

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

URT UMWELT UND RECYCLINGTECHNIK GMBH,
Petitioner,

v.

DUESENFELD GMBH,
Patent Owner

IPR2024-00887
Patent 11,050,097 B2

Record of Oral Hearing
Held: August 19, 2025

BEFORE: MEREDITH C. PETRAVICK, CHRISTOPHER M. KAISER,
and KEVIN W. CHERRY, Administrative Patent Judges.

IPR2024-00887
Patent 11,050,097 B2

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The above-entitled matter came on for hearing on
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P R O C E E D I N G S

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JUDGE KAISER: All right. Good afternoon, everyone. This is a hearing in IPR2024-00887, captioned URT Umwelt Und Recyclingtechnik, Gesellschaft mit beschränkter Haftung versus Duesenfeld, Gesellschaft mit beschränkter Haftung, challenging U.S. Patents 11,050,097. I'm Judge Kaiser, and I'm joining remotely from the Board's hearing room in Denver. Judges Petravick and Cherry are in the hearing room there in Alexandria with everyone else. Can we start with a roll call of who's here today, starting with anyone representing Petitioner, please?

MR. KAUFFMAN: Brian Kauffman, representing Petitioner.

MR. ROBERTS: Jonathan Roberts, representing Petitioner. We're joined today by representatives from the Petitioner, URT.

JUDGE KAISER: All right. Thank you, and welcome. And anyone here on behalf of Patent Owner, please?

MR. CARLSON: Thank you, Your Honor. Steven Carlson from Robins Kaplan on behalf of Patent Owner, Duesenfeld.

MS. BELLE BOROVIK: Good afternoon, Your Honor, Elvira Belle Borovik on behalf of Patent Owner.

MR. CARLSON: And also, with us in attendance.

MR. SMITH: (INDISCERNIBLE - TECHNICAL DIFFICULTY) Matthew Smith, Smith Baluch, LLP on behalf of Patent Owner (INDISCERNIBLE - TECHNICAL DIFFICULTY).

MR. CARLSON: And also with us is Lydia Grote from Duesenfeld.

1 JUDGE KAISER: Okay. Welcome to you as well. All right. So,
2 the way we've set this up, each side will have a total of 90 minutes to present
3 its arguments. Petitioner has the burden of proof and will present its
4 arguments first. Petitioner may reserve some of its time for rebuttal. Patent
5 Owner will present its arguments after Petitioner's initial presentation, and
6 Patent Owner may reserve some of its time for sur-rebuttal.

7 A couple of reminders before we start. First, as noted in the
8 hearing order, this hearing is open to the public, and there may be members
9 of the public present, either in Denver or in Alexandria, as well as on a
10 public line that allows the public to view and listen remotely. There is some
11 confidential material in the record of this proceeding, I believe, so, please be
12 mindful of the public nature of the hearing when you're discussing the
13 record. Second, just so that I can hear everyone, if you're speaking today,
14 please try to speak into a microphone that's not muted. And finally, I'll let
15 everyone know, that the panel has access to the demonstrative exhibits that
16 both sides filed, as well as all the papers and exhibits that have been filed
17 into the record.

18 To keep the record of the hearing clear, if you refer to a
19 demonstrative exhibit, or to anything in the record, please state the number
20 of the demonstrative slide, or the exhibit number, and page number, or
21 something similar for whatever you're directing us to in an exhibit or in a
22 paper.

23 I think with those preliminaries out of the way, we're ready to get
24 started. I guess, Petitioner, if you'd let me know how much time you would
25 like to reserve for rebuttal, then you're free to begin when you're ready.

1 MR. KAUFFMAN: May it please the Board. Brian Kauffman on
2 behalf of the Petitioner, URT. I'd like to reserve 20 minutes for rebuttal.

3 JUDGE KAISER: Okay.

4 JUDGE PETRAVICK: I've set the clock for your full 90 minutes.
5 I'll try to give you a warning at 20 minutes, but just realize that it is for a full
6 90 minutes.

7 MR. KAUFFMAN: Just jumping in. The '097 Patent is directed
8 to battery processing; however, the claims are so broad that only four basic
9 parts are in each claim. That would be the comminuting unit, the dryer, the
10 filling device, and the vacuum installation. These components are old and
11 well known. These components are also used in standard ways for standard
12 purposes to achieve expected results. Moreover, these features were
13 previously described in Patent Owner's own publications stemming from the
14 same research project, LithoRec, which is Exhibit 1004; Hanisch, which is
15 Exhibit 1013; and a PowerPoint presentation, which is Exhibit 1027.

16 The '097 Patent claims the key advantages of drying battery
17 material to remove electrolytes so that the electrical chemical reactions and
18 combustions are no longer possible. The '097 Patent inextricably ties
19 inactivation to the drying process. It also provides exemplary pressures and
20 temperature ranges for performing this task, but not every claim requires
21 pressure range and only one claim requires the temperature range.

22 So, briefly reviewing the prior art relied upon, LithoRec is a
23 research paper that was coauthored by the Patent Owner, described
24 removing electrolytes from battery materials by way of drying. Perry is an
25 engineering reference manual, who provides several examples of vacuum

1 dryers in their operating conditions, including their pressure ranges. The
2 DIN reference is a document that provides the definition in standard pressure
3 ranges for vacuums. The Hanisch Patent is a PCT publication that discloses
4 temperature ranges for evaporating electrolytes from vacuum material. In
5 the Exhibit 1027 PowerPoint, is Patent Owner's earlier presentation,
6 discussing comminuting battery material and concerns for electrolytes.

7 Now, looking at Claim 1, there really are only two limitations that
8 are under dispute: the inactivation by drying and the drying pressure range.

9 Now, first looking at the inactivating by drying limitation, the '097
10 Patent provides an explicit lexicographic definition for inactivate. The '097
11 Patent states that drying comminuted material results in inactivation and also
12 states that within the scope of the present description, the term, 'drying,'
13 should be understood to mean, particularly, drying, removing at least one of
14 the solvents, and particularly, at least one of the identified electrolytes. We
15 can depart from this lexicographic definition.

16 Now, looking at LithoRec, LithoRec prefers drying to evaporate
17 electrolytes under vacuum, and this is done to reduce the potential for
18 combustion, which is just like what is disclosed in the '097 Patent.

19 Patent Owner argues for using the plain meaning of the term,
20 'inactivation,' and alleges that the plain meaning is 'safe for transportation,'
21 however, Patent Owner's position can't be correct. First, you can't override
22 the explicit lexicographic definition. Also, as admitted on Patent Owner's
23 Slide 2 of their demonstratives, as you'll see later, they recognize that
24 rendering safe for transport is one of the alleged advantages of the invention.
25 That advantage cannot be the definition of inactivate.

1 Also, even if Patent Owner is correct in their interpretation, drying
2 to remove an electrolyte to convert a dry (INDISCERNIBLE) renders to be
3 material safe for transport, which is what's disclosed in LithoRec. Herein,
4 the Board correctly constructed -- here the Board got it correct with the term
5 'inactivation,' and it being inextricably linked to drying. In Claim 1 --

6 JUDGE KAISER: Can I press you a little bit on the claim
7 construction issue just for a minute?

8 MR. KAUFFMAN: Mm-hmm.

9 JUDGE KAISER: Let's take, for the moment, the position that we
10 think Patent Owner is correct that drying and inactivating are two different
11 but related concepts. In other words, let's say something, like drying is the
12 process whose end point is inactivation. If we were to go that way, then
13 what does inactivation need to be? Why is it that Patent Owner's proffered
14 definition of 'rendered safe for transport' is wrong, I guess?

15 MR. KAUFFMAN: Well, I know that idea, drying and
16 inactivation are still inextricably linked because the inactivation is achieved
17 by the drying process. And yes, there might be other inactivation processes
18 that might be some kind of chemical thing, or some kind of physical
19 removal, but what's in the specification of the '097 Patent is drying by
20 activation (sic). Drying by activation -- inactivating by drying is '097 Patent,
21 it's in LithoRec, and even the Claim 1, itself, ties drying to inactivation,
22 inactivation by drying.

23 So, Claim 1, looking at the pressure range limitation, Claim 1
24 requires that the drying pressure must be at 300 hectopascals or less. Now,
25 LithoRec teaches drying under vacuum to avoid combustion just like the

1 '097 Patent. But what would that mean to a person of ordinary skill to dry
2 under vacuum?

3 Well, we could look at the DIN 28400 standard, which confirms
4 that vacuum, as described in LithoRec, is the pressure range that is less than
5 ambient. DIN also gives examples that overlap and are within the claimed
6 range. In this case, Table 1 shows the range for a rough or low vacuum,
7 which is one hectopascal to a thousand hectopascals. There's no question
8 that a German engineer, looking at a German reference, like DIN, would
9 understand that the vacuum range of LithoRec overlaps the claimed pressure
10 range. And there's even an explicit range that is in the exact same claimed
11 range of 0 to 300 hectopascals listed in the DIN reference.

12 There's nothing controversial about the overlap of LithoRec's
13 vacuum. We can look at another manual to find different dryers that operate
14 within the claimed range, such as here, in the Perry reference, or here in the
15 Perry reference.

16 DIN and Perry provide evidence that the vacuum of LithoRec
17 overlaps the claimed range. Patent Owner never directly addresses the
18 evidence of the overlap, instead they attack specific types of dryers. The
19 filing corporation is not a standard for obviousness. A person of ordinary
20 skill would have known that different types of dryers operate under different
21 conditions, and a person of ordinary skill would have known the tradeoffs
22 and advantages of these different dryers, and it would have been routine to
23 operate within the range which is the level of detail that is in the claims.

24 Patent Owner also fails to show any evidence of surprising,
25 unexpected results. There's no comparative data relating the results above

1 and below 300 hectopascals. The single data point provided in Ms. Grote's
2 declaration is one point within an enlarged range, and that cannot show
3 unexpected results for the entire range. Attorney argument cannot take the
4 place of data. Even Patent Owner's expert concedes that it was routine to
5 optimize pressure, temperature, and duration. Claim 1 only requires
6 pressure. Furthermore, in both LithoRec and Perry provide the same reason
7 as the '097 Patent to dry at low temperatures and pressures. Again, Patent
8 Owner's attacks on Perry are misplaced.

9 Patent Owner's bodily incorporation tasks are not commensurate
10 with the scope of claims. LithoRec chooses continuous drying over batch,
11 but does not disparage batch on a level prior to teach away. Both batch and
12 continuous dryers can be operated under vacuum.

13 Now, looking at Patent Owner's non-enablement argument, it's
14 strange that they are arguing that one of the references stemming from their
15 research project, is not enabled. It seems that the argument is that
16 continuous dryers can't operate under vacuum. However bodily
17 incorporation is not a standard of obviousness nor is it a standard for
18 enablement. LithoRec is enabled to the same level of detail to the same
19 extent as which is recited in the claims. Again, the claims are broad and
20 only have four basic parts. All the components are old and well known,
21 they're used in the standard way, and for standard purposes.

22 All right. Now, looking at Claim 2. Claim 2 merely recites that
23 drying electrolytes to render electrical chemical reactions impossible, which
24 is the result a person of ordinary skill would expect when the comminuted
25 battery material is dried to remove electrolytes and convert the material to

1 dry powder, which is exactly what is taught by LithoRec. Claim 7 has the
2 same scope as Claim 2, so those observations also apply to Claim 7.

3 Now, looking at Claim 9, Claim 9 is the first and only time the
4 temperature variable is recited. And in Mr. Hanisch's previous patent, he
5 already talks about drying battery material at 80 degrees Celsius to remove
6 electrolytes from battery material. Nothing special or unexpected about this
7 temperature range.

8 Now, looking at Claim 12. Just like Claim 1, Claim 12 talks about
9 inactivation and drying under pressures, but it's broader than Claim 1
10 because Claim 12 does not require a specific pressure.

11 So, I'm just going to move ahead to the inactivation device
12 limitation. I mean, I'm sorry, the vacuum installation. Now, Claim 12
13 requires drying under vacuum. LithoRec also describes drying under
14 vacuum, and moreover, LithoRec describes the same invention as the one
15 recited in Claim 12 to the same level of detail as is recited in Claim 12,
16 which is the standard for anticipation. Claim 12 provides no special
17 structure or special function for the vacuum installation. This LithoRec's
18 disclosure of drying under vacuum is identical to the level of detail provided
19 in Claim 12, and that's all that's required for Dantam anticipation. Again, the
20 claimed invention is just standard components operating in a standard way
21 for standard purposes. And the enablement discussion for Claim 1 also
22 applies to Claim 12, so I will move on.

