proceed?

THE WITNESS: Yes, thank you.

CROSS-EXAMINATION

BY MR. RIZK:

Q. Good afternoon, Dr. Vallee. Good to see you again?

A. You too.

Q. So before we start jumping into the nitty-gritty, I would like to go over a baseline of what was known in e-cigarette devices before the alleged invention.

And we covered this to a good extent at your deposition, and I think we ended up on the same page of what was known around the time of the alleged invention but I also want to avoid here, you know, longer answers. I am going to be asking you yes-or-no questions.

If you can't answer my questions yes or no, then just please let me know, say so, so I can't answer yes or no.

We will have a chance to follow-up later about

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how these individual components that we're going to be talking about may be combined in a unique but for purposes of my questions for now is just to get an understanding of what components were known in the art at the time of the invention.

Does that make sense?

A. It does.

Q. Great. So here we go, okay. Again focusing on what was known in e-cigarette devices prior to the alleged invention.

So e-cigarettes were known, correct?

A. Correct.

Q. Okay. One piece e-cigarettes were known?

A. They were.

Q. Multi-piece e-cigarettes were known?

A. They were.

Q. Multi-piece e-cigarettes containing a separable power source and a cartridge was known, correct?

A. Yes.

Q. And an example of a multi-piece e-cigarette is a two-piece e-cigarette; that was also known, correct?

A. It was.

Q. And another example of multi-piece e-cigarettes that was known at the time of the alleged invention was a three-piece e-cigarette; is that correct?

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A. That's correct.
Q. The solution holding mediums were known, right?
A. They were.
Q. Airflow passageways, those were known, correct?
A. Yes.
Q. Locating an airflow passageway centrally and axially with respect to the central longitudinal axis of a device housing was known, yes?
A. Just thinking through the devices. You are saying central and longitudinal airflow passageways were known? Is that -- was that the question?
Q. Let me repeat the question for you.
A. Thank you.
Q. Again I'm looking for a yes or no.
Locating airflow passageways centrally and axially with respect to the central longitudinal axis of a device housing was known, correct?
A. Yes, different housings, yes.
Q. Using an air inlet to allow air to entering into that type of an airflow passageway was known, correct?
A. Yes, there always has to be a way to get the air in, yes, correct. Yes, I'm sorry.
Q. I understand it can be a little bit of a challenge, sir.
Heating elements were known, correct?

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A. They were.
Q. Transverse heating elements were known?
A. They were.
Q. Axial heating elements were known?
A. They were.
Q. Locating axial or transverse heating elements in an airflow passageway, that was known, correct?
A. Sorry, what do you mean by locating them? Are you saying those heating elements that were located in those configurations or the act of somehow physically locating them?
Q. Let me try to restate it.
It was known for a heating element to be positioned inside of an airflow passageway, correct?
A. Yes.
Q. It was known for a transverse heating element to be positioned inside of an airflow passageway, correct?
A. Correct, in general, yes.
Q. It was also known for an axial heating element to be positioned inside of an airflow passageway, correct?
A. By axial heating element, you mean the direction of the heating element is along the axis, I assume, correct?
Q. All right. Let's call up RX-0077.22, please.
Now, as part of the opinion, expert opinion that you have offered in this investigation, you reviewed and

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considered CT scans of Red Dragon devices, correct?

A. That's correct.

Q. And RX-077 is a document that you reviewed and relied upon in forming the opinions that you have offered in this case?

A. Yes. It is one of the many documents, yes.

Q. Okay. And you agree that Mr. Leinsing analyzed this view of the Red Dragon kit, correct?

A. Yes, assuming this is the view of the Red Dragon kit, he did analyze it.

Q. It's your opinion that the Red Dragon device is not central and axial when viewed at other angles, correct?

A. Well I think what I testified was that -- well, yes, the answer is just yes. I talked about how you need two different angles, two views of two different angles but yes we have gone through that so the answer is yes.

Q. Let's call up the same exhibit, page 30, RX-077.30. This is another view of the same kit device, Kit Number 2, correct?

A. I believe so. It is the same -- yes, I believe it is.

Q. This one is sill still central and axial, correct?

A. Yes, it doesn't indicate what the angle it was tilted at if it is 180 degrees or not.

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Q. Again, sir, if you can't answer yes or no, you can just say so. But I am looking for yes or no answers.
A. I'm sorry. So the question again was --
Q. This is another view of the same Kit Number 2 device, correct?
A. I believe it is, yes.
Q. Let's call up RX-0079.34.
Sir, this is a Fuma device, correct?
A. I assume it is.
Q. And you reviewed CT scans of Fuma cartridges in forming and providing the opinions that you have provided in this investigation?
A. I have. Again, I'm assuming this is -- I don't know exactly what the RX numbers for the Fuma device is, but I'll assume that it is the Fuma device.
Q. And it's your opinion that this airflow passageway is central and axial, sir; is that your opinion?
A. I don't recall reviewing this actual photo, I don't believe. If you give me a second to look at the x-ray, please.
I don't recall reviewing this photo -- this x-ray.
Q. You cited it in your materials considered in your expert report, did you not?
A. Again, I would have to look at the materials

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considered to see if that number is actually in there.

Q. So without -- you have offered an opinion in your direct testimony that certain airflow passageways were non-central, non-axial based upon the orientation of the spacer with respect to the central longitudinal axis; so my question for you, sir, and this is a yes or no, is the airflow passageway that is seen here central and axial?

A. For this picture in this device, I'd say no.

Q. All right. Let's turn to RX-0079.14.

Different view of the same cartridge, correct?

A. I don't really know if it is or not. Again I'd have to go back and look at the documentation to see if this is actually the same cartridge or a different view of the same cartridge.

Q. Also not central, non-axial, correct?

A. In this picture, this particular cartridge is non-axial.

Q. So based upon the testimony that you gave earlier about the Red Dragon device being non-central and non-axial, if this is a Fuma device or a device that was represented as Fuma, you would agree it doesn't practice the asserted patent claims, correct?

A. But I've seen from devices that are perfectly central and axial. So in this particular photograph I'll agree with you, this one as I testified is not central and

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axial.

Q. So your testimony is that if some devices are central and axial but other devices are not, you would consider the device generally to be central and axial, correct?

A. All I'm saying is that some of the Fuma devices I looked at were more central and axial than this one.

Q. All right. Let's switch gears to the testimony -- sorry, the terminology that has been used in this case.

And, again, same rules apply. I am looking for yes-or-no answers. If you can't answer my question yes or no, then just say so.

Agree or disagree: In a two-piece e-cigarette device, the cartridge contains both a heating element and a solution holding medium, correct?

A. A two-piece e-cigarette device.

Well, again, I can't answer because I need to see which devices you're talking about.

Q. So in your report, you provide an expert opinion about two-piece systems. Do you recall that?

A. I do but to answer your question you said if you can't answer it to say I can't answer it. So based on that question, I can't answer.

Q. So with respect to the two-piece systems that you refer to in your expert report, those types of two-piece

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systems contain both a heating element and a solution holding medium in the cartridge?

A. In which particular two-piece systems are you referring to now? There were a lot of them in my report.

Q. Let's start with Wang. Is Wang a two-piece system, Wang '554?

A. Wang is a two-piece system.

Q. The cartridge component of Wang you would consider to be a cartomizer, correct?

A. Correct. It has solution holding medium and a heater.

Q. Okay. And an example of a three-piece system would be the NJOY NPRO, correct?

A. That is correct.

Q. All right. And in a three-piece e-cigarette device such as the NJOY NPRO, it's your opinion that the heating element is separable from the solution holding medium so that the heating element can be used with disposable cartridges containing fresh solution holding medium, correct?

