

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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GENERAL ELECTRIC COMPANY,  
Petitioner,

v.

UNITED TECHNOLOGIES CORPORATION,  
Patent Owner.

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Case IPR2017-00428  
Patent 8,695,920 B2

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Before HYUN J. JUNG, MITCHELL G. WEATHERLY, and  
GEORGE R. HOSKINS, *Administrative Patent Judges*.

HOSKINS, *Administrative Patent Judge*.

DECISION  
Denying Request for Rehearing  
*37 C.F.R. § 42.71(d)*

## I. INTRODUCTION

On June 22, 2018, we entered a Final Written Decision holding in part that Petitioner had not shown, by a preponderance of the evidence, that claims 10–14 of the '920 patent are unpatentable. Paper 38 (“the Decision” or “Dec.”). Petitioner timely filed a Request for Rehearing of the Decision. Paper 39 (“Petitioner’s Request” or “Reh’g Req.”). For the following reasons, Petitioner’s Request is *denied*.

## II. STANDARD FOR REHEARING

When requesting a rehearing of a decision such as the Decision at issue here, the party challenging the decision has the burden of showing the decision should be modified. 37 C.F.R. § 42.71(d). The request must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed in the proceeding. *Id.*

## III. ANALYSIS

Petitioner’s Request asserts the Decision made “two separate dispositive findings . . . based on a clearly erroneous application of controlling law.” Reh’g Req. 1, 3. We consider each in turn.

### A. *Motivation for Using Two-Stage High Pressure Turbine in the Wendus ADP Engine*

The Decision determined Petitioner did not establish that a person of ordinary skill in the art would have been motivated to modify the Wendus ADP engine by replacing its one-stage high pressure turbine with a two-stage high pressure turbine. *See* Dec. 23–32. The Decision, in part,

concluded Wendus teaches away from a two-stage high pressure turbine in the Wendus ADP engine. *Id.* at 29–30.

Petitioner’s Request asserts the Decision misapprehended controlling precedent concerning teaching away. Reh’g Req. 3–7. According to Petitioner, the Decision incorrectly held a teaching away from one option of a binary choice (here, one versus two stages for a high pressure turbine) is established when a reference (such as Wendus) weighs the tradeoffs and chooses one option, or when the reference identifies the chosen option as a critical and enabling technology providing significant advantages over the non-chosen option. *Id.* at 4. Petitioner specifically contends such a holding overlooks that a teaching away requires “criticizing, discrediting, or discouraging investigation into” the non-chosen option. *Id.*

However, the basis for the Decision was that Wendus *does* criticize, discredit, or discourage pursuit of a two-stage high pressure turbine in the Wendus ADP engine, based on an express comparison with a known two-stage high pressure turbine in the baseline technology PW4084 engine, and an express choice to pursue a one-stage high pressure turbine as a critical or enabling technology versus a two-stage high pressure turbine. *See* Dec. 23–30.

Petitioner’s Request further contends “the references may be said to teach away *only* if in combination they ‘would produce a “seemingly inoperative device.”” Reh’g Req. 4–5 (citing *In re Urbanski*, 809 F.3d 1237, 1243 (Fed. Cir. 2016) (quoting *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1354 (Fed. Cir. 2001))). Petitioner asserts the present case is distinguishable from *Polaris Industries, Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056 (Fed. Cir. 2018), on the basis that in *Polaris* “[t]he Court faulted the

Board for characterizing the low center of gravity feature as only a ‘subjective preference’ instead of a *technical requirement*.” Reh’g Req. 5 (emphasis added) (citing *Polaris*, 882 F.3d at 1061, 1068–69). Thus, Petitioner cites the foregoing and other Federal Circuit decisions as requiring, to establish a teaching away, that the prior art must indicate a proposed modification would result in “a seemingly inoperative device” or have a “want of technical feasibility.” *Id.* at 6–7.

We have reviewed the case law cited in Petitioner’s Request. At most, it establishes that prior art disclosures indicating a given design option would be inoperative or technically infeasible are *sufficient* to teach away from the design option. *See Urbanski*, 809 F.3d at 1243 (“[i]f references taken in combination would produce a ‘seemingly inoperative device,’ . . . such references teach away from the combination”) (quoting *McGinley*, 262 F.3d at 1354); *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1326–28 (Fed. Cir. 2009) (prior art taught away from a “rigid” pedicle screw in “warn[ing] that rigidity increases the likelihood that the screw *will fail* within the human body, rendering the device *inoperative for its intended purpose*”) (emphases added); *Orthopedic Equip. Co., Inc. v. United States*, 702 F.2d 1005, 1013 (Fed. Cir. 1983) (obviousness may be defeated if “skilled persons in the art felt that there was some technological incompatibility that prevented [the prior art’s] combination”).

