

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,

Petitioner,

v.

GRAPHITE CHARGING COMPANY LLC,

Patent Owner

IPR2024-00388

U.S. Patent No. 8,291,243

PATENT OWNER'S RESPONSE

Mail Stop PATENT BOARD
Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
Submitted Electronically via PTAB E2E

TABLE OF CONTENTS

I. INTRODUCTION.....	1
II. APPLICABLE LEGAL PRINCIPLES.....	1
III. BACKGROUND.....	4
IV. LEVEL OF ORDINARY SKILL IN THE ART.....	9
V. CLAIM CONSTRUCTION.....	9
1. “aggregate feed”/“aggregated feed”.....	10
2. “current”.....	12
VI. ARGUMENT.....	13
A. Ground 1 – Petitioner Fails to Show by a Preponderance of Evidence That Wang Renders Claims 1-20 Obvious	13
1. Claim 1	13
2. Claim 2	19
3. Claim 3	21
4. Claim 4	21
5. Claim 5	22
6. Claim 6	23
7. Claim 7	24
8. Claim 8	26
9. Claim 9	36
10. Claim 10	37
11. Independent Claim 11	37
12. Claim 12	38
13. Claim 13	39
14. Claim 14	39
15. Independent Claim 15	41
16. Claim 16	42
17. Claim 17	42
18. Independent Claim 18	43
19. Claim 19	44

20. Claim 20	44
B. Ground 2 - Petitioner Fails to Show by a Preponderance of Evidence That Wang in View of the AESO Report Renders Claims 2, 12–14, and 20 Obvious	45
1. Claim 2	45
2. Claim 12	46
3. Claim 13	46
4. Claim 14	47
5. Claim 20	48
C. Ground 3 - Petitioner Fails to Show by a Preponderance of Evidence That Cooley Anticipates Claims 1, 3, 11, 15, and 18	48
1. Claim 1	49
2. Claim 3	52
3. Claim 11	53
4. Claim 15	54
5. Claim 18	55
VII. DR. MACCARLEY’S TESTIMONY SHOULD BE ACCORDED LITTLE WEIGHT BECAUSE OF HIS CONNECTIONS WITH TESLA.....	56
VIII. CONCLUSION	57

TABLE OF AUTHORITIES

	Page(s)
Cases	
<i>Apple Inc. v. Contentguard Holds.</i> , IPR2015-00442, Paper 9 (PTAB July 13, 2015).....	3, 4
<i>Cisco Sys. v. C-Cation Techs.</i> , IPR2014-00454, Paper 12 (PTAB Aug. 29, 2014)	2
<i>Edmund Optics, Inc. v. Semrock, Inc.</i> , IPR2014-00583, Paper 50 (PTAB Sept. 9, 2015)	2
<i>Graham v. John Deere Co.</i> , 383 U.S. 1 (1966)	3
<i>Harmonic Inc. v. Avid Tech., Inc.</i> , 815 F.3d 1356 (Fed. Cir. 2016)	1
<i>In re Kubin</i> , 561 F.3d 1351 (Fed. Cir. 2009)	30
<i>In re Magnum Oil Tools Int’l, Ltd.</i> , 829 F.3d 1364 (Fed. Cir. 2016)	1, 3
<i>In re NTP, Inc.</i> , 654 F.3d 1279 (Fed. Cir. 2011)	4
<i>In re Omeprazole Patent Litig. v. Apotex Corp.</i> , 536 F.3d 1361 (Fed. Cir. 2008)	3
<i>In re Wilson</i> , 424 F.2d 1382 (CCPA 1970).....	12
<i>InTouch Techs., Inc. v. VGo Communs., Inc.</i> , 751 F.3d 1327 (Fed. Cir. 2014)	3
<i>KSR Int’l Co. v. Teleflex Inc.</i> , 550 U.S. 398 (2007)	4, 37
<i>Net MoneyIN, Inc. v. VeriSign, Inc.</i> , 545 F.3d 1359 (Fed. Cir. 2008)	2, 50
<i>Ortho-McNeil Pharm. v. Mylan Labs</i> , 520 F.3d 1358 (Fed. Cir. 2008)	3
<i>P&G v. Teva Pharms. USA, Inc.</i> , 566 F.3d 989 (Fed. Cir. 2009)	4
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005)	10

<i>SAS Inst., Inc. v. Iancu</i> , 138 S. Ct. 1348 (2018)	1
<i>Unigene Labs., Inc. v. Apotex, Inc.</i> , 655 F.3d 1352 (Fed. Cir. 2011)	3
<i>Upjohn Co. v. Mova Pharm. Corp.</i> , 225 F.3d 1306 (Fed. Cir. 2000)	28
<i>Varian Med. Sys. v. William Beaumont Hospital</i> , IPR2016-00169, Paper 79, 2017 Pat. App. LEXIS 5415 (P.T.A.B. May 4, 2017)	56
<i>Verdegaal Bros. v. Union Oil Co. of California</i> , 814 F.2d 628 (Fed. Cir. 1987)	2, 50
<i>Xerox Corp. v. Bytemark, Inc.</i> , IPR2022-00624, Paper 9 (PTAB Aug. 24, 2022)	28

Statutes

35 U.S.C. § 102	2
35 U.S.C. § 103	3
35 U.S.C. § 312	1
35 U.S.C. § 316	1, 13
37 C.F.R. § 42.100	10
37 C.F.R. § 42.6	2
37 C.F.R. § 42.65	2, 28

TABLE OF EXHIBITS

Exhibit	Description
2001	Federal Holidays, U.S. Office of Personnel Management
2002	Members, Unified Patents
2003	Tesla Inc. Annual Income Statement, Wall Street Journal
2004	Non-Final Office Action, Ex Parte Reexamination Control No. 90/019,303
2005	Parallel District Court Litigation Docket
2006	Dkt. No. 64 of the Parallel District Court Litigation Docket
2007	Affidavit of Ms. Nadiia Loizides in Support of Patent Owner's Motion for <i>Pro Hac Vice</i> Admission
2008	Joint Stipulation Regarding Stay
2009	Request for Ex Parte Reexamination of U.S. Patent 8,291,243
2010	Response to Office Action, Ex Parte Reexamination Control No. 90/019,303
2011	Information Disclosure Statement by Applicant, Application No. 90019303
2012	Expert Declaration of Dr. Kirk W. Cameron in Support of Patent Owner's Response
2013	Deposition of C. Arthur MacCarley, IPR 2024-00387 (Oct. 17, 2024)
2014	Merriam-Webster Online Dictionary (December 1, 2006) ("aggregate")
2015	Merriam-Webster Online Dictionary (April 25, 2009) ("current")

I. INTRODUCTION

The present proceeding was instituted as to claims 1-20 (“the challenged claims”) of U.S. Patent No. 8,291,243 (“the ’243 Patent”) based on a finding that Petitioner had demonstrated unpatentability of claim 1 under the lower “reasonable likelihood” standard applicable only before institution. Institution Decision (“ID”) (Paper 15), 36-37. At that time, Patent Owner (“PO”) had not fully presented its substantive positions, nor had the Board analyzed the dependent claims. Following institution, Petitioner’s burden of proof increases to “a preponderance of the evidence.” 35 U.S.C. § 316(e). With the benefit of PO’s evidence presented herein, it is abundantly clear that Petitioner has failed to prove by a preponderance of evidence that the challenged claims of the ’243 Patent are unpatentable over the cited art. As such, the Board should confirm the patentability of the challenged claims of the ’243 Patent over the cited art.

II. APPLICABLE LEGAL PRINCIPLES

The petitioner has the burden to clearly set forth the basis for its challenges in the petition. *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (stressing the particularity requirement in 35 U.S.C. § 312(a)(3)). The petitioner may not rely on the Board to substitute its own reasoning to remedy the deficiencies in the petition. *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1355 (2018); *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016).

To the extent that the petition relies on an expert declaration, it must be more than conclusory and disclose the facts underlying the opinion. *See* 37 C.F.R. § 42.65(a); *Edmund Optics, Inc. v. Semrock, Inc.*, IPR2014-00583, Paper 50 at 8 (PTAB Sept. 9, 2015) (affording little or no weight to “experts’ testimony [that] does little more than repeat, without citation to additional evidence, the conclusory arguments of their respective counsel”). Nor may the petition rely on the expert declaration to remedy gaps in the petition itself. 37 C.F.R. § 42.6(a)(3); *Cisco Sys. v. C-Cation Techs.*, IPR2014-00454, Paper 12 at 9 (PTAB Aug. 29, 2014) (“This practice of citing the Declaration to support conclusory statements that are not otherwise supported in the Petition also amounts to incorporation by reference.”).

To prove anticipation under 35 U.S.C. § 102, the petitioner must show that each and every claim element is found in a single reference and arranged as in the claim. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987); *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008). Further, the prior art reference “must . . . disclose the claimed [invention] or direct those skilled in the art to the [invention] without *any* need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference.” *Net MoneyIN*, 545 F.3d at 1372 (emphasis original).¹

¹ Unless specified otherwise, all emphasis is added in this Brief.

To prove obviousness under 35 U.S.C. § 103, the Petition must, among other requirements, fulfill the requirements set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966), including showing that the cited references, in combination, disclose each element of a challenged claim. See *Magnum*, 829 F.3d at 1376; *Apple Inc. v. Contentguard Holds.*, IPR2015-00442, Paper 9 at 12-13 (PTAB July 13, 2015).

Petitioners also have the burden to show motivation to combine the asserted prior art, and that the proposed combination would render the patented claims obvious. *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011); *Magnum*, 829 F.3d at 1376. Even if individual modifications or choices were obvious, a petition must explain why making all of the changes at once would be obvious. *Apple*, IPR2015-00442, Paper 9 at 16-17 (“[T]he mere fact that individual changes might have been obvious does not make doing all of the changes at once obvious.”).