A. I'm sorry, one more time? It was a lot in that question.

Q. In a three-piece e-cigarette device such as the NPRO, it is your opinion that the heating element would be separable from the solution holding medium so the heating

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element can be reused with disposable cartridges containing fresh solution holding medium?

A. I think it's more accurate -- well, I'll say based on that question, I can't answer it that way, yes or no.

Q. All right. Why don't we pull up Dr. Vallee's report at 53, RX-1080C.53, paragraph 94.

So in the second sentence of this sentence -- of this paragraph 94, you state, "the predominant designs at the time of the invention of the asserted patents were non-cartomizer designs, where the atomizer was integrated into the power unit or a separate reusable part, and not disposed of along with the liquid storage cartridge."

Do you see that?

A. I do. If I could take a second to read the entire paragraph.

Q. I'm just asking you for now if you see that sentence and you agree with that statement, sir?

A. I see the sentence. I do agree with that sentence.

Q. All right. Now, it's your opinion that the claims that are asserted in this case are exclusively drawn toward two-piece e-cigarette devices where the cartridge is that of the cartomizer variety, correct?

A. Correct.

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Q. And as described by the patents in this case, the claimed cartridge can be a single-piece assembly or a multi-piece assembly, correct?

A. That's true.

Q. All right. And Wang '554 is directed toward a cartomizer device as we previously discussed, correct?

A. Correct, we discussed that.

Q. And Wang '554 discloses that the heating element portion of the cartridge can be disposable or it can be reused repeatedly with disposable capsule jackets, correct?

A. I'd have to look at the Wang again to see if that text is actually in there. I don't recall if that text is in the patent.

Q. Okay. Let's pull up Wang, which is CX-2954 and we can go to page 9. Sorry, CX-2954.0009.

A. Is that in my binder here?

Q. It should be, yeah.

A. That is 2954.

Q. Binder Number 1.

A. I don't see 29 -- oh, I have it right here, 2954. I'm sorry, I see it. It is a very thick binder. Let me bring it over here. Okay.

Q. All right. So you have Wang in front of you?

A. I do.

Q. We're on CX-2954.0009.

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A. Correct.

Q. Now, looking at the first full paragraph of that image, you will agree, we can highlight the first sentence of the first full paragraph that states, "the evaporator may be a disposable product or may be used repeatedly, and the capsule jacket is a disposable product which may be play a role in supplementing the tobacco extract 203 for the evaporator of the disposable capsule cigarette holder."

Did I read that correctly?

A. You did.

Q. Okay. And the evaporator that is being referred to in this sentence is the heating element, correct?

A. Let's take a look here. I believe so. I just -- I don't recall if he actually called it heating element evaporator or not.

Q. So --

A. If you could refer me to a place where I can see that language, that would be helpful.

Q. I will ask you a different question. In Wang's cartomizer, it's evaporator can be disposable or it could be reused repeatedly with disposable capsule jackets. Yes or no?

A. Again, I'm trying to see what the evaporator is. I was just looking to get some clarity on what the evaporator was.

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Q. If you can't answer yes or no, it's -- you can just say so sir.

A. Then I will say I can't answer that.

Q. Wang '554 also discloses that it's cartridge can be made non-detachable from the cigarette rod turning it into a one-piece device; yes or no?

A. Again, I don't remember that so I would have to see the passage in the patent.

Q. Let's go to the second paragraph after the paragraph that we have highlighted.

A. Okay.

Q. And I will read it into the record. It says, "since the evaporator of the disposable capsule cigarette holder may be used repeatedly, it may also be made as a whole with the cigarette rod in embodiment 1."

Did I read that correctly?

A. Yes, you did.

Q. So Wang is saying here that it's cartridge can be made non-detachable from the cigarette rod turning it into a one-piece device, correct?

A. Correct.

Q. All right. Now, a POSITA reading Wang '554 would understand that Wang '554's multi-piece cartomizer design can be made into a one-piece design and vice versa, correct?

A. You know, that would be correct.

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Q. I'm sorry, can you repeat that, sir?
A. I'm sorry, that would be correct.
Q. Now, the phrase two-piece is not found anywhere in the asserted patent, correct?
A. I don't recall if it is or it isn't.
Q. Okay. And the phrase three-piece is also found nowhere in the asserted patents, correct?
A. Again, I can't answer without having the patent in front of me. I don't recall.
Q. You didn't provide an opinion in this case about three-piece being found somewhere in the asserted patents?
A. Well, your specific was it's not mentioned in the patent. And there are two large patents. I just don't recall if it said two-piece or three-piece in the patent itself. That's all.
Q. Wouldn't surprise you if it wasn't, correct?
A. I'm sorry, it wouldn't surprise me if it wasn't?
Q. Yes.
A. I just don't recall if it said it or not. I can simply look at it and tell you but I don't recall.
Q. The term cartomizer is not in the asserted patents, correct?
A. Cartomizer? Again, without the patent in front of me, I don't recall if they actually used that term or not.

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Q. All right. Let's talk about a more concrete one piece prior art reference. I am going to focus on Wang '927. And, again, this is a yes or no, sir.

Agree or disagree.

MR. ANSLEY: Objection, Your Honor, this is outside the scope of his direct. This is a prior art reference that wasn't discussed.

JUDGE JOHNSON HINES: Mr. Rizk.

MR. RIZK: Your Honor, the positions that he took in the Wang '927 reference goes to positions that he took in some of the other prior art references related to claim interpretation.

JUDGE JOHNSON HINES: Can you explain that a little bit? I am not understanding what you are saying.

MR. RIZK: Yes. So, for example, Your Honor, we heard last week that Dr. Vallee took positions in Wang '927 with regards to whether or not the airflow passageway could extend the width of the gap. And that -- sorry, the width of the airflow passageway, rather.

And that testimony that he provided with respect to Wang '927 as an example -- there are other examples -- is relevant to the testimony that he gave and applied to Xia '610 and it's airflow passageway.

JUDGE JOHNSON HINES: Do you have a position, Mr. Bui?

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MR. BUI: Thank you, Your Honor. It is cross-examination. I don't have a problem with this line of questioning, assuming that this is not getting into a new combination, which I don't think it is, but it is cross and so I think it's fair game and there is always redirect, Your Honor.

JUDGE JOHNSON HINES: All right. I will allow it.

MR. RIZK: Thank you, Your Honor.

BY MR. RIZK:

Q. So, sir, Wang '927 is an example of a one-piece e-cigarette device, correct?

A. As I recall, that is correct.

Q. And Wang '927 discloses a transverse heating element, correct?

A. Trying to recall. Is there a figure you can go to, or someplace, that might refresh my memory. I haven't looked at the 927 in a while. I can't answer that question without seeing the figure and my reports to refresh my memory.

Q. I will withdraw that question.

During your direct testimony earlier today, you gave testimony about how the Fang heating element works.

Do you remember that?

A. Yes, I recall that.

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Q. Okay. And in connection with the Wang '927 heating element, you recall that that heating element works by heating up surrounding air, correct?

A. I don't recall -- are you saying I testified to that today?

Q. No. I am asking you if you recall that's how Wang operates.

A. I just don't recall sitting here.

Q. Let's pull up Dr. Vallee's transcript, day 2 at 491, 11 to 16.

So at your deposition you were asked the question -- this is with reference to your report. You go on to state that "the specification of Wang '927 makes clear, electric heating wire 9 only heats air which then carries the generated heat away from the heating element into the tobacco juice bin, correct?

"Answer: Correct."

Did I read that correctly?

A. Yes. Now I recall, yes.

Q. Okay, all right. Now, your opinion was that Wang '927's heating element cannot be the claimed heating element because it's not -- it wasn't configured to vaporize solution.

Do you remember that?

A. Vaguely, yes, I do.

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Q. And in your opinion, the surrounding air could also not be the claimed heating element because the air did not itself generate heat.

