

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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ANTHONY INC.,  
Petitioner,

v.

CONTROLTEC, LLC,  
Patent Owner.

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IPR2025-00559  
Patent 7,207,181 B2

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Record of Oral Hearing  
Oral Hearing Held: June 3, 2026

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Before HUNG H. BUI, SCOTT A. DANIELS, and  
BARRY L. GROSSMAN *Administrative Patent Judges.*

APPEARANCES:

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The above-entitled matter came on for hearing Wednesday, June 3, 2026, commencing at 10:00 a.m., at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia.

P-R-O-C-E-E-D-I-N-G-S

(10:00 a.m.)

JUDGE GROSSMAN: Okay. So we're here for a hearing in IPR 2025-00559 in which Anthony, Inc., is the Petitioner and ControlTec, LLC, is the Patent Owner. And the first order of business, I'll let the parties make their introductions and appearances. And we'll start with the Petitioner.

MR. DARBY: Thank you. Your Honor, Kenneth Darby, for Petitioner Anthony. And I'm joined today at the counsel table with my colleague, Mr. Kenneth Hoover.

JUDGE GROSSMAN: And what will you be doing the argument, Mr. Darby?

MR. DARBY: That's correct, Your Honor. I'll be doing the primary presentation, but we both may speak today.

JUDGE GROSSMAN: Okay. Thank you. Welcome. And for Patent Owner?

MR. ZIEMIAN: Robert Ziemian for Patent Owner ControlTec, LLC.

JUDGE GROSSMAN: Okay. Thank you, Mr. -- is it Ziemian? Is that how you pronounce it?

MR. ZIEMIAN: Ziemian, or Ziemian if you want to pronounce it like -- it's Eastern European, Your Honor.

JUDGE GROSSMAN: Okay. Thank you. You've got our hearing order and it sets out all the basic ground rules. Each side's going to have 60 minutes. You'll -- each side will be allowed to reserve time for rebuttal. And when you get to the podium, I'll ask you how much time, if any, you'd like to reserve. I think there are no outstanding motions in this case to exclude or any other -- other motions. So if you think that I'm incorrect on

1 that let me know, and we'll make sure we take care of those motions. But I -  
2 - I also think that there's no confidential issues in the case. There's no  
3 protective order or anything. But just to alert you to the fact that there is a  
4 public line. I don't know if there's anybody on it watching. But if there's  
5 anything that you need to say that involves what you think may be  
6 confidential information notwithstanding with no protective order, let us  
7 know first, then we can talk about how you can disclose that. But just be  
8 aware that it is a public proceeding and -- and everything will be available to  
9 the public.

10 The proceeding -- there will be no objections during your opposing  
11 counsel's remarks. If you disagree with them, take -- make some notes to  
12 yourself and let us know when it's your turn at the podium.

13 And also, one thing. As we're going through your slides, I'm sure  
14 you're experienced with -- with this stuff, but I just want to remind you that  
15 Judge Daniels is joining us remotely. He can see everything in the  
16 courtroom, the parties. He can hear everything that goes on. What he can't  
17 see is the screens on the side where your slides will be projected. He has a  
18 copy electronically in front of him. And so for both his benefit as well as  
19 clarity of the record for the court reporter, if you'll just make sure that you  
20 identify the slides by number or in some other way, so that the record shows  
21 what slide we're looking at, which will help us when we're -- get down to the  
22 task of writing our final decision.

23 And I think that is the last order of business to go over with you. If  
24 you've got any -- either side have any questions, Petitioner, about the rules  
25 of the proceeding at this point?

26 MR. DARBY: Just one question, if I may, Your Honor.

1 JUDGE GROSSMAN: Sure.

2 MR. DARBY: If it's all the same to you, we're happy to not plug into  
3 the display unless it's helpful for the panel. But if you're following along on  
4 your computers, we're happy to not plug in.

5 JUDGE GROSSMAN: We have copies electronic of the entire record  
6 in front of us. I'll speak for my myself. Judge Daniels has the same thing,  
7 Judge Bui has it as well. My preference is I look at the screens in front of  
8 me. So when you're going through the slides, I have it on my screen, and in  
9 fact, it reminds me of one thing I always like to tell people. If I'm not  
10 looking you in the eye when you're at the podium and -- it's because I'm  
11 looking at my screen at -- at this -- at the slide that you're discussing. And  
12 so, for me, I that's what I look at.

13 Judge Bui, would you have a preference?

14 JUDGE BUI: No. Whatever at your convenience.

15 JUDGE GROSSMAN: Yeah. So I don't use the ones on screen. But,  
16 any questions from Patent Owner?

17 MR. ZIEMIAN: No, Your Honor.

18 JUDGE GROSSMAN: Okay. All right. I'll let Petitioner, whenever  
19 you're ready, we'll get started. Take the podium. Let me know if you -- how  
20 much time you'd like to reserve for rebuttal, if any.

21 MR. DARBY: If we could, Your Honor, we would reserve ten  
22 minutes for rebuttal. So 50 minutes on the opening.

23 JUDGE GROSSMAN: Okay. And the way our -- our system works  
24 similar to Federal Circuit and a lot of other courtrooms. The light will be  
25 green while you have time. When you hit the 50-minute mark and get into  
26 your rebuttal, it'll turn yellow. And you're free to keep going if you like if

1 you choose to use that for your argument rather than rebuttal. And then  
2 when the light goes red, your 60 minutes are up. So whenever you're ready,  
3 I'll start. The light should go on. And I'll try and remind you when you're  
4 getting close to the end of the 50 minutes. But I'm listening and looking at  
5 the slides, listening to you, and not so much looking at the lights on the  
6 podium. Behind me you'll see a timer and you should look at the lights that  
7 are in front of the bench.

8 MR. DARBY: Understood. Well, thank you and good morning,  
9 Your Honors. Kenneth Darby, again, for Petitioner Anthony. Again, joined  
10 by my colleague today, Mr. Kenneth Hoover, at the counsel table.

11 I'll start in the demonstratives, Petitioner's demonstratives at Slide 3  
12 where we have a case overview. And we'll just talk a little about where we  
13 came from and where we're going today. Anthony's petition challenges all  
14 20 claims of the '181 patent, and it challenges those 20 claims throughout  
15 five different grounds, 1A through 1E. We're going to focus  
16 today on grounds 1A and 1B involving the Carter reference, so that's Carter  
17 alone in ground 1A, and the Carter Beatenbough and King reference in 1B.  
18 That's a combination ground that covers a superset of the claims addressing  
19 ground 1A. And so I think what you may have seen in the briefing is that a  
20 lot of the issues raised and the disputes had with respect to claim -- or  
21 ground 1A are actually resolved by the ground 1B. And so we're going to  
22 particularly focus on ground 1B today, covers more claims, and I think it  
23 will narrow down and condense some of the disputed issues. So we'll focus  
24 then on 1B particularly today. For the remaining grounds, 1C through 1E, in  
25 the interest of time, we're happy to stand on the briefing with respect to  
26 those grounds. But we are here for the panel. And so if you have any

1 questions about them, my colleague, Mr. Hoover, will be happy to answer  
2 those for you. We can move to Slide 4.

3 JUDGE BUI: Are you conceding that 1A is insufficient?

4 MR. DARBY: No. I wouldn't concede that, Your Honor. But what  
5 we would say is that the most straightforward path, frankly, the optimal path  
6 would be through ground 1B. It covers all the same claims and again  
7 condenses some of the issues.

8 JUDGE BUI: Okay.

9 MR. DARBY: So we turn together to Slide 4 in the demonstratives.  
10 We can talk a little bit about the '181 patent. And what it's all about is a  
11 condensation control apparatus, which you'll sometimes see in the literature  
12 called an anti-sweat system. And it's installed on a refrigerated display case.  
13 Concept behind it is fairly simple. Condensation forms on a surface when  
14 the temperature of that surface drops below dew point. It's dew point is the  
15 temperature where the air is fully saturated with water vapor.

16 And so if a surface drops below that temperature, the water  
17 precipitates out of the air and onto the surface. And so it's the crux of the  
18 patent, well, that's to turn the heater on before condensation starts, before  
19 surface gets to dew point. And so how does the system know that surface  
20 temperature is and has to know what the dew point is. Well, it's got sensors.  
21 It's got a surface temperature sensor that's positioned on a door or a frame of  
22 the case. It's got a relative humidity sensor. It's got an ambient temperature  
23 sensor. Those last two are for calculating dew point.

24 Importantly, all this technology is known at the time of the patent in  
25 2005. Refrigerated display cases, the kind we see, for example, when we go  
26 to a grocery store or when we go to a gas station. Those were certainly

1 known in 2005, well before 2005. Anti-sweat heaters were known well  
2 before 2005. Even the control scheme of turning on the anti-sweat heater  
3 based on dew point known before 2005, as were the sensors.

4 And, in fact, we see here on Slide 4, some of the admissions in the  
5 patent itself about how some of this technology was known. So we're  
6 talking about patent and patent claims that combine known features, known  
7 elements in predictable ways, and under *KSR* we all know that's obvious.  
8 Turn to Slide 5.

9 JUDGE DANIELS: Mr. Darby, I have a general question. It seems to  
10 me that any sort of HVAC control is a nuanced operation, in other words, as  
11 to how the sensors work, when they sense things, and how the control  
12 system operate off of that data. Now, here's my question. Would you agree  
13 that this solves a very particular problem?

14 And in that -- I was in the grocery store the other day and I was  
15 having this very problem looking in the display case. I couldn't tell the  
16 difference between -- it was covered with sweat or condensation, and I  
17 couldn't tell the difference between the Ben and Jerry's Half Baked, which is  
18 my favorite, and the Ben and Jerry's Cherry Garcia. And I stood there and I  
19 had to keep opening and closing the door to try and figure it out. And the  
20 poor woman next to me is getting frozen out with the air. I mean, this is a  
21 this is a pretty nuanced problem. And didn't they solve it here in this '181  
22 patent?

23 MR. DARBY: I would say it was solved well before the '181 patent  
24 as we'll show in the prior art. As to your point about whether the -- the  
25 problem is nuanced, I would focus on the solution of the patent and say that  
26 it's pretty simple. I think when we get into some of these limitations, what

1 we'll see is that, particularly some of the means plus function, the control  
2 scheme, claim limitations, that the algorithm of the patent is fairly simple.  
3 Two, three step algorithms for deciding when to turn the heater on, decide  
4 when turn the heater off. We'll talk about that more.

5 And so I think from that perspective, the proposed solution in the  
6 patent I think is actually quite simple. As to the nature of the problem as  
7 you saw in the grocery store, I mean, I don't know that -- there can be  
8 situations where a given system doesn't work well. But when we look at the  
9 '181 patent in the solutions that it proposes, we find them quite simple, and  
10 we find them to be obvious and due to the prior art.

11 JUDGE DANIELS: I have one more question that you may be getting  
12 to this. I'm just going to ask it if you're going to get to it, let me know. The  
13 Patent Owner has some -- some discussion about -- in their briefs about  
14 "adapted to" and its meaning as far as being broader as in capable of or  
15 narrower as in "specifically designed to." Were you're going to talk about  
16 the "adapted to" language or would you concede that their interpretation of  
17 "adapted" or "adapted for" I think, is what they said, the claim says. Would  
18 you agree the "adapted for" is more specifically "designed to"?

19 MR. DARBY: We are going to get to it, Your Honor, but I'll answer  
20 the question now. We don't dispute that "adapted for" language is  
21 "configured to." What we instead would say is that what we show in the  
22 petition and what -- what the record shows, is that when the prior art is  
23 combined as put forward, for example, in our Ground 1B, that the sensors  
24 are there and that the sensors, in fact, are configured to do exactly what's in  
25 the claim.

26 JUDGE DANIELS: Thank you.

1 JUDGE BUI: So, before you go forward, I'm going to ask a couple  
2 questions about the background of the '181 patent. So we know that, yeah,  
3 that the detection -- temperature detection is well known. We also know that  
4 dew point detection calculations is well known, and that's expressly  
5 acknowledged in the '181 patent. The question I have is that, okay, the '181  
6 patent is also talking about these known components, these are known  
7 elements. They necessarily -- they are typically reactive, they're not  
8 proactive, okay. So -- and so the purpose of the invention is to be  
9 proactive, trying to avoid that from happening. Right? So when you go to  
10 the supermarket you open up the door, you can see condensation on the  
11 surface of the glass interior to refrigerator. They want that to prevent that  
12 from happening all together, right. So that's a very specific solution they're  
13 trying to provide in the patent. Right? So could you elaborate the  
14 distinction between reactive and proactive?

15 MR. DARBY: Sure. I think you've articulated it quite well. Reactive  
16 would be, for example, detecting, surface wetness, for example, after  
17 condensation has already happened, and then you turn on the heaters. The  
18 issue with those kind of solutions is that you have to, get rid of the -- well  
19 one, you know, the sweating has already happened. But then you have to  
20 use energy to phase change the liquid that's precipitated on the surface.

21 JUDGE BUI: But once you detect the condensation, that's already  
22 happened.

23 MR. DARBY: I agree.

24 JUDGE BUI: The fogging, okay. So you can't prevent it, right?

25 MR. DARBY: Agreed.

1 JUDGE BUI: So you have to set it up in such a way that before that  
2 occurring you can prevent that from happening.

3 MR. DARBY: Absolutely. Absolutely. And that was known in the  
4 prior art. We'll talk about it in detail today. But the Carter reference, which  
5 is the primary reference in this case, absolutely prevents condensation before  
6 it starts. It's not reactive. It is instead predicting condensation. You'll see it  
7 in other references as well, including the King reference, which is about  
8 predicting condensation before it starts. And the key to that is dew point,  
9 and we'll talk about that a little more as we go forward.