The lack of a technological obstacle to combining references, in and of itself, does not justify a finding of obviousness. See *In re Omeprazole Patent Litig. v. Apotex Corp.*, 536 F.3d 1361, 1380-81 (Fed. Cir. 2008). A reason for combining disparate prior art references is critical and should be made explicit. *InTouch Techs., Inc. v. VGo Communs., Inc.*, 751 F.3d 1327, 1351 (Fed. Cir. 2014).

Hindsight analysis is inappropriate; obviousness must be measured “at the time the invention was made.” *Ortho-McNeil Pharm. v. Mylan Labs*, 520 F.3d 1358, 1364 (Fed. Cir. 2008) (emphasis original). The petition must demonstrate a

rationale to combine prior art references without relying on the patent disclosure itself. *Apple*, IPR2015-00442, Paper 9 at 15, 17; *see also P&G v. Teva Pharms. USA, Inc.*, 566 F.3d 989, 995 (Fed. Cir. 2009). The petitioner must not use the patent as a roadmap. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007); *In re NTP, Inc.*, 654 F.3d 1279, 1299 (Fed. Cir. 2011).

III. BACKGROUND

The ’243 Patent, entitled “Adaptive Computing Responsive to Environmental Conditions,” has a priority date of October 24, 2008, and generally relates to products for adapting the power consumption of a computational device in response to environmental conditions. (Ex-1001 at 1:5-10; EX2012, ¶70.)

In its Background of the Invention, the ’243 Patent recognizes that “[a]ll computer usage consumes energy, and depending on the energy source, such usage may also increase green-house gas emissions.” (*Id.* at 1:22-24; EX2012, ¶71.) Because of the large burden on the power grid imposed by computer systems, it is estimated “that the energy cost to run a large computer system may exceed the cost of the system hardware over its useful life.” (*Id.* at 1:31-34; EX2012, ¶72.) To reduce the energy consumed by a computer system’s computational components, “manufacturers have developed numerous power-efficient technologies: for example, processor speeds and/or use can be adaptively reduced or stopped when the processor is not heavily used, monitors and peripherals can be put in a reduced power-consumption mode[.]” (*Id.* at 1:34-41; EX2012, ¶73.) However, these

technologies were limited to operating “on a localized level, in response to local considerations, for example, manually triggered by a conscientious (or utility bill-paying) user or automatically by a hardware configuration or a software application running on the system (e.g., triggering a standby state after a given idle time, or in response to a heat monitor detecting a rise in an internal temperature associated with a powered computer component).” (*Id.* at 1:41-49; EX2012, ¶74.) The ’243 Patent observes that such “processes may be nullified or insignificant when considered on an overall (e.g. annual) basis when energy used by the device in more-active or high-powered uses is acquired during peak energy demand times, thus utilizing the highest-cost or most environmentally-degrading energy available to the device.” (*Id.* at 1:49-55; EX2012, ¶75.) And they “are limited in responsiveness to larger contextual conditions: no consideration is given to the present cost of power used, or to the sources of that power.” (*Id.* at 16-19; EX2012, ¶76.)

In the Detailed Description of the Invention, the ’243 Patent discloses embodiments of the “present invention.” (*Id.* at 4:65; EX2012, ¶77.) For example, FIG 2 of the ’243 Patent discloses “a programmable device or module 200 and computational device 230 according to the present invention.” (*Id.* at 4:63-65; EX2012, ¶78.) The present invention includes “module 200 that is configured to acquire feeds or other power-generating contextual, environmental or operating information and data from one or more feed/data providers 280, the module 200

further configured to aggregate a feed inclusive of high-demand indicators and publish the aggregate feed through a communication means 282 to the computational device 230, which may responsively select a power-reduced or relatively high powered configuration.” (*Id.* at 4:66-5:7; EX2012, ¶79.) Also included are “[c]ommunication ports or network link/nodes 207/237” that enable network and other communications. (*Id.* at 5:25-5:31; EX2012, ¶80.)

In the module 200, a “data/feed acquirer logic component 202 [is] configured to acquire information from a plurality of feed and/or sources 280.”

FIG 2 is reproduced below:

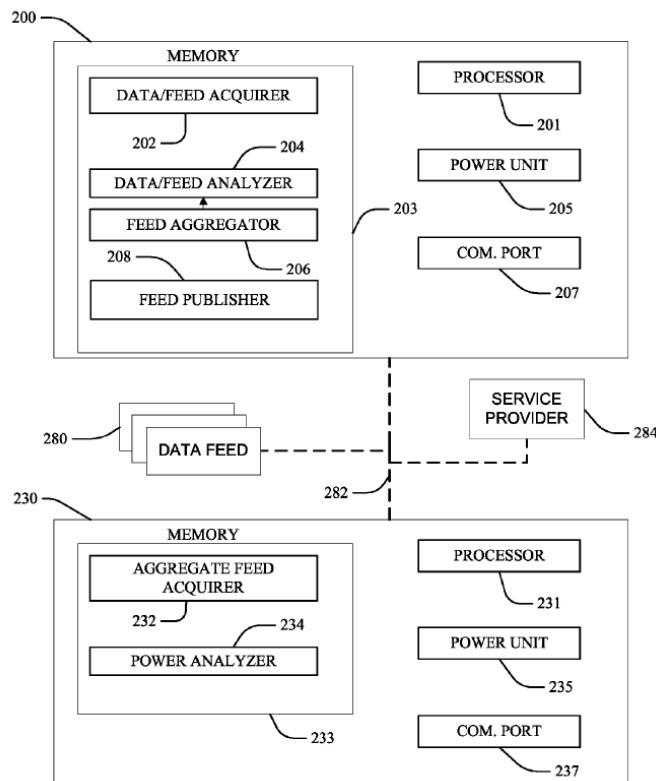


FIG 2

(Ex-1001, FIG 2; EX2012, ¶81.)

The '243 Patent explains that “[i]nformation data and files received through the feed 280 may be updated regularly, for example by a timer on a provider side or updates driven by changes in data, and the data acquisition component 202 may be configured to regularly check feed files for changes, and if changes are found or occur then download the changed data, update internal state tables with the new download data, then invoke a data/feed analyzer component 204. (*Id.* at 5:35-42 EX2012, ¶82.) The data/feed analyzer component 204 is configured, for example, “with a weighted function comprising a linear combination of values obtained from a plurality of different sources or feeds 280 with appropriate weights, wherein if the linear combination is above a certain threshold power savings according to the present invention is triggered or ended.” (*Id.* at 6:27-33; EX2012, ¶83.)

The '243 Patent discloses that the “feeds 280 may comprise a variety of feeds and sources.” (*Id.* at 5:57, 5:58 (“energy producer feed 280”), 6:3 (“weather feeds 280”); EX2012, ¶84.) For example, “RSS feed embodiments and configurations enable a data acquisition entity (e.g. the programmable module 200 or a service provider) to automatically track energy information providers,” where “RSS generally refers to a family of internet web feed formats used to publish frequently updated content[.]” (*Id.* at 5:44-56; EX2012, ¶85.) Furthermore, as noted above, the '245 Patent discloses that such feeds may be aggregated and that “the aggregate feed” may be communicated to the computational device. (*Id.* at 4:66-5:7; 5:57-6:2; 6:60-66; 7:8-12; 7:16-33; 7:41-50; EX2012, ¶86.) The '245

Patent uses the term “the aggregated feed” interchangeably with “the aggregate feed.” (See, e.g., *id.* at 6:60-66 (“**Aggregated feed** publication to the computational device (for example at 108 of FIG. 1 above) is accomplished by a feed publisher logic component 208, which may publish the **aggregate feed** through pushing updated RSS data to registered computational devices 230, or by providing a method for the computational devices 230 to pull updated data from the feed publisher 208 or other service provider.”); *id.* at 7:8-12 (“The computational device 230 memory 233 comprises **an aggregate feed** acquirer logic component 232 configured to acquire **the aggregated feed** . . .”); EX2012, ¶87.)

The ’243 Patent further discloses that such “operating environmental condition data” is “analyzed to determine a high electric power demand indication” and, “if the analyzing determines a high electric power demand indication, then a computational device automatically reduces an amount of electric power consumption.” (*Id.* at 1:61-67; 2:66-3:7; 5:32-43; 6:21-33; EX2012, ¶88.)

Examples of power reduction actions include:

reducing a clock rate of the CPU 312; reducing a brightness of a monitor 328 of the computer system 304; reducing a waiting time before disks 316/332 of the computer system 304 are suspended; reducing a waiting time before the computer system 304 enters a hibernation or a standby mode; turning off one or more banks of memory 316/332 of the computer system 304; disabling one or more applications providing nonessential services (e.g., turning off the services that check for availability of software upgrades, turning off grid applications, etc.); consolidating loads from one or more computational devices 336 onto the single computer system 304 and turning off the other computational devices 336; scheduling

nonessential operations at a different time (e.g., nonessential software or hardware upgrades)

(*Id.* at 8:47-63; EX2012, ¶89.)

IV. LEVEL OF ORDINARY SKILL IN THE ART

Patent Owner (“PO”) submits that a person of ordinary skill in the art (“POSITA”) would have had a bachelor’s degree in electrical engineering, computer science, or a related degree, along with at least two years of professional experience working on techniques for managing the power consumption of electrical or electronic devices connected to a power grid, with additional education substituting for professional experience and vice versa. (EX2012, ¶31.)

PO’s proposed definition differs from Petitioner’s in its description of the type of professional experience had by a POSITA. In Petitioner’s proposed definition, a POSITA “would have had at least two years training or experience with intelligent power-management techniques for electrical or electronic devices that use or control utility grid electricity.” (Pet. at 11.) The Board should adopt PO’s proposed definition because it is consistent with the stated field of the invention of the ’243 Patent to adapt power consumption of a computational device in response to environmental conditions, (Ex-1001 at 1:6-9), whereas Petitioner’s definition introduces terms such “intelligent” and concepts such as “control [of] utility grid electricity” that are unnecessary and unclear.