23 Claim 13 has the same scope as Claims 2 and 7, and so those
24 observations also apply to Claim 13.

25 Now, looking at Patent Owner's secondary considerations, there's

1 no nexus to the claim language from Patent Owner's arguments. Patent
2 Owner asserts arguments that correspond to unclaimed critical features. The
3 only evidence relates to a sub portion of claimed pressure in temperature
4 ranges. And as for the evidence for long-felt need, the patents that are
5 provided either solve the need they recognize or don't recognize a need.
6 Also, the commercial of success is based on licensing agreements that don't
7 include the '097 Patent. And as previously stated, the unexpected results
8 we've already discussed, there's no comparative data.

9 So, at conclusion, all the challenged claims are invalid. They are
10 no more than a collection of well-known components used in standard ways
11 and are recited at the same level as done in Claims 1 and 12, and the rest of
12 the claims.

13 Okay. So, now moving on to Patent Owner's contingent motion to
14 amend. Contingent motion doesn't add a new or greater level of detail.
15 We've already been discussing two of the limitations. We've also already
16 discussed the batch drying limitation, which is newly added. And the other
17 new limitation doesn't even further limit the claims. The Board got it right
18 on the preliminary guidance.

19 So, looking first at the batch mode limitation, LithoRec talks about
20 a choice between batch and continuous drying. Although LithoRec chose
21 continuous drying in one example, it left the batch drying as a viable option.
22 Patent Owner's expert acknowledges that the person of ordinary skill would
23 know the tradeoffs of continuous and batch dryers, and there are many
24 references that describe these tradeoffs and advantages of continuous and
25 batch dryers, for example, Perry.

1 Perry talks about the different kinds of batch dryers. One of the
2 dryers is a batch vacuum rotary dryer. There are also a slew of other dryers
3 in Table 12-9 in Perry, along with the characteristics, tradeoffs, and
4 advantages of those dryers. And both Perry and LithoRec teach preventing
5 combustion is a reason for drying under vacuum and as a reason for drying
6 in batch mode, just like the '097 Patent. And there's nothing surprising about
7 using batch drying to dry battery material, just standard considerations.

8 Uchida is another reference that teaches batch drying under
9 vacuum. Uchida is a patent that teaches evaporating electrolyte material
10 from battery material. And given the many instances of batch drying under
11 vacuum in the prior art, a person of ordinary skill would not recognize
12 anything special about using batch drying in this situation. And as the prior
13 art shows, it would have been obvious to use batch drying for reasons taught
14 in the prior art, which are the same as those reasons taught in the '097 Patent,
15 especially since a person of ordinary skill would know the tradeoffs of batch
16 drying and continuous drying.

17 Now, looking at the 0 to 300 hectopascal limitation, which is the
18 same limitation recited in original Claim 1, we've already discussed this
19 feature with respect to LithoRec and Perry. And as noted by Patent Owner's
20 expert, pressure, temperature, and time are variables known to be optimized
21 for drying. And just for the sake of completeness, let's look at a couple more
22 references to teach the same pressure range.

23 Uchida also teaches drying at a pressure below 300 hectopascals.
24 Mitsubishi also teaches drying under a pressure below 300 hectopascals.
25 And again, this pressure range was extremely well known to be used for the

1 same purpose as discussed in the '097 patent, evaporating electrolytes from
2 battery material, and so, it would have been obvious to use the pressure
3 range in all of these references.

4 Claims 23 and 25 recite gaseous electrolyte recoverable by
5 condensation; however, it's not clear if this adds anything to the claims. It
6 doesn't even require that the gaseous electrolytes actually be recovered.
7 Regardless, LithoRec teaches condensing the evaporated solvents, and
8 LithoRec goes even one step further by disclosing that the electrolytes are
9 actually recovered. And similar to the temperature range recited in Claim 9,
10 Claims 25 and 29 recite 80 degrees or less. And Mitsubishi also teaches
11 evaporating electrolytes from battery material at this temperature range.

12 And in conclusion, the Board should find that each patent of the
13 claims is invalid. They are nothing more than well-known components used
14 for the same standard purposes in the same way, and similar, the same thing
15 applies to the claims added in the contingent motion to amend.

16 I can take any questions now. Otherwise, I'd like to reserve the
17 remaining time for rebuttal.

18 JUDGE KAISER: Thank you very much. Counsel for Patent
19 Owner, if you would just let me know how much time you'd like to reserve,
20 and then feel free to start whenever you're ready.

21 MR. CARLSON: Thank you, Your Honor. I'd like to reserve 15
22 minutes rebuttal. I will be splitting my primary time with co-counsel Matt
23 Smith, who will address the contingent motion to amend.

24 JUDGE KAISER: Okay, thank you.

25 MR. CARLSON: Okay. May it please the Board. Slide, please.

1 The invention of the '097 Patent was a fundamental advance in the field of
2 battery recycling. For decades, companies had recognized the need to
3 recycle the precious metals contained in batteries, and for decades,
4 companies had shredded the batteries to try to extract those metals, and for
5 decades, companies had realized that it's dangerous to try to extract those
6 metals. They tried enumerative approaches, including flame retardants,
7 deactivating powders, grinds, mineral acids, pressurized fluids, et cetera.
8 But a disadvantage of all those processes was there were additives. They
9 were adding materials to the comminuted material and that hindered the
10 recycling process. It was Duesenfeld that made a fundamental advance that
11 departed from the way the prior art had done it, and instead of adding new
12 things to the comminuted material, it inactivated the battery material by
13 vacuum drying alone.

14 And this simple, yet ingenious invention had profound effects.
15 First, it suppressed formation of hazardous materials. Instead of hydrolyzing
16 the lithium hexafluorophosphate contained in batteries, which had formed
17 very toxic hydrogen fluoride, Duesenfeld evaporated away the electrolyte
18 and left intact that material, the lithium hexafluorophosphate, such that these
19 toxic compounds were not produced at all.

20 And a very practical but very important side effect of this is that
21 the material was then rendered safe for transport merely by vacuum drying.
22 And back in the 2015 time period, these batteries were hard to find. There
23 just weren't that many Tesla batteries, for example, to harvest. So, when
24 there was a car accident, or a bunch of cars at a used sale lot -- the used car
25 lot, these batteries are hard, if not against regulation, to transport to a central

1 facility for recycling. What Duesenfeld's advance allowed to happen was to
2 inactivate those batteries onsite and then transport them safely to a central
3 facility for recycling.

4 Next slide, please, Slide 3. Now, the pioneering nature of
5 Duesenfeld's advance is summed up by this question-and-answer session
6 shown on Slide 3 of the presentation. It's Exhibit 2061, the Spies Deposition
7 at page 95, line 19 through page 96, line 3. I asked Mr. Spies, quote, "Are
8 you aware of any prior art that recognized that you could inactivate shredded
9 battery material by vacuum drying alone?" The answer was very simple,
10 quote, "Not at the moment, no." That sums it up. This is a pioneering
11 advance that fundamentally departed away from what the prior art had been.
12 We were not optimizing what had come before. It was a fundamental
13 departure from what had come before.

14 Next slide, Slide 4. In an unexpected result that came from
15 Duesenfeld's invention is memorialized in LithoRec. Exhibit 1016 on page
16 190, lists a budget item in the recycling process they envisioned, a budget
17 item to buy large quantities of sodium hydroxide, which would then
18 neutralize the HF production. They thought they needed this. By contrast,
19 the unexpected and surprising result found by Duesenfeld was that you don't
20 need that. You can avoid that expense. And to quote the patent, so the '097
21 patent, Exhibit 1001 at column 5, lines 7 through 8, quote, "The drying
22 preferably occurs at a maximum temperature of 80 degrees Celsius, and this
23 produces almost no hydrogen fluoride." I also refer to the patent at column
24 3, lines 12 to 13. It says effectively the same thing.

25 Slide 5, please. Now, another fundamental issue underlying this

1 proceeding is credibility. Now, we have no problem at all with the
2 credibility of Mr. Spies in Deposition; however, there are major red flags
3 raised with respect to his reply declaration, and that's Exhibit 2061. For
4 example, in his reply declaration, Mr. Spies refers to page 98 of LithoRec.
5 Now, he wrote his declaration on May 7th, 2025, and I deposed him on June
6 13th, 2025. When I asked him when he'd read this material cited in his
7 declaration he said, quote, "Maybe a year ago, maybe -- maybe longer."
8 And that's cited in the Spies Deposition, Exhibit 2061 at page 95, line 19
9 through page 96, line 3.

10 Another one, in his Declaration he wrote, quote, "I confirmed with
11 the Wayback machine that these documents were in fact publicly available
12 prior to the time of the invention." But in deposition, he was asked, what is
13 the Wayback machine? And his answer was, quote, "I don't know." And
14 that's his Deposition at Volume 2, Exhibit 2062 at page 139, lines 29
15 through 34, contrast that with his reply declaration of paragraph 63, that's
16 Exhibit 1023. Likewise, he said in his declaration, quote, "Optimizing
17 result-effective variables to achieve a desired drying result is standard
18 practice in the industry." But when asked in deposition what a result-
19 effective variable was, he said, quote, "I don't know that term." And that's
20 contrasting Exhibit 1023, his declaration at paragraph 52 with Exhibit 2062,
21 his Deposition at page 138, line 124.

22 Next slide, please. Now, before we proceed with the rest of the
23 presentation, I want to summarize four reasons why the petition does not
24 succeed. First, it's premised on an untenable claim construction and it seeks
25 to collapse the meaning of two different claim terms, drying and

1 inactivating. Secondly, there simply is no vacuum system disclosed in
2 LithoRec. That's all essentially admitted by Mr. Spies. And the Board, in
3 instituting of the proceeding, directed the parties to develop the record on
4 this point. And Duesenfeld put forth evidence to confirm that neither
5 convention ovens, nor rotary shredders are vacuum devices, whereas,
6 Petitioner put forth no such evidence. It's silent as to the Board's instruction.
7 Third, as to inactivation, there is no enabling disclosure in LithoRec of an
8 activation. And, fourth, the purported combinations with Perry or DIN
9 simply are unsupportable.

10 Now, moving into the claims, so Slide 6 of Claim 1, as Petitioner
11 said, there are two core limitations, the inactivating limitations and the
12 pressure limitation.

13 Next slide, please, Slide 7. Likewise, in Claim 12, inactivating
14 limitations and a vacuum installation limitation.

15 Moving now to Slide 8, please. Slide 9, please. We're still on
16 claim construction. Slide 10, please. The core distinction here is the
17 meaning of the term, inactivate, or inactivated, or inactivating. And Patent
18 Owner's position is simple, the ordinary meaning governs. The word
19 inactivating is the right word. It's one word. It sums it all up. You take
20 something that's chemically inactive, and then reactive, and you inactivate it.
21 And if we do need to describe the definition to it, a good one is rendered safe
22 for transport. That is well-supported in the specification, and it's completely
23 consistent with the whole purpose of the invention in the context of the
24 patent. Now, by contrast, Petitioner seeks to collapse the meaning of these
25 two terms and say that some amount of drying is sufficient for inactivating,

1 and that's simply not correct.

2 Slide 11. Now the Board has, in its institution decision, given a
3 preliminary understanding that inactivation is the same as drying, and that
4 these two terms are intended to have similar, if not identical meanings.

5 Next slide, please, 12. Now, of course, in the other proceeding,
6 there was a different definition the Board gave, which is to require to take
7 -- inactivation require removal of sufficient amounts of dimethyl carbonate
8 and/or ethyl methyl carbonate from the comminuted material to make an
9 electrical chemical reaction either no longer possible, or only possible to a
10 negligently small extent. So, we have very different constructions in these
11 two proceedings advanced by the Board, and I think it's important to
12 rationalize, to harmonize with one.

13 Next slide, 13. Now the District Court got it right. This is an
14 agreed construction, Duesenfeld and Defendant Ascend Elements agreed on
15 the meaning of the term, drying device configured to inactivate the
16 comminuted material, and we agreed that the plain and ordinary meaning
17 governs. And we agreed that that plain and ordinary meaning is, quote, "A
18 device configured to produce inactivated, comminuted material as a result of
19 drying." And --

20 JUDGE KAISER: Can I just ask you a question on that real
21 quick?

22 MR. CARLSON: Of course.

23 JUDGE KAISER: Let's say we were to adopt what the District
24 Court adopted and say, essentially, inactive, comminuted material means
25 comminuted material that's been inactivated. Like, what -- I guess that still

1 leaves open the question of what is inactivated material? What makes it
2 different from non-inactivated material? And it feels like the spec here gives
3 you quite a few different possible meanings of that, right? It talks about
4 removing some of the solvents. It talks about reducing the rate of electrical
5 chemical reactions to nil and almost nil. It talks about -- I don't know if
6 there's anything in there that directly says safe for transport, but it sort of
7 adverts to something along those lines. How do we pick one?