10 JUDGE BUI: Please.

11 MR. DARBY: Okay. So, Judge Bui, as you were saying, that these --  
12 these known elements, you know, were all out there in the -- in the prior art.  
13 We could talk more specifically about the control scheme as we -- as we go.  
14 But, I want to turn to Slide 5 and just talk a little bit about our expert Dr.  
15 Henze. And Dr. Henze has an extensive, detailed, comprehensive  
16 declaration -- two, in fact, that he's put forward in this case.

17 I point the panel specifically to his -- his first declaration at  
18 Paragraphs 33 through 55, which gives an extensive overview of the prior art  
19 and is heavily corroborated by third-party documents. Dr. Henze is a  
20 professional engineer. He's a professor. He's got extensive experience in  
21 HVAC and R, and he teaches the underlying physics, psychometrics and the  
22 engineering principles that are at issue in this case. He's also a distinguished  
23 fellow at ASHRAE, which is the American Society of Heating,  
24 Refrigerating, and Air Conditioning Engineers, which is -- and the reason I  
25 mention that organization is they are the organization that literally wrote the  
26 handbook on refrigeration and -- including refrigerated display cases.

1           And so I know there's an argument in this case about Dr. Henze,  
2           whether he qualifies as a person of ordinary skill in the art, and I'm going to  
3           get to that in detail as we go forward in my presentation. But I want to say  
4           at the outset that his qualifications are absolutely sufficient. His analysis is  
5           detailed, comprehensive, and is supported by corroborating evidence, and  
6           we'd ask you to credit it.

7           JUDGE GROSSMAN: Okay. Mr. Darby, the issue that the Patent  
8           Owner has I think with Dr. Henze -- is that correct pronunciation of his  
9           name? Henze?

10          MR. DARBY: I think German, Henze.

11          JUDGE GROSSMAN: Henze. Okay. Was that he hadn't specifically  
12          worked on display cases with glass doors and in his cross-examination they  
13          established pretty clearly that he didn't have that specific experience. And I  
14          think they recognized, in fact, as I recall there was a line and cross-  
15          examination where they acknowledged that he was probably the smartest  
16          guy in the entire building in which the deposition was taken -- the cross-  
17          examination was taking place, but he didn't -- but he acknowledged that he  
18          didn't have any of this specific examination. And their argument is based on  
19          primarily a -- the *Kyocera* Federal Circuit case in which they found a Ph.D.  
20          with significant experience, unqualified as a person of ordinary skill in the  
21          art because they didn't have specific experience on a nailing gun, even  
22          though they had tremendous experience in the generic area of power tools.

23          And I think that's where the Patent Owner's trying to -- to say that Dr.  
24          Henze is not qualified to provide us opinion testimony on -- as a person of  
25          ordinary skill in the art because he himself is not a person of ordinary skill in  
26          the art because he didn't specifically work on display cases with glass doors.

1 And that's the, I think, the hurdle that -- that I look for you to give us some  
2 guidance on on what your views are on that as to -- depends on how we  
3 define the level of ordinary skill, whether it's broadly or very specifically. I  
4 think in our decision to institute, we've relied on -- on your proposed level of  
5 ordinary skill because it was unchallenged at that point.

6 It was -- and we said it was also, at that point, consistent with prior  
7 art. But we still haven't made a final determination on that or any of the  
8 other issues, and that's what that hearing is about and the -- all the additional  
9 briefing is about. But -- so what I'd like to see if you can address is what --  
10 what is that level of ordinary skill? Is it as detailed? Is it the -- the level we  
11 use for our preliminary decision or our decision to institute? Or is it some  
12 other level? And, uh, how does Dr. Henze meet whatever that level is you  
13 want to advocate is the proper level of ordinary skill?

14 MR. DARBY: Absolutely. Your honor, thank you for -- for raising  
15 the issue. And I think I can just -- I'll just hop to it now. I was going to raise  
16 it later, but I think we'll just hop to it now since it's top of mind. And I'd  
17 point you to our Slide 58 for this discussion. And what I'm going to explain  
18 is why the level of skill that's articulated in the petition, and that was applied  
19 during the institution decision is, in fact, the correct one, and we'll start  
20 there.

21 And so here on this slide, this is Slide 58, and it's a table summarizing  
22 the parties' respective positions. And, as we can see, everyone agrees on the  
23 education level. That's the part that's not highlighted in the two boxes for  
24 the Petitioner's side and the Patent Owner's side, and that's bachelor's degree  
25 in mechanical engineering, electrical engineering, or some related field.

1 Where the parties diverge -- and this is what we were talking about -- but it  
2 goes on the type of experience after the education.

3 On the Petitioner side, we have three to five years of experience  
4 relating to heating, ventilating, air conditioning, and refrigeration systems.  
5 Again, and that coincides with ASHRAE, which is the professional  
6 organization that's written the handbook on this. On the Patent Owner's  
7 side, you'll see fewer years. So, just two years, not three to five. And, as  
8 you were saying earlier, Your Honor, professional experience working with  
9 refrigerated display cases. So that's where the parties diverge. It's on the  
10 experience.

11 One thing I want to point out at the outset, there are some oddities  
12 with the Patent Owner's skill level definition here. And one of them is this  
13 notion of defining the level of skill as a particular application, refrigerated  
14 display cases, but doing so without any other requirements. And so if we  
15 look at that, it does tend to produce some odd results.

16 For example, engineers who work on display cases would include the  
17 engineer who designs, for example, the glass panel, the engineer who  
18 designs the lighting, the shelving, the frame. These are not individuals like  
19 Dr. Henze knows about condensation, why it starts, how to prevent it, what  
20 kind of sensors you need, how to calibrate those sensors. Those engineers  
21 that I just mentioned don't have that kind of knowledge. So right off the bat,  
22 we see that there's an issue here with this refrigerated display case notion in  
23 the Patent Owner's definition. And -- and that's what Dr. Henze described.  
24 And we can turn to Slide 59. Both in his opening declaration -- excuse me.  
25 Did you have a question?

1 JUDGE BUI: Yes. But before you go on, I wanted to bring back to  
2 the notion of working specifically with refrigerated display cases, right. If  
3 you didn't work in that area, you wouldn't be able to observe the -- fogging,  
4 the condensations, the problem that that would be unique for that particular  
5 technology. You might -- you might, you know, a broader -- a person with a  
6 broader education through skill with three to five years experience, should  
7 be able to, you know, install some sort of detections and sensor to be able to  
8 regulate the temperature. Okay. But without working specifically in the  
9 refrigerated display cases, you're not going to be able to see the problem that  
10 you're -- that you alluded to earlier.

11 You know, when they go to the supermarket and you have -- and we  
12 do -- we often see that -- the problems, right. And in these large-frame  
13 commercialized refrigerator cases with a glass door, fogging routinely  
14 occurred. And it seemed to be a problem that had been ongoing for a long  
15 time, and then -- and we don't seem to have a solution to that problem, right.  
16 So why is that not relevant? That skill -- that would be the proper  
17 educational level in that specific technology area.

18 MR. DARBY: Well, I think we have to ground our analysis here on  
19 the patent, right. And what is the patent talking about? It's talking about  
20 condensation control problems which are not unique to refrigerated display  
21 cases. I understand certainly that they happen in refrigerated display cases,  
22 but condensation happens in a lot of different contexts in the HVAC arena.  
23 And so an expert like Dr. Henze who has extensive experience in HVAC  
24 and R, they will have seen condensation in a variety of different  
25 applications.

1           And I'd point you to the excerpt that we have -- this is from Dr.  
2           Henze's supplemental declaration. This is on Slide 61, and this is Paragraph  
3           18 of that declaration. And he explains in detail that condensation is not  
4           unique to refrigerated display cases. That refrigerated display cases don't  
5           operate on a unique set of physical laws or principles. That they instead  
6           apply the basic physics and psychometrics that Dr. Henze teaches every day  
7           to his students. And so I'd start -- I'd start there. I'd also point you back to  
8           the patent. I point you back to the patent, and we can see that on Slide 60.

9           We have an excerpt here on the right-hand side of the slide. This is  
10          from the '181 patent. And on the left-hand side of the slide is an excerpt  
11          from Dr. Henze's declaration. What the patent is describing and what Dr.  
12          Henze is putting more detail on is that the inventors themselves warrant  
13          limiting their view of the art to refrigerated display cases. So if we look at  
14          that first excerpt, they talk about how condensation control events --  
15          controlling those, controlling condensation events has been utilized in a  
16          variety -- this a quote -- "a variety of applications, including refrigeration."  
17          Does not limit it to the refrigeration, but includes it.

18          JUDGE BUI: Before you go any further, we have a note from our IT  
19          folks. They would like to see the demonstratives so that the public or who  
20          are watching the hearing will be able to have access to that information.

21          AUDIO TECH: You're not plugged up at all. The HDMI. It's the  
22          other way around. There you go.

23          JUDGE BUI: Perfect. Thank you.

24          JUDGE DANIELS: So finally I can see. Thanks.

1 JUDGE GROSSMAN: I stopped the clock while we took a little  
2 break for the technical adjustment. And so, when you're ready to start, we'll  
3 start the clock again.

4 MR. DARBY: Okay. Thank you, Your Honor. So, um, back to Slide  
5 60. We're looking on the right-hand side of the slide, a quote from the  
6 inventor explaining to us how the kind of condensation control systems and  
7 apparatus that are at issue in this patent are known and used in a variety of  
8 applications. So not just refrigeration, but including refrigeration. And so I  
9 would submit that if the inventors are telling us that they didn't confine their  
10 view of the art to refrigerated display cases, that we also shouldn't do so in  
11 defining the level of skill.

12 JUDGE GROSSMAN: One more thing, Mr. Darby, before we leave  
13 that that issue. On your Slide 58 where you've summarized the parties'  
14 respective skill level definitions, you put -- both sides agree it's a bachelor's  
15 degree in mechanical or electrical engineering. Or you -- Petitioner adds,  
16 "or a comparable field." Patent Owner doesn't have that. Typically, what  
17 we've done or I've -- in cases is, it's not so specific to say it's got to be a  
18 bachelor's degree. But someone who has more education, like Dr. Henze,  
19 might need less experience.

20 If you're a Ph.D. superstar on condensation, maybe you don't need  
21 specific experience in display cases. And -- or if you don't have a degree  
22 and you've had 25 years of experience on display cases, maybe a bachelor's  
23 degree doesn't mean that much if you've been the, you know, chief technical  
24 officer of a company making refrigerated display cases with condensation  
25 control for 25 years. So there's a -- there's a balance. It's not just a  
26 bachelor's degree with three to five in your view, or two, whatever the

1 number you pick. But it can vary. More experience can offset less  
2 education. More education can offset less experience, would you agree with  
3 that?

4 MR. DARBY: I absolutely agree with it. I think there's flexibility in  
5 terms of how you apply the ordinary level of skill. And I think that's for  
6 good reason, Your Honor. The level of skill definition is not meant to play  
7 games about excluding this expert, not excluding that expert, trying to  
8 carefully craft it so that you could, you know, make sure it doesn't, you  
9 know, fall with this person's experience or whatnot. It's there so that when  
10 you look at the claims and at the prior art through an objective lens, that's  
11 what it's there for. So that we don't look back in hindsight.

12 And so, yes, there's flexibility in it. Certainly, I point you, in fact, to  
13 Paragraph 31, which we cite in the petition, but this is paragraph 31 from  
14 Doctor Henze's opening declaration, Exhibit 1003. And -- and he says  
15 exactly that. Such experience could be obtained through research and study  
16 in a graduate program or through comparable exposure through industry  
17 employment. And additional years of experience could substitute for the  
18 advanced level, you know, of experience or degree or what, what have you.  
19 And so I think that's exactly right. It's a flexible test.

20 And we would certainly ask you if you are inclined to adopt the Patent  
21 Owner's definition for you to consider Dr. Henze's extensive far and beyond  
22 educational experience as a supplement to his professional experience. And  
23 I do want to note -- I'd be remiss if I didn't say it, that Dr. Henze has worked  
24 with refrigerated display cases in the sense of leading the grant application  
25 on that subject. So as we were talking about, the experience can come in a

1 lot of different ways, and Dr. Henze does have refrigerated display case  
2 experience. He explained that in his supplemental declaration.

3 JUDGE GROSSMAN: Have you got a citation other than the  
4 supplemental declaration to give us where he talks about that?

5 MR. DARBY: I can absolutely get that for you, Your Honor. It is  
6 Exhibit 1061 is the supplemental declaration, and that's Paragraph 30. Okay.  
7 I think we'll -- unless there are further questions on this particular topic, I  
8 think we'll back up here.

9 JUDGE GROSSMAN: I've got one further question just to maybe  
10 get some closure on it. In your point about the disclosure and of the '181  
11 patent and, and the breadth of the disclosure is the -- the disclosed invention  
12 being applicable in lots of contexts other than display cases. Is it your  
13 position -- should we be guided in determining that level of skill, guided by  
14 the disclosure? Or are we have to be guided by the claims invention?  
15 Because claims do -- at least some of the claims are specific to a display  
16 case.

17 MR. DARBY: I think you have to consider both. I would never  
18 advise Your Honor to not consider the claim. You know the famous quote  
19 in patent law, "the name of the game is the claim." And so I will address the  
20 claims. And in the claims what we see is that the claim is still a  
21 condensation control apparatus. Claim 1 is to a condensation control  
22 apparatus.

23 And yes, there are some recitations of basic refrigerated display case  
24 components. Those are all very conventional components. Right? We're  
25 talking about a door, a frame, and a heater. And so that's not where the  
26 problem solved by this patent lies. There's no way these inventors in 2005

1 thought they invented something interesting about a refrigerated display case  
2 from what we see in this patent. They time and time again say that that was  
3 all known and conventional.