V. CLAIM CONSTRUCTION

Claims in a post-grant review are construed using the same claim construction standard as in a civil action. 37 C.F.R. § 42.100(b). Under this standard, claims terms are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art (“POSITA”) at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (*en banc*). The POSITA is deemed to read the claim term in the context of the entire patent, including the specification and prosecution history. *Id.* at 1313-16.

Petitioner’s claim that it “applied plain and ordinary meanings to all terms” (Pet. at 11), without specifying what constitutes the plain and ordinary meaning of any term, is not helpful in resolving the controversy at hand. In fact, Patent Owner submits that Petitioner’s arguments fail to give the terms at issue their ordinary and customary meaning as understood by a POSITA.

1. “aggregate feed”/“aggregated feed”

For example, with respect to the term “aggregate feed” in claim 8, Petitioner incorrectly claims that “the specification does not use the term.” (Pet. at 56; EX2012, ¶61.) Therefore, Petitioner assumes that the term “simply refers to a feed for delivery of the high demand indicator, as well as other information,” *id.*, and Petitioner subsequently reads any type of feed in Wang as an “aggregate feed,” *id.* at 57-59. (EX2012, ¶62.)

Contrary to Petitioner’s claim, there are numerous references to an “aggregate feed” in the ’243 Patent. *See, e.g.*, 4:66-5:7 (“the module 200 further

configured to aggregate a feed inclusive of high-demand indicators and publish the **aggregate feed** through a communication means 282”); 5:57-6:2 (“analysis . . . may indicate that one or more local, more environmentally-friendly (or ‘green’) energy producers are near capacity, resulting in issuance of a high-demand indicator through an **aggregated feed** . . . ”); 6:60-66 (“**[a]ggregated feed** publication to the computational device (for example at 108 of FIG. 1 above) is accomplished by a feed publisher logic component 208, which may publish the **aggregate feed** through pushing updated RSS data to registered computational devices 230 . . . ”); 7:8-12 (“computational device 230 memory 233 comprises an **aggregate feed** acquirer logic component 232 configured to acquire the **aggregated feed** from the feed publisher 208 through the communication means . . . ”); 7:16-33 (“The **aggregate feed** acquirer 232 may thus accept incoming data . . . ”); 7:41-50 (“ . . . service provider 284 performs the required feed 280 analysis and aggregate results into an **aggregate feed** with indicators . . . ”). (EX2012, ¶63.) As noted above in Section III, the ’243 Patent uses the terms “aggregate feed” and “aggregated feed” interchangeably. A POSITA reading the ’243 Patent would understand these terms to mean “a feed combining data from a plurality of other feeds.” (EX2012, ¶64.) This is consistent with the way the terms are used in the ’243 Patent, (see 4:66-5:7; 5:57-6:2; 6:60-66; 7:8-12; 7:16-33; 7:41-50), as well as the dictionary definition of the term “aggregate,” (EX2014 at 1 (“aggregate”

defined as “formed by the collection of units or particles into a body, mass, or amount”). (EX2012, ¶65)

2. “current”

Additionally, Petitioner fails to address the meaning of the term “current” in the limitation “automatically reducing a current amount of consumption of electric power from the power grid system” in independent claims 1, 11, 15, and 18. (Petition at 11.) A POSITA reading the ’243 Patent and, in particular, the examples of power reduction actions described therein, would understand the limitation “automatically reducing a current amount of consumption of electric power from the power grid system” to mean a reduction in power consumption that takes place in the present as opposed to some future time. (EX2012, ¶66.) This is consistent with the disclosure in the ’243 Patent, which includes numerous examples of power reductions that take place in the present (*see* Ex-1001 at 1:61-67; 2:66-3:7; 5:32-43; 6:21-33; 8:47-60) and one that takes place in the future (*see id.* at 8:61-62), as well as the dictionary definition of the term “current,” (EX2015 at 1 (“current” defined as “occurring in or existing at the present time”). (EX2012, ¶67.) By incorporating the term “current” in the claims, the Applicant clearly intended to cover power reductions that take place in the present. (EX2012, ¶68.) If the Applicant wished to cover power reductions that take place in the future, it could have left the term “current” out of the claim. (EX2012, ¶69; *see In re Wilson*, 424 F.2d 1382, 1032 (CCPA 1970) (“All words in a claim must be

considered in judging the patentability of that claim against the prior art.”) As discussed in greater detail below, Petitioner ignores the term “current” in its analysis and, as a result, relies on power reductions in the cited art that take place in the future. (Pet. at 11, 34, 92.)

VI. ARGUMENT

The petitioner in an IPR bears the burden of proving by a preponderance of the evidence that each challenged claim is unpatentable. 35 U.S.C. § 316(e).

Petitioner has failed to meet this burden.

A. Ground 1 – Petitioner Fails to Show by a Preponderance of Evidence That Wang Renders Claims 1-20 Obvious

1. Claim 1

Claim 1 recites:

A method for adapting the power consumption of a computational device in response to environmental conditions, comprising:

acquiring operating environmental condition data relevant to the generation of electric power in a power grid system from an operating environment feed input;

analyzing the operating environmental condition data to determine an indication of a high demand for electric power from the power grid system; and

a computational device automatically reducing a current amount of consumption of electric power from the power grid system by the computational device if the analyzing determines the high electric power demand indication.

(Ex-1001 at 10:59-11:5.) Petitioner has failed to show by a preponderance of evidence that it would have been obvious in view of Wang to perform the claimed steps of “analyzing operating environmental condition data to determine an

indication of high demand for electric power from a power grid system”
(Limitation 1[B]) and “a computational device automatically reducing a current amount of consumption of electric power from the power grid system by the computational device if the analyzing determines the high electric power demand indication” (Limitation 1[C]). (EX2012, ¶90.)

(a) Limitation 1[B]

Petitioner alleges that Wang’s “smart appliances” have an “Appliance/Load Shed Application Processor” that “analyzes environmental condition data for relevant information (e.g., regarding power pricing)” and uses the information “to make determinations regarding demand for electric power.” (Pet. at 23-26.)
Petitioner doesn’t cite to any portion of Wang that explicitly describes the smart appliances as analyzing the information to determine a high electric power demand indication as claimed. Instead, Petitioner cites an excerpt from Wang stating that the appliances are “configured to use such information in an autonomous manner” and “[are] capable of independent load-shedding decisions.” (Pet. at 23 (citing Ex-1005 at 15:13-27).) Petitioner then argues that “[a]nalyzing operating environmental condition data is necessary for autonomous operation and independent load-shedding based on that data.” (Pet. at 23.) However, these excerpts omit important information, and a POSITA viewing Wang as a whole would reach a different conclusion. (EX2012, ¶94.)

At the outset, Petitioner mischaracterizes Wang by stating that the “appliances are configured to receive information from UMC transmitters (orange) and ‘use this information to regulate [their] usage . . . [and] minimize utility costs.’” (Pet. at 13.) Petitioner’s intentional editing omits that it is the human user—not the appliance—that does any regulating subject to the needs not of the environment, but to the individual user’s life style choices: “Such appliances, in turn, use this information to regulate appliance usage in a manner to as to minimize utility costs subject to any constraints needed to ***accommodate appliance user life style choices***. In a particular embodiment, such appliances provide the user with the ability to encode such cost/convenience trade-offs through a suitable man machine interface (MMI). This is illustrated, for example, by way of a programmable HVAC thermostat controller example disclosed below.” (Ex-1005 at 41:8-16; EX2012, ¶97.)

Moreover, Wang does not “analyze the operating environmental condition data to determine an indication of a high demand for electric power from the power grid system,” and automatically reduce a current amount of consumption of electric power “if the analyzing determines the high electric power demand indication.” (Ex-1001 at 10:65-11:5; EX2012, ¶98.) Rather, Wang discloses appliances that reduce consumption based on consumer preferences, and to the extent that any reduction in consumption is achieved, it is not done “automatically” nor is it done by “reducing a current amount of consumption,” because Wang is

directed to appliances that prioritize individual consumer choices (See e.g., Ex-1005, 15:13-20 (“In other embodiments, a decentralized system load sheds appliances **in accordance with consumer lifestyle choices** . . . In some embodiments, each such appliance is configured to use such information in an autonomous manner.”), 16:11-13 (“Radio receivers directly embedded within appliances are operable to receive such IBOC or RDS/RBDS modulated tariff data. Load shedding is then performed **based on consumer programming** and power tariff rates in force.”); EX2012, ¶99.)

The fact that an appliance may do something “autonomously” as repeated several times by Petitioner does not mean that the appliance is analyzing the data to determine an indication of high demand or automatically reducing a current amount of power consumed by the appliance. (EX2012, ¶100.) Put another way, there is no evidence that the Wang appliances have a decision engine that can analyze data and determine an indication of high demand. (EX2012, ¶101.) And contrary to Petitioner’s expert’s uncorroborated opinion, tariffs are not always indicative of demand. (EX2012, ¶102.)

The same holds true for Wang’s displays. (EX2012, ¶103.) Petitioner cites to disclosure in Wang that the display may illuminate a symbol 202 “when the power grid is experiencing overloaded conditions” or “[c]an flash with an intensity . . . [indicative] of the extent to which the power grid is overloaded” as evidence that the display teaches or suggests “analyzing the operating environmental

condition data . . . to determine an indication of a high demand for electric power from the power grid system.” (Pet. at 28-29.) Petitioner also cites to a portion of Wang allegedly indicating that the display can light up symbol 204 in cases where the power grid is in danger of becoming overloaded as further support. (Pet. at 28.) But there is no suggestion in Wang that the display performs any analysis of operating environmental condition data to determine an indication of a high demand for electric power from the power grid system. (EX2012, ¶106.) In fact, a POSITA reading Wang would conclude that the display is **not** performing such an analysis. (EX2012, ¶107.) For example, Wang discusses receiving “control signals to turn on lights 202, 204, and 206.” (Ex-1005 at 30:30-33; EX2012, ¶108.) And the AESO information in Wang characterized by Petitioner as operating environmental condition data is described in Wang as being “communicated using the systems and methods of the present invention to displays 200 so that **utility customers can make informed decisions on when to use power.**” (Ex-1005 at 36:13-15; EX2012, ¶109.) These teachings strongly suggest that the display is not intended to perform the claimed analysis. (EX2012, ¶109.)

