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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ARKEMA FRANCE, Petitioner,

v.

HONEYWELL INTERNATIONAL INC., Patent Owner.

> Case IPR2015-00916 Patent 8,710,282 B2

Before JO-ANNE M. KOKOSKI, JON B. TORNQUIST, and ROBERT A. POLLOCK, *Administrative Patent Judges*.

KOKOSKI, Administrative Patent Judge.

DECISION Institution of *Inter Partes* Review 37 C.F.R. § 42.108

I. INTRODUCTION

Arkema France ("Petitioner") filed a Petition ("Pet.") to institute an *inter partes* review of claims 1–20 of U.S. Patent No. 8,710,282 B2 ("the '282 patent," Ex. 1001). Paper 2. Honeywell International, Inc. ("Patent Owner") filed a Preliminary Response ("Prelim. Resp."). Paper 14. We have jurisdiction under 35 U.S.C. § 314.

Upon consideration of the Petition, Preliminary Response, and the evidence of record, we determine that Petitioner has established a reasonable likelihood of prevailing with respect to the unpatentability of claims 1–20 of the '282 patent. Accordingly, we institute an *inter partes* review of those claims.

A. Related Proceedings

Petitioner indicates that the '282 patent is the subject of IPR2015-00915 and IPR2015-00917, also filed by Petitioner. Pet. 1, 2.

B. The '282 Patent (Ex. 1001)

The '282 patent, titled "Integrated Process for the Manufacture of Fluorinated Olefins," is directed to methods of dehydrohalogenating a fluorinated alkane in the presence of a dehydrohalogenation agent ("DHA") to produce a fluorinated olefin. Ex. 1001, 2:52–56. According to the '282 patent, the claimed methods increase cost efficiency of the dehydrohalogenation production of fluorinated olefins by recovering and recycling the spent DHA. *Id.* at 2:49–52.

The methods described in the '282 patent include: (1) hydrogenating a first haloolefin to produce a haloalkane; (2) optionally separating the haloalkane into intermediate product streams, consisting of a first stream rich in at least a first alkane, a second stream rich in a second alkane, and an

alkane recycle stream; (3) dehydrohalogenating the haloalkane in step (1) or (2) in the presence of a DHA to produce a second haloolefin; (4) withdrawing a reaction stream comprising spent DHA; and (5) recovering, purifying, and/or regenerating spent DHA. *Id.* at 3:4–17. The Specification includes embodiments where the first haloalkene is hexafluoropropylene (HFP), the intermediate haloalkanes are 1,1,1,2,3,3-hexafluoropropane (HFC-236ea) and/or 1,1,1,2,3-pentafluoropropane (HFC-245eb), and the second haloolefin is 2,3,3,3-tetrafluoropropene (HFO-1234yf) and/or 1, 2, 3,3,3-pentafluoropropene (HFO-1225ye). *Id.* at 3:17–4:12.

The Specification states that the dehydrohalogenation step "can be carried out in a liquid phase in the presence of a [DHA]," and describes an embodiment where "the converting step involves a reaction in which HFC-245eb and/or HFC-236ea is contacted with a [DHA] such as KOH, NaOH, Ca(OH)₂, LiOH, Mg(OH)₂, CaO, and combinations thereof to form the fluorinated olefin." Id. at 12:12–21. The Specification also states that spent DHA and by-product salts "may be withdrawn from the reactor by a product stream either continuously or intermittently using one or more known separation techniques," and, "[i]n certain embodiments, withdrawal of spent [DHA] is especially beneficial for component separation as it allows for facile separation of organic and [DHA]." Id. at 13:16-18, 3:22-26. For example, the Specification describes "stopping the stirrer and then removing spent [DHA] during the time agitation is stopped" and taking that product stream that "typically carries with it some dissolved organic (e.g. HFC-236ea and/or HFC-245eb)" to "a container where additional separation of the [DHA] and organic can be accomplished using one or more" known separation techniques. Id. at 13:29–38.