4 And so when we look at the art, there's no -- we're looking to define  
5 the level of skill in the art. It's not about solving some particular specific  
6 problem that has anything uniquely to do with display cases. The inventors  
7 tell us that. I think the claims tell us that. Even the title tells us that. The  
8 title is, "Refrigeration Unit." It doesn't say, "Refrigerated Display Case." I  
9 think the Carter reference, which we'll talk about here shortly, is instructive.

10 Carter teaches us very similar as we'll talk about here soon, very  
11 similar condensation control apparatus, which, again, predicts and  
12 preventative and that it stops condensation before it starts, just like the '181  
13 patent. It doesn't have the display piece. It doesn't have a glass door or glass  
14 window, right. But if we were to go with the Patent Owner's level of skill  
15 and strictly apply it, right, the inventor of Carter, the person who developed  
16 that system, wouldn't be the person of skill in the art. Why? Because Carter  
17 doesn't display. I think that's an absurd result, frankly. I don't think we can  
18 go that direction.

19 JUDGE GROSSMAN: Okay. Thank you

20 MR. DARBY: Okay. I think I'll take us back to Slide 11, if I could.  
21 Actually I'll go back to Slide 10. I'll start at Slide 10. So we've talked a lot  
22 about the level of skill. We've talked a lot about the '181 patent. I want to  
23 say a brief word about the base reference Carter, which I was just speaking  
24 about.

25 And on this slide we demonstrate with excerpts from both Carter and  
26 the '181 patent that these two documents share the same objective. They are

1 both about energy efficient condensation prevention. So we're not reacting  
2 to condensation in both documents, where we are preventing it.

3 So how do you do it? You turn on the heater before condensation  
4 starts. You turn off the heater when the risk of condensation is over so that  
5 you save some energy. You don't leave her heater running all day. More  
6 than just the same objective, we actually see that they employ the same kind  
7 of sensors. Carter's got the surface temperature sensor, ambient air  
8 temperature sensor, relative humidity sensor, and those are used for  
9 determining dew point. Carter also --

10 JUDGE DANIELS: Mr. Darby, dew point is based on the air mass  
11 that's inside the -- yeah. Let's see if I can formulate my question correctly.  
12 Dew point is sensed or measured from the air mass that is inside the -- the  
13 device. In other words, it takes into account all of the air mass inside. Is  
14 that how the dew point is calculated both in Carter and in the '181?

15 MR. DARBY: I don't know that either Carter or '181 go into detail  
16 about specifically how dew point is calculated. There are multiple ways to  
17 do it, right. You could have -- the key point that you need relative humidity,  
18 and you need -- you need ambient air temperature. And if you have those  
19 two things, there are a couple different ways that you can calculate dew  
20 point. There are some pretty complicated formulas that you could use to -- to  
21 calculate dew point. But there's also charts that you can use and lookup  
22 tables that you can use as well.

23 JUDGE DANIELS: Right. I just want to make sure that we -- when  
24 we sense -- that the calculations, whatever those are and however those are  
25 done, it's done on the air mass, which is the ambient -- basically the ambient  
26 air temperature, which includes mass and humidity of the volume of air in

1 the device. It's not -- the dew point isn't measured from something else, like  
2 on the surface of the front door, right?

3 MR. DARBY: Well, it's local to the refrigerated display case. It's  
4 local to the refrigerated case, and that's true of both Carter and the '181  
5 patent. But it's not, for example, inside -- based on temperature readings  
6 from inside of the case, right. So it's external to the case, but local to the  
7 case. And the reason I say that is because there are some other solutions  
8 where, for example, you might have one dew point sensor for the whole  
9 store, and you could calculate based on that. But in both of these -- in both  
10 of these documents, we're talking about sensors that are local, that are on a  
11 surface -- mounted to a surface of the particular case that we're monitoring.

12 JUDGE DANIELS: Got it. Thank you. Appreciate it.

13 JUDGE BUI: I have a question for you. In the Carter reference, what  
14 is your understanding how the dew point detection is calculated? Where do  
15 they arrange the sensor for that purpose?

16 MR. DARBY: Sure. So the sensor in Carter, all three of the sensors  
17 are within a door latch assembly. So the door latch assembly. And within  
18 that door latch assembly there's a surface temperature sensor that's touching  
19 the frame, and there's a relative humidity sensor, and there's an ambient  
20 temperature sensor that are shielded or housed, if you will, within that door  
21 latch assembly.

22 JUDGE BUI: Okay. Please proceed.

23 MR. DARBY: So just getting back to the -- we have the same  
24 objectives between these two documents. We have the same sensors  
25 between these documents and mounted in a similar way. The similarities are  
26 so striking that the deputy director went as far as to say there's a material

1 error during examination because the examiner didn't cite this reference and  
2 apply it. And to be fair, there are some minor distinctions. I won't tell you  
3 that they're exactly the same in every way. But what I will tell you is that  
4 any differences are obvious, and we can talk about -- we can talk about why.

5 And so now I'll move to -- to Slide 11, and just tee up the first of the  
6 disputed issues. So now we're getting into the claim elements. This is Claim  
7 1 and Claim 14. We have for you on the slide Element 1C and Element  
8 14C. And this is getting to the processing means of Element 1C, and the  
9 control means of Element 14C. And what I want to point out here, we've  
10 highlighted it and underlined it on the slide, is that Claim 1 has a means for  
11 activating the heater. Claim 14 has a means for both activating and  
12 deactivating the heat -- the heater. And we'll see why that matters for claim  
13 construction here shortly.

14 If we turn to the next slide, this is Slide 12. Got another table for you.  
15 This is summarizing Petitioner's constructions on these heater activating and  
16 deactivating elements. And we're identifying the corresponding structure  
17 that we put forward in the petition. In both cases, Judge Daniels, I think to  
18 your point earlier, these are fairly simple algorithms. Very straightforward.  
19 They're just three-step algorithms in each case, and I'll go through them.

20 So for heater activating, step one, discount the frame or -- the frame or  
21 door surface temperature by a pre-selected set point. So basically subtract  
22 the set point from the surface temperature. Step two, determining if that  
23 discounted frame or door surface temperature is below dew point. Step three,  
24 if it is, turn on the heater. And that's required by all the claims.

25 Heater deactivating, again, this is Element Claim 14 in Grounds 1A  
26 and 1B and it's Claim 8 and Ground 1E. Heater deactivation -- deactivating

1 is a very similar algorithm. Got a microprocessor and does the same  
2 discounting of the frame or door surface temperature by the pre-selected set  
3 point, and it determines this time whether that discounted frame or door  
4 surface temperature is above dew point. If it is, turn to heat heater off.  
5 Fairly straightforward.

6 On Slide 13, we have an excerpt from the Patent Owner's response  
7 brief. Unfortunately, I don't think we have a big dispute about the  
8 algorithms and what steps the algorithms require. I think instead, we only  
9 have a minor dispute, which may not be much of one at all.

10 But I do want to point out that in the in the Patent Owner's response  
11 brief, it looks like they're suggesting all three independent claims require  
12 both activating and deactivating. But we just saw in claim language that it's  
13 only Claims 14 and 8 that have that. Claim 1 is activating only. We think  
14 they may have come around on this. In some of their demonstratives it looks  
15 like they were they were arguing the deactivating with respect to only  
16 Claims 8 and 14. And if that's true, then I don't really think we have much  
17 of a claim construction issue here.

18 I want to move on to the activating feature. And I'll be brief here,  
19 because I don't think, again, that we have much of a -- much of a dispute.  
20 How does activating work in Carter? Judge Bui, I think this will get to one  
21 of your questions. Heater activation is -- is preventative. It's not reactive in  
22 Carter. How does it work? Well, you take the frame or surface -- you take  
23 the frame surface temperature and you compare it to a value that adds the set  
24 point to dew point. And that's the box that's highlighted, Box 56 on the left-  
25 hand side of the slide.

1           And when the surface temperature is less than that value, you activate  
2 the heater. So we're activating before we get to dew point. That preselected  
3 set point two degrees Celsius is what prevents us from getting to dew point  
4 in the first place. That's how we prevent condensation and don't let it start in  
5 the first place. We turn the heater on before the condensation can start. And  
6 so what we submit is that the activating algorithm that we see here in Carter  
7 is not materially different from the algorithm of the '181 patent.

8           I don't think there's much dispute on this. You know, the lone  
9 difference in our view is that the '181 patent subtracts the set point from the  
10 surface temperature on one side of the equation, while Carter adds the set  
11 point to dew point on the other side. We all remember back to eighth or  
12 ninth grade algebra, adding on one side of an equation is the same as  
13 subtracting on the other side of the equation. Those are mathematically  
14 equivalent operations. And so we see no material distinction here. I don't  
15 believe there's a dispute on that.

16           JUDGE GROSSMAN: Mr. Darby, do we need to do a specific claim  
17 construction on the processing means to reach the result of -- to determine  
18 whether your -- your interpretation of that is correct or not or whether they're  
19 the same? Because if it's a mean plus function claim, then we've got to find  
20 a structure in the spec. And if the specification has specific structure, then  
21 you've got to show that the references meet that specific structure or it's  
22 equivalent.

23           MR. DARBY: Exactly. These are means plus function claims. And  
24 we've put forward in the petition the exact algorithmic structure. We went  
25 through the analysis step by step. We did that in the claim construction  
26 section of the petition. You can find it there. And in the claim -- in the

1 element analysis we, again, go through step by step about why every step of  
2 the algorithm is not insubstantially different between -- it's not substantially  
3 different between Carter and the '181 patent.

4 JUDGE GROSSMAN: So we can have -- face a situation where  
5 processing means might mean something different in Claim 1, which does  
6 not have any deactivation than it means in Claim 8 where it has to -- the  
7 processing means in Claim 8 would have to do both activation and  
8 deactivation?

9 MR. DARBY: I do think you have to reach a different result there.  
10 It's because what the means plus function inquiry asks us to do with respect  
11 to the corresponding structure is to look at the function and find the structure  
12 that corresponds to that function. So if you don't have a function, then you  
13 don't need to go find the corresponding structure and the specification. And  
14 that's why we would distinguish between Claim 1 and the other claims, the  
15 function is activating only there. And so the only algorithmic structure we  
16 need would be the three-step algorithm for the activating.

17 JUDGE GROSSMAN: So does Claim 1 what actually work as a -- in  
18 a product sense that you turn the system on, but no matter what the  
19 relationship between temperature and dew point and humidity are, you never  
20 can turn it off? There's nothing in the claim that says that it's ever turned  
21 off.

22 MR. DARBY: I think it's the key. There's nothing in the claim that  
23 says how you turn it off. Of course, you know, a patent applicant isn't  
24 obligated to put every feature to make a working device in the claim, and  
25 they just decided to claim a little broader and Claim 1 than they did the other  
26 claims.

1 JUDGE GROSSMAN: Thank you.

2 MR. DARBY: Okay. And with that, we can pivot to heater  
3 deactivation, and this is in Grounds 1A and 1B, this claim 14 only.  
4 Fortunately, refreshingly, I don't think we're -- we have a dispute about how  
5 Carter works. I actually think the parties are on the same page about that.  
6 Carter turned off the heater when the surface temperature reaches the  
7 ambient temperature, as simple as that. So I'll be the first to tell you that it's  
8 not exactly the same as what we just talked about in the '181 patent.  
9 Because remember, the '181 patent deactivates when the surface  
10 temperature exceeds dew point by more than a pre-selected amount.

11 We would submit, though, and I'll turn the Slide 16, that this is an  
12 obvious and insubstantial difference. And we have two alternative and  
13 independently sufficient rationales. First, at the top of the slide that a skilled  
14 artisan would have been motivated to modify Carter to use a second pre-  
15 selected set point for triggering heater deactivation, which would yield an  
16 algorithm virtually identical to the '181 patent. And two, that Carter's  
17 expressed disclosure is equivalent and insubstantially different from the '181  
18 patent, and we'll talk about both of those today. If you adopt either of them,  
19 you end up in the same place on this claim limitation, are alternatives.

20 But I am going to focus first on that first one, the obvious  
21 modification. And my reasoning for that is twofold. One, the factual  
22 underpinning is not in dispute. I think that's important. And two, frankly,  
23 it's a simpler inquiry than the equivalent disclosure inquiry. And so it's more  
24 straightforward and it has undisputed facts, and we think that makes it the  
25 optimal path for resolving this dispute, and it applies to all claims that  
26 require deactivating.

1                   And remember, Carter already uses a pre-selected set point for  
2 heater activation. Our theory here -- our motivation rationale is simply that  
3 the skilled artisan would have been motivated to use a pre-selected set point  
4 for both activation as Carter discloses and for heater deactivation. So using  
5 that which Carter already teaches for both turning the heater on and turning  
6 the heater off.

7                   JUDGE GROSSMAN: Mr.Darby, do you have a site to the basis of  
8 how you characterize it as being undisputed? Has the Patent Owner made  
9 some admission or -- or statement where they say that's not -- not in dispute?  
10 Because it appears that the obvious modification is exactly what's in dispute,  
11 is whether it would have been obvious to a person of ordinary skill to make  
12 some changes in those claims. So what is there -- what's the basis for  
13 characterizing that as undisputed?

14                  MR. DARBY: Sure. So there are two different -- we have the two  
15 different theories in the petition. And when we looked at the Patent Owner's  
16 response, we didn't see any factual debate about the motivation argument  
17 that I'll put forward here in a second. So when we say it's undisputed, what  
18 we mean is the factual underpinning, the expert testimony from Dr. Henze  
19 that we'll get to here in a second, that factually isn't disputed. There's a legal  
20 argument that we saw for the first time in the Patent Owner's surreply about  
21 DSS tech and common sense, and we can talk about that here shortly. But  
22 that's what we mean when we say undisputed. I don't think they'll concede  
23 it. I don't think counsel would get up today and concede it. But what I  
24 would say is, is that if you look at the record and what you'll find is an  
25 absence of a factual dispute on the motivation rationale.