In fact, Wang teaches against cutting human operators out of the loop. (EX2012, ¶110.) Wang states that one of the advantages of the invention “is the fact that no regulatory approval is required to implement the systems and methods of the present invention.” (Ex-1005 at 34:29-30.) Wang goes on to explain that “[b]ecause the new receiver does not control the appliance directly, no electrical

safety approvals will be required and there is no liability associated with the display device as the human operator is still “in the loop.”” (Ex-1005 at 35:11-14.) A POSITA reading these statements would not be motivated to cause Wang’s appliances and/or displays to perform the claimed analysis and power reduction in a completely autonomous manner. (EX2012, ¶113.) And even if the display was incorporated into the appliance, this would simply be a distributed version of the same functionality in Wang that requires a human user to operate. (EX2012, ¶114.)

(b) Limitation 1[C]

With regard to “a computational device automatically reducing a current amount of consumption of electric power from the power grid system by the computational device if the analyzing determines the high electric power demand indication,” Petitioner alleges that the smart appliances and/or displays in Wang perform this limitation. (Pet. 29-34.) For support, Petitioner cites to the examples in Wang of a smart HVAC, a smart clothes dryer, and a smart refrigerator that allegedly reduce power consumption based on tariff rate data. (*Id.*) This argument fails for at least three reasons.

First, tariff rate data is not a high electric power demand indication—it is data that may be used to determine a high electric power demand indication. (EX2012, ¶115.) Therefore, Petitioner implicitly admits that Wang is not reducing power consumption based on a high electric power demand indication. (EX2012, ¶116.)

Second, in each of the examples relied on by Petitioner, an interface such as a keypad or touch screen and a display unit is provided for the user to control the appliance. (*See, e.g.*, Ex-1005 at 41:8-16; 51:11-14, 19-25, 29-31; 52:3-5, 10-12; 53:33-54:2; 54:8-9; FIG. 8; EX2012, ¶117.)

Third, as noted above in Section VI.A.1(a), Wang teaches against cutting human operators out of the loop to avoid the need for electrical safety approvals and potential liability associated with having the receiver [of data] control the appliance. (EX2012, ¶118.) Therefore, a POSITA would not be motivated to configure Wang's appliances and/or displays to automatically reduce a current amount of power of consumption of the appliances based on a high electric power demand indication. (EX2012, ¶119.)

For at least the above reasons, Petitioner has failed to show by a preponderance of evidence that claim 1 would have been obvious in view of Wang. (EX2012, ¶120.)

2. Claim 2

Claim 2 depends from claim 1 and recites: “wherein the analyzing the operating environmental condition data determines the indication of the high demand for electric power from the power grid system if the operating environmental condition data indicates that a small size fossil fuel plant is coming on-line to provide power to the power grid system in response to a power demand on the power grid system.” (Ex-1001 at 11:7-13.) Since a dependent claim

contains all of the limitations of the claim or claims from which it depends, claim 2 is not rendered obvious by Wang for at least all of the reasons discussed above with regard to claim 1 in Section VI.A.1 *supra*. (EX2012, ¶121.)

Additionally, claim 2 should be found patentable because Petitioner has failed to show by a preponderance of evidence that the additional limitations of claim 2 would have been obvious in view of Wang. Petitioner does not dispute the fact that Wang fails to disclose determining a high power demand indicator based on a small size fossil fuel plant coming on-line. (EX2012, ¶122.) Instead, Petitioner argues that “[b]ased on the general knowledge of peaking plants and their relationship to grid demand, as well as Wang’s discussion of smart appliances receiving data regarding power producers, a POSA would have found it obvious to configure a smart appliance to receive and make power-consumption determinations based on data regarding peaking plants (i.e., small-size fossil fuel plants) coming online.” (Pet. at 36.) However, Petitioner has not provided any supporting evidence that information regarding peaking plants would have been available to a POSITA or that it would be obvious to use such information to determine a high power demand indicator and, in any event, a POSITA would understand that generic references to peaking plants does not imply that a ***small-size fossil fuel*** plant is coming on-line. (EX2012, ¶124.) Petitioner’s and its expert’s unsupported statements seeking to conjure the missing limitations should be afforded little or no weight.

3. Claim 3

Claim 3 depends from claim 1 and recites: “further comprising the computational device automatically increasing the current amount of consumption of electric power from the power grid system by the computational device from a current reduced electric power consumption level in response to not determining the indication of the high demand for electric power from the power grid system by analyzing the operating environmental condition data.” (Ex-1001 at 11:14-22.) Since a dependent claim contains all of the limitations of the claim or claims from which it depends, claim 3 is not rendered obvious by Wang for at least all of the reasons discussed above with regard to claim 1 in Section VI.A.1 *supra*. (EX2012, ¶125.)

4. Claim 4

Claim 4 depends from claim 1 and recites: “wherein the operating environment feed is a really simple syndication feed from at least one of an electricity plant and a weather service.” (Ex-1001 at 11:23-25.) Since a dependent claim contains all of the limitations of the claim or claims from which it depends, claim 4 is not rendered obvious by Wang for at least all of the reasons discussed above with regard to claim 1 in Section VI.A.1 *supra*. (EX2012, ¶126.)

Additionally, claim 4 should be found patentable because Petitioner has not shown by a preponderance of evidence that the additional limitations of claim 4 would have been obvious in view of Wang. Petitioner does not dispute the fact

that Wang fails to disclose an RSS feed. (EX2012, ¶127.) Instead, Petitioner argues “[s]ince RSS is simply XML-formatted plain text, a POSA would have understood an RSS feed as one of a finite number of known protocols for communication of XML or HTML web server data.” (Pet. at 40.) However, a POSITA would understand that a reference to XML does not imply that an RSS feed is being used because there are many uses of XML that do not require RSS, such as the format for .NET configuration files, data exchanges in SOAP (Simple Object Access Protocol), transmitting data in web services; industry-specific standards for data exchange in finance (XBRL) and healthcare (HL7), mathematical expressions such as MathML and scalable vector graphics, and in relational databases (e.g., SQL server; Oracle). (EX2012, ¶129.) Petitioner’s and its expert’s unsupported statements seeking to conjure the missing limitations should be afforded little or no weight.

5. Claim 5

Claim 5 depends from claim 1 and recites: “wherein the analyzing the operating environmental condition data determines indication of the high demand for electric power if the operating environmental condition data indicates an unusual weather condition that may result in heavy demand for power from the power grid system.” (Ex-1001 at 11:26-32.) Since a dependent claim contains all of the limitations of the claim or claims from which it depends, claim 5 is not

rendered obvious by Wang for at least all of the reasons discussed above with regard to claim 1 in Section VI.A.1 *supra*. (EX2012, ¶130.)

Additionally, claim 5 should be found patentable because Petitioner failed to show by a preponderance of evidence that the additional limitations of claim 5 would have been obvious in view of Wang. Petitioner does not dispute the fact that Wang fails to disclose determining an indication of high demand for electric power if environmental condition data indicates an unusual weather condition. Instead, Petitioner argues that “Wang describes operating environmental condition data that includes grid reliability and critical weather warnings (i.e. unusual weather conditions).” (Pet. at 41.) Wang does not provide any disclosure that is related to determining a high power demand indicator based on unusual weather conditions, much less automatically reducing a current amount of power consumption based on unusual weather conditions. (EX2012, ¶133.) A POSITA reading Wang would understand that the “critical weather warning” is merely sent to a display for the individual user’s benefit. (Ex-1005 at 39:25-29 (“Furthermore, critical weather warning . . . Display 200, because of its ongoing use for other utility purposes, is well suited to provide this emergency service and is best able to guarantee message delivery.”); EX2012, ¶134.) Petitioner’s and its expert’s unsupported statements seeking to conjure the missing limitations should be afforded little or no weight.

6. Claim 6

Claim 6 depends from claim 3 and recites: “further comprising: regularly updating the acquired the operating environmental condition data; if changes are found in the updated environmental data, updating an internal state table with new downloaded data from the operating environment feed input; and automatically reducing a present amount of consumption of electric power from the power grid system by the computational device if analyzing the updated state table data determines a high electric power demand indication, or increasing the present amount of consumption of electric power from the power grid system by the computational device if analyzing the updated state table data does not determine a high electric power demand indication.” (Ex-1001 at 11:33-48.) Since a dependent claim contains all of the limitations of the claim or claims from which it depends, claim 6 is not rendered obvious by Wang for at least all of the reasons discussed above with regard to claim 1 in Section VI.A.1 *supra*. (EX2012, ¶135.)

7. Claim 7

Claim 7 depends from claim 1 and recites: “wherein the operating environmental condition data feed comprises information describing an output capacity and a current output of each of plurality of potential energy producers of the power grid system; and wherein the analyzing the operating environmental condition data determines the indication of the high demand for electric power from the power grid system if the operating environmental condition data feed information indicates a relatively environmentally-friendly energy producer is near

its output capacity.” (Ex-1001 at 11:49-58.) Since a dependent claim contains all of the limitations of the claim or claims from which it depends, claim 7 is not rendered obvious by Wang for at least all of the reasons discussed above with regard to claim 1 in Section VI.A.1 *supra*. (EX2012, ¶136.)