C. Illustrative Claim

Petitioner challenges claims 1–20 of the '282 patent. Claims 1 and 10 are independent. Claim 1 is illustrative, and recites as follows:

1. A method for producing at least one fluorinated olefin comprising:

a. hydrogenating a starting material stream comprising at least one alkene according to Formula (I):

$$(\mathbf{CX}_{n}\mathbf{Y}_{3-n})(\mathbf{CR}_{a}^{1}\mathbf{R}_{b}^{2})_{z}\mathbf{CX}=\mathbf{CH}_{m}\mathbf{X}_{2-m}$$
(I)

by contacting said starting material with a reducing agent to product an intermediate product stream comprising at least one alkane according to Formula (II):

$$(\mathbf{CX}_{n}\mathbf{Y}_{3-n})(\mathbf{CR}_{a}^{1}\mathbf{R}_{b}^{2})_{z}\mathbf{CHXCH}_{m+1}\mathbf{X}_{2-m}$$
(II)

where:

each X is independently Cl, F, I or Br, provided that at least two Xs are F;

each Y is independently H, Cl, F, I or Br;

each R¹ is independently H, Cl, F, I, Br or unsubstituted or halogen substituted methyl or ethyl radical;

each R₂ [*sic*] is independently H, Cl, F, I, Br or unsubstituted or halogen substituted methyl or ethyl radical;

n is 1, 2 or 3;

a and b are each 0, 1 or 2, provided that a+b=2;

m is 0, 1 or 2; and

z is 0, 1, 2 or 3;

b. optionally, separating said intermediate product stream into a plurality of intermediate product streams, said plurality of intermediate product streams comprising two or more streams selected from the group consisting of a first stream rich in at least a first alkane according to Formula II, a seconds stream rich in at a second alkane according to Formula II, and an alkane recycle stream;

- c. dehydrofluorinating, in the presence of a dehydrohalogenating agent, at least a portion of said intermediate process stream from step (a) or said plurality of intermediate process streams of step (b) to produce an alkene product stream comprising 1.1.1.2.3pentafluoropropene and at least one additional alkene having a lower degree of fluorine substitution compared to the degree of fluorination of the compound of formula (I); and
- d. withdrawing from a dehydrofluorinated product stream a product reaction stream comprising a spent dehydrohalogenating agent; and
- e. recovering spent dehydrohalogenating agent.

Ex. 1001, 16:29-17:4.

C. The Prior Art

Petitioner relies on the following prior art references:

Reference	Patent/Publication	Date	Exhibit No.
Harrison	U.S. 4,414,185	Nov. 8, 1983	1006
Smith	WO 2009/138764 A1	May 15, 2009	1003
Masayuki ¹	Japanese Publication No. JP S59–70626	April 21, 1984	1004 1005 (English translation)

D. The Asserted Ground of Unpatentability

Petitioner challenges the patentability of claims 1–20 of the

'282 patent on the following ground:

References	Basis Claims Challenged	
Smith, Masayuki, and Harrison	§ 103(a)	1–20

¹ We refer to "Masayuki" as the English translation of the original reference. Petitioner provided an affidavit attesting to the accuracy of the translation. Ex. 1005, 17–18; *see* 37 C.F.R. § 42.63(b).

II. ANALYSIS

A. Claim Interpretation

We interpret claims of an unexpired patent using the "broadest reasonable construction in light of the specification of the patent in which [the claims] appear[]." 37 C.F.R. § 42.100(b). The Board, however, may not "construe claims during IPR so broadly that its constructions are *unreasonable* under general claim construction principles. . . . '[T]he protocol of giving claims their broadest reasonable interpretation . . . does not include giving claims a legally incorrect interpretation." Microsoft Corp. v. Proxyconn, Inc., 789 F.3d 1292, 1298 (Fed. Cir. 2015) (citation omitted). "Rather, 'claims should always be read in light of the specification and teachings in the underlying patent" and "[e]ven under the broadest reasonable interpretation, the Board's construction 'cannot be divorced from the specification and the record evidence." Id. (citations omitted). Under the broadest reasonable interpretation standard, claim terms are given their ordinary and customary meaning in view of the specification, as would be understood by one of ordinary skill in the art at the time of the invention. In re Translogic Tech., Inc., 504 F.3d 1249, 1257 (Fed. Cir. 2007).

For purposes of this Decision, based on the record before us, we address the interpretation of the claim term "recovering spent DHA" as set forth in claims 1 and 10.