26                  JUDGE GROSSMAN: Thank you.

1 MR. DARBY: So, with that, I turn your attention to Slide 17. And  
2 this is an excerpt from Dr. Henze's -- it's his opening declaration, it's  
3 Exhibit 1003. And what he explains here is that Carter's approach, the heat  
4 to ambient approach for deactivation, is subject to ambient conditions. So  
5 what do we mean by that? Well, when the humidity is low, that means the  
6 conditions are dry and the heaters will run longer because dry air can take up  
7 more water than wet air. Same way when humidity is high, conditions are  
8 wet, the heaters will run for shorter amount.

9 And so what Dr. Henze explains -- and again, we don't see any expert  
10 testimony from the Petitioner's expert or any factual dispute here -- is that  
11 the skilled artisan would have understood that there are efficiency and  
12 operational advantages that come along with pivoting from Carter's heat to  
13 ambient and providing a set point, giving an operator, for example, control  
14 of that buffer, the buffer between when the heater turns on and when the  
15 heater turns off. You give an operator control, if you give that a set point,  
16 there are clear advantages with respect to that.

17 To give you an example, imagine a hot, dry day in Arizona. There's a  
18 big buffer between the point when the heater comes on and all the way up to  
19 ambient temperature. Well, maybe on that day an operator might want to set  
20 a set point that would turn the heater off so it didn't run all day in order to try  
21 to get up to ambient temperature. That's a clear operational advantage,  
22 efficiency advantage. Dr. Henze describes that in his expert declaration that  
23 we have here on the slide. And, again, we don't see a dispute about that.

24 Want to turn next to Slide 19. Getting here to what I mentioned  
25 before. The legal argument, and we have it summarized here at the top of  
26 the slide is a quote from the surreply, the Patent Owner says that common

1 sense is being used here -- and again, this a legal argument, not a factual one  
2 -- to fill in a missing limitation. And that's under the Federal Circuit's *DSS*  
3 *Tech* case law. We would submit to you that that's not what's happening  
4 here, that we're not relying on common sense, that we are instead relying on  
5 clear operational and efficiency advantages that we don't think are disputed.  
6 Those are predictable advantages, which *KSR* tells us it's obvious. It's not  
7 relying on common sense.

8 Okay, in the interest of time, I see you've got about 15 minutes left in  
9 the opening. Just a brief word on the equivalent disclosure rationale. I'll  
10 turn to Slide 21. This is where we boil it down for you. And this is in the  
11 Petition on pages 30 through 31, and we have it here on Slide 21. It's  
12 showing and highlighting the -- what the difference is and why we don't  
13 think there's a -- there's a substantial difference. The difference here is that  
14 Carter's algorithm isn't -- doesn't establish a buffer as being a selectable  
15 buffer, a selectable set point. Instead, the buffer between when the heater  
16 comes on and when the heater turns off, it's controlled by ambient conditions  
17 when the relative humidity or temperature changes, the buffer changes.  
18 Whereas in the '181 patent, the buffer is set by a set point. The reason that's  
19 not a material difference is because the core principle is the same.

20 What we do here -- Judge Bui, to your question at the outset of the  
21 hearing, we want to be preventative, so we want to turn the heater on before  
22 it starts, right. And the other piece of that is we want to turn the heater off at  
23 some point so it doesn't run indefinitely. And the way we do that, is we turn  
24 the heater off and the risk of condensation is over. And so we have this  
25 buffer. A user can set it as a set point in the '181 patent, or it can be set  
26 basically automatically by the ambient conditions. In Carter, we submit to

1 you that that difference is not a substantial one for the reasons we put forth  
2 in the petition and in Dr. Henze's testimony.

3 JUDGE BUI: I just wanted to know the -- that distinction is really not  
4 in the claims. Right? The claims are written much broader than that.  
5 Right?

6 MR. DARBY: I certainly would agree with you. They are means  
7 plus function claims, and so this analysis is getting down to the to the  
8 equivalence test, right. But to your point, and the law says this, I believe we  
9 have a case site for you in the Petition, the algorithmic structure isn't the  
10 limitation. Right. So you don't have to match what's in the algorithmic  
11 structure exactly from the patent. Instead just have to be insubstantially  
12 different from it. And we would submit that's what we have here.

13 Okay. I'm going to jump now -- just briefly, I'm going to switch gears  
14 here and jump all the way down to Slide 31 -- or excuse me -- Slide 29. And  
15 this is the preambles. The Patent Owner has argued the preambles are  
16 limiting. We didn't dispute that. The preambles require refrigerated display  
17 case. You've got to have a door. You've got to have a frame and you've  
18 got to have a heater. And there's a big argument about whether Carter  
19 teaches those. We would submit here that this is one of the places where  
20 Ground 1B really condenses the issues, because I don't think we have a  
21 dispute at all about being about Beatenbough and the Beatenbough reference  
22 teaching those features.

23 JUDGE GROSSMAN: Is any -- refrigerated display case, does it --  
24 is there anything about that term that needs to be construed as it has to have  
25 a glass door? Can you have a refrigeration system? Carter clearly is

1 directed to a refrigerator. And if you want to see what's inside the case, you  
2 just open door and take a look.

3 MR. DARBY: Had that same thought..

4 JUDGE GROSSMAN: As long as the door is unlocked, is that a  
5 display case?

6 MR. DARBY: I don't think you need to read to the claim issue on  
7 that really. I -- and that's why we would urge the panel to go with Ground  
8 1B. It just takes that claim construction issue off the board. Because  
9 Beatenbough, I think it's common ground actually that it's got the  
10 refrigerated display case with the glass window. It's got the frame. It's got  
11 the door. It's got the heater. And so when you combine the references -- and  
12 I don't think there's a motivation to combine dispute either -- you  
13 indisputably have those -- those claim limitations. I think it just takes the  
14 dispute off the board.

15 JUDGE GROSSMAN: Thank you.

16 MR. DARBY: Okay. I want to turn now to the housing needs in the  
17 claim. And I'll go to Slide 37. In the interest of time here, I'll be somewhat  
18 brief here, but I don't want to give this short shrift because I think the claim  
19 language matters here. What we have here on Slide 37 is a table that  
20 summarizes the claim construction positions between the respective parties.  
21 The first -- the first row of this table is Element 1D, which requires a  
22 housing means. And I want to point out that I think the parties are on the  
23 same page here.

24 That this particular element, although it says "housing means," it's got  
25 sufficient structure in the claim language itself, and I think everybody agrees  
26 on that, such that we don't need to go to the specification to tell us what's

1 already in the claim. And so when we look at what the claim tells us is  
2 required, right, you have to thermally isolate the sensing units, all of the  
3 sensing units, and you do so by minimizing heat transfer contacts between  
4 them in the housing and by locating them amid insulated air pockets with the  
5 housing.

6 When we look at Claims 15 and 16, they are a subset, they are two  
7 subsets of Element 1D. They don't have the structure in the claim language,  
8 but each is talking about isolating one of the sensors that Element 1D covers.  
9 So element 1D covers all the sensors, Claim 15 only covers a dew point  
10 sensing unit, Claim 16 only covers the temperature sensing unit, which is  
11 the surface temperature. And here we have corresponding structure of  
12 housing with a base and a cover. You engage them, you create these air  
13 pockets that's around the sensor.

14 Briefly, I'll note that the Patent Owner, at least with respect to Claim  
15 15, has some additional structural limitations. We submit that they're met by  
16 the prior art. So don't know that you need to resolve a claim construction  
17 dispute here. We don't agree with these extra limitations, but we'll show you  
18 where they are in prior art.

19 So with that, I'll jump to my next slide, which is Slide 38. And this is  
20 the King reference in -- in ground 1B. And so one thing I think you'll notice  
21 with these references Carter, Beatenbough, and King is that they all have  
22 one thing in common, not only with each other, but with the '181 patent.  
23 They're all about predicting condensation, preventing it before it starts, and  
24 using dew point as a guide to make sure that we're preventative, not reactive.  
25 King teach us the very same kind of sensors. They're labeled here on the --  
26 on the slide, it's an excerpt from Figure 2 of King. It's got the surface

1 temperature sensor 20. It's got an ambient air temperature sensor, 24. It's got  
2 a relative humidity sensor, 22.

3 JUDGE GROSSMAN: Yeah.

4 MR. DARBY: They're supported on what King called the flex circuit,  
5 and they're enclosed by the housing. That housing consists of two mating  
6 components, thermal barrier tray 16, and a protective dome, 26. You can see  
7 all those labeled here on the slide. Also, like Carter and King -- or excuse  
8 me, Carter and the '181 patent, King compares surface temperature to the  
9 dew point -- or excuse me, compares the surface temperature, yes, to dew  
10 point to predict condensation. I'd give you a cite there, this is King  
11 reference column 3, lines 25 through 27. The only difference is that King  
12 employs this kind of combined sensor package in a different context. An  
13 automobile window shield, for example, to prevent condensation in the form  
14 of window fog. But all the same advantages that come with respect to this  
15 condensed combined sensor package we would submit applies in the context  
16 of Beatenbough as well.

17 And I'd point you to Slide 39 just to show you what the combination  
18 is, briefly. You take the -- you take the King sensor, which is on a glass  
19 windshield, for example, or any glass surface King tells us, any glass  
20 surface, and you put it on another glass surface, the glass surface that is the  
21 door of Beatenbough's refrigerated display case. That's the combination. I  
22 don't believe we have a dispute on motivation in this particular case.

23 And I think that leads us to how does King meet these particular  
24 limitations. I'd point you to Slide 41 for that discussion. So I'll do Element  
25 1D here, noting that Claim 15 and 16 are subsets.

1 JUDGE GROSSMAN: Just to let you know, Mr. Darby, you are into  
2 some of your rebuttal time. But it's up to you whether you want to continue  
3 or save some time for rebuttal.

4 MR. DARBY: Excellent. I think I will use about two minutes at that  
5 time.

6 So suffice it to say that there is minimal heat transfer contact between  
7 the housing and the sensors in King. See that on the left-hand side of the  
8 slide. There's only one point of contact, it's between the barrier tray and the  
9 flex circuit that carries those sensors.

10 JUDGE GROSSMAN: And when you say the left-side of the slide,  
11 are you speaking about Slide 40?

12 MR. DARBY: Excuse me, Slide 41. Thank you. And then on the  
13 right-hand side of the slide, we show you the air pockets. And again, this is  
14 all broken down in the Petition. The last issue in the interest of time that I  
15 want to get to, I do want to get to the "adapted for" language, Judge Daniels,  
16 that you were asking about at the outset here. When the -- when the center  
17 of King is placed on the door of Beatenbough, those sensors are configured  
18 to do exactly what they do in King, give you a surface temperature -- and it's  
19 glass to glass, right. It's glass in King it's glass in Beatenbough. Give you a  
20 surface temperature sensor reading, give you an ambient and temperature  
21 sensor reading, give you a relative humidity -- humidity sensor reading.  
22 Those are the exact same sensors in the claim in Carter, and that's exactly  
23 what Carter's algorithm requires in order to operate as we've discussed. So  
24 they are configured to in that sense.

25 With that, I think I've got about six minutes left. I'm going to stop  
26 here and pass the podium, reserve the rest of my time for rebuttal.

1 JUDGE GROSSMAN: One question for you about some of the  
2 exhibits. You have an Exhibit 1050 that was a settlement agreement and  
3 release --

4 MR. DARBY: Yes.

5 JUDGE GROSSMAN: -- substantially redacted relating to Colorado  
6 District Court case that was eventually dismissed with prejudice. What does  
7 -- what -- I -- I'm not sure what relationship that -- those documents -- that  
8 exhibit about the settlement agreement and termination of that -- the  
9 Colorado case is related to the case before us, which is the '181 patent in this  
10 IPR proceeding.

11 MR. DARBY: I'd say it's not pertinent to the merits. It was raised in  
12 the discretionary part of the pre-institution proceeding. I think you need to  
13 deal with it for the merits.

14 JUDGE GROSSMAN: Thank you.

15 MR. DARBY: Thank you.

16 JUDGE GROSSMAN: Mr. Ziemian, what -- if you'd like to reserve  
17 any time and how much?

18 MR. ZIEMIAN: About ten minutes is good, Your Honor. Thank you.

19 JUDGE GROSSMAN: And you may begin whenever you're ready.

20 MR. ZIEMIAN: Thank you, Your Honors. Robert Ziemian, for  
21 Patent Owner ControlTec. At the outset, I'd like to address a comment on  
22 the settlement agreement between the parties that Judge Grossman brought  
23 up at the end of the last questioning session. The point of that is to show  
24 that these parties were aware of each other, have worked with each other for  
25 a significant period of time in the past developing these types of  
26 technologies. I think that was the point of it.

1           Here's an agenda roadmap. I really just want to focus on three things,  
2           and the Board has already addressed those three things. But we'll try to  
3           cover as much as we can today. And very astutely, the Board has covered  
4           the adapted floor limitation, Carter itself, and the qualifications of Dr.  
5           Henze. In Petitioner's presentation, a lot of things, a lot of words were put in  
6           our mouth about what we dispute and what we don't dispute. We dispute  
7           that these claims are obvious over the art presented.