8 MR. CARLSON: Yeah. Thank you, Your Honor. And the
9 specification, actually at column 2, lines, I believe, 2 through 6, do equate
10 inactivating with safer transport, and the metrics that are recited in the
11 specification, they're all a proxy for rendering the material safe for transport.
12 That's the whole point of it. And the first metric talking about the lack of
13 any flammable gasses above material, it's expressly reciting that this is for
14 transport. You want to make it safe for transport under the conditions of
15 transport. You know, you had a hot day in Arizona, ambient pressure, for
16 example, it's expressly targeted toward the needs for safe transport.

17 If there's no further questions, I'll move on to Slide 14. So, first we
18 look at the language of the claims, and of course, the well-known Phillips
19 framework, we looked at what the claim says, and there's two different terms
20 here. There's inactivating and there's drying.

21 Next Slide, please, number 15. And different terms in a patent
22 presumptively have different meanings. And that's the Comaper case, 596
23 F.3d 1348 and CAE Screenplates at 224 F.3d pincite 1317.

24 Next slide, please, 16. And the dependent claims reinforce this
25 distinction. There's gradients of level amounts of extensive drying, and

1 Dependent Claims 2 and 7 give some detail about that drying, but it's all
2 dependent on the main term inactivating.

3 Next, slide 17.

4 JUDGE KAISER: Now, does that -- I'm sorry.

5 MR. CARLSON: Please.

6 JUDGE KAISER: Does that mean that inactivating is a spectrum
7 or only that drying is?

8 MR. CARLSON: I think there's different metrics that can be
9 assessed to be determined when a material has been inactivated, and Claims
10 2 and 7 provide two such potential metrics.

11 JUDGE KAISER: Would you satisfy Claim 1 if you fell outside of
12 the bounds of Claims 2 or 7, but still did something else that looked like
13 inactivation?

14 MR. CARLSON: Well, I think the answer is yes, Your Honor. If
15 the material was inactivated through either some other metric, meaning,
16 rendered safe for transport, it's no longer reactive in a way that would be
17 harmful and dangerous in transport, then, yes, you would satisfy Claim 1.

18 JUDGE KAISER: Okay, thank you.

19 MR. CARLSON: So, referring to Slide 17, the Board, in its
20 institution decision, noted statements in the '097 Patent, and in the final
21 history, that equate the terms 'drying device' and 'inactivation device', and
22 that's correct. The same device dries and inactivates. This drying is a
23 process, and the end point is inactivation.

24 Slide 18, please. In essence, specification says that, quote, "The
25 drying of the comminuted material results in inactivated comminuted

1 material." And that's the patent at column 8, lines 54 to 56.

2 Nineteen, please.

3 Twenty, please. And there's many -- we've talked about the
4 metrics.

5 Let's move on to 21, please. Now, Petitioner has advanced a
6 construction that some amount of drying amounts to inactivation, but in
7 deposition, not even their expert supported that. Over and over, I asked Mr.
8 Spies, if remove, quote, "Just a small amount of electrolyte from the battery
9 material, does it become inactivated?" And he declined the answer. He
10 said, "I can't tell you. I just don't know." And that's the Spies depo Exhibit
11 2016 at page 45, lines 16 to 19.

12 Next slide, please. Likewise, at page 29, lines 17 through 22, he
13 said, "If it's still a little wet it would not be safe," meaning, it's not
14 inactivated.

15 Next slide, please, 23. Same basic point. I'll just recite for the
16 record the lines. It's page 46, line 10 through page 47, line 16. Same
17 colloquy.

18 And Slide 24, please. Same refusal to answer this question at page
19 46, line 10 through page 47, line 16.

20 Next slide, please, 25. Thank you, Your Honor. So, there is a
21 question under the proposed construction by Defendant as to what the
22 construction really means. There's question of construe in the construction.
23 One way to interpret that is, you have to remove all of one solvent, meaning,
24 all the EMC, or all the DMC. Maybe that's what they're saying. I take it
25 from their papers that they are saying that removing some amount of solvent

1 is sufficient for inactivation. And we fundamentally disagree with that, and
2 so does Mr. Spies.

3 JUDGE CHERRY: Well, a problem with all these constructions
4 is there's a lot of ambiguity, correct? Even the safer transport, I looked
5 -- you're pointing me to column 2 and it tells me, oh, well, this is especially,
6 so if it's packed under vacuum. So, doesn't that seem to indicate that even
7 the method of transport then becomes part of the construction? It has to be,
8 well, here it has to be transported under a vacuum. Does it have to be -- is it
9 safe for transport even if it's not under vacuum?

10 MR. CARLSON: Safe for transport is the touchstone. So, if it's
11 been rendered safe for transport, that is the end point.

12 JUDGE CHERRY: For any method of transport or a particular
13 method of transport?

14 MR. CARLSON: I think, any method of transport.

15 JUDGE CHERRY: Any method of transport?

16 MR. CARLSON: Correct.

17 JUDGE CHERRY: Even not under vacuum?

18 MR. CARLSON: Correct, Your Honor.

19 JUDGE CHERRY: Okay, thank you.

20 JUDGE PETRAVICK: I'm sorry. Are you saying that the deck
21 just requires that it's safe for transport under all transport conditions or under
22 (CROSSTALK)?

23 MR. CARLSON: Under any.

24 JUDGE PETRAVICK: Just as long as it's safe for transport under
25 one certain transport condition?

1 MR. CARLSON: I would say it's agnostic as to the mode of
2 transport that --

3 JUDGE PETRAVICK: So, if it is safe for transport under, let's
4 say, a vacuum at a very low temperature, then that's fine? Because you told
5 us earlier that where it's being transported makes a difference. Say, it's
6 transported in the Arctic, where it's cold, as opposed to transporting it to the
7 desert of Arizona where it's very hot.

8 MR. CARLSON: So, if the material is safe for transport under
9 normal operating conditions --

10 JUDGE PETRAVICK: Well, what's 'normal operating conditions'
11 because apparently, we're going to transport the stuff everywhere?

12 MR. CARLSON: Correct, Your Honor.

13 JUDGE PETRAVICK: How about if it's safe for transport on an
14 airplane?

15 MR. CARLSON: Yes, Your Honor. It would be under normal
16 transit conditions, such as -- this is normally transported by truck, and other
17 those conditions, if it's safe to transport, the inactivation level has met.

18 JUDGE PETRAVICK: I mean, imagine, eventually you ship in
19 between continents --

20 MR. CARLSON: Correct.

21 JUDGE PETRAVICK: -- they get shipped by airplane, by boat?

22 MR. CARLSON: Presumably by boat.

23 JUDGE PETRAVICK: So, 'normal' means quite a large scale of
24 things, in very large different temperature gradients, and humidity, and
25 pressure, and different levels -- sea levels? You encompass all of those

1 things?

2 MR. CARLSON: If a shipper has determined -- meaning, that
3 they've processed this material, and they determined that they're going to
4 ship it -- go ahead and ship it, if they determined it's safe for transport, then
5 the level of inactivation has been met.

6 JUDGE PETRAVICK: And 'safe' means different varieties of
7 risks? Low risk of explosion? High risk of explosion? Whichever level of
8 risk of safe the shipper wants to take?

9 MR. CARLSON: No shipper wants to take the risk of an
10 explosionous (sic) material in their trucks, or boats, or planes.

11 JUDGE PETRAVICK: Well, I imagine that the risk varies,
12 depending on the condition.

13 MR. CARLSON: There may be some level of variance, but the
14 shipper will determine the level of risk, and if it's safe for transport, it's safe
15 for transport.

16 JUDGE PETRAVICK: So now, whether we have to figure out
17 whether something is safe for transport, we have to take into account the
18 pressure, the method of shipping, the temperature, where it's going, or where
19 it's going through, plus the level of risk of the shipper, and a number of other
20 variables in order to meet this definition. But then, when I get to the prior
21 art and I look at something, and it has a certain drying level, your claim
22 doesn't require that the prior art tells me that that drying level is good for this
23 situation. So, wouldn't a prior art that shows drying to a certain level, or a
24 certain level of inactivation meets some sort of criteria out there?

25 MR. CARLSON: Yeah. Your Honor, I think the --

1 JUDGE PETRAVICK: (CROSSTALK) of variables that you just
2 suggested could be encompassed by safe for transportation?

3 MR. CARLSON: I think there's a critical issue here, which is, the
4 prior art -- the word 'drying' means different things to different people. And
5 prior to Duesenfeld --

6 JUDGE CHERRY: Well, you also established that 'safe for
7 transport' means different things to different people, right?

8 MR. CARLSON: I think, ultimately, no. Meaning that, when a
9 shipper determines it's dried sufficiently enough that it's safe to transport --

10 JUDGE CHERRY: But how does a shipper decide whether or not
11 to ship this material?

12 MR. CARLSON: I'm going to credit them with the business sense
13 to know what's dangerous and what's not.

14 JUDGE CHERRY: Do they do some tests or they just accept this
15 (CROSSTALK) --

16 MR. CARLSON: Well, I think tests are done to determine if
17 things are sufficiently drying. And I will credit the business judgment of
18 these shippers to know that --

19 JUDGE CHERRY: So, the question is, whether it's sufficiently
20 dried?

21 MR. CARLSON: Correct.

22 JUDGE PETRAVICK: Is the shipper specifically schooled in
23 shipping this material or is it any shipper?

24 MR. CARLSON: Well, I'm talking about -- when I say, the
25 shipper, not so much the trucker, but the party that generated -- like, the

1 recycler that generated the black mass and is going to ship it out the door.
2 So, that party that generated the black mass, they made the calculation that
3 this is safe to transport, and then they ship it. So, when I refer to the shipper,
4 I am referring to the recycling entity that makes the black mass and then
5 ships it out the door.

6 And I do want to -- the point is, the prior art talks about drying.
7 Duesenfeld was the first to recognize that the perspective of drying to be
8 safe for transport. Nobody else recognized that. So, there's discussion in
9 certain prior art references, Hanisch for example, that mention drying. But
10 no one recognized that you want it dry to be safe for transport. That is
11 simply not in the prior art, as Mr. Spies admitted in his Deposition.

12 JUDGE CHERRY: Where I'm struggling is, it seems to me that
13 the patent seems to suggest that a benefit of inactivation is that it's safe for
14 transport, not that the touchstone is whether it's safe to transport. -And as
15 your colloquy with Judge Petravick demonstrated, it seems that safe for
16 transport is a really flexible and expansive thing, that, I have a lot of trouble
17 trying to read in such an expansive, almost subjective standard into the
18 claim, when it seems to be just the benefit of -- the inactivation is done by
19 the drying, and then the benefit of it being inactivated is that you can ship it,
20 not that we start from the shipping and then say, oh, that's what it
21 means. -That's why I'm struggling with your definition. Because as we talk
22 about it more and more, it seems like it's more and more subjective and not
23 really an objective standard.

24 MR. CARLSON: So like rendered chemically -- the right word is
25 inactivated. That really is the proper word. Other formulations, they don't

1 really capture it a rendered-chemically inert. You've inactivated it by
2 removing that solvent. I don't really like the phrase, chemically inert, but it's
3 basically -- I'm trying to reach a synonym for inactivated, but the law doesn't
4 require us to make synonyms. The right word is inactivated.

5 JUDGE CHERRY: Well, wouldn't you agree that it's removing at
6 least one solvent in a conducting salt? Would you agree that that's inactive
7 for this battery material, that once you've done that it's inactivated?

8 MR. CARLSON: There's a big question on what that means
9 because removing is it all the EMC? I mean, perhaps. Is it all the DMC?
10 Perhaps, but -- or does that language suggest, well, merely removing half of,
11 you know, some of that solvent?

12 JUDGE CHERRY: Does your patent provide us any guidance as
13 to how much is removed?

14 MR. CARLSON: Again, I would say, when it's 'inactivated,'
15 meaning, it's safe for transport.

16 JUDGE CHERRY: Does it give us any tests of how much that is?

17 MR. CARLSON: Well, in fact, there are eight metrics given.

18 JUDGE CHERRY: Well, tell me what those metrics --

19 MR. CARLSON: And let's -- would you mind going back. So,
20 here are eight metrics -- seven, I think, in fact. Well, six listed, and there's
21 one more in the patent. So, if there is no flammable or explosive gasses
22 which can form, and there's a lengthy description of how to actually measure
23 that, that would constitute inactivation. And that's with an eye toward being
24 safe for transport. And I was referring to column 3, lines 49 through column
25 4, line 4.

1 JUDGE CHERRY: So, do I have to meet all eight of these metrics
2 to be inactivated?

3 MR. CARLSON: No, Your Honor.

4 JUDGE CHERRY: So, if I meet one of them, then I'm
5 inactivated?

6 MR. CARLSON: That would be sufficient for inactivation.

7 JUDGE KAISER: Is it necessary for inactivation, I guess, is the
8 real question. I mean, these are all prefaced by a language that says that
9 they're preferable results?