Do you remember that?

A. That I don't recall but I'm sure it's -- it's in my transcript and I could see it, please.

Q. Let's bring up your transcript, 492, lines 12 through 15. The question was:

"Question: So would you consider the air to be a heating element since it's participating in the vaporization function?

"Answer: No."

Did I read that correctly?

A. You did.

Q. Now, it is also your opinion that because the air doesn't conduct electricity, which was required by all the parties and Staff's proposed constructions in some form, therefore, it is not a heating element.

Do you remember that?

A. No, I don't.

Q. All right. Well, let's bring up your transcript again, RX-1015C at 492, 16 through 24.

And there you were asked -- go up a little bit more so he has the context. So you saw the earlier question already, you were asked:

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"Why not?"

And then you answered:

"Answer: A heating element is a structure or a device or a component that generates heat. Hot air isn't a heating element. Something has to heat it. Hot air is hot air. Something has to heat it. And I'll also add that it should be electrically -- I mean all the heating elements we're discussing with these e-cigarettes are powered electrically. Hot air is not powered electrically. It's just hot air."

Did I read that correctly?

A. You did.

Q. Now, the wick that is in the NJOY ACE and RJR DI products doesn't conduct electrically, correct?

A. Well, the heating element in those products is identified, was the heating element and the wicking material.

Q. I understand, sir. That's not my question. This is a yes or no.

You have provided no evidence or opinion in this investigation that the wick in the NJOY ACE and RJR DI products conduct electricity?

A. That's it? I'm sorry. I didn't know you were finished with the question.

No. No. And I wouldn't have to because the

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heating element is the combination of the two but continue, please.

Q. All right. Let's pull up your demonstrative slide, CDX-2C.211.

Actually, sorry, you can -- never mind that. I will withdraw that.

So let's talk a little about some of the nomenclature that has been used for the housing. So the claimed housing, the housing that is recited by the asserted claims, is the housing that protects the internals of the device, correct?

A. That's correct, the claimed internals of the claimed housing.

Q. I am just looking for yes-or-no answers. I am going to ask it again.

The claimed housing is the housing that protects the internals of the device. Correct?

A. Correct.

Q. Yes or no: The housing protects the internals of the cartridge?

A. Again, I'm going to say I can't answer because without elaboration, that's not a yes-or-no question.

Q. All right. Well let's bring up your deposition at RX-1014C at 170, 21 through 25.

And let's go up a little bit so the doctor can

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have some of the context. Let's start from 16 through 25.

So there we were talking about the construction of housing that was offered in the POPR by NJOY and you were asked, "do you agree with it?"

And you responded, "I don't think I would have worded it that way but that's in general what the housing is. As I said, it's the outside with everything that it protects inside."

Did I read that portion of your testimony correctly?

A. You did.

Q. Okay. Then the next question was:

"Question: What it protects is the internals of the device, right?"

Your answer:

"Answer: It protects the internal of the cartridge, the internal of the housing."

Did I read that correctly?

A. You did.

Q. All right. So when the claim 1 of the '864 patent refers to the first end of the housing, that's the first end of the cartridge, correct?

A. In the '884 patent, that is correct. The way it defines the housing, that is correct, yes.

Q. That's not what I said. In the '864 patent when

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claim 1 refers to the first end of the housing, that is the first end of the cartridge, correct?

A. It is.

Q. Now, last week's hearing you disagreed with Mr. Bui that a chamber housing that occupies the entire width of the housing renders limitations such as central and axial meaningless.

Do you recall that?

A. I'm sorry, can you repeat one more time?

Q. At last week's hearing, you disagreed with Mr. Bui that a chamber housing that occupies the entire width of the housing renders limitations such as central and axial meaningless, yes?

A. A chamber housing is what he said? I'm trying to recall that conversation with Mr. Bui.

Q. I will simplify it for you. At last week's hearing you disagreed with Mr. Bui that a passageway in a housing that occupies the entire width of the housing renders limitations such as central and axial meaningless, correct?

A. Again, without adding detail -- I mean, without an explanation -- I'm going to say that I disagreed with him on that.

Q. Okay.

A. In the context of that discussion.

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Q. Thank you, sir.

And you agree that Figure 2 of the asserted patents discloses that the gap 228 is part of the passageway 214, correct?

A. It is.

Q. In other words, Figure 2 discloses that there can be one big hole at the end of the passageway 214 and that one big hole would extend the width of the housing 202, correct?

A. No, I don't think that's correct. One big hole? Are you talking about an aperture or --

Q. Yes.

A. No. We discussed you that at length last week. No, that's not correct.

Q. So what shape would that gap take if it's not one big hole at the end of the passageway?

A. Again, I don't recall, there were figures involved. I just don't recall the conversation. There was a whole line of questions that led up to that and that discussion, so I can't answer that question without more information.

Q. All right. Let's turn to Xia, which is a multi-piece device prior art reference, correct?

A. Xia? Yes.

Q. All right. Sorry, before we move on to Xia, a

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couple of follow-up questions about the housing.

The housing is what protects the interior of the cartridge, correct?

A. The claimed cartridge, yes; the claimed housing, yes.

Q. Everything, the wick, the air, the air tube, inside the cartridge is the interior that you referred to in your prior answer, correct?

A. The -- I'm sorry, which items did you list again?

Q. Everything inside the -- inside the cartridge is the interior of the housing, correct?

A. The claim components and the cartridge, yes, correct.

Q. So, again, just yes or no, sir. I think that we're on the same page but I just want to make sure the record is clean.

Everything inside the cartridge is the interior of the housing, correct?

A. The cartridge and housing are different except in that patent but I will say correct for that.

Q. So let's turn to Xia. Now, I would like to start with Xia's undisputed operation and what we can agree on before we jump into the issues.

So let's start with RX-1080C.157. That is your annotated version of Xia's Figure 2 that you put in your

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expert report.

Do you recall this diagram, sir?

A. I do.

Q. Okay. And so focusing in on the portion of that diagram on the bottom, the one that is labeled generator, that is your annotated version of Xia's Figure 2, correct?

A. Yes, it is.

Q. And that's an image of Xia's generator device, correct?

A. Correct.

Q. And Xia discloses generally an e-cigarette comprising two detachable devices that Xia calls the generator and the controller, correct?

A. It breaks it up into those two, yes, generator and controller.

Q. Again, I am looking for a yes-or-no answer.

A. Yes.

Q. I am going to ask my question again.

Xia discloses an e-cigarette comprising two detachable devices that Xia calls the controller and the generator, yes?

A. No.

Q. Xia doesn't disclose that?

A. No. Xia discloses a three-piece device.

Q. Okay.

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A. It calls two of them together the generator.
Q. Okay. Sorry. So you disagree that Xia discloses an e-cigarette comprising two detachable devices that Xia calls the controller and the generator, correct?
A. I disagree that it's a two-piece device.
Q. Okay. And you would understand that my last question to connote a two-piece device, correct?
A. The way you describe it, correct.
Q. Okay. So let's pull up RX-1622, please. Let's go to the abstract, which is RX-1622.1. Let's zoom in to the, I guess, the first sentence.
A. That's 1622?
Q. Yeah. That's Xia that we're looking at.
A. Okay. I would just like to find that for a moment. It's in this binder, correct?
Q. It would be in binder number 1, yes.
A. Okay. It's way at the end. I see.
Q. If we could, while we're waiting for the doctor to try to pull up the binder, can we just highlight the first sentence, please, and zoom in, up until the first comma right after generator.
A. Okay. I'm there, thank you.
Q. The first sentence reads, "provided is an environmental protecting type incombustible atomizing electronic cigarette with a function of a cigarette

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substitute, which relates to a cigarette substitute and comprises a detachable controller and a generator."

Did I read that correctly?