8           So our story is a little different and it's framed a little differently. It's  
9           framed by refrigerated display cases. And that's nuanced, it's a very nuanced  
10          area. And only experience with those particular types of refrigerated display  
11          cases could really lead to the respective that -- that yields proper analysis  
12          here. As we've already heard, the '181 patent is an anti-sweat system, and it  
13          focuses on dew point and frame temperature.

14          JUDGE GROSSMAN: And I just want to make sure that the record's  
15          clear that we're looking your Slide 3 right now.

16          MR. ZIEMIAN: Thank you, Your Honor. Slide 3. Thank you, Your  
17          Honor. And it's a, you know, it's a -- it's a dew point system where there's  
18          one set point above the dew point, the system is turned on. And another set  
19          point above the dew point, the sensor is turned off. Why this is important is  
20          beyond just to prevent prevention of condensation on the glass. There was  
21          an energy efficiency aspect to this, and this can be found on Paper 25, page -  
22          -

23          JUDGE BUI: You mean to say that energy conserved if you -- if you  
24          can avoid that fog and no condensation all together?

25          MR. ZIEMIAN: Energy could be conserved by preventing the  
26          condensation. But really, if you think about these systems, the system is a

1 freezer, and so the glass front door gets cold. So, I need to heat it so  
2 condensation does not occur. However, if I spend a lot of time and energy  
3 heating it to a very high temperature, like Carter does, then I waste all of that  
4 energy. So I want to turn it off as early as I can, reasonably preventing  
5 condensation.

6 JUDGE BUI: Sure. That's a whole purpose, prevention, right?

7 MR. ZIEMIAN: Yes.

8 JUDGE BUI: So, that you can heat it at the point where condensation  
9 could be avoided.

10 MR. ZIEMIAN: Yes. Yes, exactly.

11 JUDGE BUI: So, wouldn't that be necessarily in the purview of one  
12 skilled in the art? And never mind the fact that we have to decide whether  
13 Dr. Henze qualifies as one skilled in the art or not. But certainly they want  
14 one skilled in the art to come up with that to arrive at that conclusion.

15 MR. ZIEMIAN: Yes, Your Honor. Engineers are interested in the  
16 efficiency.

17 JUDGE BUI: Yes. Otherwise waste energy.

18 MR. ZIEMIAN: Absolutely.

19 JUDGE BUI: And on top of that, you defeat the whole refrigerator  
20 system to begin with, right?

21 MR. ZIEMIAN: Absolutely.

22 JUDGE BUI: Then do you have a clash between heater and air  
23 conditioning.

24 MR. ZIEMIAN: Yes. Yes. So the '181 patent is specifically  
25 designed to minimize that conflict by turning it on right before it gets the  
26 dew point and turning it off at a reasonable distance from the dew point and

1 not wasting energy that could be wasted by heating it further and getting into  
2 that conflict that you're talking about.

3 JUDGE BUI: And that particular feature, if my understanding is  
4 correct, is taught by the Beatenbough reference, right, specifically talking  
5 about -- they focus about efficiency, the condensation prevention, and  
6 conservation. And so that particular feature is addressed in the prior art.

7 MR. ZIEMIAN: That's correct. Beatenbough does address that. It  
8 doesn't address it in an effective way like the '181 patent.

9 JUDGE BUI: How so? What's the difference there?

10 MR. ZIEMIAN: Well, Beatenbough is not turning off and on in a  
11 close window related to when condensation occurs. It's more of a coarse on-  
12 and-off.

13 JUDGE BUI: I'm slightly confused, but please proceed.

14 MR. ZIEMIAN: Okay. Thank you, Your Honor. So, in the context  
15 of the '181 patent, the frame is important. And here you see an image from  
16 figure one of the '181 patent. Also, you know, this is found in Exhibit 2014,  
17 page 16, which is Mr. Pollock, our expert's declaration. Frame has a special  
18 meaning here, and you can see it in this figure. The frame holds the glass  
19 doors, and it's important to frame the invention in that context. The '181  
20 patent, now we're on to Slide 6. Pardon me. The '181 patent --

21 JUDGE GROSSMAN: Is there some other way that you can  
22 construct a display case, refrigerated display case? It's always going to have  
23 some sort of a holding box, whether if you want to call it a frame or  
24 something, and it's going to have a door on the front so you can open the  
25 door. In the context of the practical implementation of the claims, it's a  
26 grocery store refrigerated display case as Judge Daniels was mentioning

1 about holding frozen foods like ice cream or other things like that. So  
2 there's always going to be a case and a door that's attached to it. Is there  
3 anything significant in the claims that distinguishes that, whether it's  
4 Carter's got a door and a frame, and all the other references seem to have  
5 some kind of a door attached to a holding container, which is generally the  
6 frame and includes a frame. And so, don't all these references have a frame  
7 and a door?

8 MR. ZIEMIAN: All these references have --

9 JUDGE GROSSMAN: When I say, "all the references," I'm talking  
10 about the refrigeration ones. I know there's some that are directed to an  
11 automobile dehumidifier on a windshield. But, you know, the primary  
12 references in this case are related to refrigeration cases that have a door on  
13 them.

14 JUDGE BUI: And glasses.

15 MR. ZIEMIAN: Yes, Your honor. Carter doesn't have the glass front  
16 certainly. But the common terminology of "frame," yes, I agree that  
17 refrigerators have frame. I think in this particular context, and the technical  
18 area of the '181 patent, frame does have special meaning. We've all been in  
19 the grocery store. I think virtually all refrigerator display cases have  
20 essentially the same frame system. And I think in order to set up a glass  
21 front freezer, you would need a pane of glass and something around it to  
22 hold the glass. And the reason why that may be important in this particular  
23 context is the thermal characteristics of glass are, you know, vastly inferior  
24 to the normal characteristics of a sealed aluminum front or other front  
25 freezer. So it adds to the context of how this is deployed. And this feeds  
26 directly into the "adapted for" claim limitations and other aspects.

1 JUDGE BUI: My question is that the '181 patent, your patent --

2 MR. ZIEMIAN: Yes.

3 JUDGE BUI: -- really solution is tailor-made for a very specific  
4 problem. And that specific problem has to do with the glass in the  
5 refrigerated display case, right. Because when we go to shop to supermarket  
6 and we open the glass door, okay, either there tends to be some fogging,  
7 condensation is involved and all of that, okay, and we want to avoid that. If  
8 without the glass, do we really care? We don't, right? Without the glass you  
9 have something like the car reference. But what the challenge for you is to  
10 be able to address the application, the applicability of the Beatenbough  
11 reference, that the one that specifically with commercial-sized refrigerator,  
12 you know, equipment with glasses, right? So that's the one. They are  
13 certainly combinable that those are well-known elements. In other cases are  
14 they combinable and what, but the motivation reason or make the  
15 combination, right. So, the challenge for you is to be addressed that how is  
16 how we can somehow distinguish over that combination of the references.

17 MR. ZIEMIAN: Right. Okay, Your Honor. Thank you, Your Honor.  
18 I'm not sure exactly what you're asking, but, the combination difficulties are  
19 in the way that the petition presents, what's doing what. And if you recall,  
20 the sensor systems of the dew point sensor are implemented from Carter and  
21 King, perhaps, but they're not implemented -- the dew point sensing system  
22 is not implemented from Beatenbough.

23 JUDGE BUI: So the combination, the arrangement of the three  
24 references are not necessarily are that important. Whichever order you use is  
25 perfectly fine for the combination to exist, right?

1 MR. ZIEMIAN: Well, I think we do posit that King is not analogous  
2 art in this case.

3 JUDGE BUI: And why is that? What's the reason for that?

4 MR. ZIEMIAN: Because King is designed to solve a different  
5 problem. And if you want to turn --

6 JUDGE BUI: But aren't they the same field of endeavor?

7 MR. ZIEMIAN: I don't think they're the same field of endeavor. You  
8 know, King is related to automotive technology and preventing condensation  
9 on a windshield. And the present, the '181 patent, is focused on refrigeration  
10 technology in a supermarket. It's a different environment.

11 JUDGE BUI: Different environment, the same problem, which is to  
12 solve the fogging, condensation on the glass.

13 MR. ZIEMIAN: Yes.

14 JUDGE BUI: Okay. So, they are analogous in that regard.

15 MR. ZIEMIAN: One moment, Your Honor. Right. So, it's a two-  
16 part test on under -- thank you for pointing me to that. It's a two-part test  
17 under in re Bigio. Is it the same field of endeavor? Or is it reasonably  
18 pertinent to the particular problem faced by the inventor?

19 JUDGE BUI: Right.  
20 So, here I don't think it's the same field of endeavor.

21 JUDGE BUI: The second part it may be, right?

22 MR. ZIEMIAN: Right. So is it reasonably pertinent to the particular  
23 problem faced by the inventor? And here I think they share a common tool  
24 of using these sensors. But I don't think the problem is the same. It's not a  
25 common problem.

1 JUDGE BUI: Well, the common problem is to be able to see through  
2 the glass without condensation or fogging, or it's like a situation like that.  
3 So, if you go to the supermarket, you open the glass door of the commercial  
4 refrigerator, and you want to see the product down, you know, inside the  
5 refrigerator, right? For the same reason when we are driving on our own  
6 vehicles and, you know, the temperature slight differentiation that create  
7 condensation on the glass, you want to be able to resolve that problem. The  
8 same problem, really. You know, they are two different environments, but  
9 the same problems. So, am I correct?

10 MR. ZIEMIAN: It could be framed that way. I don't think we agree  
11 that it should be framed that way. I think in the context of refrigerated  
12 display cases, the environment that they're facing is significantly different.  
13 Here you have doors that are constantly opening and closing. Whereas in a  
14 car, it tends to be more consistent. The external temperature outside the car  
15 isn't going to probably change that rapidly. Whereas if, Jimmy, my son  
16 Jimmy, is opening and closing the door repeatedly, it can rapidly change the  
17 environment. So, I do think the operating environments are different.  
18 There's also another problem the anti-condensation system in refrigerated  
19 display cases is trying to solve, and that's the slip-and-fall type of thing,  
20 where condensation runs off from the refrigerated display cases and ends up  
21 on the floor. The other problem that is trying to be solved is sometimes  
22 things will seal improperly because ice will form. So, that's another  
23 problem. Additionally, in the context of refrigerated display cases, we're  
24 worried about the efficiency of the system. We're not really worried about  
25 the efficiency in a vehicle, of the anti-fog system. So, Your Honor, I see  
26 your point. Thank you. But we differ slightly on what that means.

1 JUDGE BUI: Thank you.

2 JUDGE DANIELS: Yeah. This is why I think I was asking before,  
3 that these HVAC systems are nuanced in that if you're just blowing, what  
4 Judge Bui was saying, if you're just blowing air on the inside of your car to  
5 heat up the glass so that you stop the condensation, that's a lot different is  
6 your point. That's a lot different than this system, which is a display case and  
7 you've got a couple of problems you're solving. It's the viewability and slip-  
8 and-fall issues and efficiency. So maybe not just a couple but three. Is that  
9 correct?

10 MR. ZIEMIAN: Yes, Your honor. Thank you for that clarification.

11 JUDGE DANIELS: Perfect. Thank you.

12 JUDGE GROSSMAN: Mr. Ziemian, before we go too far from that  
13 concept, I want to sort of clarify something about the Beatenbough  
14 reference. I think there's some slides in your presentation where you talk  
15 about the references don't disclose the display case, and you talk about it.  
16 And I'm looking at the Beatenbough reference, it's titled about refrigeration  
17 doors free of frost and condensation. And the first sentence of the abstract  
18 says, "An energy conservation device for use with display-type refrigeration  
19 and freezer units having glass display doors for preventing the formation of  
20 condensation and frost on the glass of the doors." So, would you  
21 acknowledge that Beatenbough discloses the sentence that I just read out of  
22 the abstract, and it does disclose glass display doors, and that I think there's  
23 an argument in your materials that references don't disclose display cases. It  
24 seems to me that Beatenbough expressly says it's a display case with a glass  
25 door.

1 MR. ZIEMIAN: Yes, Your Honor, I acknowledge that. Beatenbough  
2 definitely does have a refrigerated display case. I acknowledge that. The  
3 nuance here --

4 JUDGE GROSSMAN: And would you acknowledge that  
5 Beatenbough also is related to energy conservation? Yes. It wants to do two  
6 things. It wants to keep the glass free so that people like Judge Daniels can  
7 see his ice cream, and it wants to also save energy because it starts out in the  
8 abstract that's describing it as an energy conservation device.

9 MR. ZIEMIAN: Yeah. Yes, Your honor. I agree with that. The  
10 nuance is the way that Petitioner has constructed these things. Petitioner is  
11 using Carter to teach a lot of these aspects. But Carter is not employed in  
12 the context of refrigerated display cases. So then, saying that Carter's  
13 sensors and the whole system are specifically adapted to refrigerated display  
14 cases can't be said because it's not in that context originally. And the same  
15 holds to true for King. So if there is an error there, I apologize, and I see  
16 your point.

17 JUDGE GROSSMAN: But if you're looking at their Ground 1B,  
18 which is what -- we're going through all the grounds. But as the Petitioner  
19 introduced in his opening remarks, and it was focusing on for this hearing on  
20 1B that's got Carter, Beatenbough, and King. And so we're looking at, and  
21 yes, Carter doesn't appear to have a glass door and doesn't use the word  
22 "display," but certainly Beatenbough does. And would a person of ordinary  
23 skill in the art understand that you could combine some of the concepts of  
24 Beatenbough and some of the concepts of the Carter is really what we're  
25 looking -- and also with King who has certain features. So if we're looking  
26 at that Ground 1B, don't we really need to focus on not just what Carter

1 discloses, but what all three references collectively would suggest to a  
2 person of ordinary skill in the art, and would it have been obvious at the time  
3 of the claimed invention to that person with Beatenbough and Carter both in  
4 front of them? So we've got Beatenbough showing the display cases and  
5 energy conservation, Carter showing the things that it's cited for. That's the  
6 combination we're going to look at least in Ground 1B.