10 MR. CARLSON: Correct. I would not submit it's necessary, but I
11 would say, that any of these to be sufficient needs to provide guidance as to
12 the kind of metrics that do result in inactivation. So, this play of guidance
13 provided in this specification is the kind of things to look for to ensure that
14 the material is being inactivated. If I may move on, or are there more
15 questions on this important point? Then I'll move on.

16 Next slide please, Slide 26. So, let's talk about what's in LithoRec,
17 either disclosed or more importantly, not disclosed in LithoRec.

18 Slide 27, please. LithoRec -- the salient part of LithoRec, which
19 LithoRec is a very long document that talks about basic economics of the
20 overall recycling industry. It talks supply and demand, sourcing, storage,
21 how to pull the metals out of the battery material, et cetera. There's a very
22 small section of the backend, which discusses a, quote, "Conceptual design
23 of a recycling pilot plant." And the schematic of that is shown in Figure G-1
24 in LithoRec, Exhibits 1016 at 222 and 230.

25 Next slide, please, 28. At the outset of the process, there was a

1 shredder, which is called a cross flow hogger, shown at Figure G-1.

2 Next slide, please, 29. Everybody agrees that a cross flow hogger
3 does not run on a vacuum. And I cite the Spies Deposition at page 48, line
4 25 through page 49, line 12.

5 Next slide, please, 30. And is a dryer.

6 Next slide, please, 31. And the recommended dryer in LithoRec is
7 a vibratory fluidized bed dryer, and that's LithoRec at page 227, Exhibit
8 1016.

9 Next slide, please, 31. And everybody agrees that a vibratory
10 fluidized bed dryer does not run under vacuum. And I cite the Spies
11 Deposition at page 49, line 14 through page 50, line 3.

12 Next slide, please. And all these instrumentalities are connected
13 on a common gas circuit, as taught in LithoRec at page 227, and Mr. Spies
14 agreed that a cross flow hogger does not work in a vacuum, the dryer does
15 not work in a vacuum, and everything's in the same nitrogen circuit, and he
16 agreed. That's page 51, line 2 through 11 of Exhibit 2061.

17 Slide 34, please. And there's a fan.

18 Next slide. It's a ventilation fan, this is not a vacuum device.

19 Next slide please, 36. And there's a furnace.

20 And next slide, please, 37. The furnace vents to atmosphere so it is
21 confirmed there's not a vacuum in the system. And I'm citing the Dantam
22 declaration in paragraph 111.

23 Slide 38, please. And quite important, I asked Mr. Spies if there's
24 anything in this figure, that's Figure G-1, that would suggest that it's a
25 vacuum process. And as he answered, Exhibit 2016, at page 51, line 18

1 through page 52, line 1, I asked him again, quote, "Is there anything on here
2 that suggests that there's actually a vacuum present?" The answer was,
3 "No."

4 Moving on to 39. So, there is nothing -- the actual things taught in
5 LithoRec are not vacuum devices. Now, the Board mentioned LithoRec
6 additionally disclosed the use of convection dryers or slow or high-speed
7 rotor shredders. And so, the Board directed the parties to develop the
8 record, and to inform the Board if these devices were vacuum devices. And
9 Patent Owner has set forth evidence in response to the Board's question.
10 And I refer to the Dantam declaration, Exhibit 2025 at paragraphs 99.1 and
11 108.1., where we confirm that these convection dryers are simply a broad
12 category of dryers with the vibratory fluidized bed dryers being one set. At
13 the Sinothermol website we submitted that Exhibit 2026 confirms that a
14 fluidized bed dryer is simply one kind of convection dryer, and that these all
15 operate and relies on a steady flow of air to dry out the drying process and
16 they're distinct from vacuum drying. And that's the Dantam declaration at
17 99.2 through paragraph 99.3, citing the Sinothermol website at 2026.

18 Next page, please. And we submitted evidence about rotor
19 shredders in response to the Board's question. And we submitted Exhibit
20 2027, 2028, and 2029, and confirmed that these are not vacuum devices.
21 And that's the Dantam declaration at 99.1 through 99.3 in paragraph 108.1.

22 Next slide, please. By contrast, Petitioners, in response to the
23 Board's instruction, did provide a lengthy section in their brief. But you read
24 it, and read it again, and realize they just don't answer the Board's question.
25 They never say if convection dryers are vacuum devices. They never say if

1 rotor shredders are vacuum devices. Instead, they provide a lengthy section.
2 I refer to Exhibit 1023 at paragraphs 22 to 39.

3 Next slide, please. They do mention rotor shredders in one oblique
4 reference at paragraph 32, the Spies reply declaration, Exhibit 1023, but it's
5 only an oblique reference, it's not responsive to the Board.

6 Next slide, page 44. What they do, do is they identify dryers that
7 are not in LithoRec, and this is not responsive to the Board's question. They
8 mention a dryer from Draiswerke GmbH in Germany, that's paragraph 36,
9 and they mention other dryers in paragraph 37 without any kind of detail
10 about what these are. And that's at paragraphs 36 and 37 of Exhibit 1023.

11 Next slide. We do ask that these be stricken. These are non-
12 responsive to the Board's question, and more importantly, they are untimely.
13 These were (INDISCERNIBLE) to fill a basic prima facie case of their
14 case, and it was not disclosed in the initial petition, and it's untimely.

15 Next slide, please. Furthermore, Petitioner, they cite to page 98 of
16 LithoRec for this electrolyte recovery experiment, where they try to show
17 vacuum drying in that experiment. And that's page 98 of 1016, and I'm
18 citing the Spies reply declaration paragraphs 8 through 9.

19 Next, please. When I asked Mr. Spies, when he'd read this -- now,
20 he signed his declaration on May 7th, 2025, and I deposed him on June 13th,
21 2025, and he said, he hadn't read this document, page 98 of LithoRec, in
22 over a year, maybe longer. And that's citing 2061 at page 34, line 13
23 through page 35, line 7.

24 Next slide, please, 48. And again, he reemphasized, he hadn't seen
25 this. He said, "I can't tell you when I last had a look at this LithoRec page. I

1 can't remember," he said. That's page 37 of his Deposition at lines 11
2 through 15.

3 Moving down to 49, please. Now, I want to move on to the
4 grounds of the petition, and I'll start with Ground 3, which is the ground that
5 the Board said that Petitioner had to carry its burden for institution on.

6 Slide 50, please. So, this refers to Claim 12, and we have an
7 inactivation's limitation and a vacuum installation limitation.

8 Slide 51, please. And everybody seems to agree that there is no
9 vacuum device actually disclosed in LithoRec, cited by the petition, Paper 1
10 at 47 and our own expert, Mr. Dantam at paragraph 149 of Exhibit 2025.

11 Slide 52, please. And Mr. Spies, most importantly, I asked him, I
12 said, referring back to Exhibit 1016, that's LithoRec, quote, "Is there a
13 disclosure of a vacuum installation?" His response was, quote, "Not to the
14 best of my memory, no." That's his Deposition at page 61, lines 13 through
15 17.

16 Next slide, please, 53. Now, Petitioner would like to say, well, of
17 course, there must be a vacuum installation there because LithoRec
18 mentioned the word vacuum. But the case law authority does not let -- we
19 quote the Nidec case at 851 F.3d pincite 1274, where it says, the authority,
20 quote, "Does not permit the Board to fill in limitations simply because a
21 skilled artisan would immediately envision them." But that's exactly what
22 Petitioner's trying to do, they're trying to make an anticipation argument.
23 With an anticipation argument, they need to show it's there and not just to
24 envision it. It's got to be there, and it's simply not there.

25 Next slide, 54, please. Moreover, to meet anticipation, the

1 elements must be arranged as in the claim, and that's the Sanofi case, 550
2 F.3d at 1083. It's not disclosed as an arranged claim -- it's simply not
3 disclosed, let alone as arranged in the claim so it cannot be anticipation.

4 Next slide, 55. Now, the Board noted this, but inquired about
5 whether or not the convection dryers or the rotary shredders might
6 themselves be vacuum installations. And I won't repeat what I said before.
7 We did the homework. We provided the Board with real evidence about
8 convection dryers, about rotor shredders, but Petitioner did not.

9 Next slide 56, 57, moving on to 60. So, moving on to inactivation,
10 the evidence that the Petitioner advances is the statement at Exhibit 1016 of
11 LithoRec at page 226. It discusses that the step of evaporating electrolytes
12 eliminates the potential hazard of flammable solvents.

13 Next slide, 61. Well, this does come down to a claim construction
14 dispute, and it does not -- this does not meet any meaning of inactivation, it's
15 safe for transport, or even under their construction of removing at least one
16 solvent, this doesn't say that all of the EMC, or all of the DMC are
17 evaporated away. It doesn't say that. This is not disclosed.

18 Next slide, please, 62. And LithoRec is not configured to
19 inactivate anything. LithoRec was not configured. There was, quote, "No
20 reliable data in LithoRec," quote, "Only a rough estimate of drying can be
21 made at this point." And that's LithoRec at 226.

22 Slide 63. And Petitioners, themselves, seem to acknowledge this.
23 Now, LithoRec disclosed a continuous process. And Petitioner, in its own
24 papers says, "A continuous drying is used when drying consistency is not
25 necessary." And that's Paper 25 at page 8. So, by disclosing a continuous

1 system, under Petitioner's own understanding, this is not disclosing a
2 consistent drying process. It's not inactivated because it's not consistent.

3 Next slide, please, 64. We put forth plenty of evidence in Mr.
4 Dantam's declaration that, "You would not have consistent inactivated
5 drying in the LithoRec apparatus." And that's quoting Exhibit 2025 at
6 paragraph 160 and at paragraph 119.

7 Please, 65. Now, they are expressly arguing for inherent
8 anticipation, but that may be what they're arguing because there is no
9 disclosure of actual inactivation. But, of course, the standard is not met for
10 inherent anticipation as required by *Trintec* at 295 F.3d at 1295.

11 Next slide, please. And Mr. Spies acknowledged that under the
12 continuous system disclosed in *LithoRec*, the material, quote, "May not be
13 dried enough, not be dry enough, so -- and the final moisture you need to
14 have in order to have a safe product is not guaranteed." Quoting Exhibits
15 2061 at page 30, line 22 through 31, at line 7.

16 Moving on to 67, please. Now, even the evidence in *LithoRec* that
17 Mr. Spies had cited to at page 98, that did refer to a distillation experiment
18 under vacuum, but even that experiment didn't work. They tried to take a set
19 of foils, wash it with solvent, and then boil off the liquid to try to distill off
20 the lithium hexafluorophosphate, but it didn't work. And that's shown at
21 Exhibit 1016, that's *LithoRec* at 98 through 99, and Spies declaration at 9,
22 which cites that work. But it says, the distillation process for electrolyte
23 recovery was therefore being examined more closely and suitable
24 alternatives sought in parallel; meaning, this didn't work.

25 Next slide, please, 68. And the section that Mr. Spies relied on

1 confirms they weren't even trying to dry battery material. They took this set
2 of foils, shown in Figure B-18, that electrode stack, washed it with solvent,
3 and they drew off the solvent with a syringe, and then they worked on the
4 liquid, not on the battery material. And that's LithoRec at pages 96 to 97,
5 and the Deposition of Spies at page 38, line 19 through page 41, line 18.

6 Next slide, please. Now, anticipation, which is what they're
7 arguing for in Ground 3, requires a complete and operative invention. I'm
8 citing a chestnut from 1870, the old Seymour v. Osborne case from the
9 Supreme Court.

10 Next slide, 70, please. And in the more modern days, this has
11 become more of an enablement test, but they're both the test for an enabling
12 disclosure to support anticipation. And the Elan Pharmaceuticals case, 346
13 F.3d and the Amgen case at 314 F.3d, 1354 require an enabling disclosure.

14 Next slide, 70 (sic), please. Fundamentally, LithoRec is not an
15 enabling reference.

16 Next slide, 71 (sic). Now, the burden of proof is on the Petitioner
17 for everything, and that's quoted at U.S.C. Section 316(e). And we know the
18 prior art must be enabling for both Section 102, anticipation, and for Section
19 103, obviousness, and that's the Impax case, 545 F.3d at 1314, and
20 Raytheon, 993 F.3d at 1380.

21 Now, in certain situations, there is a shortcut. There is a
22 presumption of enablement in limited circumstances, if there's a granted
23 patent, or if it's non-patent literature examined by the examiner. But neither
24 of these situations applies here. There is no shortcut. Petitioner must prove
25 enablement. But even if, the Board was somehow to find that presumption,

1 Patent Owner has more than carried its burden to shift the burden back to
2 Petitioner. And I cite this to show enablement, and I cite the Forest Labs
3 case at 438 F.Supp.2d at 487 n.3.