A. You did.

Q. All right. So Xia discloses an e-cigarette comprising two detachable devices that Xia calls a controller and a generator; yes?

A. That's correct.

Q. And that would connote to you a two-piece device, correct?

A. Well, you can't -- again, without elaborating, you can't answer that question. I can't answer that question based on one sentence.

Q. Okay. So before when I asked you the same question and you told me that the answer was no, because it would connote a two-piece device, now the answer is you would need to look at further detail to answer that question, correct?

A. No, that's not what I said.

Q. All right. I am going to move on.

Now, the controller is the power source, correct?

A. Correct, among other things.

Q. And let's bring back up the RX-1080C.157, Dr. Vallee's annotations.

Focusing on the generator device, why don't we

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zoom in there, there is a hollow connecting conductor 5, right?

A. Yes, there is.

Q. And that is a device that is adapted to electrically and mechanically couple the heating element 9 to the controller's power source, correct?

A. Yes, it does.

Q. And then there is a vibrating diaphragm 7?

A. Correct.

Q. And that senses airflow and sends signals onward to trigger the power source to turn on the heating element. Yes?

A. No.

Q. Okay. There are two solution holding medium locations in this generator device, correct?

A. No.

Q. There's a secondary a liquid storage chamber 10, correct?

A. There is a secondary liquid storage chamber but it is not a solution holding medium.

Q. And what's the basis of your statement?

A. Because the solution is simply wicked from the storage tank into that temporarily.

Q. Let's pull up RX-1622.0013, please. Let's zoom in to the second half. Thank you, there we go.

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A. I'm sorry. Was this --
Q. That sentence that I have highlighted reads, "the secondary liquid storage chamber 10 may temporarily store the chemical liquid."
Did I read that correctly?
A. I'm sorry, which document are we in?
Q. We're in RX-1622, which is the Xia reference, the one that you just had.
A. Sure, okay, thank you. So the question again was, did you read that correctly?
Q. It says on page 13, "the secondary liquid storage chamber 10 may temporarily store the chemical liquid."
Did I read that correctly?
A. Correct.
Q. So that temporary liquid storage chamber 10 can store chemical liquid, correct?
A. It can store it, yes.
Q. Okay. And referring to your -- why don't we go to RX-1015C.26, which is -- actually before we do that, you said that the secondary liquid storage chamber is not a solution holding medium, correct?
A. Correct.
Q. All right. That's your testimony. So let's pull up RX-1015C.0026. And we can go to your testimony, deposition testimony at 380, 21 to 24.

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A. That's 1050C?
Q. 1015C.26.
A. 1015, okay.
Q. It's in binder 2, Doctor?
A. Oh, thank you. Binder 2 is that one, I take it?
Q. Yes. And it is up on your screen, the relevant testimony as well, Doctor.
A. Oh, thank you. Okay. And this is, again, volume 2 -- day 2 of my deposition.
Q. Why don't we get some more context around that.
A. 380.
Q. All right. So I'm going to start a little bit earlier, starting from line 15 of your deposition. And again we're still on page 380.
A. Okay.
Q. It says:
"Question: Okay. So in this case you -- it's your opinion that you wouldn't consider the identified aperture in the alleged solution holding medium to be an aperture in the housing of Xia '610, correct?
"Answer: Correct. It's not an aperture in the housing.
"Question: Okay. It's an aperture in the solution holding medium, correct?
"Answer: That's a better description than an

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aperture on the housing."

Did I read that correctly, sir?

A. You read it correctly.

Q. Okay. And the solution holding medium -- the aperture that you're referring to, if we could pull back the annotated diagram that Dr. Vallee has in his report, the aperture that you're referring to is the aperture that is the entry path into the secondary liquid storage chamber, correct?

A. I don't remember. I'd have to read some more of this to get some background. That was a long time ago. If you would like me to read through to answer that question, I can. If I can't --

Q. If you can't answer yes or no, that's fine.

A. I can't answer that without reading the document.

Q. All right. Let's do this, sir. So in your report, and actually, you also did this in your demonstrative slides, you have pulled apart Xia's generator into two separate components. Is that right?

A. Yes. I separated them, yes.

Q. Your contention is that Xia discloses two cartridges, a first cartridge with a first housing, a second cartridge with a second housing, correct?

A. Correct.

Q. And now Xia doesn't depict the cartridges broken

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out the way that you have broken them out in your expert report and in your demonstrative slides, correct?

A. I don't think so but -- I just want to refer back to Xia to make sure. Xia again was RX--

Q. Bring up Figure 22, and Figures 1 through 5.

A. Thank you, that would be helpful.

Q. Can we just put that up on the screen, Jim.

Let's go to the Chinese version which has better figures. It should be a few pages down. Okay.

So these are Figures 3 through 5 of Xia. Doesn't depict the two cartridges in the manner in which you broke them out, correct?

A. Yes, it does. My -- I had my in line with each other.

Q. Okay. Well, let's pull up Dr. Vallee's expert report at 1080C.155, paragraph 250. Okay.

So can we put that side-by-side with what we were just looking at?

So you joined those two pieces together in your expert report. Xia does not depict those two pieces joined together, correct?

Sorry. You separated those two pieces. Xia does not show the Figure 4 joined with Figure 3, correct?

A. I don't understand your question. You just showed me a picture, Figure 4 and 5, which shows them

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separated. Then Figure 1 showed them together. So I don't understand your question.

Q. Do you see the first cartridge that you have drawn?

A. I do.

Q. Okay. Xia does not disclose that first cartridge joined as you have drawn it in your demonstrative, correct?

A. I didn't draw them joined in my demonstrative.

Q. So it's your position that the first cartridge, that exact drawing is found inside of Xia?

A. Yes, both pieces are.

Q. Okay.

A. But without the annotation, of course.

Q. I'm talking about those two pieces joined. So now we've looked at Figures 3 through 5. Do you see those two pieces joined in the manner that you have joined them in the first cartridge in Figures 3 through 5?

A. I'm sorry, the figure I'm looking at from -- it was my report, you said? I haven't drawn them joined. I am confused.

Q. Are you looking at your screen?

A. Right. On the right, yes.

Q. Okay. So the first cartridge has the number 5 which is the conductive portion of the cartridge and the heating element portion of what you're identifying as the

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cartridge joined together, correct?

A. I don't see cartridge 5. Where is that?

Q. All right. Do you see the drawing that is in the red box, do you see that on the figure in any of the figures that is RX-1622.0036 that's in front of you?

A. Oh, I understand now. I understand. Yes, I added in the threads.

Q. Okay.

A. Now I understand. So the answer to your question is no, it's not all there.

Q. So you created that, correct?

A. If you could flip to Figure 1 just once, please.

Q. Let's go to Figure 1, Jimmy.

A. Yes, now I remember. Figure 1 clearly shows the thread on the atomizer, so for clarity, I did add the thread to that. I don't recall if I simply separated Figure 1 like that based on Figures 3 and 4. I don't remember exactly how I did it, but all the pieces are there.

Q. Okay. So what I would like to do, sir, is I'd like to take on your breakout of the cartridges in that way which isn't found in Xia and see where we end up on invalidity based upon Xia. Let's do this. Let's bring up your expert report at 155.

And let's focus just on his breakout of the two cartridges, first cartridge and the second cartridge. And

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if you go a couple pages further in his expert report to 157, there is the page where he has the annotations. And if we can juxtapose the annotations of the generator with Dr. Vallee's breakout of the two cartridges. Great.

Is it possible to split the generator as Dr. Vallee has split them up in his annotated version? Great.

Okay. So now, Doctor, what we're seeing on the bottom here of the screen is basically your annotated version of what is shown on the top, correct?

A. That is correct.

Q. Okay. Now, if we focus just on the cartridge that's on the left, that cartridge has a secondary liquid storage chamber, correct?