Additionally, claim 7 should be found patentable because Petitioner has not shown by a preponderance of evidence that the additional limitations of claim 7 would have been obvious in view of Wang. Petitioner alleges that the additional limitations would have been obvious in view of Wang’s disclosure that AESO publishes information (i.e., MCR and TNG) of individual renewable energy sources and, with that information, users are able to postpone energy consuming tasks to points in time when more renewable energy resources are used to generate power. (Pet. at 49-51.) Even if it were possible to use the AESO information to determine whether a relatively environmentally-friendly energy producer is near its output capacity, there is no teaching or suggestion in Wang of using such information to determine an indication of high demand for electric power ***from the power grid system***, much less automatically reducing a current amount of power consumed by a computational device from the power grid system. (EX2012, ¶138.) Wang merely discloses that the AESO information can be published to the user display 200 so that the user “can make informed decisions on when to use power.” (See Ex-1005 at 36:13-15; EX2012, ¶139.) Even if Wang did determine a high demand indicator (which it does not), Wang still leaves it up to the user to

analyze the data and postpone energy consuming tasks. (EX2012, ¶140.)

Petitioner and its expert's unsupported statements seeking to conjure missing limitations are classic hindsight analysis and should be afforded little or no weight.

8. Claim 8

Claim 8 depends from claim 1 and recites: “wherein the analyzing operating environment feed data to determine a high electric power demand indication comprises: [i] applying a weighted function comprising a linear combination of values obtained from a plurality of different feeds, each of the different feeds having a weight; and [ii] if the linear combination is above a certain threshold, including the high demand indicator in the aggregate feed.” (Ex-1001 at 11:59–67.)

Since claim 8 depends from claim 1, and a dependent claim contains all of the limitations of the claim or claims from which it depends, claim 8 should be found patentable over Wang for at least the same reasons as claim 1. (*See* Section VI.A.1 *supra*.)

Additionally, claim 8 should be found patentable because Petitioner has failed to show by a preponderance of evidence that the additional limitations of claim 8 would have been obvious in view of Wang. (EX2012, ¶141.) Petitioner does not allege that Wang discloses the additional limitations of claim 8. Rather, Petitioner argues that the additional limitations would have been obvious because Wang allegedly discloses “values obtained from a plurality of different feeds,” and

“a POSA would have been motivated to weigh the data and thereby make aggregated findings concerning power-grid demand.” (Pet. at 55.)

Petitioner does not cite to any prior art in support of its allegation that a POSITA would have been motivated to weigh data from a plurality of feeds in a linear combination to determine an indication of high power demand. (EX2012, ¶144.) Instead, Petitioner relies on the unsupported testimony of its expert, Dr. MacCarley, whose opinion merely repeats, verbatim, the conclusory assertions for which it is offered to support. (EX2012, ¶145.) More specifically, Petitioner and Dr. MacCarley allege that the limitations of claim 8 that are missing from Wang would have been obvious because:

- (a) the limitations “would have furthered Wang’s stated goal of ‘allow[ing] customers to make informed choices with regard to energy consumption and load shedding[.]’” (Pet. at 55; Ex-1003, ¶145);
- (b) the limitations are “one of a finite number of known methods for correlating and analyzing data” and would therefore have been “obvious to try” (Pet. at 56; Ex-1003, ¶146); and
- (c) providing the limitations would have been motivated by Wang’s discussion of “user preferences for particular types of energy.” (Pet. at 56; Ex-1003, ¶147.)

As an initial matter, Dr. MacCarley’s testimony on the above points (a) – (c) should be given little or no weight since it is unsupported and does not disclose the

underlying facts or data upon which it is based. *See, e.g.*, 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”); *Upjohn Co. v. Mova Pharm. Corp.*, 225 F.3d 1306, 1311 (Fed. Cir. 2000) (“Lack of factual support for expert opinion to factual determinations, however, may render the testimony of little probative value in a validity determination.”). Dr. MacCarley’s testimony on these points should also be given little or no weight because, in addition to merely repeating conclusory assertions in the Petition, it is offered to supply limitations completely missing from Wang. *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15-16 (PTAB Aug. 24, 2022) (declaration that “merely repeats, verbatim, the conclusory assertion for which it is offered to support,” and “does not cite to any additional supporting evidence or provide any technical reasoning [in] support,” “is particularly problematic in cases where, like here, [the] expert testimony is offered not simply to provide a motivation to combine prior-art teachings, but rather to supply a limitation missing from the prior art.”); *see also id.*, Paper 12 at 5 (Dir. Review Feb. 10, 2023.) For these reasons alone, Petitioner has failed to meet its burden with respect to claim 8.

Furthermore, with regard to Petitioner’s argument (a), a conclusory statement that the additional limitations of claim 8 would have furthered a stated goal of Wang, without any explanation how or why, is not enough to demonstrate obviousness of the additional limitations to a POSITA. (EX2012, ¶147.) In fact,

an argument could be made that the additional limitations of claim 8 (determining an indicator of high power demand by applying a weighted function comprising a linear combination of values obtained from a plurality of different feeds, and including the high demand indicator in an aggregate feed), would actually frustrate Wang's alleged goal of 'allow[ing] customers to make informed choices with regard to energy consumption and load shedding[],' by withholding the underlying information from the customer and instead providing an indicator in an aggregate feed that is used to automatically reduce power consumption, thereby taking the customer out of the loop. (EX2012, ¶148; *see also* Section VI.A.1(a), *supra* (teaching away from embodiments that take the user out of the loop).)

With regard to Petitioner's argument (b), Petitioner and its expert have not shown that Wang analyzes operating environmental condition data to determine a high electric power demand indication that is used to automatically reduce a computational device's current amount of consumption of electric power. (EX2012, ¶149.) Data such as tariffs, which Petitioner equates with the claimed operating environmental condition data, cannot also be the claimed high electric power demand indication. (EX2012, ¶150.) Petitioner has not identified any analysis in Wang that determines a high electric power demand indication from such data, much less a high electric power demand indication that is used to automatically reduce a current amount of power consumed by a computational device. (EX2012, ¶151.) And even if Wang did disclose such an analysis (which

Petitioner has not shown), Petitioner provided no evidence (other than a conclusory statement) that the additional limitations are “one of a finite number of known methods for correlating and analyzing data.” (EX2012, ¶152.) In fact, it could be argued that there were numerous possible alternatives for analyzing data, such as other linear methods (e.g., linear regression methods, linear mixed models, stochastic gradient descent, Bayesian linear regression, matrix factorization techniques, etc.), non-linear methods (such as polynomial regression, quadratic programming, genetic algorithms, etc.), analysis of variants (ANOVA), matrix decomposition, principle component analysis, clustering methods (such as k-means clustering, k-nearest neighbors, etc.), neural networks, statistical classifiers, decision trees, random forest techniques or even providing the high demand indicator in separate feeds instead of an aggregate feed, as well as a great many others. (EX2012, ¶153.) The fact there were numerous possible alternatives undermines Petitioner’s obvious to try argument. *See In re Kubin*, 561 F.3d 1351, 1359 (Fed. Cir. 2009) (“where a defendant merely throws metaphorical darts at a board filled with combinatorial prior art possibilities, courts should not succumb to hindsight claims of obviousness.”)

With regard to Petitioner’s argument (c), the fact that a user may prefer to postpone energy consuming tasks to those points in time when more renewable energy sources are being used to generate power would not have motivated a POSA to weigh the information from various feeds to determine an indication of

high electrical power demand that is used to automatically reduce a computational device's current amount of power consumption. (EX2012, ¶154.) Petitioner has provided no evidence (other than unsupported expert testimony) linking a user's preference for particular types of energy with determining an indication of high electrical power demand or automatically reducing a computational device's current amount of power consumption based on such an indication. (EX2012, ¶155.) Petitioner tacitly acknowledges this defect in its reasoning by instead arguing that a POSA would be motivated "to weigh the information from the various feeds to suit user preferences" (e.g., to postpone energy consuming tasks until more renewable energy sources are being used to generate power). (Pet. at 56.) Even if this were true (which Petitioner has not shown), the result would not provide all the missing limitations of claim 8. For example, postponing energy consuming tasks does not involve reducing a **current** amount of power consumed by the computational device. (EX2012, ¶158.) Nor has Petitioner shown that the alleged motivation to weigh information from various feeds to suit user preferences would involve a linear combination of values, determining a high electric power demand indication from the values, or including the indicator in an aggregate feed if the linear combination is above a certain threshold. (EX2012, ¶159.)

Recognizing the hole in its argument with regard to the limitation "including the high demand indicator in the aggregate feed," Petitioner argues that there is no antecedent support for the term "the aggregate feed" in claim 8 and the

specification does not use the term, therefore it “assumes” that the term refers to “a feed for delivery of the high demand indicator, as well as other information.” (Pet. at 56.) Petitioner’s assumption is incorrect. First, as discussed in Section V.1, *supra*, it’s simply untrue that the specification does not use the term “aggregate feed.” The term is used throughout the specification of the ’245 Patent. (See, e.g., Ex-1001 at 4:66-5:7; 5:57-6:2; 6:60-66; 7:8-12; 7:16-33; 7:41-50; FIG 1 (step 106) (highlighted and reproduced below), FIG 2 (feed aggregator 206) (highlighted and reproduced below).) The ’245 Patent also uses the term “the aggregate feed” interchangeably with the term “the aggregated feed,” which also appears throughout the specification of the ’245 Patent. (See, e.g., *id.* at 6:60-66 and 7:8-12.)