4 Slide 73, please. Now, tossing out the mere germ of an idea is not
5 an enabling disclosure, and that's the Enzo Biochem case, 188 F.3d at 1374
6 and the Apple case, where prior art was advanced that contained a section
7 about conclusions and directions for further work, and talked about future
8 research directions. But that was not enough to establish an enabling
9 disclosure, this ideas for future work, and that's the Apple case, 725 F.3d at
10 1364. But that's exactly what LithoRec is. It's a lengthy document with a
11 very small section in the backend from this conceptual pilot plant. Nothing
12 was built, it was a research plant, at best.

13 Next slide, 74. Now, we look to the Wands Factors to determine
14 undue experimentation, and Wands Factor 2 and 3 talk about the amount of
15 direction or guidance present in LithoRec, or the presence or absence of
16 working examples. And the record is clear, Mr. Spies admitted that there's
17 nothing on Figure G-1, or in that entire section of LithoRec, that would
18 suggest it's a vacuum process. And I'm citing Spies, his Deposition, 2061 at
19 page 51, line 18 through 52, line. Likewise, his Deposition at page 61, line
20 13 through 17.

21 Next slide, please, 75. Wands Factor 4 talk about the nature of the
22 invention and the predictability or unpredictability of the art. And there was
23 a high level of uncertainty. This is not moving an icon around a computer
24 screen. This is advanced chemical engineering with very toxic explosive
25 stuff. They couldn't even get the batteries. That's LithoRec at page 8.

1 Batteries are hard to find, and these batteries were dangerous, and that's
2 LithoRec at Slide 33. And due to the reactivity of these electrolyte salts and
3 the potential for hydrolyzing the lithium hexafluorophosphate, everything
4 must be inert. You need safe operating concepts at every step of the way,
5 and that's citing LithoRec at 96.

6 Next slide, please, 76. Wands Factor 4, the nature of the invention
7 and the predictability or unpredictability of art. And he recognized -- Mr.
8 Spies recognized the well-known issues of combustibility and flammability.
9 And he said, quote, "It's essential to design a system, which is safe for
10 operation, and you have to look deeply to look into that topic to design a
11 safe system." You need to look in the thermodynamics. And he said, quote,
12 "Inertization is always a topic that needs to be guaranteed." I'm citing his
13 deposition at page 10, line 25 through page 11, line 18.

14 Next slide, please. Furthermore, Mr. Spies was quite eloquent
15 about the kind of hazards faced with trying to recycle batteries. We
16 reference cancer, explosions, and work safety. And he said, quote, "It's not
17 the type of plant which is straightforward and easy." And that's his
18 Deposition at page 12, lines 14 through 16.

19 Moving on, please, to 78. As the state of the prior art -- I
20 mentioned this quote before, but I'll read it again. I asked him, quote, "Are
21 you aware of any prior art that recognized that you could inactivate shredded
22 battery material by vacuum drying alone?" His answer was, quote, "Not at
23 the moment, no." That's Exhibit 2016 at page 95, line 19 through 96, line 3.

24 Moving on to 79, please. As to level of skill in the art, we've
25 agreed that it's a bachelor degree in electrical engineering, et cetera, with

1 two to three years of experience.

2 And Slide 80, please. But Mr. Spies, in deposition said, that his
3 colleagues normally have a master's degree or a PhD. And when asked if
4 you could have someone with a bachelor degree, who had a couple years'
5 experience, I asked him how much guidance would they need in order to
6 develop a vacuum drying system to dry shredded battery material? And he
7 said, quote, "Developing such a system is always -- there's always
8 teamwork. So, you normally -- so, you don't -- normally, you don't do it by
9 yourself." Exhibit 2061 at page 70. Back up please, page 70, line -- sorry,
10 can you back up please? Well, moving on. No, moving back. One more,
11 please. One more, please. One more, please. Page 70, line 14, through line
12 23.

13 Next slide, please. So, also the -- in contrast, the declaration of
14 Mr. Spies, he was quite eloquent in deposition about these hazards and about
15 the difficulties, but in his Declaration, he said it would have been trivial for a
16 POSITA to have implemented them. And I'm citing his declaration in
17 paragraph 48. He also says, quote, "It would have been straightforward to
18 invent LithoRec alone, and/or in various combinations set forth in the
19 petition." That's his declaration at paragraph 47. He also says that, quote,
20 "A person of ordinary skill in the art would only require minimal guidance
21 to implement the claim shredder and vacuum dryer system." That's his
22 Declaration, Exhibit 1023 at paragraph 38. So, his Deposition alluded to all
23 these difficulties that it's not straightforward, it's not trivial. But then, in his
24 declaration, by contrast, he simply says, it's trivial. It's straightforward. It
25 required minimal guidance. That declaration is fundamentally not credible,

1 and we ask the Court to (CROSSTALK) --

2 JUDGE CHERRY: Where are you getting all these requirements
3 in the claim? Are you reading that into battery processing installation?

4 MR. CARLSON: I'm reading into the question of whether a
5 person of skill in the art would have developed this overall system of the
6 claim, this vacuum-drying apparatus, for inactivating battery material, could
7 that POSITA have done this as a bachelor degree holder with a couple years'
8 experience.

9 JUDGE CHERRY: Where's all this discussion about the safety
10 and these difficulties in your patent?

11 MR. CARLSON: Well, it has quite a bit of discussion about the --

12 JUDGE CHERRY: But you're saying it's very complicated on
13 how to optimize this drying. I don't see much -- I see some -- just the
14 temperature. I don't see much else detail. Can you point me to that detail
15 and explanation about the safety that you're now saying is critical.

16 MR. CARLSON: Well, I wouldn't say we're trying -- it's an
17 optimization question.

18 JUDGE CHERRY: In terms of developing these systems?

19 MR. CARLSON: Well, there are a lot of parameters provided in
20 the patent. I'm happy to pull the patent and go through that as to the
21 parameters -- and pointing to the metrics for drying, for example, to
22 inactivate, there's a lot of metrics provided there, and the vacuum levels to
23 use, the pressure levels to use, the configuration of the device, that's all in
24 the patent in considerable detail. If I may continue?

25 The Board had a question for the parties on the enablement

1 question. The Board noted the testimony -- the evidence we had put forward
2 about for those bed dryers and cross flow hoggers. But the Board wanted
3 more evidence about whether or not something else might be disclosed in
4 LithoRec. The Board directed the parties to answer questions about
5 convection dryers and rotary shredders. We put in that evidence. I won't
6 repeat this again; Petitioner, by contrast, did not. So, we answered the
7 Board's question and confirmed that these other devices, such as convection
8 ovens and rotor shredders, do not provide any further enabling disclosure of
9 developing a vacuum drying system.

10 Moving on to Slide 82, please. So, Ground 3, Claim 13 with
11 depends from Claim 12, we incorporate our references, and we also
12 incorporate the arguments going forward from Ground 1, Claim 2, Infra.

13 Slide 83. I see Ground 4 on Claim 17. This depends from Claim
14 12, and we incorporate our arguments above.

15 Slide 84. So, moving now to Ground 1, this concerns Claims 1
16 through 3.

17 And Slide 85, please. So, Petitioner relies on a combination of
18 LithoRec and DIN and Perry.

19 Next slide, please, 86. Now, Petitioner only relies inactivation
20 limitation on LithoRec. Petitioner makes then a combination of LithoRec,
21 plus DIN, and/or Perry to meet the pressure limitation.

22 Next slide, please, 87, 88. So, as for inactivation, we've talked
23 about the evidence put forward by Petitioner that this step eliminates the
24 potential hazard of flammable solvents, and that's really the core evidence
25 relied on by Petitioner to show inactivation in LithoRec.

1 Next slide, 89, please. But the claim requires showing inactivated
2 comminuted material, such that an inactivated comminuted material is
3 obtained, and LithoRec hasn't obtained anything. It's a thought piece. It's a
4 concept. There is nothing obtained, and they don't show how to obtain that
5 and inactivate the material.

6 Next slide, 90, please. A research plan insufficient. And I refer
7 back to our discussion about enablement above from Ground 3. It applies
8 equally here for Ground 1. Next slide -- and backing-up, please. I cite the
9 Enzo Biochem case at 188 F.3d at 1374.

10 Next slide, please, 91. And again, Petitioner, itself, acknowledges
11 that when a continuous drying system is taught, well, that's used, quote,
12 "When drying consistency is not necessary." And that's Paper 25 at page 8.

13 So, Petitioner, themselves, acknowledged that the drying system
14 that's actually taught in LithoRec would not lead to consistent drying.

15 Slide 92, please. By contrast, Mr. Dantam has set forth extensive
16 evidence in paragraphs 119 and 160 of his Declaration, Exhibit 2025, to
17 confirm that there would not be inactivation of battery material according to
18 the process of LithoRec.

19 Slide 93, please. As to the 300 hectopascal requirement required
20 by the claims, Slide 94, please, it's simply not in LithoRec. LithoRec talks
21 about the project, quote, "Speaks in favor of drying under vacuum." That's
22 LithoRec at 226.

23 Moving on to Slide --

24 JUDGE CHERRY: Isn't that a suggestion to combine though?
25 Isn't that a suggestion to look at references that teach a vacuum -- to be

1 under a vacuum?

2 MR. CARLSON: Possibly. Now, the proffered -- there are no
3 proffered combinations, really. And we'll talk about Perry, we'll talk about
4 DIN, but the combinations that have been advanced simply do not meet the
5 claims. There is really no combination that's actually been taught that would
6 meet the claim. I acknowledge, this talks about the possibility of using
7 vacuum, sure. But in terms of first, does LithoRec teach 300 hectopascals?
8 The answer is no. I think that we've all agreed -- at least with Petitioner and
9 its expert, it does not teach 300 hectopascals. This may invite possible
10 exploration of vacuum research, but this does not disclose 300 hectopascals.

11 JUDGE CHERRY: Does it suggest the step of drying under a
12 vacuum?

13 MR. CARLSON: It suggests a possible mode of exploration, but
14 the teachings in LithoRec are uniformly not that vacuum system.

15 JUDGE CHERRY: I'm assuming we can see a reference for
16 everything it teaches, right, even in an operative embodiment can be relied
17 upon for obviousness, right?

18 MR. CARLSON: There is case law with that authority, yes, Your
19 Honor.

20 JUDGE CHERRY: So, why wouldn't this be sufficient?

21 MR. CARLSON: Well, first, every disclosure in LithoRec teaches
22 away from a vacuum system.

23 JUDGE CHERRY: How does it teach away?

24 MR. CARLSON: Because it's got a lengthy disclosure of a lot of
25 system to use, and none of it's a vacuum system.

1 JUDGE CHERRY: Just because -- well, again-- where your
2 arguments start falling apart is, that the law of obviousness isn't that limited,
3 right? We have In Re Mouttet that says-, and there's a host of other cases,
4 Mouttet is just one of them that is frequently cited, it says, it doesn't have to
5 be the most preferred way, it has to be 'a' way. And isn't this a suggestion,
6 certainly to a person of ordinary skill, that drying under a vacuum is
7 contemplated or could be done to do this method?

8 MR. CARLSON: It is a suggestion that vacuum drying might be a
9 way to go. But beyond this system -- beyond this statement, there is nothing
10 else in LithoRec that would provide a teaching on how to go there.

11 JUDGE CHERRY: So -- well, that's different than -- that's
12 different than what you said --that's certainly not a teaching away is -- right?
13 It's not discouraging it.

14 MR. CARLSON: Well, by having a lengthy discussion of how to
15 dry, and have everything be not under vacuum, I submit that teaches -- it just
16 --

17 JUDGE CHERRY: That discredits it?

18 MR. CARLSON: I'll agree, it does not discredit it.

19 JUDGE CHERRY: So -- again, you're pushing your argument
20 way too far, right? The law of teaching away is not -- it requires that it
21 discredit or discourage a person of ordinary skill. How does that statement
22 discredit or discourage?

23 MR. CARLSON: I agree. Your Honor, this statement does not
24 discredit or discourage.

25 JUDGE CHERRY: And the fact that a reference discloses another

1 preferred way doesn't discredit or discourage, right --

2 MR. CARLSON: That's correct.

3 JUDGE CHERRY: -- under the law?

4 MR. CARLSON: That's correct, Your Honor.

5 JUDGE CHERRY: So -- so, let's -- let's kind of talk about what
6 -- so -- okay, it doesn't -- so, you agree that it suggests doing this process
7 under a vacuum, right?

8 MR. CARLSON: I'll grant that. Yes, Your Honor.

9 JUDGE CHERRY: So, now -- so, what is missing then if it does
10 suggest that?

11 MR. CARLSON: Well, first is a credible combination. So, I know
12 I'm getting ahead, but this, on --

13 JUDGE CHERRY: (CROSSTALK) --

14 MR. CARLSON: -- itself --

15 JUDGE CHERRY: -- (CROSSTALK) combination?

16 MR. CARLSON: Well, if we can jump ahead, DIN does not
17 provide any teachings for any application. So, a person of skill in the art,
18 looking for teaching as to which pressure to use, then we can agree that
19 LithoRec does not say which pressure to use. I think that's agreed between
20 the parties. So then, we question, well, okay, what pressure should I use?
21 And DIN provides absolutely no teaching. DIN has a list of -- it's a glossary
22 of different levels of vacuums, but there is nothing in DIN about what level
23 you'd use for any application. So, I know there's no teaching there.