A. That's what it's called, yes.

Q. That secondary liquid storage chamber surrounds an air passageway, correct?

A. Yes, it does.

Q. All right. And it has a transverse heating element extending across the passageway, correct?

A. Without a wick in it, yes, that's correct.

Q. And it has on the right-hand side on the end of that cartridge housing, assuming that it's a housing according to your definition, there is another central and axial airflow passageway, correct?

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A. Where? Which? Are you talking about the red housing or the blue.

Q. I am talking about the right-hand side of the first cartridge. So the right end of the first cartridge. There is a central and axial airflow passageway, correct?

A. No.

Q. Why not?

A. It's just the idea of the device.

Q. Excuse me?

A. It's the -- I'm sorry. The inside diameter of the device. I don't see any airflow. I mean, it's not an airflow passageway until you put the two housings together. You don't know how the air flows until those two are together so you can't take one piece and ask me -- and I can't answer questions regarding airflow one piece at a time.

Q. Okay. Well, if the first cartridge housing contains all elements of the '864 patent, then we don't need to look at what's on the right-hand side. We don't need to look at the second cartridge at all, do we?

A. Wait. You said if the first cartridge comprises all elements?

Q. Yeah.

A. I don't believe I ever said that.

Q. If all limitations of claim 1 of the '864 patent

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are present in what you have labeled as first cartridge housing, then it doesn't matter what's happening in the second cartridge, correct?

JUDGE JOHNSON HINES: Counsel?

MR. ANSLEY: Your Honor, based on our estimates for trial -- based on our estimates for trial time, we believe JLI has used all of its hearing time for the week.

JUDGE JOHNSON HINES: All right. I'm going to allow this. So if there is additional time that you need, I don't know where you guys are on time but I will allow this to proceed.

MR. ANSLEY: Understood, Your Honor.

JUDGE JOHNSON HINES: Thank you.

MR. RIZK: Thank you, Your Honor.

May I proceed?

JUDGE JOHNSON HINES: Please.

BY MR. RIZK:

Q. Okay. Do you want me to repeat the question, Dr. Vallee?

A. Please.

Q. Okay. If that first cartridge comprising a first heating element housing meets all of the limitations that are found in claim 1 of the '864 patent, then Xia anticipates claim 1 of the '864 patent, correct?

A. I can't answer that because it doesn't meet all

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the limitations.

Q. Okay. Can we ignore what is happening in the second cartridge and the second housing for the purpose of analyzing whether or not the first cartridge housing by itself infringes?

A. We can't because the device is used together.

Q. So is the mouthpiece in the JUUL1.

A. But that's a completely different structure. We're talking about this patent and you're asking me questions about the way I have separated these two components.

Q. Yeah.

A. So I don't -- I don't understand your question.

Q. I could take a mouthpiece and put it on the first cartridge and it's first cartridge housing and draw from that mouthpiece and receive a vapor, correct?

A. That doesn't make any sense to me. There's -- it's not put together.

Q. But it has holes. Let's walk through the elements. It has a solution holding medium in the form of the secondary liquid storage chamber, correct?

A. I'm sorry. Are we talking about the assembled unit? Which figure are we talking about?

Q. I'm talking about the first cartridge and the first cartridge housing only. It has a solution holding

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medium in the form of the secondary liquid storage chamber, correct?

A. Well, I didn't agree that that was the primary but let's assume that's the case. There is a solution holding medium.

Q. Well, with all due respect, you referred to it as a solution holding medium at your deposition. But it also has a transverse heating element, correct?

A. That does.

Q. Excuse me?

A. I'm sorry. That has a transverse heating element, correct.

Q. That transverse heating element extends across the airflow passageway, correct?

A. No, it doesn't.

Q. Transverse heating element doesn't extend across an airflow passageway?

A. The -- pardon one second. You can't see the gaps in there.

Q. Let me withdraw that question. I will make it easier.

You never disputed that Xia's heating element extends transversely across an airflow passageway, did you?

A. I don't recall. I don't believe so.

Q. Okay. So as far as I could tell, everything that

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is required by '864 patent claim 1 is right inside of the device that you have identified as the first cartridge comprising a housing?

MR. ANSLEY: Your Honor.

BY MR. RIZK:

Q. What elements are missing, sir?

MR. ANSLEY: Objection.

JUDGE JOHNSON HINES: Counsel? Excuse me, counsel?

MR. ANSLEY: Yes. Your Honor, it appears that Respondent is appearing to present a new invalidity argument that wasn't presented anywhere in the prehearing brief, expert reports or disclosed in the various disclosures of invalidity grounds over the past couple weeks.

JUDGE JOHNSON HINES: Counsel?

MR. RIZK: Yes, Your Honor. We have -- we're exploring Dr. Vallee's been opinion. We have accused the generator of anticipating. He has taken positions in this litigation that you could simply remove components and then apply the infringement or the invalidity analysis to what's left over.

And I'm simply asking him to do exactly that with a piece of prior art that has squarely been at issue in this case.

JUDGE JOHNSON HINES: I will allow the question.

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To the extent in the post-trial briefing you believe this is a new argument, then you should say that. And I can address that.

MR. ANSLEY: Yes, Your Honor.

JUDGE JOHNSON HINES: Thank you.

BY MR. RIZK:

Q. Heater 9 extends transversely across Xia's airflow passageway, correct?

A. It does.

Q. Now, you took a position before that an airflow passageway can extend the width of the housing and still constitute a central and axial airflow passageway, correct?

A. Referring to the gap, correct.

Q. I'm not referring to the gap and I'm looking for a yes-or-no answer.

You have previously taken a position during this evidentiary hearing that an airflow passageway can extend the width of the housing and still constitute a central and axial airflow passageway, correct?

A. And I answered that, yes.

Q. Okay. And on the right-hand side, the right end of the first cartridge housing that we're looking at right now --

A. Okay.

Q. -- if a user were to draw from that device, air

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would come out from the other side, correct?

A. We're talking about the red housing, the atomizer only?

Q. I'm talking about the device that you have identified as first cartridge housing, yes?

A. I'm sorry, one more time, the question is.

Q. If a user placed their mouth on the right end of the first cartridge and there was solution in the solution secondary liquid storage chamber and the connecting conductor was energized by a power source, vapor would come out, correct?

A. No one would ever look at that and think it's the claimed housing. I'm not trying -- I haven't analyzed that because no one would use it that way so I don't know looking at this figure without giving it thought whether this thing would work or not, just the atomizer. No one would use it that way. Lips would get burned and I can't answer that without doing a little more analysis.

Q. Well those are your words, sir, with housing. That was your annotation. Wasn't it?

A. Yes, but I never said that housing is the claimed device so that it works by itself.

Q. I see. So it was convenient for you to use the term "housing" to refer to the first cartridge for the purpose of trying to distinguish over the prior art, but

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when it gets applied to determining whether or not all the elements are in that housing, that's not the claimed housing, correct?

A. That's not true because as I discussed in my testimony last week, there can be many different housings. I'm talking about the claimed housings. And what I said was no one in the art would ever look at that house and say that's the claimed invention. I would have to analyze that, see if it actually works. I can't answer that question based on what I see in that figure.

Q. Other than the limitation of the housing, which you have annotated here, can you identify any limitation that is actually explicitly claimed in claim 1 of the '864 patent that isn't present in your first cartridge housing?

A. Again, I would have to look at the claims, analyze just the housing, which I have never done. I'm sorry, just the first housing, I have never done it because that isn't the device so I would have to do an analysis like I did in the previous prior art cases.

Q. But you agree that if we remove the second cartridge because you said that the second cartridge is removable, right?

A. Right.

Q. So if we remove the second cartridge from the first cartridge as you suggested and you have those two

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separate housings, all of the obstacles that you were worried about in the second cartridge would just disappear, correct?