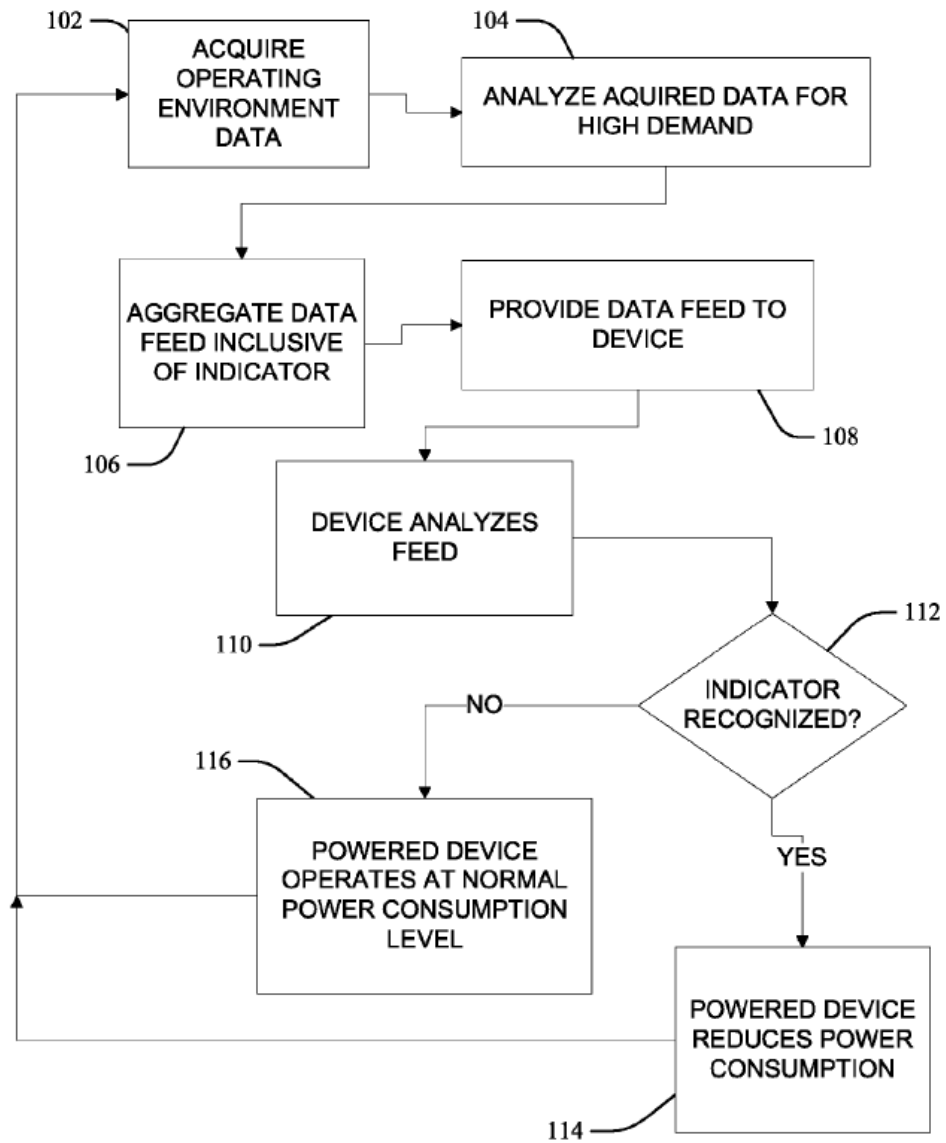


FIG 1

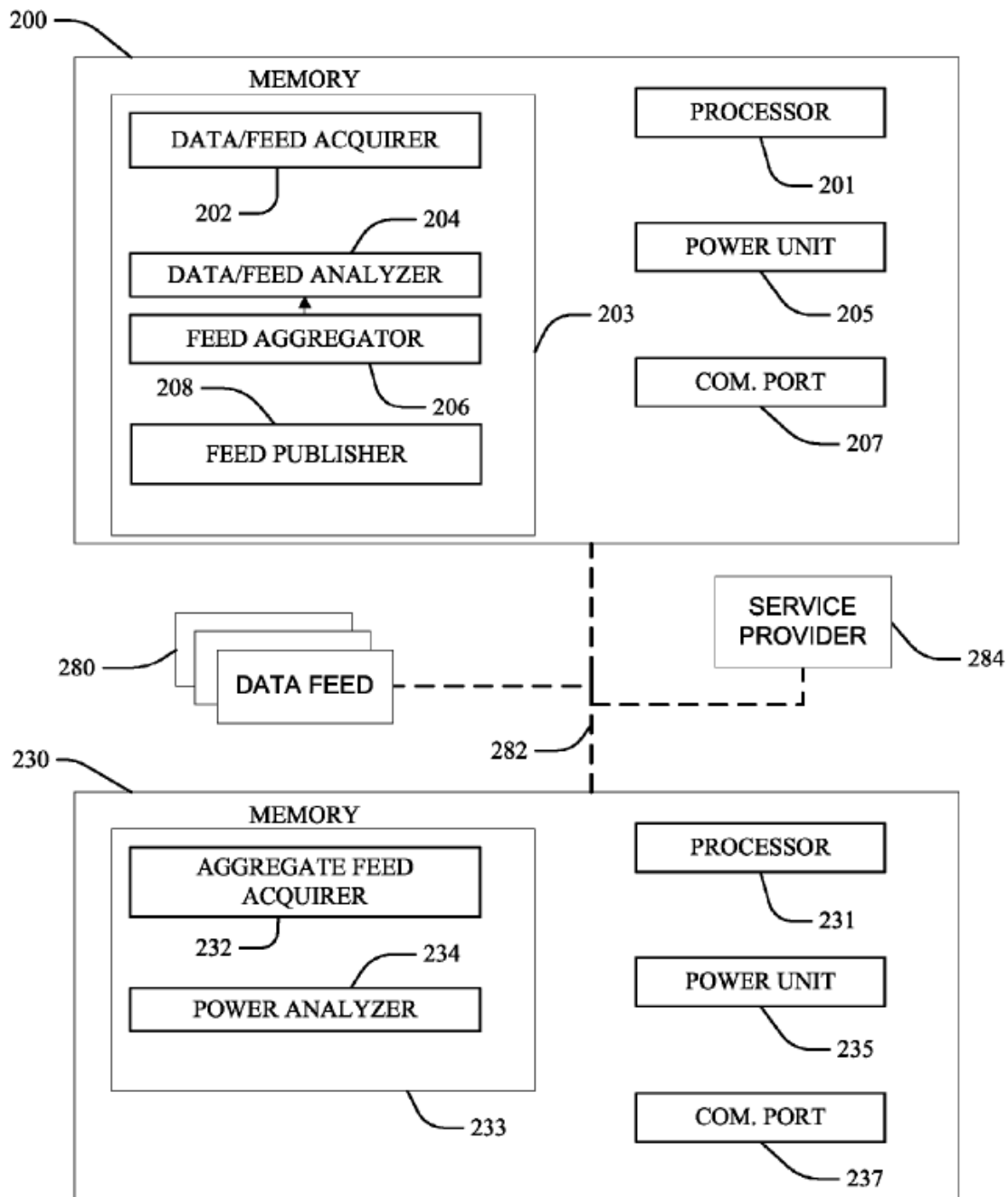


FIG 2

Second, whether or not there is antecedent basis in claims 1 or 8 for the term “the aggregate feed,” under the *Phillips* standard, the term should be given its plain and ordinary meaning as understood by a POSITA when read in light of the

specification—not some assumed meaning divorced from the specification as proposed by Petitioner. As noted in Section V.1, *supra*, a POSITA reading the '243 Patent would readily understand the terms “the aggregate feed” and “the aggregated feed” to mean “a feed combining data from a plurality of other feeds.” (EX2012, ¶160.) This meaning is consistent with the disclosure of the '243 Patent and with the dictionary definition of the term “aggregate.” (See EX2014 at 1; EX2012, ¶161.)

Petitioner has provided no evidence that the feeds in Fig. 17 disclose the aggregate feed of claim 8, unless one ignores the word “aggregate” in the term. (EX2012, ¶162.) When the term “the aggregate feed” is properly construed, it is clear that the various communication feeds between appliances 1720 and 1730 and meters 1502 in Fig. 17 of Wang do not disclose an aggregate feed, because none of the feeds are shown or described as combining data from a plurality of other feeds. (EX2012, ¶163.) Thus, Petitioner has not shown by a preponderance of evidence that Wang combines a plurality of feeds into an aggregate feed, much less applying a weighted function comprising a linear combination of values obtained from a plurality of different feeds and including a high demand indicator in such an aggregate feed. (EX 2012, ¶164.) Even if it would have been obvious to determine a high power demand indicator by applying a weighted function comprising a linear combination of values obtained from a plurality of different feeds (which has not been demonstrated), Petitioner has not shown by a

preponderance of evidence that it would have been obvious to include the high power demand indicator in an aggregate feed or to automatically reduce a current power consumption of a computational device if the analyzing determines a high power demand indicator. (EX2012, ¶165.) Therefore, claim 8 should be found valid for these reasons as well.

9. Claim 9

Claim 9 depends from claim 1 and recites: “The method of claim 1, further comprising determining the indication of the high demand for electric power from the power grid system in response to data in the operating environmental condition data that comprises at least one of: a spot price value of electricity; and a rate of change of a price of electricity.” (Ex-1001 at 12:1-6.) A dependent claim contains all of the limitations of the claim or claims from which it depends. Therefore, claim 9 is not rendered obvious by Wang for at least all of the reasons discussed above with regard to claim 1 in Section VI.A.1 *supra*. (EX2012, ¶166.)

Additionally, Petitioner has not shown by a preponderance of evidence that Wang teaches or suggests determining the high electric power demand indication in response to “a rate of change of a price of electricity.” Petitioner alleges that while “Wang does not explicitly teach data regarding the rate of change of the price of electricity . . . Wang does describe real-time pricing data.” (Pet. at 60.) However, Petitioner’s argument is a false syllogism. That is, the fact that Wang receives tariff information over time, and the fact that a rate of change may be

calculated using tariff information over time, does not imply that it would have been obvious to modify Wang to calculate a rate of change of a price of electricity, much less to determine a high electric power demand indication based on calculating a rate of change. (EX2012, ¶169.) Petitioner must demonstrate that a POSITA would have been motivated to modify Wang to do these things. *KSR*, 550 U.S. at 418 (“... obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”) Aside from uncorroborated statements, Petitioner has provided no evidence in support of its argument. Petitioner’s argument is thus a classic case of impermissible hindsight.