7 MR. ZIEMIAN: That's correct, Your Honor. I understand that. I  
8 think if you look at the original petition, which Petitioner is bound by, the  
9 way they construct their obviousness combination is to rely not on  
10 Beatenbough for adapting and configuring, but they rely on Carter for  
11 providing their sensors and housing, and they rely on King for providing  
12 their sensors and housing, but neither is adapted for refrigerated display  
13 cases.

14 JUDGE GROSSMAN: Does Beatenbough have of some kind of  
15 sensors? I know it's got heating elements. It's got electrical power sources.  
16 It's got a monitor for monitoring room temperature. So it's got all those  
17 sensors in there.

18 MR. ZIEMAN: Yeah.

19 JUDGE GROSSMAN: And it's measuring The humidity and  
20 temperature. And then it's applying its own algorithm to how it's going to  
21 keep the condensation performing and still maintain its objective of energy  
22 conservation. So, isn't Beatenbough basically have the same kind of  
23 structure as Carter where rather than have a person standing there and  
24 whenever the condensation starts to appear, they flip a switch and turn on a  
25 heater. They use the more modern version. They now use sensors, rather  
26 than a person flipping the switch. So, the sensor wants to sense the

1 temperature, and so you put it in a position where it'll sense temperature.  
2 And then you have other sensors that will sense humidity and you want to  
3 put them in a position where they sense humidity and are not influenced by  
4 outside factors. And so, that's the combination that I see we're being asked  
5 to put together based on the level of ordinary skill in the art that it would  
6 have been obvious to take Beatenbough's display system with glass doors  
7 and some of the features from Carter and put them together is the way the  
8 Petitioner has proposed. That's the combination we want to look at. I  
9 recognize that if Carter showed everything, it would not be a 103 reference  
10 combined with others. It would be an anticipation. So Carter has some  
11 limitations which I think are acknowledged. But are those limitations sort of  
12 compensated for by what's disclosed in Beatenbough?

13 MR. ZIEMIAN: Yeah. I don't know if they are in the way the  
14 petition is presented. And as Your Honor knows, the Petitioner must make  
15 their case in the initial petition. The petition does not say to my knowledge  
16 that one of ordinary skill specifically looks at Beatenbough's sensor  
17 packages and then modifies Carter's latch sensor system to be specifically  
18 deployed to refrigerated display cases. Petitioner also showed us that when  
19 they're thinking of adapting King to refrigerated display cases, they're not  
20 thinking, oh, we're using the teaching of Beatenbough to adapt it to  
21 refrigerated display cases. The case they instead made was here's King  
22 sensor, let's put it here. Putting something in a particular location, I don't  
23 think meets the limitation of "adapted for," and that's what they portrayed 10  
24 minutes ago, and I think it's in the petition itself.

25 JUDGE GROSSMAN: Thank you.

1 MR. ZIEMIAN: So, we're still in background, but we're going to  
2 speed through this a little. Suffice to say, we're on Slide 6. Just showing  
3 that this is really all about the refrigerated display case setup and that there's  
4 multiple images in the patent of the specific refrigerated display setup. And  
5 that breathes meaning into what this patent is and really defines the problem.  
6 Petitioner also understands this problem as -- this is an image from  
7 Petitioner's website. We're on Slide 8 now. This is a particular frame  
8 system that that Petitioner sells. So they're showing -- and this is referred to  
9 as a frame assembly in Petitioner's own handbook. And you can see it's a  
10 very similar frame system that is being portrayed.

11 JUDGE BUI: So, I'm looking at Slide 8, and it seems to me that the  
12 '181 patent is talking about placing a bunch of different sensors around the  
13 frame but also on the glass, right?

14 MR. ZIEMIAN: The '181 patent?

15 JUDGE BUI: Yes. Yeah. If you look at your Slide Number 8. So, all  
16 of those components seem to me like do they represent sensors, array of  
17 sensors?

18 MR. ZIEMIAN: This is not from the '181 patent. I apologize, Your  
19 Honor. Slide 8 is from Petitioner's own systems. Petitioner creates  
20 refrigerated display cases and sensors for refrigerated display cases. And  
21 this is to show that's what their business is. And they understand what frame  
22 is as well. Does that address your question?

23 JUDGE BUI: Yeah. Thank you.

24 MR. ZIEMIAN: Thank you. You know, and in fact, you were asking  
25 questions about Beatenbough earlier. In fact, Beatenbough also highlights  
26 this specific frame system. This is from Exhibit 106 on Slide 9. And

1 Beatenbough actually calls their frame system a frame system. And you can  
2 see this in Column 2, Line 66 of Beatenbough, which is Exhibit 106.

3 I don't want to spend too much time on the technical background. We  
4 talked a little bit about whether the preamble is limiting. I may come back  
5 to this if I have more time. I just want to make sure that we reach some of  
6 the very important issues here.

7 I'm now on Slide 11. And has already been alluded to, there are  
8 multiple "adapted for" limitations in the claim found in claims 1 and 8 and  
9 all claims dependent thereon. And I think Petitioner agrees that "adapted  
10 for" means more than capable of. And we feel that it means, "designed or  
11 constructed to be used with," designed or constructed to be used in a  
12 particular manner. And this is the Giannelli case. And it's such a codified  
13 case that it's made its way into the MPEP, even.

14 JUDGE GROSSMAN: Right. Before we go from that slide Mr.  
15 Ziemian, this is the one I think that prompted my question earlier that we  
16 clarified. But since you focused on it, I want to make sure we're clear.  
17 You've got it under your two bullet points. You've said the '181 patent  
18 specification describes structures specifically designed for display case  
19 doors. But doesn't Beatenbough have a structure that's specifically designed  
20 for display case doors also?

21 MR. ZIEMIAN: Yes, Your honor. Beatenbough would have a  
22 structure specifically designed for refrigerated display case doors. I think  
23 the dew point sensor housing would not be found in Beatenbough, because I  
24 don't think they're using dew point. So yes, you might be able to point to  
25 Beatenbough to find these structures. I -- sorry.

1 JUDGE GROSSMAN: Okay. I just want to -- and in the next  
2 sentence you said “a critical gap.” You said, “The petition is silent how any  
3 prior art reference is adapted for a display case.” You don't have to do a  
4 whole lot of arguing I don't think to show that Beatenbough, which uses the  
5 word “display case” and “glass doors,” is adapted for a display case. That's  
6 the purpose of Beatenbough, is my understanding. And so, perhaps it's a bit  
7 of an overstatement to say the petition is silent how any prior art reference  
8 shows it because all you to do is look at, in my view, you look at  
9 Beatenbough and I read the abstract to you before. It specifically says it's  
10 adapted for a display case.

11 MR. ZIEMIAN: Right. That's correct, Your Honor. I don't think  
12 Beatenbough describes the specific housings that are in the '181 patent, and  
13 how these housings were created and adapted for refrigerated display cases.  
14 I don't Beatenbough is concerned with that. I also don't think that the  
15 Petitioner looked to Beatenbough and described those as making the  
16 combination. Primarily, Beatenbough came in because Claim 8 requires  
17 multiple refrigerated display cases and Carter, the Carter reference, only had  
18 one refrigerator, and they brought in Beatenbough, from my perspective, to  
19 add context perhaps. But really, they brought it to have an array of  
20 refrigerated display cases. The petition does not say that Carter's teachings  
21 of the latch sensor system are then interpreted in light of Beatenbough  
22 reconfigured. I think they just rely on Carter's latch sensor system and  
23 King's glass bubble sensor system. They don't say, “Oh, we filtered these  
24 through Beatenbough and we used the teachings of Beatenbough to adapt  
25 it.” I don't think that's in there. But I'm sure they'll correct me if I'm wrong  
26 in the last five minutes they have.

1 JUDGE GROSSMAN: Thank you.

2 JUDGE BUI: Thank you.

3 MR. ZIEMIAN: So, we touched on means plus function. I think we're  
4 going to skip this slide for now for the sake of time. What I do want to get  
5 to is expert qualifications and talk about what is a POSITA in this case. And  
6 we've already had some great questions on it. There's also been some  
7 interesting statements about Petitioner seems to think that they know what  
8 level of skill the inventor of Carter had, and they would not qualify as a  
9 POSITA under this definition. But I'm not aware of anything on the record  
10 that says Carter has experience with refrigerated display cases or not. We  
11 just have his patent, I believe.

12 But, that being said, Petitioner asked us in their in their oral statement  
13 to ground our analysis on the patent. And as far as the POSITA is  
14 concerned, that's what I would like to do. I would like the Board, if they see  
15 fit, to ground the analysis of what a POSITA is on the patent. And the  
16 reason I say this is the patent is replete with the term "refrigerated display  
17 cases" and specific applicability to refrigerated display cases. This  
18 specifically fits into the *Axonics* case, which was in front of the PTAB in  
19 2021.

20 By the way, we're on Slide 13 for those following along elsewhere.  
21 Pardon me. The issue in *Axonics* was whether a POSITA, in respect to the  
22 patent in the case, would have experience in implantable medical devices, or  
23 more specifically, in experience in sacral neuromodulation. And the Board  
24 in that case found that experience in the specific subfield was needed  
25 because the patent defined the invention as the field of invention as  
26 including aspects of that and some of the specification as well. Here, we

1 certainly have that. Our field of invention is specifically related to  
2 refrigerated display cases.

3 The summary, the detailed description, and the claims themselves  
4 recite refrigerated display cases. That's why Patent Owner feels that one of  
5 ordinary skill in the art should have some specific experience working with  
6 refrigerated display cases. I take the Board's --

7 JUDGE DANIELS: Mr. Ziemian?

8 MR. ZIEMIAN: Yes.

9 JUDGE DANIELS: Can you refresh my memory of the *Axonics* case  
10 just a little bit. What did the Board do? Did they give more credit to -the  
11 subfield or did they -- I'm assuming they didn't in that case, the testimony  
12 but maybe give more credit to the subfield experience. Is that right?

13 MR. ZIEMIAN: I believe that's correct. I think they severely  
14 discounted the experience of -- yeah. Your Honor --

15 JUDGE DANIELS: Don't get wrapped up. I can go look at it. I was  
16 just interested, if you could remember, because that's an interesting -- it's  
17 always interesting how other panels would do something.

18 MR. ZIEMIAN: Your Honor, I think they excluded it completely,  
19 now that I think about it. And, sorry, I don't remember the exact context of  
20 what they did. I was more interested in making the analogy here. But I  
21 believe they excluded it completely.

22 JUDGE DANIELS: Okay. Thanks.

23 JUDGE BUI: I think you have presented a couple of several  
24 wonderful arguments as to why Dr. Henze is not one skilled in the art.  
25 Okay. And you poke hole both the cross-examination. So great result on all  
26 that. But we wanted to really -- the underlying problem here is that are you

1 go a little bit too far in focus on the subfield experience that the, you know,  
2 refrigerated commercial glass refrigerated cases, display cases, as opposed to  
3 just general condensation in connection with these types of equipments?

4 MR. ZIEMIAN: Yes. I understand your point, Your Honor, but it  
5 does have real impact on how Dr. Henze is looking at the claims and some  
6 of the thoughts he has.

7 JUDGE BUI: But do we even need that? Because, you know, the  
8 sometime one skill, the level of one skilled in the art, is reflected by the  
9 disclosure of the product. By all of these references, you know, the '181  
10 patent, the Beatenbough reference specific tell you that on its face dealing  
11 with glass refrigerated display cases and the whole purpose of trying to  
12 prevent condensation and conserve energy. So t the teaching is very one -- it  
13 reflected one skilled in the art, and that one skilled in the art is really, you  
14 know, like, just an ordinary observer by people who are in the field. You  
15 don't have to be specialized in any particular subfield to be able to  
16 understand that.

17 MR. ZIEMIAN: I see your point, Your Honor. I do think it tends to  
18 dissolve the definition of one of ordinary skill in the art. The standard is not,  
19 is the person smart enough? Do they have enough degrees? The standard is,  
20 what is this art? And does the person have particular skill in this art? And  
21 that's why I do feel like it's important, despite the teachings of the  
22 references. I also think it shows in some of the ways that Dr. Henze  
23 approaches the art and how, you know, he glosses over the fact that the  
24 sensors of King and the sensor packet of Carter would not have to be  
25 adapted at all. I think what Petitioner says is that they merely need to be  
26 moved, and no other adaptation is necessary for those sensors. I think the

1 patent holders here would disagree with that. I think there's good reason to  
2 disagree with that. Mr. Pollock, our expert does indicate a number of  
3 reasons why it might not be a one-to-one. You can just plug that on there.  
4 And those are found in Exhibit 2014, Paragraph 22, 71, 75, 74, 47, 70, 76.  
5 There's a number of paragraphs in his declaration that address how one of  
6 ordinary skill in the art would specifically configure systems to refrigerated  
7 display cases. Petitioner has made a big deal of their expert. You know, our  
8 expert actually did work on the retrofitting refrigerated display cases for a  
9 period of ten years. So, he learned a lot of the ins and outs of how the  
10 system works, and I think he understands the nuances of those systems. And  
11 that's why they came to different conclusions, in part.

12 JUDGE BUI: Thank you.

13 MR. ZIEMIAN: Thank you.

14 JUDGE GROSSMAN: Before we leave that slide, Mr. Ziemian, I'd  
15 like to ask you a question about your first bullet point about Dr. Henze's  
16 prior testimony in two different IPR proceedings. What relevance does that  
17 have to the case before us now?