A. Again, I'm not going to analyze this in pieces because I didn't. So I would have to go through an analysis of this.

MR. RIZK: At this time, I have no further questions, Your Honor.

Thank you Dr. Vallee. Pass the witness.

JUDGE JOHNSON HINES: All right. Thank you.

MR. BUI: May I proceed, Your Honor?

JUDGE JOHNSON HINES: Yes. Thank you.

EXAMINATION BY COUNSEL FOR ITC STAFF

BY MR. BUI:

Q. One last time, Dr. Vallee. Thank you for your patience.

A. Good to see you.

Q. The common specification of the patents at issue discloses a two-piece e-cigarette design and a three-piece e-cigarette design, correct?

A. Correct.

Q. Can I please have CDX-4C.20 on the screen, please; slide 20 of CDX-4C, please.

Now, Dr. Vallee on this slide you have Figure 1 of the '864 patent on top and Figure 4 of the '864 patent on

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the bottom.

Do you see that, sir?

A. I do.

Q. And it's your opinion that Figure 1 is an example of a two-piece design, correct?

A. Correct.

Q. And it's your opinion that Figure 4 is an example of a three-piece design, correct?

A. Correct.

Q. Does Figure 1 of the '864 patent in this slide disclose an airflow passageway located centrally and axially with respect to the housing?

A. I don't remember the exact description of the specification of this, but Figure 1, I can see -- I believe it's item 124. Again, I would have to look at the specification to refresh my memory or maybe that's 134. I would have to refresh my memory to see if that's what it calls that.

Q. Let's check the specification to make sure.

A. Thank you.

Q. May I have the '864 patent, JX-1 on the screen, please, at column 4, lines 30 through 37, please.

All right. Dr. Vallee, you understand that this disclosure relates to Figure 1 of the '864 patent, correct?

A. Correct.

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Q. And it states, "the first end 122 of the cartridge 104 comprises a first aperture 130 that is located at approximately the center of the first end 122 of the cartridge 104. The second end 124 comprises a second aperture 132 that is located at approximately the center of the second end 124 of the cartridge 104."

A. Okay.

Q. "An airflow passageway 134 extends between the first aperture 130 and the second aperture 132 axially proximate to the center of the housing 120."

Did I read that correctly?

A. Correct. Thank you.

Q. And what does this disclosure in the specification of the '864 patent teach you as a person of ordinary skill in the art?

A. Okay. Could we go back to the figure, please, Figure 1.

Q. Could we please have CDX-4C, slide 20 on the screen, please?

A. So that tells me it's a central and with the figure, an axial airflow passageway.

Q. All right. Let's focus on Figure 4 here in your slide. Does Figure 4 depict a heating element located centrally and axially with respect to the cartridge housing?

A. The figure just annotates a heating element to

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indicate it's in there somewhere.

Q. Okay. Does Figure 4 depict a liquid solution located centrally and axially with respect to the cartridge housing?

A. Again, it indicates that it is located in the second cartridge but it doesn't say where.

Q. Could I turn back to the '864 patent, JX-1, please, at column 8, lines 26 through 60, please.

Could I get lines 26 through 60, please. Thank you.

So in this portion of the specification of the '864 patent, this is with reference to Figure 4, correct?

A. Correct.

Q. Okay. And starting at line 26, it discloses with reference now to Figure 4, another exemplary electronic vaporizer 400 as illustrated. "The exemplary electronic vaporizer 400 comprises three separate portions; the power source 102, a first cartridge 402 that comprises the heating element 126, and a second cartridge 404, a mouthpiece cartridge, that comprises the solution 128."

Did I read that correctly, sir?

A. You did.

Q. What does that disclosure teach you as a person of ordinary skill in the art?

A. It tells me that there are basically two

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cartridges. The first one is the heating element and the second has the solution.

Q. And if I could ask you to direct your attention to lines 56 through 60 of column 8 of the '864 patent, please, Doctor.

A. Okay.

Q. And there the disclosure is, "the first cartridge 402 and the second cartridge 404 may have airflow passageways (not shown) extending axially there through such that a switch/sensor 112 can determine when the user is drawing air through the airflow passageways."

Did I read that correctly?

A. You did.

Q. Okay. And what does that disclosure teach you as a person of ordinary skill in the art?

A. Well, it teaches that there can be an airflow passageway between the two, so there can be some kind of communication.

Q. And that airflow passageway or airflow passageways would extend axially, correct?

A. Yes, it said axially on line 57.

Q. And with respect to those airflow passageways, the specification does not disclose that those airflow passageways would extend centrally, correct?

A. Here it just indicates axially.

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Q. May I have CDX-4C.31 on the screen, please; slide 31 of CDX-4C, please.

So, Dr. Vallee, on the screen we have a slide entitled Flaws in Mr. Leinsing's Central and Axial Passageway Theory.

Do you see that, sir?

A. I'm sorry, how did you describe it? I didn't hear the first part of your question.

Q. Sure. We have a slide that is entitled Flaws in Mr. Leinsing's Central and Axial Passageway Theory. Correct?

A. Correct.

Q. Okay. And you have reproduced here a figure from Xia '610, correct?

A. Correct.

Q. Now, there is an annotation in this slide above that figure that reads "this is not NJOY's interpretation."

Do you see that?

A. Correct.

Q. And is that your annotation?

A. It is.

Q. Okay. And what's the meaning of that annotation?

A. Well, the interpretation -- well, let's see. We will take this one at a time.

First of all, NJOY doesn't claim that there is a

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central axial airflow passageway. And in Mr. Leinsing's report, he mentioned several times under NJOY's specification, for example, we don't -- NJOY doesn't say the first aperture is located where Mr. Leinsing does, for example.

That's what I meant by that. We don't interpret the first aperture as being -- NJOY doesn't interpret it as being where he locates it.

Q. Okay. Do you have any opinions with respect to the solution holding medium?

A. With respect to what?

Q. The solution holding medium, sir.

A. I'm sorry. Are you asking if I think it's correctly annotated?

Q. Correct.

A. Yes, that is correct.

Q. Okay. And is it your opinion that the liquid storage is too big to be an obstacle in the airflow passageway, it defines the passageway?

A. It is.

Q. Dr. Vallee, is it your opinion that Xia '610 discloses a solution holding medium located centrally with respect to the cartridge housing?

A. I think the solution holding medium itself is not skewed to one side so it would be central with respect to

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the diameter of the housing, assuming it's round.

Q. Dr. Vallee, is it your opinion that air flows around the liquid solution holding medium identified here in Xia '610?

A. That's correct, the air flows between the solution holding medium and the skin of what was the soft sucker part.

Q. Dr. Vallee, is it your opinion that the airflow passageway is not centrally located with respect to the cartridge housing in the area of the solution holding medium in Xia '610 in this slide?

A. Correct, yes.

Q. May I have CDX-4C.33 on the screen, please; slide 33 of CDX-4C.

So, Dr. Vallee, we have two figures on this slide. On the bottom we have Xia '610, correct?

A. Correct.

Q. And on the top we have Han, correct?

A. That's right.

Q. And it is Han '311, right?

A. That is right.

Q. Dr. Vallee, is it your opinion that, like Xia '610, Han '311 discloses a solution holding medium located centrally with respect to the cartridge housing?

A. Yes, that's correct.

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Q. And is it your opinion that air flows around the centrally located solution holding medium in Han '311?

A. Yes, air flows around it.

Q. And is it your opinion that the airflow passageway is not centrally located with respect to the cartridge housing in the area of the solution holding medium in the Han '311?

A. Correct.

Q. May I have CDX-4C.96 on the screen, please; slide 96 of CDX-4C, please. Thank you.

So on the screen, Dr. Vallee, this is the Red Dragon cartridges, correct?