"recovering spent DHA"

Petitioner proposes that we construe "recovering spent DHA" to mean "collecting spent DHA for further use (may include separating, purifying, concentrating and/or regenerating)." Pet. 15. In support of its construction, Petitioner contends that the Specification "describes 'the invention' as

relating '... to a method of increasing the cost efficiency for dehydrohalogenation production of a fluorinated olefin by recovering and recycling spent reagent' as well as '(d) recovering, purifying and/or regenerating spent [DHA]." *Id.* (citing Ex. 1001, 2:49–52, 3:15–17).

Patent Owner proposes that we construe the term to mean "separating organics dissolved in the [product reaction stream (Claim 1)/second product stream (Claim 10)] from spent DHA or KOH." Prelim. Resp. 8. Patent Owner argues that when the Specification "discuss[es] the concept of 'recovering spent DHA" it "does so in the context of separating organics dissolved in the aqueous reaction mixture from the previously withdrawn DHA." *Id.* (citing Ex. 1001, 2:61–63, 13:29–45, 15:44–49, 16:14–23). According to Patent Owner, a person having ordinary skill in the art "would have understood that the recovering step removes dissolved organics from the aqueous reaction mixture so as to result in substantially organic free DHA or KOH isolate." *Id.* Patent Owner further argues that, "[w]hen construed according to Petitioner's proposed construction, the terms 'withdrawing' and 'recovering spent [DHA or KOH]' become conflated, which has the effect of rendering the terms 'recovering spent DHA' and 'recovering spent KOH' meaningless." *Id.* at 11.

We are not persuaded by Patent Owner's argument that "recovering spent DHA" is limited to separating out organics dissolved in the stream comprising the spent DHA. The Specification states that the spent DHA stream includes dissolved organics "in certain embodiments." Ex. 1001, 5:20–22 ("In certain embodiments, the stream of spent [DHA] further includes one or more dissolved organics, such as, but not limited to HFC-236ea and/or HFC-245eb."); 13:22–26 ("In certain embodiments,

withdrawal of spent [DHA] is especially beneficial for component separation as it allows for facile separation of organic and [DHA]."). The Specification also states the spent DHA stream "*typically* carries with it some dissolved organic," and that it "*may* include unreacted organic." *Id.* at 13:29–31, 14:13–16 (emphasis added). Furthermore, the Specification states that spent DHA "and by-product salts (e.g. metal fluoride salts) may be withdrawn from the reactor by a product stream either continuously or intermittently using one or more known separation techniques." *Id.* at 13:16–19. These disclosures indicate that the product stream that comprises spent DHA can, but does not necessarily, include dissolved organics, and that the product stream can include other components from which the spent DHA can be separated.

Moreover, claims 1 and 10 recite "withdrawing" a product stream/second product stream "comprising spent [DHA]." The use of the term "comprising" means that spent DHA is a necessary component of the withdrawn stream, but other unnamed components can also be present. *See Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501 (Fed. Cir. 1997) ("Comprising" is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim."). Consistent with the disclosures in the Specification, the spent DHA is separated from other components in the product stream/second product stream before it can be recycled or re-used. *See, e.g.*, Ex. 1001, 2:62–64 ("Removal of spent [DHA] from the reactor allows for facile separation of the organic and [DHA]."), 5:16–19 ("From the reaction product stream, a stream of spent [DHA] may be withdrawn and purified on a continuous or intermittent basis."), 13:19–23

("To this end, spent [DHA] separation may occur using any known compound separation techniques, such [as], but not limited to, distillation, phase separation, etc.").

The language of the dependent claims further indicates that "recovering spent DHA" is not limited to separating organics from the product stream comprising spent DHA. Dependent claims 11, for example, requires that the spent DHA stream "further comprises" dissolved organics. Ex. 1001, 17:41–42. Dependent claim 16 requires that the spent DHA stream "further comprises" by-product salts of the DHA. *Id.* at 17:56–58. Thus, while we agree with Patent Owner that the Specification discusses recovering spent DHA from organics in a product stream, we are not inclined to import that requirement into the independent claims. *See Arlington Indus., Inc. v. Bridgeport Fittings, Inc.*, 345 F.3d 1318, 1327 (Fed. Cir. 2003) (stating it is improper to read a limitation from the specification into the claims).

Upon review of the Specification, we do not find an explicit or special definition for the claim term "recovering spent DHA." Therefore, for purposes of this Decision and based on the current record, we determine that the claim term "recovering spent DHA" does not require an explicit construction.