The cited case law does not, as Petitioner would have it, establish that such prior art disclosures are *necessary* to teach away from the design option. *See Polaris*, 882 F.3d at 1069–70 (on remand, “the Board must analyze whether Denney ‘teaches away’” based on undisputed evidence indicating that adding a fuel tank under Denney’s seats would “rais[e] the

center of gravity and render[] the vehicle less stable, *which would run contrary to one of Denney’s stated purposes*”) (emphasis added)<sup>1</sup>; *Urbanski*, 809 F.3d at 1243–44 (“the cited references do not teach away,” because “[n]othing in the prior art teaches that the proposed modification would have resulted in an ‘inoperable’ process *or* a dietary fiber product *with undesirable properties*”) (emphases added).

Instead, a teaching away requires the prior art merely to criticize, discredit, or discourage pursuit of the design option. *See Polaris*, 882 F.3d at 1068–70 (Board erred in “fail[ing] to analyze whether Denney ‘teaches away’ . . . by determining whether ‘a person of ordinary skill, upon reading [Denney], would be *discouraged* from following the path set out in [Denney], or would be *led in a direction divergent* from the path that was taken by the applicant”) (emphases added); *Urbanski*, 809 F.3d at 1243–44; *DePuy Spine*, 567 F.3d at 1327; Reply Br. 8–9; Reh’g Req. 4. For the reasons provided in the Decision, Wendus criticizes, discredits, and discourages using a two-stage high pressure turbine in the Wendus ADP engine. *See* Dec. 23–30.

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<sup>1</sup> Petitioner cites *Polaris*, 882 F.3d at 1061, 1068–69, as “fault[ing] the Board for characterizing the low center of gravity feature as only a ‘subjective preference’ instead of a technical requirement.” Reh’g Req. 5. The cited discussions in *Polaris* did indeed fault the Board for applying a “subjective preference” analysis, but they do not require application of a “technical requirement” analysis as Petitioner asserts. *See Polaris*, 882 F.3d at 1061, 1068–69. Instead, the Court focused on a potential teaching away being provided by “Denney’s stated desire for a low center of gravity,” which may have “discourage[d]” or “led in a direction divergent from” raising the center of gravity. *See id.*

The Decision further concluded that, even if there is no teaching away in *Wendus*, the evidence presented in this proceeding as a whole indicates it would have made “little engineering sense” to replace the one-stage high pressure turbine of the *Wendus* ADP Engine with a two-stage high pressure turbine, given the “strong preference” of *Wendus* for the one-stage design. Dec. 23–29, 30–32.

Petitioner’s Request asserts the Decision errs in that alternative determination because the evidence of record establishes that the one-stage high pressure turbine was merely “one of several design choices” made by *Wendus* for the *Wendus* ADP engine, and “is never identified as being *the* critical feature of the ADP engine.” Reh’g Req. 7–8. Petitioner contends “*Wendus*’s choice of a one-stage HPT was merely a design choice,” and the known advantages provided by a two-stage high pressure turbine would have motivated the undoing of *Wendus*’s choice by using a two-stage high pressure turbine instead. *Id.* at 8. Petitioner, moreover, contends *Wendus*’s choice of a one-stage high pressure turbine was motivated by reduced price and maintenance costs, but case law establishes that “such economic factors are *irrelevant* to the obviousness analysis and cannot be the basis for a finding of teaching away.” *Id.* at 8–9 (emphasis added) (citing *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 425–26 (2007); *In re Farrenkopf*, 713 F.2d 714, 718 (Fed. Cir. 1983); and *Orthopedic Equip.*, 702 F.2d at 1013).

Petitioner, thus, invites us to overlook the various disclosures in *Wendus* stating a strong preference for a one-stage high pressure turbine over a two-stage high pressure turbine. That we may not do. *See Polaris*, 882 F.3d at 1069 (“a reference ‘must [be] considered for all it taught, disclosures that diverged and taught away from the invention at hand as well

as disclosures that pointed towards and taught the invention at hand’’) (quoting *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 296 (Fed. Cir. 1985)); *Arctic Cat Inc. v. Bombardier Recreational Prods, Inc.*, 876 F.3d 1350, 1360 (Fed. Cir. 2018) (“the prior art could contain one reference suggesting a combination and others critiquing or otherwise discouraging the same . . . and we have held that it is error to fail to consider the entirety of the art’’) (citation omitted).