A. Correct.

Q. And on the left side, we have Kit 1 and on the right-hand side we have Kit 2 of the Red Dragon, correct?

A. That's right.

Q. Okay. Let's focus first on Kit 1 for the Red Dragon. Okay?

A. Okay.

Q. You see two images there, an x-ray image on top and a CT scan image on the bottom, correct?

A. Correct.

Q. Okay. You would agree with me that you have indicated an airflow with arrows starting from the left-hand side and continuing to the right-hand side of the x-ray

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image, correct?

A. Correct.

Q. And in the x-ray for Kit 1 of the Red Dragon, you have annotations, do you see those?

A. That's right.

Q. So in addition to the airflow annotation, you also have a liquid storage annotation, correct?

A. Correct.

Q. And you also have an annotation that indicates woven spacers, correct?

A. That's right.

Q. And finally you also have an annotation for the longitudinal heating element, correct?

A. Correct.

Q. With respect to the x-ray Kit 1 on this slide, does the liquid storage extend all the way to the second aperture on the second end of the cartridge housing?

A. No, it doesn't.

Q. Is there a gap between the liquid storage and the second aperture on the second end in the x-ray image for Kit 1 of the Red Dragon?

A. Yes, there is.

Q. Does that gap span the width of the housing?

A. It does.

Q. I would like to focus your attention on the x-ray

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image for Kit 2 of the Red Dragon.

And you also see similar annotations in airflow, liquid storage, woven spacers and the longitudinal heating element?

A. I do.

Q. Okay. Does the liquid storage extend all the way to the second aperture on the second end of the cartridge housing in the image -- in the x-ray image for Kit 2 of the Red Dragon?

A. No, it does not.

Q. Is there a gap between the liquid storage and the second aperture on the second end in the x-ray image for Kit 2 of the Red Dragon?

A. Yes, there is.

Q. Does that gap span the width of the housing?

A. Yes, it appears to.

Q. All right. Let's focus now on the woven spacers. Do you see those?

A. I do.

Q. Okay. And let's return to the x-ray image for Kit 1 of the Red Dragon. Do you see the woven spacers there?

A. I'm sorry, are we on the kit --

Q. Do you see the woven spacers?

A. I'm sorry, that's Kit 1 at the bottom?

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Q. Kit 1, the x-ray image, sir?
A. Okay. Up top, I see it.
Q. Focusing on the x-ray image for Kit 1, do you see an annotation for woven spacers?
A. I do.
Q. Okay. And those woven spacers identify the airflow passageway in that x-ray image, correct?
A. It does.
Q. Do the woven spacers extend all the way to the second aperture on the second end of the cartridge housing?
A. No, they don't.
Q. Let's turn to the x-ray image for Kit 2 of the Red Dragon. And here do you see the annotation woven spacers?
A. I do.
Q. And these woven spacers form the airflow passageway in your opinion, correct?
A. That's right.
Q. And in the x-ray image for Kit 2 of the Red Dragon, do the woven spacers extend all the way to the second aperture on the second end of the cartridge housing?
A. No, it does not.
Q. In either x-ray image for Kit 1 or x-ray image for Kit 2 of the Red Dragon, do the woven spacers form a continuous physical structure?

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A. The woven spacers, they do not because there is a heating element in between, so it does not.

Q. And that heating element extends longitudinally between the woven spacers and the x-ray image for Kit 1 and the x-ray image for Kit 2, correct?

A. Correct.

Q. Now, it's your opinion that the woven spacers in the x-ray image for Kit 1 and the x-ray image for Kit 2 do not extend centrally and axially with respect to the cartridge housing, correct?

A. The woven spacer 1 does not and the woven spacer 2 does not, correct.

Q. All right, Dr. Vallee. Thank you very much for your time.

A. Thank you.

MR. BUI: Thank you, Your Honor.

JUDGE JOHNSON HINES: Thank you.

Any redirect?

MR. ANSLEY: Apologies. No, Your Honor.

JUDGE JOHNSON HINES: All right. Dr. Vallee, you are excused. Thank you very much.

THE WITNESS: Thank you, Your Honor.

(The witness stood down.)

JUDGE JOHNSON HINES: All right. So we have a few things which are what other additional exhibits should

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be received in evidence. And I said at the beginning that we would talk about word counts for the post-hearing briefing. I don't know if the parties have discussed that internally and have a proposal.

The ground rules identify the initial post-hearing brief at 25,000 words for the private parties, 35,000 words for the Staff and then the response is 20,000 for the private parties and 10,000 for the Staff.

I think there was an alternate proposal in 1368. To be quite honest with you, I don't remember what it was. So I don't know if you all have talked about this. If not, you can talk about it during a break, but if you already have, I will listen to what you have to say.

MR. DESAI: Your Honor, we haven't talked about it. If we're going to take a short recess, we can quickly discuss it.

JUDGE JOHNSON HINES: Why don't we do that. I am not asking you for additional words. I want to be clear. If you feel you need it and that's the best way you can present your case, you know, the post-hearing briefs, then I will hear that. But I don't want a suggestion that I am encouraging it. All right.

How much time do you think we need to break to resolve the exhibit issue and the post-hearing brief issue?

MR. DESAI: How about ten minutes?

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JUDGE JOHNSON HINES: Why don't we give you until 5:00. Is there anything else that needs to be addressed before we conclude, other than the two things I mentioned?

MR. RIZK: Not for the Respondent. Thank you, Your Honor.

JUDGE JOHNSON HINES: I'm sorry?

MR. RIZK: Not for the Respondent. Thank you.

MR. DESAI: Nothing from us.

JUDGE JOHNSON HINES: So let's break and we will come back at 5:00.

(A recess was taken at 4:46 p.m., after which the proceedings resumed at 5:00 p.m.)

JUDGE JOHNSON HINES: All right. Thank you.

All right. Exhibits first.

MR. DESAI: I believe they have been -- it has been e-mailed.

MR. RIZK: That's our understanding as well.

JUDGE JOHNSON HINES: I didn't hear that. I'm sorry.

MR. DESAI: I believe the list is being sent, final list.

JUDGE JOHNSON HINES: So that's everything. Everything is agreed?

MR. DESAI: Everything is agreed.

JUDGE JOHNSON HINES: All right. Thank you.

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(Exhibits, as submitted by counsel and reflected in the attached index, were received into evidence.)

JUDGE JOHNSON HINES: And what about post-trial briefing?

MR. DESAI: You will be happy to hear nobody wants anymore words.

(Laughter.)

JUDGE JOHNSON HINES: Terrific. Okay. That's easy.

So let me just say a few things to counsel. Thank you for your time and professionalism during the hearing. Thank you to the staff that ably assisted you all. We all know that you wouldn't have gotten to where you are without them. Please thank them for me as well.

To the representatives of NJOY and JLI, thank you for spending your time. I know there are other things that, and many other things, important things that you have to do, so I appreciate you attending.

I wish there was a way that party representatives that come and travel so far could be in the room for the entirety of the hearing. If it was up to me, you would be; but as of yet it is not. Maybe some day that can change. So I know there is a lot of getting up and down and getting out of the room, but I do appreciate the fact that you spent the time and attention to attend the hearing.

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I also want to recognize the NEXT participants and also thank both parties for having that happen. I also want to recognize that sometimes it's not as easy as it should be to convince clients that young people should have a chance to meaningfully participate in hearings.

So I appreciate that both NJOY and JLI recognized the importance of having that happen. I appreciate the time and effort from more experienced counsel in helping and assisting the younger lawyers or less experienced lawyers to have that experience. So too, Ms. Leicht, Mr. Sieger, Mr. Skanchy a behalf of NJOY; Ms. Seralathan and Mr. Weinand on behalf of JLI. Thank you for participating in the program and I appreciate it.