10. Claim 10

Claim 10 depends from claim 9 and recites: “The method of claim 9 wherein the step of the computational device automatically reducing the current amount of consumption of electric power from the power grid system by the computational device comprises running nonessential services only when the spot price value of electricity is low.” (Ex-1001 at 12:7-11.) A dependent claim contains all of the limitations of the claim or claims from which it depends. Therefore, claim 10 is not rendered obvious by Wang for at least all of the reasons discussed above with regard to claim 1 in Section VI.A.1 *supra* and claim 9 in Section VI.A.9 (EX2012, ¶170.)

11. Independent Claim 11

Independent claim 11 recites: “A service for adapting the power consumption of a computational device in response to environmental conditions, comprising: providing a computer infrastructure configured to: acquire operating environmental condition data relevant to the generation of electric power in a power grid system from an operating environment feed input; analyze the operating environmental condition data to determine an indication of a high demand for electric power from the power grid system; and cause a computational device to automatically reduce a current amount of consumption of electric power from the power grid system by the computational device if the analyzing determines the high electric power demand indication.” (Ex-1001 at 12:12-27.) Thus, independent claim 11 recites essentially the same limitations that were discussed above with respect to claim 1 (e.g., 1[B] and 1[C]) that are not obvious in view Wang. Therefore, for the same reasons as discussed above with respect to claim 1 in Section VI.A.1 *supra*, Wang does not render obvious claim 11. (EX2012, ¶172.)

12. Claim 12

Claim 12 depends from claim 11 and recites: “The service of claim 11, wherein the computer infrastructure is further configured to: determine the indication of the high demand for electric power from the power grid system if the operating environmental condition data indicates that a small size fossil fuel plant is coming on-line to provide power to the power grid system in response to a

power demand on the power grid system. (Ex-1001 at 12:28-35.) A dependent claim contains all of the limitations of the claim or claims from which it depends. Therefore, claim 12 is not rendered obvious by Wang for at least all of the reasons discussed above with regard to claim 11 in Section VI.A.11 *supra*. Additionally, since claim 12 recites essentially the same limitations as claim 2, claim 12 is not rendered obvious by Wang for at least the same reasons discussed above with regard to claim 2 in Section VI.A.2 *supra*. (EX2012, ¶173.)

13. Claim 13

Claim 13 depends from claim 12 and recites: “The service of claim 12, wherein the computer infrastructure is further configured to determine the indication of the high demand for electric power from the power grid system if the operating environmental condition data indicates an unusual weather condition that may result in heavy demand for power from power grid system. (Ex-1001 at 12:36-41.) A dependent claim contains all of the limitations of the claim or claims from which it depends. Therefore, claim 13 is not rendered obvious by Wang for at least all of the reasons discussed above with regard to claim 12 in Section VI.A.12 *supra*. Additionally, since claim 13 recites essentially the same limitations as claim 5, claim 13 is not rendered obvious by Wang for at least the same reasons discussed above with regard to claim 5 in Section VI.A.5 *supra*. (EX2012, ¶174.)

14. Claim 14

Claim 14 depends from claim 12 and recites: “The service of claim 12, wherein the computer infrastructure is further configured to determine the high electric power demand indication in response to data in the operating environmental condition data that comprises at least one of: a spot price value of electricity; and a rate of change of a price of electricity.” (Ex-1001 at 12:41-47.) A dependent claim contains all of the limitations of the claim or claims from which it depends. Therefore, claim 14 is not rendered obvious by Wang for at least all of the reasons discussed above with regard to claim 12 in Section VI.A.12 *supra* and claim 9 in Section VI.A.9 *supra*. (EX2012, ¶175.)

Additionally, Petitioner has not shown by a preponderance of evidence that Wang teaches or suggests determining the high electric power demand indication in response to “a rate of change of a price of electricity.” (EX2012, ¶176.) Petitioner alleges that while “Wang does not explicitly teach data regarding the rate of change of the price of electricity . . . Wang does describe real-time pricing data. (Pet. at 60, 68 (Claims 12-14 “are otherwise analogous to Claims 2, 5, and 9, respectively, and are obvious for similar reasons.”).) However, Petitioner’s argument is false syllogism. That is, the fact that Wang receives tariff information over time, and the fact that a rate of change may be calculated using tariff information over time, does not necessarily lead to the conclusion that it would have been obvious to modify Wang to calculate a rate of change of a price of electricity, much less to determine a high electric power demand indication based

on calculating a rate of change. (EX2012, ¶178.) Petitioner must demonstrate that a POSITA would have been motivated to modify Wang to do these things. Aside from uncorroborated statements, Petitioner has provided no evidence in support of its argument. Petitioner's argument is thus a classic case of impermissible hindsight.

15. Independent Claim 15

Claim 15 recites: “An article of manufacture, comprising: a computer readable tangible storage medium having computer readable program code embodied therewith, the computer readable program code comprising instructions which, when executed on a computer system, cause the computer system to: acquire operating environmental condition data relevant to the generation of electric power in a power grid system from an operating environment feed input; analyze the operating environmental condition data to determine an indication of a high demand for electric power from the power grid system; and cause a computational device to automatically reduce a current amount of consumption of electric power from the power grid system by the computational device if the analyzing determines the high electric power demand indication.” (Ex-1001 at 12:48-64.) Thus, independent claim 15 recites essentially the same limitations that were discussed above with respect to claim 1 (e.g., 1[B] and 1[C]) that are not obvious in view Wang. For the same reasons as discussed above with respect to

claim 1 in Section VI.A.1 *supra*, Wang does not render obvious claim 15.

(EX2012, ¶179.)

16. Claim 16

Claim 16 depends from claim 15 and recites: “The article of manufacture of claim 15, the program code comprising instructions which, when executed on the computer system, causes the computer system to: regularly update the acquired the operating environmental condition data; if changes are found in the updated environmental condition data, update an internal state table with new downloaded data from the operating environment feed input; and automatically reduce a present amount of consumption of electric power from the power grid system by the computational device if analyzing the updated state table data determines a high electric power demand indication.” (Ex-1001 at 12:65-13:10.) A dependent claim contains all of the limitations of the claim or claims from which it depends. Therefore, claim 16 is not rendered obvious by Wang for at least all of the reasons discussed above with regard to claim 15 in Section VI.A.15 *supra*. (EX2012, ¶180.)

17. Claim 17

Claim 17 depends from claim 15 and recites: “The article of manufacture of claim 15, the program code comprising instructions which, when executed on the computer system, causes the computer system to analyze the operating environment feed data to determine the high electric power demand indication if

the operating environmental condition data feed information indicates a relatively environmentally-friendly energy producer is near its output capacity.” (Ex-1001 at 13:11-18.) A dependent claim contains all of the limitations of the claim or claims from which it depends. Therefore, claim 17 is not rendered obvious by Wang for at least all of the reasons discussed above with regard to claim 15 in Section VI.A.15 *supra*. Additionally, since claim 17 recites essentially the same limitations as claim 7, claim 17 is not rendered obvious by Wang for at least the same reasons discussed above with regard to claim 7 in Section VI.A.7 *supra*. (EX2012, ¶181.)

18. Independent Claim 18

Claim 18 recites: “A programmable device comprising: a processing means; a memory in communication with the processing means comprising a logic component; and a network interface in communication with the processing means and the memory; wherein the processing means is configured to: acquire operating environmental condition data relevant to the generation of electric power in a power grid system from an operating environment feed input; analyze the operating environmental condition data to determine an indication of a high demand for electric power from the power grid system; and cause a computational device to automatically reduce a current amount of consumption of electric power from the power grid system by the computational device if the analyzing determines the high electric power demand indication.” (Ex-1001 at 13:19-14:5.) Thus, independent claim 18 recites essentially the same limitations that were

discussed above with respect to claim 1 (i.e., 1[B] and 1[C]) that are not obvious in view Wang. For the same reasons as discussed above with respect to claim 1 in Section VI.A.1 *supra*, Wang does not render obvious claim 18. (EX2012, ¶182.)

19. Claim 19

Claim 19 depends from claim 18 and recites: “The programmable device of claim 18, wherein processing means is configured to: regularly update the acquired the operating environmental condition data; if changes are found in the updated environmental condition data, update an internal state table with new downloaded data from the operating environment feed input; and automatically reduce a present amount of consumption of electric power from the power grid system by the computational device if analyzing the updated state table data determines a high electric power demand indication.” (Ex-1001 at 14:6-14:19.) A dependent claim contains all of the limitations of the claim or claims from which it depends. Therefore, claim 19 is not rendered obvious by Wang for at least all of the reasons discussed above with regard to claim 18 in Section VI.A.18 *supra*. (EX2012, ¶183.)

20. Claim 20

Claim 20 depends from claim 18 and recites: “The programmable device of claim 18, wherein processing means is configured to analyze the operating environment feed data to determine a high electric power demand indication by: determining the indication of the high demand for electric power if the operating

environmental condition data indicates that a small size fossil fuel plant is coming on-line to provide power to a power demand on the power grid system.” (Ex-1001 at 14:20-28.) A dependent claim contains all of the limitations of the claim or claims from which it depends. Therefore, claim 20 is not rendered obvious by Wang for at least all of the reasons discussed above with regard to claim 18 in Section VI.A.18 *supra*. Additionally, since claim 20 recites essentially the same limitations as claim 2, claim 20 is not rendered obvious by Wang for at least the same reasons discussed above with regard to claim 2 in Section VI.A.2 *supra*. (EX2012, ¶184.)