B. Obviousness over Smith, Masayuki, and Harrison

Petitioner contends that claims 1–20 would have been obvious under 35 U.S.C. § 103(a) over the combination of Smith, Masayuki, and Harrison. Pet. 25–56. Petitioner relies on the Declaration of Leo E. Manzer, Ph.D. (Ex. 1002, "the Manzer Declaration") in support of its contentions.

1. Overview of Smith

Smith is directed to a process for preparing 2,3,3,3-tetrafluoropropene ("HFO-1234yf" or "1234yf"). Ex. 1003, 1.² The process described in Smith includes: (1) contacting 1,1,2,3,3,3-hexafluoropropene ("HFP" or "1216") with hydrogen in the presence of a catalyst to produce 1,2,3,3,3-hexafluoropropane ("236ea"); (2) dehydrofluorinating 236ea to produce 1,2,3,3,3-pentafluoropropene ("1225ye"); (3) contacting 1225ye with hydrogen in the presence of a catalyst to produce 1,2,3,3,3-pentafluoropropane ("245eb"); and (4) dehydrofluorinating 245eb to produce 1234yf. *Id.* at 1–2. Smith states that the products from steps (1), (2), (3), and/or (4) "may be subjected to a purification step" including "separation of the desired product(s) or reagents by one or more distillation, condensation or phase separation steps and/or by scrubbing with water or aqueous base." *Id.* at 2.

According to Smith, dehydrofluorination steps (2) and (4) can be carried out by contacting 236ea and/or 245eb with a base, where "the base is a metal hydroxide or amide (preferably a basic metal hydroxide or amide, e.g., an alkali or alkaline earth metal hydroxide or amide)." *Id.* at 10. Smith states that "[a] preferred base is an alkali metal hydroxide selected from the group consisting of lithium hydroxide, sodium hydroxide and potassium hydroxide, more preferably, sodium hydroxide and potassium hydroxide and most preferably potassium hydroxide." *Id.* at 11.

 $^{^{2}}$ The cited page numbers in Exhibit 1003 refer to the numbers at the bottom of each page that are original to the document, rather than those added by Petitioner.

2. Overview of Masayuki

Masayuki is directed to methods of producing chloroprene (2-chlorobutadiene-1,3) by the dehydrochlorination of 3,4-dichloro-butene-1. Ex. 1005, 4:2–5. Masayuki describes a process where "3,4-dichloro-butene-1 is subjected to dehydrochlorination in an aqueous solution containing a relatively high concentration (25–55% by weight) of an alkali metal hydroxide in the presence of an organic catalyst." Id. at 6:15–19. Masayuki teaches that a gas-phase mixture of chloroprene, unreacted 3,4-dichlorobutene-1, and water is then removed by evaporation. Id. at 6:19-22. This evaporated mixture is condensed, and the condensed mixture is separated into an aqueous phase and an organic phase. Id. at 6:23–26. The aqueous phase "primarily containing an aqueous solution of alkali metal hydroxide and alkali metal chloride, which in turn contains solid alkali metal chloride obtained from the reaction" is then "concentrated to recover an aqueous solution containing alkali metal hydroxide" that is re-used in the reaction. Id. at 6:30–36. According to Masayuki, the alkali metal hydroxide "is typically sodium hydroxide primarily for economic reasons, but hydroxides of metals such as potassium, lithium, etc. can also be used." Id. at 6:37-7:2.

3. Overview of Harrison

Harrison is directed to "the production of calcium fluoride from industrial waste waters by lime precipitation and carbonation." Ex. 1006, 1:9–11. The process described in Harrison includes: (a) contacting the fluoride-containing industrial waste waters with aqueous potassium hydroxide to obtain an aqueous solution of potassium fluoride and potassium hydroxide; (b) contacting the aqueous solution of potassium fluoride and potassium hydroxide with finely-divided, high-purity lime to obtain a

calcium fluoride precipitate in aqueous potassium hydroxide; (c) settling the reaction product into an aqueous potassium hydroxide supernatant phase and an aqueous slurry of calcium fluoride phase; and (d) recovering the aqueous potassium hydroxide supernatant. *Id.* at 2:6–21. Harrison teaches that the recovered aqueous potassium hydroxide is recycled back to step (a) of the process. *Id.* at 2:28–29.