24 Now, Perry -- let's move to Perry. Oh, by the way with DIN, I do
25 want to back up briefly on this slide. Petitioner mentioned the reference in

1 DIN to 300 hectopascals. But we've established that that referenced 300
2 hectopascals, that's the lowest pressure on the surface of the earth, meaning,
3 at the top of Mount Everest. So, that's a red herring. That is not a teaching
4 that a person would look to, to say, well, what should I used in a recycling
5 plant anywhere else on earth. So, that's unrebutted, that the 300 hectopascal
6 reference is reference to Mount Everest.

7 Next slide, please. Next slide, please. Now, as to Perry, that's the
8 other proffered company. Now, I want to cite -- before going into this, cite
9 their own slide. So, Slide 21 from the Petitioner says, quote, "The Petitioner
10 relies on Perry for overlapping pressure ranges, not for a particular dryer or
11 dryer type." And that's Slide 21. So, they're not relying on any particular
12 dryer or dryer type in Perry. Now, they had the burden to prove a
13 combination. They need to advance an actual combination that we can
14 address, and they've not done that.

15 Now, what they did advance is, is this vacuum shelf dryer at page
16 12-44, and the vacuum shelf dryer, "This is an indirect-heated batch dryer."
17 And that's in Exhibit 1016 at 12-44.

18 Next slide -- and let me go back to that slide. And again, there's
19 shelves and things to be dried are placed on the shelves.

20 Next slide, please. So, I asked Mr. Spies if he used shelf dryers for
21 battery recycling? He says, no, use a drum dryer not a shelf dryer. I said,
22 what's the difference? Well, in a drum dryer, you need some agitation, and
23 I'm quoting his Deposition at page 67, lines 1 through 11. It says, quote,
24 "We need some agitation because it needed some agitation to keep material
25 moving, and that's the disadvantage of a shelf dryer, where materials are just

1 laying on the shelf, laying on the shelf." So, I asked him, quote, "Well,
2 when you design a dryer for battery recycling, to dry shredded battery
3 material, do you look to teachings from vacuum shelf dryers?" His answer
4 was, quote, "Normally not. No, no." And that's the Deposition at page 67,
5 lines 1 through 11.

6 So, he's saying, you don't look. If you're trying to build a battery
7 recycling plant that would require a drum dryer, you don't look to the device
8 the Petitioner set forth in Perry. And again, to come back to their own slide,
9 Slide 21, they're not relying on Perry for a particular dryer or dryer type.

10 So, there's a burden here, and it's on the Petitioner. They need to
11 come forth with a credible combination. Now, apparently, they're not even
12 relying on the dryer or dryer type. And Mr. Spies says that that particular
13 dryer advanced, would not be relied on in the battery drying situation.

14 So, next slide, please, 103. And furthermore, LithoRec -- and here,
15 I will absolutely stand on the teaching way, teaches away from a batch
16 drying system. They ask in LithoRec at page 226. It says, quote, "There is
17 also the question of whether drying should also take place in a batch or
18 continuously." And then they say, after consideration, it says, "For this
19 reason, batch drying is not used."

20 JUDGE CHERRY: Yes, but importantly, they state the
21 manufacturer's drying systems could not be persuaded to submit an offer
22 under the given circumstances, right?

23 MR. CARLSON: Correct.

24 JUDGE CHERRY: So, isn't that-, isn't that the reason why they
25 didn't pick the batch drying?

1 MR. CARLSON: Well, I would say this is further proof that
2 there's no teaching of batch drying because they had nothing to base on it.

3 JUDGE CHERRY: But is the fact that they couldn't get somebody
4 to build them the equipment they needed, is that a teaching away?

5 MR. CARLSON: Well, it's not just that. But they say, in the next
6 sentence, it's assumed that the necessary steps we need: inerting, filling,
7 drying, emptying with this continuously operating dryer, require longer work
8 cycle and total limit pre-shredder. So, they considered plus and minuses,
9 and they said batch drying is not used.

10 JUDGE CHERRY: Yeah, but those are tradeoffs, right? I mean,
11 those are disadvantages, right? But does that discredit -- does that discredit
12 the use of batch drying?

13 MR. CARLSON: Modestly, yes.

14 JUDGE CHERRY: Modestly, okay.

15 MR. CARLSON: Next slide.

16 JUDGE CHERRY: But it doesn't say that it doesn't work, right?
17 (CROSSTALK) --

18 MR. CARLSON: Well, it doesn't say --

19 JUDGE CHERRY: -- (CROSSTALK) to it.

20 MR. CARLSON: Let me answer it this way, Your Honor, which
21 is, there are no teachings of how you would actually do it. There's a lot
22 more consideration -- if you're going to have a batch drying with starting and
23 stopping of these cumulative piles of stuff, either on the front of the shredder
24 or the back end of the shredder that need to be handled somehow, because
25 they're toxic as we all agree, and how to ramp up, ramp down, and manage

1 the hazards, none of that is disclosed.

2 So, besides -- I don't want to get too hung up on the word batch
3 versus continuous, I'd rather focus on the teachings, and the teachings are
4 uniformly with a continuous system. There are no teachings of how to
5 handle the batch operation, and it would be hard, as Mr. Spies himself
6 confirmed.

7 Next slide, please, 104. And so, fundamentally, you would not
8 combine Perry, a batch system, with the continuous process of LithoRec.
9 And I'm citing the Dantam declaration at paragraph 127, Exhibit 2025.

10 105, please. 106, please. As to the Claims 2 and 7, I want to
11 reinforce this, that these are claims that recite particular metrics of drying,
12 and I think would address the Court's concerns about inactivation or the
13 meaning of that. Here, we have particular metrics of drying. And that's
14 Claim 2, in Claim 7, and also Claim 13.

15 Next slide, please, 107. And there is no evidence that these
16 metrics have been met. And I cite LithoRec at page 226 and 299. The
17 proffered evidence from Petitioner is just insufficient to meet these stated
18 metrics, very specific metrics of drying.

19 Next slide, please, 108. As to the phrase, optimization, this has
20 been bandied about by Petitioner, it doesn't apply. Optimization pertains
21 -- this doctrine applies when, quote, "The general conditions of a claim are
22 disclosed in the prior art." And that's the E.I. DuPont case at 904 F.3d at
23 pincite 1006. But as Mr. Spies testified, he was not aware of any prior art
24 that recognized you could inactivate shredded battery material by vacuum
25 drying alone. And that's the Spies Depo at page 95, line 19 through 96, line

1 3.

2 So, this doctrine of optimization simply doesn't apply. We made a
3 fundamental, pivot away from what the prior art had done, in terms of all
4 these additives used, and we were not optimizing anything. Duesenfeld was
5 fundamentally breaking new ground.

6 Next slide, please, 109.

7 Next slide, please, 110.

8 Briefly, as to Claim 9 -- next slide, please. I want to move to Slide
9 112. Claim 9 has the 80-degree limitation. The evidence comes from
10 Hanisch to meet this limitation. That's 1020 in various points of Hanisch.

11 Move to 1013 (sic), please. With its fundamental failure of proof
12 by Petitioner to disclose the combination, Petitioner never once provided
13 evidence of motivation to combine Hanisch with other references. Petitioner
14 doesn't cite to an expert declaration at all in Ground 2. Petitioner never
15 asserts or establishes evidence that the 80 degree pre-dryer of Hanisch
16 inactivates any battery material. And I'm citing Paper 1 of the petition at
17 pages 35 to 38. And Mr. Dantam confirms the pre-dryer does not inactivate.
18 I'm citing his Declaration at paragraphs 146 through 146.1.

19 Next slide, 114. Secondary considerations, I'll be quite brief.
20 There was a long felt but unmet need. For a long time, the industry
21 recognized the need to dry, but added these additives: flame retardants,
22 deactivated powders, et cetera. They were all adding things to the mix. It
23 was only '097 that broke away from this, and pivoted, and had this
24 fundamentally different approach to mitigating the hazards by avoiding their
25 creation altogether. And I'm citing our paper -- the doctrine declaration of

1 paragraphs 172 and 174.

2 Next slide, please. Now, as for unexpected results.

3 JUDGE CHERRY: Why do you think there was a long felt need?
4 Didn't you tell us that these batteries weren't available? It was hard to get
5 them.

6 MR. CARLSON: Lithium batteries have been available for quite
7 some time. Car batteries -- and to harvest in quantity, the batteries for -- to
8 bring to a site, those were in limited quantities, but the goal to recycle
9 lithium batteries, that had been out there a long time, and the prior art we
10 cite confirms that.

11 Next slide, please, 116.

12 JUDGE KAISER: Was there a long felt need then to render
13 batteries safe for transport?

14 MR. CARLSON: Certainly, Your Honor.

15 JUDGE KAISER: (CROSSTALK) --

16 MR. CARLSON: (CROSSTALK) --

17 JUDGE KAISER: If there weren't commercial quantities available
18 of these batteries, and the batteries didn't need to be brought to a site?

19 MR. CARLSON: I think that there were commercial quantities of
20 these batteries, and the prior art goes back 20 years, or 30 years, and we
21 cited that prior art. It's the question really became hot in the 2010s when EV
22 batteries were coming out -- EV cars were coming out, and the need to
23 recycle those Tesla batteries, for example, that was really provoked in the
24 2010s. But the need to recycle batteries had been well known in the art for
25 decades prior.

1 JUDGE KAISER: Okay.

2 MR. CARLSON: Now, as for unexpected results, the Court asked
3 the parties to point to unexpected results in the record, and indeed there are.
4 I mentioned it before, I'll mention it again, that LithoRec budgeted money
5 for alkaline materials, for scrubbers to neutralize the hydro fluoride, and
6 that's LithoRec at page 190, Exhibit 1016. But the invention of Duesenfeld
7 avoided that need for that expenditure by drying in a way that produced
8 almost not hydrogen fluoride, and that's the patent at column 5, lines 7
9 through 8 and column 3, lines 12 through 13.

10 Next slide, please. And -- next slide, please, 118. As for
11 commercial success, Duesenfeld has been commercially successful. We put
12 in evidence, under seal -- I won't get into the details of that, but it established
13 a profit in multiple years by Duesenfeld in their very limited role of running
14 a recycling plant. Their primary business is not running a recycling plant.
15 They're not out for market share. They're not trying to be the biggest
16 recycler. They have a pilot plant to do research. But even with that modest
17 footprint in a modest plant to do pilot research, they ran a profit for multiple
18 years, and we put that evidence in under seal.

19 And, furthermore, they've licensed this technology, and Seval and
20 Riplastic, for example, in Europe, announced -- and this was in June 2024,
21 they announced that for almost -- following the end of almost two years of
22 joint work, that Seval and Riplastic entered this agreement. And this is, by
23 the way, in June 2024, referring to something -- they started as work almost
24 two years prior, well-before the litigation was filed against Sand
25 (PHONETIC), which was in October 2023. So, there was no credible

1 suggestion that this license from Seval was done under threat of litigation.
2 This is done well before the litigation was filed.

3 And this press release -- and I'm citing the Grote Declaration at
4 paragraphs 10 through 11 and Exhibits 2051 and 2052, confirms that the
5 license is for the value of the invention to avoid hydrogen fluoride release
6 and produce a black mass with an excellent level of purity being carried out
7 at low temperatures and complete safety.

8 So, these are the values of the invention that Seval and Riplastic
9 recognized and entered in the license agreement for. And, likewise with
10 ANDRITZ, there's been a partnership there, and I cite 2052, another party --

11 JUDGE PETRAVICK: (CROSSTALK) at the beginning you told
12 us that the invention was that it was only used as drying for the inactivation.
13 Are those benefits the result of only using drying for inactivation?

14 MR. CARLSON: By doing it under conditions, such as a low
15 temperature, you can avoid the production of hydrogen fluoride. The LipF6,
16 lithium hexafluorophosphate, is unstable and at higher temperatures will be
17 --

18 JUDGE PETRAVICK: Can it do inactivation some other way, by
19 adding a chemical or something, that it is not the result of that? So, I'm
20 asking about only drying.

21 MR. CARLSON: I --

22 JUDGE PETRAVICK: At the very beginning of your
23 presentation, you told us that the invention was inactivating material by only
24 using drying -- only using drying, right? And I'm asking, are those benefits
25 linked to the fact that your invention only uses drying for inactivation?