18 MR. ZIEMIAN: The relevance would be he took a stance that the  
19 person of ordinary skill in the art had to have experience in that particular  
20 subfield. The definition of one of ordinary skill in the art was similar. It  
21 was an engineering degree, some experience, but then also two years of  
22 experience in the particular subfield. Those two IPRs are related. They're  
23 essentially of patents related in the same family.

24 JUDGE GROSSMAN: But they're refrigerated display cases?

25 MR. ZIEMIAN: No, they're not. It's HVAC.

1 JUDGE GROSSMAN: So you've got a totally different technology  
2 because now you're telling me that the HVAC technology is analogous to  
3 your refrigerated display case. But when you're looking at what the level of  
4 ordinary skill is, that Dr. Henze's experience in HVAC systems in general,  
5 which I think you acknowledged and was pretty extensive, is not relevant.

6 MR. ZIEMIAN: Right. I was trying to show how previously entities  
7 have dealt with the definition of one of ordinary skill in the art is.

8 JUDGE GROSSMAN: And I guess my question is, is your point in  
9 that first bullet point suggesting that we are limited to when we determine  
10 what is the level of ordinary skill, two years of practical experience? I think  
11 the Petitioner said three to five years. But considering there's some  
12 flexibility and more advanced degrees would mean less experience, would  
13 you agree we have to factor in a higher level of education can offset less  
14 experience, and more experience can offset less education? So we're not  
15 locked in any specific formula. And, yes, two years of practical experience  
16 may have been the right level in those two cases. But as you acknowledged,  
17 it was a different technology. And the fact that two years was appropriate in  
18 that case doesn't really reflect that two years would have been appropriate in  
19 this case.

20 MR. ZIEMIAN: Yes, Judge Grossman, I acknowledge that the  
21 standard is somewhat flexible. The Board is not tied to that particular  
22 definition. I think it's used to be instructive to help and understand how these  
23 things are looked at. But it's at your discretion.

24 JUDGE GROSSMAN: Thank you.

25 MR. ZIEMIAN: So now we're on Slide 14. We're going to move a  
26 little more quickly now because I don't want to use up all of my time. But

1 essentially, Dr. Henze has zero experience with refrigerated display cases,  
2 acknowledging that Petitioner indicated that he was part of some grant  
3 application that he couldn't remember under deposition. You know, some of  
4 his deposition testimony also demonstrates his kind of practical ignorance on  
5 how refrigerated display cases work and how the systems function. One  
6 kind of glaring example is in deposition he suggested chilled mirror sensor,  
7 which typically costs thousands of dollars, and really is a scientific system. I  
8 don't know that it's very appropriate for refrigerated display cases.

9 Slide 15, this is just a short excerpt from his deposition transcript  
10 showing that he has never worked with refrigerated display cases. So in  
11 summary, you know, we ask the Board find if Dr. Henze is not one of  
12 ordinary skill in the art because he does not have any practical experience  
13 with refrigerated display cases.

14 JUDGE GROSSMAN: But in order to make that kind of a finding,  
15 first we've got to establish what is the level of ordinary skill in the art. And  
16 if we limit it to refrigerated display cases with tempered glass doors. Or if  
17 we drill down to the specificity, which you're suggesting, then under that,  
18 your point is he wouldn't be qualified. Similar to the *Kyocera* case that you  
19 cited and we discussed earlier.

20 But if we come up with a level of ordinary skill that perhaps is  
21 broader than just display cases that would apply to HVAC systems  
22 concerned with condensation control. And I think, his, Dr. Henze's,  
23 testimony and in the deposition in cross-examination it was acknowledged  
24 that he's got significant experience in condensation control, but not in the  
25 display case area as your slide points out. Isn't that the key issue, is what  
26 really is that level of ordinary skill?

1 MR. ZIEMIAN: Yes, Your Honor.

2 JUDGE GROSSMAN: If we drill down to the, I guess, the more  
3 specific level that it could be that he may not be, but if we have a level of  
4 ordinary skill that's a little bit broader to more HVAC systems in general, he  
5 might be qualified as a person of ordinary skill. MR. ZIEMIAN:  
6 Understood. The reason I think that the standard should be more narrow has  
7 to do with the field of invention, the claims themselves, the detailed  
8 description. All of the embodiments in the invention, it all relates to  
9 refrigerated display cases. So to say a patent that is all about refrigerated  
10 display cases, that the inventors here did not try to claim the system that  
11 applied to cars. They did not try to claim a system that applied to HVAC  
12 generally. They specifically recited "refrigerated display cases" in the  
13 prefaced claims and pulled those parts into the claims themselves, which is  
14 why the prefaced being limited might be important here.

15 JUDGE GROSSMAN: Thank you.

16 MR. ZIEMIAN: Thank you. So, let's move on to Carter and Slide 19.  
17 This specifically has to do with Claim 8 and Claim 14. Previously, there was  
18 a point concerning Carter as to whether Claim 1 had the same deactivating  
19 limitation as Claim 8 and 14. Patent Owner understands that that's a  
20 weakness of this argument to Claim 1, and you would have to interpret  
21 Claim 1 to have a controlled algorithm that both has deactivating and  
22 activating, which may be a stretch. So we're going to focus on Claim 8 and  
23 14, and they're activating and deactivating.

24 JUDGE GROSSMAN: And so, when you say that interpreting  
25 Claim 1 to include the deactivating is a stretch, are you still advocating that  
26 that we should interpret Claim 1 to include deactivating?

1 MR. ZIEMIAN: I'm still --

2 JUDGE GROSSMAN: And what is the evidence that we should look  
3 at to come to that conclusion?

4 MR. ZIEMIAN: If the Board wanted to come to that conclusion, they  
5 could realize it's a means-plus-function claim, and they could look back at  
6 the specification and see that the algorithm described therein has both the  
7 deactivating and activating. Judge Grossman, to your point, does the system  
8 really make sense without the deactivating? It doesn't. And maybe that's a  
9 reason to implicate the deactivating in Claim 1. But I do see your point,  
10 Judge Grossman, that it's weaker.

11 JUDGE GROSSMAN: Yeah. And I think we don't want to interpret  
12 it one way or the other. We don't want to include or not include. We just  
13 want to get to the right answer. What does it include? And what's the  
14 evidence that we can rely on to establish what it includes and what it doesn't  
15 include?

16 MR. ZIEMIAN: Yes. Your Honor. I think you'd look at the  
17 controlled algorithm and use that control algorithm to say that this is the  
18 function. The function is activating. And the algorithm also includes  
19 deactivating, and then implicate that in the claim. But I do see your point  
20 that that's a weakness.

21 JUDGE GROSSMAN: Thank you.

22 MR. ZIEMIAN: So, Claim 14 recites to anticipate formation of  
23 condensation at the display case and activating and deactivating the door  
24 frame heater response thereto. Claim 8 has a similar aspect, but it's a little  
25 bit more specific in terms of a second pre-selected set point. The main  
26 reference for all this is Carter. And as we've discussed already, Carter does

1 discuss activating at dew point plus some constant, which is essentially the  
2 same as the '181 patent. What it does not do is deactivating plus some  
3 constant.

4         Instead, it merely deactivates when the frame reaches ambient  
5 temperature. And, really, that's the prior systems that's existed before any of  
6 this. To say that this deactivating at the ambient temperature would be the  
7 same as deactivating in anticipation of condensation, I think is a stretch. I  
8 think it's incorrect. The reason being, if I just had a system that just turned  
9 on and off at set points that were clearly beyond what would cause  
10 condensation, then I'm turning off and on.

11         I think anticipation of condensation has some degree of immediacy.  
12 And you can see that Carter doesn't really teach the second set point based  
13 on all the configuring and permutations they go through to reach that.  
14 Specifically on Slide 21, Dr. Henze introduces this concept of a floating  
15 offset. Which is very interesting because essentially what the floating offset  
16 does is it cancels out the dependency on dew point because it says, "I don't  
17 care what you set that dew point in is, I'm going to add some number that  
18 brings it to ambient temperature." So it's almost like taking an equation and  
19 multiplying both sides of the equation by zero and saying, oh, "It's still  
20 equal." I don't think that's what using these variables in anticipation of  
21 condensation is all about.

22         There's some discussion of how exactly Petitioner is trying to prove  
23 up what Carter teaches, whether it's some sort of obviousness modification,  
24 if it's some sort of inerrancy, or if it's some sort of common sense. I think  
25 under any of the analyses, you have to add something to Carter to reach the  
26 second set point. And I think it's not there. I mean, admittedly, it shuts off

1 at ambient temperature. And if you're shutting off at ambient temperature  
2 despite this floating offset, which is a mathematical creation in order to  
3 achieve what Carter does, it doesn't work. It's not there, I think is where  
4 we're at on this.

5 JUDGE BUI: But the whole point is some adjustments, some  
6 modifications need to be made because Carter is not really addressing the  
7 condensation on the glass because Carter's system is not glass-based system,  
8 right?

9 MR. ZIEMIAN: Yes.

10 JUDGE BUI: So but that teaching in theory is taught by  
11 Beatenbough, right? In Beatenbough that the recognition that you're going  
12 to have condensation on the glass, you know, once you understand that you  
13 can figure it out a way to, you know, prevent, you know, from occurring.  
14 Temperatures should reach certain level. You don't want that to reach a  
15 certain levels to avoid condensation altogether. And then, once you prevent  
16 that to happen, you just shut it off, shut off the heater, right? So it's not a  
17 giant step that a person skilled in the art would be able to make.

18 MR. ZIEMIAN: Yes. I see a point. But where is it coming from  
19 then? Is this coming from --

20 JUDGE BUI: Beatenbough, I think.

21 MR. ZIEMIAN: So, I see your point that Beatenbough does function  
22 in the context of refrigerated display cases.

23 JUDGE BUI: Yes

24 MR. ZIEMIAN: But I don't think Beatenbough is saying how to shut  
25 it off. It doesn't say how to shut it off.

1 JUDGE BUI: Well, I mean anyone skilled in the art would know that,  
2 you know, once you achieve certain temperatures, you want to employ the  
3 heat to avoid condensation then you just have to shut it off to avoid, you  
4 know, overheating the refrigerator or it just over clashing with the, you  
5 know, with the cold air, right. So, I would assume that would be within the  
6 level of one skill in the art to make even if the limitation cannot be  
7 accounted for. But I think that limitation accounted for by the Beatenbough  
8 reference.

9 MR. ZIEMIAN: Yes, Your Honor. I don't think it is. I don't see  
10 where Beatenbough teaches that, and I don't think Petitioner's claim  
11 Beatenbough teaches that. I think the entire claim for the second set point  
12 shut off is Carter.

13 JUDGE BUI: Yeah.

14 MR. ZIEMIAN: I don't think Petitioner ever says that Beatenbough  
15 teaches that. So at least on a procedural basis, you're bound by that. But  
16 also in a common sense basis, I don't think Beatenbough would logically  
17 teach that. Because Beatenbough is not concerned with dew point. Carter  
18 seems to portray a valid method for how to turn off and on these things, and  
19 it's not the same as what's in the '181 patent, specifically, that second set  
20 point.

21 JUDGE GROSSMAN: Mr. Ziemian, just to call your attention to the  
22 fact that you're in your rebuttal time. There's about 8:40 left. And you're  
23 welcome to continue. But it's up to you if you want to conserve some time  
24 or not.

25 MR. ZIEMIAN: Thank you Your Honor. I'm going to conserve a  
26 little bit of time, but probably not too much.

1 I'd like to move on to Slide 27, which is the “adapted for” aspect that  
2 we've already talked about. This kind of has a similar aspect to what we just  
3 talked about with Beatenbough. And essentially, as you're well aware,  
4 Claim 1 and 8 require “adapted for” use with refrigerated display cases. The  
5 only adaptation claimed by the Petitioner is that King's sensor will be placed  
6 certain places on Beatenbough's refrigerated display case. They don't talk  
7 about how it is adapted. And Patent Owner feels that there are real world  
8 adaptations that need to be made. There's real world adaptations described  
9 in the '181 patent, and essentially it was never addressed either in the  
10 original petition. They didn't even say that it doesn't have to be adapted.  
11 Like, at least if they had said it doesn't have to be adapted, they would have  
12 met their procedural burden. But they didn't even say that. If you look at  
13 the original petition, the term “adapted for” only occurs when they quote the  
14 claims in the initial headings and the initial breakdown of the claims. So  
15 they just never address it. So at least on a procedural basis. But then, also  
16 we feel as though it has real aspects that are important. These sensors have  
17 to fit in specific places. We previously saw Figure 6 of the patent showing  
18 how the housings fit between the door and frame system, and these things  
19 would need to be specifically adapted.

20 Thank you. I'm going to reserve the remainder of my time.

21 JUDGE GROSSMAN: And I stopped the clock. But just one further  
22 clarification on your slide here on Slide 27.

23 MR. ZIEMIAN: Yes.

24 JUDGE GROSSMAN: It goes back to a point we've discussed  
25 before. I think your phrase sort of in the middle, right above the four bullets,  
26 where you say, “None of the prior art references disclose structures designed

1 for display cases.” I know that the slides are not evidence, as you know.  
2 But they do reflect your argument. Would you want to withdraw that  
3 sentence from that slide as part of your argument and acknowledging that  
4 Beatenbough is designed for display cases?

5 MR. ZIEMIAN: I'd like to clarify the statement, if that's okay, Your  
6 Honor. None of the prior references disclose structures specifically designed  
7 for housing the dew point sensors, because that's what we're talking about  
8 here. Yes. That that statement was an overstatement. But Beatenbough  
9 doesn't include dew point sensors, so the housing they describe aren't  
10 specifically for dew point sensors. And as you can see, the air flow through  
11 those sensors is important because you need to get the humidity and the  
12 temperature. There's a lot of constrained air flow in front of refrigerated  
13 display cases, and that can affect what goes on.