Further, Wendus’s preference for a one-stage high pressure turbine was driven by *both* technological and economic considerations. *See* Dec. 24–29, 30–32. Specifically, reduced axial length is a technical consideration. *See id.* Also, the fewer parts and the reduced weight afforded by the one-stage choice involved both technical and economic considerations. *See id.*

Moreover, we are not persuaded by Petitioner’s reading of the case law to indicate that economic considerations, such as the reduced cost of producing and maintaining the one-stage high pressure turbine of the Wendus ADP engine versus a two-stage alternative, are irrelevant to obviousness. Evidence concerning motivation to combine prior art “can be found explicitly or implicitly in the prior art references themselves, *in market forces*, in *design incentives*, or in ‘*any need or problem known in the field of endeavor* at the time of invention and addressed by the patent.’” *Arctic Cat*, 876 F.3d at 1359 (emphases added) (citing *KSR*, 550 U.S. at 420–21 and *Plantronics, Inc. v. Aliph, Inc.*, 724 F.3d 1343, 1354 (Fed. Cir. 2013)).

For the foregoing reasons, Petitioner’s Request does not persuade us that we misapprehended or overlooked a matter addressed in this proceeding

when determining Petitioner did not establish that a person of ordinary skill in the art would have been motivated to modify the Wendus ADP engine by replacing its one-stage high pressure turbine with a two-stage high pressure turbine.

*B. Motivation for Modifying the Wendus ADP Engine to Result in the Invention of Claim 10 as a Whole*

The Decision also determined Petitioner did not establish the obviousness of claim 10, when considered as a whole. *See* Dec. 32–38. In particular: “Even if one were to proceed as proposed by Petitioner to modify the Wendus ADP engine by incorporating a two-stage high pressure turbine, there is little evidence to establish the obviousness of maintaining the rest of the Wendus ADP engine to remain within the scope of claim 10.” *Id.* at 32.

Petitioner’s Request asserts the Decision “erred in requiring that a motivation must be found to physically combine the actual embodiments in” Wendus and Moxon. *Reh’g* Req. 9–10. However, as stated in the Decision and not disputed in Petitioner’s Request, Petitioner’s case for obviousness is premised upon *modifying the specific ADP engine* disclosed in Wendus. *See* Dec. 12 n.5 (citing *Pet.* 59–60, 65, 66–75 and *Reply Br.* 23–24). Further, the Decision did not require Petitioner to establish that the two-stage high pressure turbine of Moxon could be bodily incorporated into the Wendus ADP engine. *See id.* at 32–38. Instead, the Decision discussed Petitioner’s failure to provide a persuasive motivation or justification for why a person of ordinary skill in the art, when modifying the Wendus ADP engine to include a two-stage high pressure turbine, would maintain the other claimed parameters within the scope of claim 10. *See id.* This was especially true



concerning the claimed parameters for the low pressure turbine, which is located downstream of the high pressure turbine. *Id.* at 36–38.

Petitioner’s Request contends that “[i]n cases where the prior art combination discloses every limitation of every challenged claim, ‘[t]he *only question* is whether a relevant skilled artisan would have been led to make the combinations with a reasonable expectation of success.’” Reh’g Req. 12 (quoting *Owens Corning v. Fast Felt Corp.*, 873 F.3d 896, 902 (Fed. Cir. 2017)). According to Petitioner, the evidence of record correspondingly establishes that a person of ordinary skill in the art would have been able predictably to produce the structure defined by claim 10, with a reasonable expectation of success. Reh’g Req. 10–12, 13–14. These assertions are not persuasive of error in the Decision, which stated “the problem we see in Petitioner’s case is that it provides *insufficient reasoning*, such as an engineering motivation” for obviousness, and stated it was not based “on the lack of a reasonable expectation of success in reaching the invention.” *See* Dec. 38.

Petitioner was required to establish the obviousness of claim 10 as a whole; it is legally improper to focus on the obviousness of substitutions and differences rather than the invention as a whole, which is what Petitioner did here. *See* Dec. 32–38; *Gillette Co. v. S.C. Johnson & Son, Inc.*, 919 F.2d 720, 724 (Fed. Cir. 1990); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1383 (Fed. Cir. 1986). Thus, the Decision did not hold Petitioner to a higher burden of showing obviousness than the law requires, as Petitioner would have it. *See* Reh’g Req. 12–13.

For the foregoing reasons, Petitioner’s Request does not persuade us that we misapprehended or overlooked a matter addressed in this proceeding

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when determining Petitioner did not establish the obviousness of claim 10,  
when considered as a whole.

#### IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that Petitioner's Request for Rehearing is *denied*.

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