1 MR. CARLSON: Well, the benefits are, you didn't need to add
2 other stuff.

3 JUDGE PETRAVICK: Okay. So, my next question is, did your
4 claim require only --

5 MR. CARLSON: No.

6 JUDGE PETRAVICK: -- drying?

7 MR. CARLSON: I mean, if someone else were doing vacuum
8 drying and added pixie dust, I don't think that would get them out of the
9 (CROSSTALK) --

10 JUDGE PETRAVICK: Or something what would -- another
11 chemical that would make the other chemical be inert?

12 MR. CARLSON: I don't think they would avoid the claims if they
13 added something else, if they were vacuum drying under the parameters of
14 the patent.

15 JUDGE PETRAVICK: Okay. So, the claim is a little bit broader
16 than what you said at the beginning, that the invention was only using drying
17 (CROSSTALK) --

18 MR. CARLSON: Well, I may have -- if it came across that I could
19 characterize this as only vacuum drying, to the exclusion of anything else, I
20 want to correct that. That's not what I intended to say. What Duesenfeld
21 recognized is, that if you vacuum dried at the reduced pressure, you didn't
22 need to add anything else. You could avoid the use of the additives.

23 JUDGE PETRAVICK: So, the invention -- your evidence of
24 secondary considerations, relates to a process that only uses drying?

25 MR. CARLSON: Correct.

1 JUDGE PETRAVICK: But the claim art doesn't preclude other
2 things --

3 MR. CARLSON: Correct.

4 JUDGE PETRAVICK: -- to help drying?

5 JUDGE CHERRY: And under 80 -- at a maximum temperature of
6 80, right?

7 MR. CARLSON: Well --

8 JUDGE CHERRY: It's all part of that?

9 MR. CARLSON: -- Claim 9.

10 JUDGE CHERRY: Okay. So, for the broadest claims, for Claim
11 1, there's no temperature requirement, right?

12 MR. CARLSON: Correct.

13 JUDGE CHERRY: So, that wouldn't be commensurate with the
14 scope of -- that wouldn't be coextensive with what you're saying is the
15 benefit (CROSSTALK) --

16 MR. CARLSON: I think that's fair, Your Honor. If it was in a
17 very high temperature, you may form a lot of HO.

18 JUDGE CHERRY: Okay, thank you.

19 MR. CARLSON: Next slide, please. As for nexus, Duesenfeld
20 runs a pilot plant and every battery recycled in that plant is recycled under
21 the parameters of the '097 Patent.

22 While a lot of this is confidential, but we point to the Grote
23 Declaration, Exhibit 2040 at paragraph 6 through 8 and the accompanying
24 Declaration of Mr. Dantam at paragraph 176, that's Exhibit 1025. Every
25 battery recycled by Duesenfeld is recycled according to the process of the

1 '097 Patent. Yes, there was a deactivating step as a preliminary step. You
2 have to discharge the batteries before you recycle them, but companies are
3 paying Duesenfeld to recycle the batteries. So, after that discharge step,
4 everything done, to justify the money that Duesenfeld is earning, is done
5 under the claims of the '097 Patent, and that meets the nexus requirement.
6 And we don't operate under every parameter within the range, but the law
7 doesn't require that.

8 Next, Slide 120. At this point, I'd like to pass the presentation to
9 my colleague, Mr. Smith.

10 JUDGE PETRAVICK: I am sorry, I missed your 15-minute
11 warning. You only have ten minutes left of your total presentation.

12 MR. CARLSON: I understand.

13 MR. SMITH: Thank you, Your Honors. Matt Smith for the Patent
14 Owner, Duesenfeld, just a few quick points on the motion to amend. I'd like
15 to start off on the subject of batch drying, and Mr. Kauffman's statement that
16 'it's nothing special' in some of the colloquy we had earlier about In Re
17 Mouttet and In Re Fulton. Is batch drying just sort of an option that is
18 maybe not as good in the prior art but was known. And let me try to explain
19 to you why batch drying is actually special. All of the proposed motion to
20 amend claims are now limited to batch drying.

21 Could you pull up Slide 121, please? This is the statement from
22 LithoRec. And when you do batch drying, as LithoRec is saying here, in the
23 highlighted material, you're taking on the work cycle of changing the
24 batches. So, you have to empty, you have to inert, you have to refill, you
25 have to reseal, bring it up to temperature if using modified pressure, bring it

1 back down to that. All of that makes it slower, okay? So, you take on a sort
2 of through-put penalty when you do that, and that's what LithoRec saying
3 here.

4 But it raises a good question. And that is, why does the '097 Patent
5 use batch drying, if that's the case, right? If what LithoRec is saying is true,
6 then why would anybody use batch drying? Well, how do we go from this
7 statement in LithoRec in 2012, to the application of the '097 Patent where
8 they're using batch drying and where it's a preferred embodiment? And
9 here, in 2025, we were offering to limit the claims to batch drying. And you
10 can get there, there's a logical chain of reasoning, but there's a couple of
11 steps.

12 The first thing is, batch drying is much better at handling low
13 pressures. And that's simply because when you're moving material in with
14 the size of chunks of large batteries, it's very hard to exclude the air
15 molecules at the same time. So, with continuous systems, you can go down
16 a little bit in pressure but not very far, right? So, batch drying is going to get
17 you to low pressures. Well, why do you want to do that? Aren't you still
18 taking on a through-put penalty? And that's where the knowledge of the
19 '097 Patent comes in.

20 The two things that Mr. Carlson talked about it's the first patent to
21 tell you, you can inactivate with low pressure and low temperature drying,
22 and if you do it under the right conditions, you can do it without producing
23 hydrogen fluoride. I don't think there's any prior art that actually says that in
24 this case. And those two things are very commercially valuable. And
25 suddenly, the through-put penalty that you're taking on, that LithoRec is

1 telling you about, is worth it, once you know what the '097 Patent teaches,
2 and that's why batch drying is worthwhile. But we didn't know that in 2012.
3 The authors of LithoRec didn't know that in 2012. That's why they say
4 batch drying is not used flatly. They don't say batch drying is an alternative
5 embodiment. They don't say, every time we say continuous, you could
6 actually use batch. They don't say it's desirable in certain circumstances.
7 They just say batch drying is not used. And that's why this case is a little bit
8 different than the cases that the Petitioner is --

9 JUDGE KAISER: So --

10 MR. SMITH: Yes, Your Honor.

11 JUDGE CHERRY: -- that's a little disingenuous, right? They also
12 couldn't get anybody to build them the equipment that they needed, so
13 there's that, right?

14 MR. SMITH: I mean, don't we have extensive Petitioner
15 arguments, based on Perry, based on Uchida, based on Mitsubishi. with the
16 thrust that these batch dryers are just well known in the prior art and
17 everybody's using them?

18 JUDGE CHERRY: Well, they could be well known, but I couldn't
19 get one that I needed for the specific specifications that I needed for my
20 plant, right?

21 MR. SMITH: Okay. So, I think you're actually driving towards an
22 important point, Judge Cherry, here. First of all, we have LithoRec just sort
23 of flatly saying batch drying is not used, and they're providing an
24 explanation for it, so that's one thing, right? The second thing is, what
25 would you actually do? And this is what Mr. Carlson was talking about in

1 terms of the combination, okay? And I actually think is the problem, that
2 they can't escape from the bodily incorporation argument. This is a very
3 complex system. You have to pick a batch dryer from somewhere. You
4 have to make it work in LithoRec. The bodily incorporation case law allows
5 you to, say, not take the entire details of Uchida and Mitsubishi and move it
6 into LithoRec, but I think you still have to say what you're doing in
7 LithoRec and how you're modifying it.

8 And if the Petitioner's argument here is that a person of ordinary
9 skill, once they hear the phrase, 'batch drying is not used', would know about
10 batch drying, and would just simply be able to implement all of this stuff.
11 They didn't actually make that argument in the papers, nor is there any
12 argument anywhere in their papers that there would have been a reasonable
13 expectation of success in doing this. And I think that's a real problem for the
14 Petitioner in an art that is this complex, where they have the burden of proof,
15 and where reasonable expectation of success is a fundamental element of
16 proving obviousness in this case. Nor do I think it is the type of case where,
17 you as the Board, should feel comfortable sort of substituting facts on
18 reasonable expectation of success. I think that's a problem for them.

19 Did I address your question, Judge Cherry?

20 JUDGE CHERRY: I think so.

21 MR. SMITH: Okay. The last thing I want to touch on quickly is
22 the routine optimization and overlapping ranges. First of all, I think they're
23 interpreting the case law incorrectly. Here, we have significant differences
24 between the proposed amended claim language and the prior art, in addition
25 to the ranges that they want to optimize. So, for example, Uchida and

1 Mitsubishi are both trying to dry non-comminuted material, and they're
2 doing interesting things on the back end of the drying that wouldn't be
3 appropriate in LithoRec, whereas, LithoRec is not using a batch dryer. And
4 in fact, as we've established earlier, is talking about the through-put penalty
5 you would take if you did use a batch dryer. And so, they're not starting
6 from the right platform for that presumption to apply. But even if they were,
7 it's an incredibly complex process based on an incredibly thin argument.

8 You're attempting to optimize multiple independent variables over
9 multiple possible results that could be optimizable. For example, if you
10 were trying to optimize for through-put, and you looked at LithoRec, you
11 would probably choose a high temperature, then you would choose the
12 continuous vibratory fluidized bed dryer that doesn't operate under vacuum,
13 which LithoRec already has, because that's what LithoRec tells you will get
14 you -- effectively with this statement, with a maximum through-put.

15 So, you have these variables working at cross purposes with each
16 other and potentially affecting different results in different ways. Petitioner
17 doesn't explain any of that. Petitioner's expert just says, in the declaration at
18 paragraph 22 and paragraph 38, these are result-effective or outcome-
19 effective variables. And as Mr. Carlson showed, he didn't even know what
20 those terms meant in deposition. So, it's an incredibly thin case to make that
21 sort of complex optimization judgment, and it's certainly not enough, I
22 would say, to overturn the (INDISCERNIBLE) work in issuing the '097
23 Patent, or at least in the way that wouldn't be correctable with a motion to
24 amend.

25 Thanks. I reserve the rest of the time.

1 MR. KAUFFMAN: May it please the Court? I'd like to --

2 JUDGE PETRAVICK: Excuse me one minute, please. I believe
3 you had quite a bit of time left. All right. Please go ahead.

4 MR. KAUFFMAN: May it please the Court, I'd like to start the
5 rebuttal. So, Patent Owner's representatives went through a host of alleged
6 advantages and features; however, I'm not really clear as to what exactly is
7 new about the claimed invention. None of what they were talking about is
8 commensurate in the scope of the claims. Again, the claims are drying
9 comminuted material under vacuum or under a certain pressure. The drying
10 components are well known. Their advantages were not claimed, and the
11 advantages are not discussed in the prior art -- I mean, they are discussed in
12 the prior art. There's nothing in the claims describing any special drying
13 structure or any kind of special drying function.

14 Looking at the LithoRec reference, Petitioner's representatives
15 talked a lot about specific equipment -- LithoRec being restricted to specific
16 equipment. I'd like to mention that the Figure G-1, it's a generic flowsheet.
17 Now, Petitioner's expert, in his declaration, Exhibit 1030, paragraphs 24
18 through 30, talked about what is actually shown in this sheet. It's a generic
19 flowsheet. It does not include specific equipment that is associated with
20 specific dryers. And so, it just has a box for the dryer. And so, that's why
21 whether -- it's available for both vacuum and atmospheric dryers.

22 Now, going to the claim construction, again, it should be the
23 lexographic definition discussed earlier. It should be the construction or
24 inactivation. Regardless, if you look at Figure G-1, there is nitrogen gas
25 loop that terminates at the dryer, and everything downstream of the dryer

1 does not include that loop. The nitrogen -- the nitrogen gas is there as a
2 means to keep the volatile material from combusting. It doesn't exist
3 downstream, which means that material has been rendered safe for transport.
4 So, even with Patent Owner's construction, LithoRec still teaches the
5 inactivation.

6 JUDGE CHERRY: I did have some questions about -- for the
7 anticipation ground. So, I mean, that's for -- that's a claim for a battery
8 processing installation. So there, you have to show that this -- it's as
9 arranged in the claim. If we go under that standard set forth in Net Moneyin
10 and related cases, where does LithoRec show a vacuum installation
11 connected to the dryer device and configured to generate a vacuum in the
12 drying device?

13 MR. KAUFFMAN: So, going back to Claim 12, Claim 12 is very
14 broad and doesn't provide any special structure for the vacuum installation.
15 Vacuum installations are required to generate a vacuum in a dryer. So, the
16 vacuum dryers that are disclosed on page 26 of LithoRec, inherently have to
17 have a vacuum installation to generate that vacuum. To the extent that you
18 would need some physical drawing of the dryer, the box that's labeled dryer
19 on Figure G-1 would include all of the components that would be associated
20 with the vacuum dryer, including the vacuum installation.

21 JUDGE CHERRY: But where does LithoRec show that -- I mean,
22 it seems to suggest that you could do this under a vacuum, but where does it
23 -- where does it disclose that?