2. Analysis

Petitioner contends that "Smith discloses steps (a)–(c), Masayuki teaches step (d), and the combination of Masayuki and Harrison teaches step (e)" of independent claim 1 and "Smith discloses steps (a) and (b), Masayuki teaches step (c), and the combination of Masayuki and Harrison teaches step (d)" of independent claim 10. Pet. 27, 41. Petitioner contends that "Masayuki teaches withdrawing from a dehydrohalogenated product stream a product reaction stream comprising spent DHA" because it describes a water phase comprising an aqueous solution of alkali metal hydroxide, alkali metal halide, and solid alkali metal halide that is withdrawn from the reactor for further processing. Id. at 29–30 (citing Ex. 1005, 6:14–33, 6:37–7:2, 10:33-35); see also id. at 43 ("Masayuki teaches the withdrawing step of claim 10 (step (c))" for "the same reasons discussed above with regard to claim 1."). According to Petitioner, "[a]pplying the withdrawing step of Masayuki to the dehydrohalogenation process of Smith results in withdrawing an aqueous phase (i.e., a 'product reaction stream') comprising spent DHA (and by-product KF) from the dehydrofluorination reactor, as recited in step (d) of claim 1." Id. at 30 (citing Ex. 1002 ¶ 103); see id. at 43.

Petitioner contends that Masayuki also describes further processing the withdrawn water phase by separating out an organic lipid phase, concentrating the aqueous phase such that the aqueous phase contains concentrated alkali metal hydroxide and alkali metal chloride precipitate, and separating the precipitate from the aqueous phase, resulting in "the recovery of an aqueous phase comprising a concentrated solution of alkali metal hydroxide." Pet. 30–31. Petitioner further contends that applying these processing steps to the reaction stream that results "when the withdrawing step of *Masayuki* is applied to the dehydrofluorination process of *Smith*" leads to "the recovery of spent DHA as an aqueous mixture of DHA (KOH) and by-product salt (KF) (step (e) of claim 1)." *Id.* at 31 (citing Ex. 1002 ¶ 107). Petitioner also contends that:

Harrison teaches that KF in an aqueous mixture of KOH and KF can be converted to KOH by treating the mixture with $Ca(OH)_2$, slaked lime. Applying the conversion step of *Harrison* to the decanted aqueous mixture of DHA (KOH) and by-product salt (KF) from the process of *Smith* in combination with *Masayuki* results in recovery of additional aqueous DHA (KOH) and makes productive use of the by-product salt (KF) (i.e., by converting the KF to KOH and CaF₂).

Id. (internal citations omitted); *see also id.* at 43 ("The recovering step in claim 10 is identical to the recovering step in claim 1" and therefore "the combination of *Masayuki* and *Harrison* teaches the recovering step of claim 10 for all of the same reasons discussed with regard to claim 1.").

According to Petitioner, a person having ordinary skill in the art would be motivated to combine the teachings of Smith, Masayuki, and Harrison "to try to recover and recycle as much valuable material (e.g., dehydrohalogenating agent) as possible from the reactions described in *Smith.*" Pet. 32. Petitioner contends that "the skilled artisan would look to

analogous, base-mediated dehydrohalogenation processes for suggestions of how to recover and/or recycle unreacted KOH and by-product salt of the KOH (e.g., KF) formed in the reaction," which would lead to Masayuki and its "method for recovering and recycling unreacted alkali metal hydroxide in an analogous, base-mediated dehydrohalogenation process." *Id.* at 32–33. Petitioner contends that the skilled artisan would look to the methods described in Harrison to increase the "recovery and recycle of KOH to the dehydrohalogenation process in *Smith*, and sale of CaF₂ to increase cost efficiency." *Id.* at 33. Petitioner further contends that a person having ordinary skill in the art would have a reasonable expectation of success in combining the disclosures of Smith, Masayuki, and Harrison because they describe similar processes. *Id.* at 34.