14 JUDGE GROSSMAN: Thank you.

15 MR. ZIEMIAN: Thank you.

16 JUDGE GROSSMAN: You have 6 minutes and 41 seconds for  
17 rebuttal.

18 MR. ZIEMIAN: Excellent. Thank you.

19 JUDGE GROSSMAN: Mr. Darby, the clock shows you at five --

20 JUDGE BUI: Six minutes.

21 JUDGE GROSSMAN: Five minutes and 36 seconds.

22 MR. DARBY: Thank you, Your Honor.

23 JUDGE DANIELS: Mr. Darby? Mr. Darby? I was wondering if at  
24 some point in your rebuttal, you could just clarify exactly what Beatenbough  
25 was relied on in the combination.

1 MR. DARBY: Certainly. Counsel said that I had five minutes to  
2 correct him, and I will endeavor to do so starting there.

3 First and foremost, Beatenbough is not introduced solely for Ground  
4 1E. It is, of course, a featured reference of Ground 1B. And if you look in  
5 the petition and you see how we build out that combination, right, it starts  
6 with Beatenbough refrigerated display case, and then there is an argument  
7 about how Beatenbough, like the '181 patent, is all about energy efficient  
8 condensation prevention.

9 Counsel said Beatenbough isn't a valid viewpoint. That's not true  
10 either. We have an excerpt, it's on our Slide 30 if you want to take a quick  
11 peek. This is from Exhibit 1006, Column 1, Lines 46 through 65. And  
12 therein, it's the last highlighted point. And it talks about a control process,  
13 excuse me, control panel, having a processor for converting the temperature  
14 --

15 JUDGE GROSSMAN: Mr. Darby? I'm going to stop the clock just  
16 for one second. I think to comply with the request about having the slides  
17 available to people who might be watching, to put them up on --

18 MR. DARBY: I'm happy to do that.

19 JUDGE GROSSMAN: And I've stopped the clock while you get that  
20 set up.

21 MR. DARBY: Thank you, Your Honor. I appreciate that. Okay. I'm  
22 plugged in and --

23 JUDGE GROSSMAN: And when you begin, if you could just state  
24 again the slides that you're looking at or you were discussing.

25 MR. DARBY: Okay. It looks like we're up and running. So, I'm on  
26 Slide 30 and I'm looking at the last highlighted portion there. This is from

1 Beatenbough. “A control panel having a processor for converting the  
2 temperature and humidity into degrees dew point.” So Beatenbough is about  
3 dew point and does exercise control over heaters based on dew point. And  
4 that's very much a part of the combination.

5 I wanted to also say a few points about Carter. Judge Bui, this was  
6 going, I think, to some of your discussion with counsel. I do want to point  
7 out that if you look in the ‘181 patent, you actually won't find in the patent  
8 talk about not being able to see through the glass because there's  
9 condensation on the glass. Instead, what you'll find the ‘181 patent, and I'll  
10 point you to Column 2, Lines 26 through 31. This is a discussion about door  
11 damage and runoff safety from condensation, right. And then, when we look  
12 at Carter, and I'll point you to Column 1, Lines 45 through 54 is, in fact,  
13 talking about damage to the door as well. So there's commonality between  
14 Carter and the ‘181 patent with respect to why we're preventing  
15 condensation from forming in the first place. And if you look at Carter, it  
16 will give you that exact same verbiage, the word “prevent.”

17 Going back now to our Slide 10. And you can see that the bottom of  
18 the slide on the left-hand side is from Carter. “Thus, it may be most  
19 preferable to prevent and, if possible, concentrate efforts to eliminate the  
20 formation of condensation.” So, Carter is very much proactive,  
21 preventative, not reactive.

22 I want to say a few words about the “adapted,” “adapted for.” And I  
23 think what's going on there is a little bit of attacking the references in  
24 isolation and not looking at the combination of them, right? When we put  
25 together the references as set forth in the petition, which I didn't hear counsel  
26 dispute. I didn't hear any dispute about motivation to combine or anything

1 like that. And when you put the references together, as we've done in the  
2 petition, yes, the sensors of King placed on a glass surface as they are in  
3 King. They're just placed on a different glass surface in our combination,  
4 they are configured for, adapted for doing exactly what the claims require  
5 and what King describes, giving you the surface temperature reading, giving  
6 you the ambient temperature reading, giving you the relative humidity  
7 temperature reading. They're exactly configured for monitoring those  
8 things.

9 I want to say a few words about the level of ordinary skill issue. Judge  
10 Grossman, I think you nailed it in the sense of, we do have to first define the  
11 art before we decide about Dr. Henze. And what I wanted to point out there  
12 and just agree with you on is, if you adopt HVC -- or HVC and R with  
13 condensation control, we're okay with that, and we agree that Dr. Henze  
14 clearly falls within the scope of that level of skill. And I wanted to point out  
15 earlier I was talking about how there can be all sorts of things that a person  
16 would do with a display case. It doesn't mean that you have the right kind of  
17 condensation HVAC-R experience that we're talking about here. And I'm  
18 pointing you to, this is Exhibit 1062. This is the deposition of Patent  
19 Owner's expert, Mr. Pollock, and I'm at the top of page 220. And he's being  
20 asked, "Condensation control or optimizing the condensation control was  
21 not the focus of your work at DuPont, right?" And he goes on to say that,  
22 "My job was not a condensation control expert engineer." He was doing  
23 things on the refrigerated display case, right? Not the stuff that's at issue  
24 here. Then he goes on. This starts at same page 220, line 13. And there is a  
25 series of questions. You may recall on counsel's slide, they had the  
26 testimony from Dr. Henze about specific pieces of experience that he was

1 asked about, right. I would then turn you to page 220 of Exhibit 1062,  
2 where Mr. Pollock is asked with respect to each one of those things. "Is this  
3 required? Does your definition of a POSITA for the '181-'847 patents  
4 require someone to have designed a refrigerated display case?" "No."  
5 "Does your definition require someone to have designed the doors or the  
6 frame units of a refrigerated display case?" "No." He goes on and on and on  
7 and on. So the point here is that even the proponent of this level of ordinary  
8 skill, Mr. Pollock, doesn't require any of those things to meet the ordinary  
9 level of skill as he defined it. I think that's an important thing to note.

10 With that, I see I'm out of time. I'm happy to answer the questions.

11 JUDGE BUI: I do have another question before you go. Okay. I'm  
12 going to play devil's advocate for a minute here. In Beatenbough --

13 MR. DARBY: Yes.

14 JUDGE BUI: -- the way they do that would be to regulate the heat  
15 and avoid condensation would need to embed a bunch of different heaters  
16 within the glass itself, right?

17 MR. DARBY: I think that's one of the heaters. I think there's a heater  
18 in glass. I think there's also a heater in the frame.

19 JUDGE BUI: That's right. Both of them. Okay. Whereas, the '181  
20 patent is really about, you know, it's all about the frame. It's a frame of the  
21 of the refrigerator case, right. And that's why they install -- if you look at  
22 Figure 1 of the '181 patent, the dew point sensors are located around the  
23 frame of the door itself, right. And that may very well be the case because  
24 they don't have glasses. Okay. That's all they care about really the gap and  
25 all that. So, the question I have is that, you know, if you are combining  
26 Carter and Beatenbough, you still don't necessarily have the situation, you

1 know, in the Carter and Beatenbough. You don't necessarily come up with  
2 the claim invention. Do you?

3 MR. DARBY: I think you do. I think when we look at the claims  
4 carefully, it says, "door or frame." Right. And so, we could certainly be  
5 talking about the door. And in Ground 1B, we talk about adding the King  
6 sensor unit to the glass door. We also in the petition argue that it would  
7 have been obvious to put that same sensor unit on the frame. And so  
8 whether it's the frame or the glass door, I think we have that covered. I don't  
9 know that that changes the outcome here.

10 JUDGE BUI: Yeah. So, in Beatenbough, they seem to me that they  
11 use a bunch of resistant wire around the frame as well at the glass, within the  
12 glass, to be able to regulate the temperature. But when you are avoiding the  
13 condensations, what do you actually have? What's the final outcome of that,  
14 that combination?

15 MR. DARBY: I think the final outcome is that you prevent  
16 condensation -- in the combination, I think you prevent condensation from  
17 starting in the first place. Because as Carter teaches, you turn on the heater  
18 before the surface can ever get to dew point, right, because we have that pre-  
19 selected set point there that's going to make sure that temperature comes  
20 down. We're never going to get to dew point down here because we're going  
21 to turn on the heaters right here. And I think that's applied in the  
22 combination such that, in Beatenbough, you would turn on the resistance  
23 heaters and you would never face condensation because you would have that  
24 pre-selected set point providing the buffer that would turn the heat on earlier.

25 JUDGE BUI: Good point. That's all I have. Thank you.

1 MR. DARBY: Okay. Thank you, Your Honor. Thank you to the  
2 panel.

3 JUDGE GROSSMAN: Mr. Ziemian, you've got 6:41, six minutes  
4 and 41 seconds remaining, but we'll give you an extra two minutes because  
5 we kept Mr. Darby at the podium a little longer than he expected to be there.

6 MR. ZIEMIAN: Thank you, Your Honor. That's fair. Let's see. So, I  
7 don't know that I have any particular additional rebuttals. I don't know that I  
8 have the time to form any additional rebuttals at this point. Are there any  
9 questions from the Board? Additional questions concerning this that I could  
10 address?

11 JUDGE GROSSMAN: I have none. Judge Bui?

12 JUDGE BUI: No, I don't have any.

13 JUDGE GROSSMAN: Judge Daniels, any questions?

14 JUDGE DANIELS: I don't have any.

15 JUDGE GROSSMAN: So, your answer is no. No questions from the  
16 panel.

17 MR. ZIEMIAN: All right. Thank you, Your Honors. One thing we  
18 could discuss briefly is thermal isolation that we didn't touch on and what  
19 the claims require. These are some sub-claims that come into play,  
20 especially Claim 15, which -- we're on Slide 33 now. Which Claim 15  
21 includes a means for thermally isolating sensor --

22 JUDGE GROSSMAN: Mr. Ziemian, if you're on your Slide 33, it's  
23 not being displayed on the screen.

24 MR. ZIEMIAN: Not? Okay. Sorry about that. I've got to his play on  
25 the -- there we go.

1           So, this goes to the means for thermally isolating the dew point sensor  
2 from variations in temperature of the display case frame or display case  
3 door. And so, there's some discussion about what the corresponding  
4 structure should be for this particular means-plus- function. And it's Patent  
5 Owner's position that this should include the dew point sensor being held  
6 away from the frame, and an air pocket behind the board or carrier of the  
7 sensor. This is important because Carter does not have this type of thermal  
8 isolation.

9           We're on Slide 34 now. Figure 2 of Carter does not show this type of  
10 thermal isolation. We're on Slide 35 now. King and Kotani also failed in  
11 this aspect. Essentially, King has a flex circuit, which is not a housing  
12 means. And Kotani represents a sealed sensor room that does not allow for  
13 the exchange of air. You know, this is an interesting juxtaposition of two of  
14 Petitioner's diagrams.

15           JUDGE GROSSMAN: And when you say "this," you're on Slide  
16 Number 36?

17           MR. ZIEMIAN: Pardon me. Slide 36, Your Honor. This is on page  
18 48 and 56 of the petition. The air pockets specifically designed by King are  
19 a bit of a stretch here. If you look closely at these figures, Petitioner is  
20 indicating that where 28 is pointing to on the right figure is an air pocket  
21 under the circuit board. It's Patent Owner's position that this does not make  
22 sense, especially in the context of looking at the entire length of the flex  
23 circuit.

24           If you look at the figure on the left, the flex circuit extends outside of  
25 that protective housing there. And there is a similar gap between the glass  
26 and the flex circuit, which is to say that it doesn't make a lot of sense that the

1 flex circuit would not sit on the glass itself. So we don't feel that King does  
2 not show the required air pockets by Claim 15.

3 Now, we're on Slide 37. This also has to do with some more of the  
4 dependent claims in relation to the housing means and the details thereof.  
5 The petition in respect to these does not carry its burden because it doesn't  
6 delve into the specifics of the claims and just has a cursory glance at these  
7 claims. So, we feel that procedurally, these claims have not been  
8 sufficiently addressed.

9 So, essentially Claim 15, "means for thermally isolating said dew  
10 point sensor unit from variations in temperature of display case frame or  
11 display case door." Critical differences, thermal isolation means "isolating  
12 the dew point sensing unit from various variations in temperature." This  
13 particular claim is just cross-referenced back to D, which the language of 1D  
14 is not exactly the same as this language, and there is no bridge discussion of  
15 this as to what the difference between these claim limitations are and  
16 whether the discussion of 1D would meet this particular claim limitation or  
17 relation to Claim 15.

18 JUDGE GROSSMAN: Mr. Ziemian, just to make sure the record is  
19 clear, we're now on your Slide 38

20 MR. ZIEMIAN: 38, Your Honor.

21 JUDGE GROSSMAN: And talking about Claim 15.

22 MR. ZIEMIAN. Yes. Yes, Your Honor. Thank you. Yeah. And this  
23 is on Slide 38.

24 So, with that, unless there's any other questions, I'll rest, and that's  
25 about it.

1           JUDGE GROSSMAN: I think there's no other questions from the  
2 Board. Thank you both for your presentations. They were helpful. And  
3 there are few things you can count on, but I think we can definitely count on  
4 that you will get our final decision on or before its due date. Thank you.  
5 We're now adjourned and off the record.

6           (Whereupon, the above-entitled matter went off the record at 12:16  
7 p.m.)

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