If there is nothing else from the parties? Mr. Desai?

MR. DESAI: Nothing more, Your Honor.

JUDGE JOHNSON HINES: Mr. Rizk?

MR. RIZK: Sorry. Yes, Your Honor. I just want to thank you, Your Honor, for your time and your support, including the attorney advisors and the court reporter for her time as well. Thank you very much.

JUDGE JOHNSON HINES: Thank you. Mr. Bui, anything else?

MR. BUI: Thank you for your time. Thank you for the assistance from your Staff, and as always an amazing job

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from the court reporter.

JUDGE JOHNSON HINES: Yes. I echo that sentiment as well.

All right. With that, then the record is closed and we're adjourned. Thank you.

(Whereupon, at 5:05 p.m., the hearing concluded.)

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C O N T E N T S

WITNESS	DIRECT	CROSS	REDIRECT	RECROSS	STAFF
KARL LEINSING		1261	1303		1287
VINCENT A. THOMAS	1305	1333	1344		
AMY MADL	1346	1372			1389
GLENN VALLEE	1410	1486			1520

AFTERNOON SESSION: 1403

CONFIDENTIAL SESSIONS

1310 - 1345

1352 - 1371

1381 - 1388

1394 - 1402

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E X H B I T S

EXHIBITS LISTS SUBMITTED FOR ADMISSION

June 11 Admitted Exhibits:

CX-0003

CX-0019C

CX-0345

CX-2048C

CX-2104C

CX-2116

CX-2160

CX-2178

CX-2193C

CX-2196C

CX-2218

CX-2221C

CX-2223C

CX-2225C

CX-2226C

CX-2259C

CX-2266C

CX-2277

CX-2278C

CX-2286C

CX-2302

CX-2311C

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CX-2313C
CX-2318
CX-2324
CX-2333C
CX-2334C
CX-2335C
CX-2336C
CX-2337C
CX-2338C
CX-2339C
CX-2340C
CX-2345
CX-2346
CX-2396C
CX-2423C
CX-2437C
CX-2454C
CX-2457C
CX-2462C
CX-2463C
CX-2484C
CX-2487C
CX-2493C
CX-2503C
CX-2505C

NJOY Exhibit 2014.1126
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CX-2506C
CX-2528C
CX-2531C
CX-2532C
CX-2533C
CX-2534C
CX-2537C
CX-2538C
CX-2540C
CX-2569C
CX-2594C
CX-2597C
CX-2659C
CX-2757
CX-2758
CX-2770
CX-2804C
CX-2839C
CX-2887C
CX-2893
CX-2948C
CX-2950C
CX-2954
CX-2975
CX-2988C

NJOY Exhibit 2014.1127
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CX-2989
CX-2990C
CX-2991
JX-0022
JX-0024
JX-0025
JX-0026
JX-0045C
JX-0046C
JX-0047C
JX-0048C
JX-0049C
JX-0064
JX-0081C
JX-0082C
JX-0083C
JX-0084C
JX-0085C
JX-0090
JX-0092C
JX-0093C
JX-0108C
JX-0143C
JX-0153C
JX-0155C

NJOY Exhibit 2014.1128
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JX-0156C
JX-0179C
JX-0180C
JX-0181C
JX-0183C
JX-0185C
JX-0186C
JX-0187C
JX-0253
JX-0324
JX-0354
JX-0368
JX-0371
JX-0372
JX-0386
JX-0404
JX-0407
JX-0419C
JX-0422C
JX-0428
JX-0432
JX-0456C
JX-0487C
JX-0495C
JX-0496C

NJOY Exhibit 2014.1129
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JX-0497C
JX-0501C
JX-0503
JX-0504
JX-0509C
JX-0512C
JX-0513C
JX-0515C
JX-0517C
JX-0518C
JX-0519C
JX-0522C
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JX-0525C
JX-0526C
JX-0527C
JX-0528C
JX-0529C
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JX-0532C
JX-0533C
JX-0534C
JX-0535C

NJOY Exhibit 2014.1130
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JX-0536C
JX-0537C
JX-0538C
JX-0539C
JX-0540C
JX-0542C
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JX-0554C
JX-0555C
JX-0557C
JX-0566
JX-0576C
JX-0577C
JX-0580C
JX-0581C
JX-0586C
JX-0592C
JX-0602
JX-0604
JX-0611
JX-0617C
JX-0621C
JX-0629C
JX-0645
RX-0001

NJOY Exhibit 2014.1131
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RX-0002
RX-0005
RX-0074
RX-0076
RX-0077
RX-0078
RX-0079
RX-0082
RX-0097
RX-0132C
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RX-0234
RX-0235
RX-0236
RX-0237
RX-0243
RX-0244
RX-0245
RX-0256
RX-0261
RX-0262
RX-0263
RX-0267
RX-0271C
RX-0275C

NJOY Exhibit 2014.1132
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RX-0277C
RX-0279C
RX-0286C
RX-0288
RX-0289
RX-0291
RX-0292
RX-0301C
RX-0303C
RX-0318C
RX-0319C
RX-0321C
RX-0322C
RX-0323C
RX-0324C
RX-0325C
RX-0326C
RX-0328C
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RX-0428C
RX-0429C
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RX-0431C
RX-0432C
RX-0435

NJOY Exhibit 2014.1133
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RX-0437
RX-0448
RX-0450
RX-0454
RX-0456
RX-0463
RX-0464
RX-0466
RX-0468C
RX-0470C
RX-0473C
RX-0474C
RX-0475C
RX-0476C
RX-0489
RX-0527
RX-0536
RX-0815
RX-0880C
RX-0883C
RX-0914C
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RX-0918

NJOY Exhibit 2014.1134
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RX-0920
RX-0922
RX-0924
RX-0930C
RX-0945C
RX-0949
RX-0952
RX-0955
RX-0962
RX-0963
RX-0964
RX-0965
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RX-0967
RX-0968
RX-0975
RX-0977
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RX-0987C
RX-1010C
RX-1023
RX-1081C
RX-1088
RX-1117C
RX-1407C

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RX-1530C
RX-1539C
RX-1541C
RX-1546C
RX-1548C
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RX-1600C
RX-1601C
RX-1602C
RX-1603C
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RX-1619C
RX-1621
RX-1622

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CERTIFICATE OF REPORTER

TITLE: Certain Vaporizer Devices, Cartridges Used Therewith, and Components Thereof

INVESTIGATION NO: 337-TA-1372

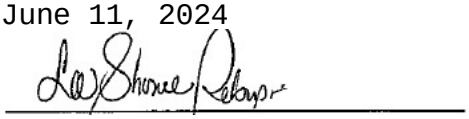
HEARING DATE: June 11, 2024

LOCATION: Courtroom A

NATURE OF HEARING: Evidentiary Hearing

I hereby certify that the foregoing/attached transcript is a true, correct and complete record of the above-referenced proceedings of the U.S. International Trade Commission.

Date: June 11, 2024

SIGNED: 

Signature of the Contractor of the Authorized Contractor's Representative
1220 L Street, N.W., Suite 206
Washington, D.C. 20005

I hereby certify that I am not the Court Reporter and that I have proofread the above-referenced transcript of the proceedings of the U.S. International Trade Commission, against the aforementioned Court Reporter's notes and recordings, for accuracy in transcription in the spelling, hyphenation, punctuation and speaker identification and did not make any changes of a substantive nature. The foregoing/attached transcript is a true, correct and complete transcription of the proceedings.

SIGNED: 

Signature of Proofreader

I hereby certify that I reported the above-referenced proceedings of the U.S. International Trade Commission and caused to be prepared from my tapes and notes of the proceedings a true, correct and complete verbatim recording of the proceedings.

SIGNED: 

Signature of the Court Reporter

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