24 MR. KAUFFMAN: It just -- explicitly, it doesn't disclose it, it's
25 assumed that it would have it because of the vacuum drying. It's a necessity

1 to have vacuum drying.

2 JUDGE CHERRY: But where does -- okay. But again, this is for
3 the anticipation ground. Where would that -- where would that -- where
4 does it say that that's part of --

5 MR. KAUFFMAN: Again, our position is that it would be in the
6 box labeled dryer, for whatever dry -- because the box labeled dryer is a
7 generic box, and it's not specific to any particular type of dryer. For
8 example, the fluidized vibratory bed dryer requires an inlet and an outlet fan.
9 It doesn't show it on this diagram. It doesn't show the particular components
10 that are associated with the dryers, it just assumed that they are inherently
11 used with the dryers.

12 JUDGE CHERRY: I think Mr. Carlson said that everybody agrees
13 that fluidized bed dryers don't operate under a vacuum. Do you disagree
14 with that, and what evidence do you have to show that that's the case?

15 MR. KAUFFMAN: I mean, on page 226, it literally says, drying
16 under a vacuum mode. That's --

17 JUDGE CHERRY: But do you --

18 MR. KAUFFMAN: -- I believe that's sufficient to show that.

19 JUDGE CHERRY: -- agree or disagree about his statement
20 regarding fluidized bed dryers?

21 MR. KAUFFMAN: I'm sorry, can you repeat the statement?

22 JUDGE CHERRY: Well, he said -- and I'm -- Mr. Carlson,
23 forgive me if I'm -- I'm kind of paraphrasing what he said. But my
24 understanding of what he said was that we all agree that fluidized bed dryers
25 do not operate under a vacuum.

1 MR. KAUFFMAN: Well, to the extent LithoRec is not limited to
2 that type of dryer.

3 JUDGE CHERRY: Okay. But you agree that it does discuss using
4 that kind of dryer?

5 MR. KAUFFMAN: It discusses using all kinds of dryers.

6 JUDGE CHERRY: Okay. But this specific embodiment, this
7 specific dryer that's discussed is a fluidized bed dryer?

8 MR. KAUFFMAN: That is an example of (CROSSTALK) --

9 JUDGE CHERRY: (CROSSTALK) --

10 MR. KAUFFMAN: It was an example that they went further into,
11 but.

12 JUDGE CHERRY: Okay, so -- but do they give any example of
13 -- and you agree that that's not under a vacuum?

14 MR. KAUFFMAN: Probably not.

15 JUDGE CHERRY: Okay. So, are there any examples of dryers
16 that operate under a vacuum?

17 MR. KAUFFMAN: I mean, to be honest, the scope of the claims
18 is just a dryer.

19 JUDGE CHERRY: Yes (CROSSTALK) --

20 MR. KAUFFMAN: And so, LithoRec teaches a dryer.

21 JUDGE CHERRY: Yes. Yes, I agree with that --

22 MR. KAUFFMAN: And it's old --

23 JUDGE CHERRY: Right. It also says a vacuum installation is
24 part of the -- is a limitation, right?

25 MR. KAUFFMAN: Correct.

1 JUDGE CHERRY: And to anticipate the reference in its four
2 corners, has to disclose all of the limitations, correct?

3 MR. KAUFFMAN: Correct.

4 JUDGE CHERRY: And so, where does it disclose a vacuum
5 installation?

6 MR. KAUFFMAN: Again, it's inherent.

7 JUDGE CHERRY: You're saying, it's inherent?

8 MR. KAUFFMAN: In the operation of vacuum drying, it's
9 inherent. You cannot have vacuum drying --

10 JUDGE CHERRY: Okay.

11 MR. KAUFFMAN: -- without a vacuum installation. And there's
12 no specific structure that is claimed for this vacuum installation.

13 JUDGE CHERRY: But you agree that, at least in the embodiment
14 that's disclosed, it doesn't appear to be operating under a vacuum?

15 MR. KAUFFMAN: Like I said, the G-1 -- Figure G-1 is generic.
16 It doesn't go either way. If they were to put the fluidized bed dryer in there,
17 probably not, but it's not necessarily in there.

18 JUDGE CHERRY: Okay. I understand that. And that would be a
19 good argument if you had raised the 103 Ground, but we have a 102 Ground,
20 right? So, we have to have all the limitations disclosed in the reference,
21 right?

22 MR. KAUFFMAN: Correct. But the fact that they have identified
23 different dryers, and they've identified this particular circuit that works with
24 more than one dryer -- more than one dryer type.

25 JUDGE CHERRY: Yes, I agree with that.

1 MR. KAUFFMAN: And so, even though that they disclosed more
2 detail with that one dryer, the other dryers are also considered to be part
3 -- this would be, like, one example of a circuit. There'd be other examples of
4 a circuit (CROSSTALK) --

5 JUDGE CHERRY: I mean that, to me, sounds kind of like a
6 Kennametal argument. Like Kennametal once envisaged this embodiment.
7 Is that what your argument is?

8 MR. KAUFFMAN: No.

9 JUDGE CHERRY: No, you're not making a Kennametal
10 argument, okay. So, your argument is that it's necessarily present. Is that
11 what --

12 MR. KAUFFMAN: Correct.

13 JUDGE CHERRY: -- is that your argument?

14 MR. KAUFFMAN: Yes.

15 JUDGE CHERRY: Okay, so. I mean, I guess, like, the -- I guess
16 we're kind of running into the case law that talks about this is just kind of a
17 -- seems to be just a suggestion in this reference, right? It doesn't really
18 disclose any embodiment with this.

19 MR. KAUFFMAN: I mean, like I said, vacuum dryers have been
20 well known for a long time. They said -- actually, I think this talks about
21 preferred. I think the language might have been referred or recommended.

22 JUDGE PETRAVICK: Counsel? If I have a step of drying under
23 a vacuum. Is there any way to get a vacuum in your dryer without a, quote,
24 'dryer installation' --

25 MR. KAUFFMAN: No.

1 JUDGE PETRAVICK: -- or a 'vacuum installation'?

2 MR. KAUFFMAN: No, there is no way.

3 JUDGE PETRAVICK: And vacuum installation is almost a
4 functional limitation, anything that creates a vacuum?

5 MR. KAUFFMAN: Correct. And that's how it's used in this
6 particular reference. Any more questions? I'll continue.

7 Okay. Moving on to Patent Owner's arguments about non-
8 enablement, contrary to what they said, we did actually respond to their
9 arguments, and we responded to the cases that they were relying on. To be
10 honest, it's not even clear what they're asserting is not enabled. Dryers are
11 kept at temperature and pressure, that's known. The purpose of
12 combustibility, that's known. Using batch and continuous dryers, that's
13 known. The risk of hydrogen fluoride, that's known. In fact, I think the
14 Exhibit 1034, page 9, which is their slide, talks about the dangers of
15 hydrogen fluoride. The EMC and DMC electrolytes were known, and
16 lithium-ion batteries were known, so.

17 And to be honest, I saw the Wands Factors on their slides. I
18 noticed that the first Factor was omitted. The first Factor is breadth of
19 claims. So, how do you determine what's enabled if you don't even know
20 what the scope of the claims are? And in this case, the scope of the claims is
21 a dryer drying comminuted battery material at a pressure range or under
22 vacuum. And the nature of the invention is old and well-known
23 components: dryers, comminuting devices, and they're used in the same
24 way for the same purposes that have already been known.

25 In looking at the state of the prior art, LithoRec stems from the

1 same research project that the '097 Patent came from. And the prior art
2 shows dryers and shredders well known. For a level of ordinary skill, there's
3 nothing unusual in the combination or operation in the claim, simply drying
4 battery material. A person with a bachelor's degree and a couple years'
5 experience would have known how to achieve that particular combination,
6 especially since temperature and pressure are simply all in Boyle's law.

7 And looking at the level of predictability, again, well-known used
8 devices used in a standard way for a standard result. And with respect to the
9 amount of direction, LithoRec teaches all the components and an
10 overlapping range for the pressure. Again, all the well-known used in the
11 standard way for the standard purposes. And there's the existence of a
12 working example as well. Again, all the well-known used in standard way
13 for standard purpose, prior art is full of working examples, especially in
14 dryers working at claimed ranges that are either within or overlapping.

15 And finally, the quantitative experimentation. Again, old and well-
16 known used devices in standard ways, pressure and temperature ranges are
17 guided by the principles of Boyle's law.

18 And then also, Patent Owner attacks the credibility of Mr. Spies.
19 But the main problem with him attacking Mr. Spies is that, they also have to
20 discredit their own expert. For the most part, he's just agreeing with their
21 expert. For example, page 38, line 14 through page 39, line 1 of Dantam's
22 Deposition, Exhibit 1039, it was known that electrolytes of the '097 Patent
23 were combustible. Page 21, line 14 through page 23, line 1, tradeoffs
24 between batch and continuous dryers were known. Page 21, line 24 through
25 page 22, line 4, the advantages of continuous dryers were known for at least

1 40 years. Page 35, line 13 through 17, shredded batteries were known
2 before 2015. Page 56, lines 10 through 16, one of ordinary skill would want
3 to lower the pressure to lower temperature to reduce the boiling point and
4 combustion. Page 66, line 17 through 20, the '097 Patent does not describe
5 structure or operation of a vacuum installation. Page 69, line 14 through
6 page 70, line 2, the claimed range falls under rough vacuum. And then,
7 finally, the attacks on particular dryers amounts to a bodily incorporation
8 argument, which is not the standard for obviousness or enablement.

9 Any questions? Thank you.

10 MR. CARLSON: Thank you, Your Honor. So, as to the presence
11 of a vacuum installation, Petitioner is now falling back on the inherency law,
12 which we put in our slides, the Nidec case, in particular, I believe, and that
13 requires a necessary presence of this feature. But as LithoRec itself shows,
14 it's not necessary. You can have a system in LithoRec that does not have a
15 vacuum dryer. And so, the suggestion --

16 JUDGE PETRAVICK: Sorry. But the question was, if I have
17 something based on what LithoRec says is drying under a vacuum, the fact
18 that it says, drying under a vacuum, that sentence alone suggests that there
19 could be a dryer -- you would need a dryer installation to create the vacuum
20 in the drying, based on that, as opposed to anything that LithoRec says?

21 MR. CARLSON: And, Your Honor, I would fall back on the
22 Kennametal case.

23 JUDGE PETRAVICK: Is there any other way to make a vacuum
24 in a dryer, other than having, quote, "a dryer installation?"

25 MR. CARLSON: No, Your Honor.

1 JUDGE PETRAVICK: So, you would need something to create
2 the vacuum?

3 MR. CARLSON: You would need something to create the
4 vacuum. But the standard requires that the -- in the Kennametal case and the
5 Nidec case, you can't -- under the anticipation standard, you have to be able
6 to point to it, and it's not there. It's not enough for the Board to be able to
7 envision a vacuum installation. It actually has to be there in the teaching.

8 JUDGE PETRAVICK: I think Kennametal and Nidec is a slightly
9 different situation than what we've got here in LithoRec, where it says, flat
10 out, that you have to dry under a vacuum. You don't have to sit there and
11 look at a drawing and envision it. It says, flat out, that I have to dry it under
12 a vacuum, which necessarily requires a dryer installation.

13 MR. CARLSON: Well, it also must be arranged -- disclosed as
14 arranged in the claim.

15 JUDGE PETRAVICK: I understand that. But I also think that
16 your claim is pretty broad it is a dryer installation -- I'm sorry, vacuum
17 installation.

18 MR. CARLSON: Well, there's got to be a disclosure that you can
19 actually point to, and there is no disclosure of a vacuum installation. There
20 is a lot of disclosure about non-vacuum installations, and precisely zero
21 about an actual vacuum installation. And under the anticipation standard,
22 which they have to meet, I submit that they've not met it, under Nidec and
23 Kennametal.

24 JUDGE PETRAVICK: I understand your position.

25 MR. CARLSON: Thank you. They say that they -- in reference,

1 they say there's disclosure in LithoRec, the material exiting is safe for
2 transport. Well, they've not pointed to any evidence on that. There is no
3 evidence on that point. And as for enablement, they've -- you know, I'm
4 done. Would the Court entertain further comments?

5 JUDGE PETRAVICK: Oh, you're done. Your time is done. I
6 think you can have a minute or two to wrap up.

7 MR. CARLSON: I actually invite any questions that the Board
8 may have.

9 JUDGE PETRAVICK: I don't have any further questions.

10 MR. CARLSON: All right. Thank you, Your Honor.

11 JUDGE KAISER: All right. Thank you to all the counsel who
12 have argued today. I think this has been very, very helpful, and you both
13 served your clients extremely well. We will take the case under
14 consideration and issue a decision in due course. Thank you very much.

15 (Whereupon, the above-entitled matter went off the record at 3:17
16 p.m.)

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