Patent Owner argues that neither Masayuki, Harrison, nor Smith discloses, teaches, or suggests "recovering spent DHA" as required by claim 1. Prelim. Resp. 15–23. Patent Owner argues that "although Masayuki recognizes the presence and problems associated with organic components dissolved in the aqueous phase," it describes using temperature to mitigate the effects of the dissolved organics on further processing, and does not teach separating the dissolved organics from the aqueous phase. *Id.* at 17. Patent Owner argues that Harrison "is completely silent as to organics dissolved in the aqueous mixture and the separation of such dissolved organics." *Id.* at 23. Patent Owner also argues that "Smith is completely silent as to the separation of dissolved organics from the spent DHA in order to recover spent DHA." *Id.*

As discussed above, we disagree with Patent Owner's argument that "recovering spent DHA" should be limited to separating dissolved organics

from the product stream comprising spent DHA. *See supra* Section II.A. Based on the current record, we are persuaded by Petitioner's contention that the combination of Masayuki and Harrison teaches "recovering spent DHA" because Masayuki describes a method of recovering and recycling unreacted alkali metal hydroxide in a dehydrohalogenation process, and Harrison describes a method of converting the by-product salt of the DHA back to the DHA to increase the amount of DHA recovered and recycled to the dehydrohalogenation reactions. Pet. 30–32; *see* Ex. 1005, 10:33–11:14; Ex. 1006, 2:14–21, 3:6–10.

Accordingly, we are persuaded, based on the current record, that Petitioner's claim charts and substantive arguments (Pet. 25–37, 41–46) and the Manzer Declaration (Ex. 1002) are sufficient to establish a reasonable likelihood that Petitioner would prevail in showing that claims 1 and 10 are unpatentable over the combination of Smith, Masayuki, and Harrison. We also have considered the parties' arguments and evidence as to claims 2–9 that depend, directly or indirectly, from claim 1, and claims $11-20^3$ that depend, directly or indirectly, from claim 10, and are persuaded likewise that Petitioner has demonstrated a reasonable likelihood that it would prevail as to those claims as well.

³ Claim 16, which depends directly from claim 10, further recites that "the reaction stream further comprises by-product salts of the [DHA]." Claim 10, however, recites a "second product stream," not a "reaction stream." The parties have not addressed this ambiguity in claim 16. For purposes of this Decision, based on the current record, we determine that a person having ordinary skill in the art would have understood "the reaction stream" in claim 16 to refer to "the second product stream" recited in claim 10.

D. 35 U.S.C. § 325(d)

Patent Owner argues that "the Board should exercise its discretion and decline to institute an *inter partes* review of Petitioner's challenges based on Smith in view of Masayuki and Harrison because Petitioner's arguments in this Petition are the same or substantially the same as advanced by Petitioner in IPR2015-00915." Prelim. Resp. 24. In IPR2015-00915, Petitioner asserts that claims 21-27, 30-38, and 41-46 of the '282 patent would have been obvious over Sedat,⁴ and that claims 1-20, 21, 28, 29, 36, 29, and 40 would have been obvious over the combination of Smith and Sedat. *Id.* at 26. Patent Owner argues that the Petitioner relies on Smith, Masayuki and Harrison for essentially the same teachings as Sedat to purportedly meet the same claim elements." *Id.* Patent Owner also argues that Petitioner does not "articulat[e] why one set of grounds has any particular strength or weakness relative to the other set of grounds." *Id.* at 27.

"In determining whether to institute or order a proceeding under this chapter, chapter 30, or chapter 31, the Director *may take into account* whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office." 35 U.S.C. § 325(d) (emphasis added). The permissive language of § 325(d) does not prohibit instituting *inter partes* review based on arguments previously presented to the Office. While we are mindful of the burden on Patent Owner and the Office to rehear the same or substantially the same prior art or arguments that are being considered by the Office in co-pending proceedings, we are persuaded, for the reasons discussed, that Petitioner's

⁴ Sedat, French Patent App. Pub. No. 2 940 968, published July 16, 2010.

arguments with respect to the combination of Smith, Masayuki, and Harrison are supported by the evidence of record at this stage of the proceeding. Therefore, we do not exercise our authority to decline to institute a trial on Petitioner's challenges in this proceeding.

III. CONCLUSION

For the foregoing reasons, we conclude on the present record that Petitioner has established a reasonable likelihood that it would prevail on its challenge that claims 1–20 of the '282 patent are unpatentable.

The Board has not made a final determination as to the patentability of any challenged claim.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is hereby instituted as to claims 1–20 of the '282 patent with respect to the following ground:

Whether claims 1–20 are unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Smith, Masayuki, and Harrison;

FURTHER ORDERED that, pursuant to 35 U.S.C. § 315(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial commencing on the entry date of this Decision; and

FURTHER ORDERED that no ground other than those specifically granted above is authorized for *inter partes* review as to the claims of the '282 patent.

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