B. Ground 2 - Petitioner Fails to Show by a Preponderance of Evidence That Wang in View of the AESO Report Renders Claims 2, 12–14, and 20 Obvious

1. Claim 2

Claim 2 depends from claim 1 and recites: “The method of claim 1, wherein the analyzing the operating environmental condition data determines the indication of the high demand for electric power from the power grid system if the operating environmental condition data indicates that a small size fossil fuel plant is coming on-line to provide power to the power grid system in response to a power demand on the power grid system.” (Ex-1001 at 11:7-13.) Since Ground 2 does not rely on AESO to overcome the deficiencies of Wang noted above in Ground 1 with respect to claim 1, claim 2 distinguishes over Wang-AESO for at least the same reasons noted above in the discussion of claim 1 with regard to Ground 1.

Furthermore, AESO does not provide any disclosure that is related to a small-size fossil fuel plant **coming on-line**. (EX2012, ¶185.) Mere existence of a coal plant is not enough. (EX2012, ¶185.) Therefore, AESO would not have motivated a POSITA to determine a high power demand indicator if a small-size fossil fuel plant comes online. (EX2012, ¶185.) Petitioner and its expert's unsupported statements seeking to conjure missing limitations are classic hindsight analysis and should be afforded little or no weight.

2. Claim 12

Claim 12 depends from claim 11 and recites: “The service of claim 11, wherein the computer infrastructure is further configured to: determine the indication of the high demand for electric power from the power grid system if the operating environmental condition data indicates that a small size fossil fuel plant is coming on-line to provide power to the power grid system in response to a power demand on the power grid system. (Ex-1001 at 12:28-35.) Since Ground 2 does not rely on AESO to overcome the deficiencies of Wang noted above in Ground 1 with respect to claims 1 and 11, claim 12 distinguishes over Wang-AESO for at least the same reasons noted above in the discussion of claims 1 and 11 with regard to Ground 1.

3. Claim 13

Claim 13 depends from claim 12 and recites: “The service of claim 12, wherein the computer infrastructure is further configured to determine the

indication of the high demand for electric power from the power grid system if the operating environmental condition data indicates an unusual weather condition that may result in heavy demand for power from power grid system. (Ex-1001 at 12:36-41.)

In its Institution Decision, the Board found that “it does not appear that Petitioner has demonstrated a reasonable likelihood of prevailing in its challenge to claims 13 and 14 as obvious over Wang and the AESO Report.” (ID at 44.) PO agrees and adds further that the Petition fails to provide a discussion of the motivation to combine with claim 12 or a discussion of the expectation of success.

Since Ground 2 does not rely on AESO to overcome the deficiencies of Wang noted above in Ground 1 with respect to claims 1 and 11 (from which claim 12 depends), claim 13 distinguishes over Wang-AESO for at least the same reasons noted above in the discussion of claims 1 and 11 with regard to Ground 1.

4. Claim 14

Claim 14 depends from claim 12 and recites: “The service of claim 12, wherein the computer infrastructure is further configured to determine the high electric power demand indication in response to data in the operating environmental condition data that comprises at least one of: a spot price value of electricity; and a rate of change of a price of electricity.” (Ex-1001 at 12:41-47.)

As noted immediately above in Section VI.B.3, the Board found that “it does not appear that Petitioner has demonstrated a reasonable likelihood of prevailing in

its challenge to claims 13 and 14 as obvious over Wang and the AESO Report.” (ID at 44.) PO agrees and adds further that the Petition fails to provide a discussion of the motivation to combine with claim 12 or a discussion of the expectation of success.

Since Ground 2 does not rely on AESO to overcome the deficiencies of Wang noted above in Ground 1 with respect to claims 1 and 11 (from which claim 12 depends), claim 14 distinguishes over Wang-AESO for at least the same reasons noted above in the discussion of claims 1 and 11 with regard to Ground 1.

5. Claim 20

Claim 20 depends from claim 18 and recites: “The programmable device of claim 18, wherein processing means is configured to analyze the operating environment feed data to determine a high electric power demand indication by: determining the indication of the high demand for electric power if the operating environmental condition data indicates that a small size fossil fuel plant is coming on-line to provide power to a power demand on the power grid system.” (Ex-1001 at 14:20-28.) Since Ground 2 does not rely on AESO to overcome the deficiencies of Wang noted above in Ground 1 with respect to claims 1 and 18, claim 20 distinguishes over Wang-AESO for at least the same reasons noted above in the discussion of claims 1 and 18 with regard to Ground 1.

C. Ground 3 - Petitioner Fails to Show by a Preponderance of Evidence That Cooley Anticipates Claims 1, 3, 11, 15, and 18

1. Claim 1

Claim 1 recites:

A method for adapting the power consumption of a computational device in response to environmental conditions, comprising:

acquiring operating environmental condition data relevant to the generation of electric power in a power grid system from an operating environment feed input;

analyzing the operating environmental condition data to determine an indication of a high demand for electric power from the power grid system; and

a computational device automatically reducing a current amount of consumption of electric power from the power grid system by the computational device if the analyzing determines the high electric power demand indication.

(Ex-1001 at 10:59-11:5.) Petitioner has failed to show by a preponderance of evidence that Cooley discloses “a computational device automatically reducing a current amount of consumption of electric power from the power grid system by the computational device if the analyzing determines the high electric power demand indication” (Limitation 1[C]). (EX2012, ¶186.)

A POSITA would understand that the '243 Patent gives examples of two different types of power reduction actions—those that reduce a current amount of consumption of electrical power and those that reduce an amount of consumption at some later time. (Ex-1001 at 8:49-63; (EX2012, ¶187).) Examples of power reduction actions that reduce a current amount of consumption of electric power include: “reducing a clock rate of the CPU 312; reducing a brightness of a monitor 328 of the computer system 304; reducing a waiting time before disks 316/332 of

the computer system 304 are suspended; reducing a waiting time before the computer system 304 enters a hibernation or a standby mode; turning off one or more banks of memory 316/332 of the computer system 304; disabling one or more applications providing nonessential services (e.g., turning off the services that check for availability of software upgrades, turning off grid applications, etc.); consolidating loads from one or more computational devices 336 on the single computer system 304 and turning off the other computational devices 336.” (Ex-1001 at 8:49-60; EX2012, ¶188.)

An example of a power reduction action that does not reduce a current amount of consumption of electric power is scheduling nonessential operations at a different time (e.g., nonessential software or hardware upgrades). (Ex-1001 at 8:61-62; EX2012, ¶189.)

To prove anticipation under 35 U.S.C. § 102, the Petitioner must show that each and every claim element is found in a single reference and arranged as in the claim. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987); *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008). Thus, to prove anticipation of claim 1, Petitioner must show that Cooley reduces a current amount of consumption of electric power from the power grid system by the computational device if the analyzing determines the high electric power demand indication.

However, Petitioner has not even attempted to show that Cooley automatically reduces a current amount of consumption of electric power. (EX2012, ¶190.) Instead, Petitioner relies on scheduling for this limitation, which does not affect the current amount of consumption of electric power. (See Pet. at 91 (“one or more modules . . . determine whether to reschedule tasks on computing devices based on power-availability information for a power grid.”) (EX2012, ¶191.)

For example, the Petition describes Cooley as allowing “computing devices to reschedule tasks based on power-availability information for a power grid.” (Pet. at 84; see Pet. at 89 (“In Cooley, ‘the system may determine whether to reschedule the task on the computing device based on the power-availability information received in step 320 [green].’”), Pet. at 92 (“For example, ‘after determining that there is not sufficient power available to execute the task, the task permit may be postponed,’ and ‘may remain postponed until there is sufficient power available on the power grid, as determined by power-availability module 106.’”)

A POSITA would understand that Cooley’s disclosure of rescheduling or postponing task permits does not result in a computational device automatically reducing a current amount of consumption of electric power from the power grid. (EX2012, ¶193.) Cooley’s task permits that are rescheduled or postponed is directed to future tasks that are in the system’s regular schedule—as opposed to

claim 1 of the '243 Patent that is directed to automatic reduction of a current amount of consumption. (EX2012, ¶194.) For example, Cooley discloses that “[c]omputing devices often execute various tasks, such as automatic disk defragmentation and anti-virus scans, on regularly scheduled bases. Unfortunately, when a sufficient number of computing devices execute such tasks simultaneously, the collective activity of the computing devices may contribute to spikes on a power grid.” (Ex-1007 at 1:10-15.) Rescheduling or postponing tasks so as to avoid predicted spikes on a power grid is not the same as, and not similar to, claim 1 of the '243 Patent that requires automatic reduction of current electrical power consumption. (EX2012, ¶196.)

For at least these reasons, Petitioner has failed to show by a preponderance of evidence that Cooley anticipates claim 1 of the '243 Patent, and the Board should find the claim valid. (EX2012, ¶197.)

2. Claim 3

Claim 3 depends from claim 1 and recites: “The method of claim 1, further comprising the computational device automatically increasing the current amount of consumption of electric power from the power grid system by the computational device from a current reduced electric power consumption level in response to not determining the indication of the high demand for electric power from the power grid system by analyzing the operating environmental condition data.” (Ex-

1001 at 11:14-22.) A dependent claim contains all of the limitations of the claim or claims from which it depends. Therefore, claim 3 is not anticipated by Cooley for at least all of the reasons discussed above with regard to claim 1 in Section VI.C.1 *supra*. (EX2012, ¶198.)

3. Claim 11

Claim 11 recites: “A service for adapting the power consumption of a computational device in response to environmental conditions, comprising: providing a computer infrastructure configured to: acquire operating environmental condition data relevant to the generation of electric power in a power grid system from an operating environment feed input; analyze the operating environmental condition data to determine an indication of a high demand for electric power from the power grid system; and cause a computational device to automatically reduce a current amount of consumption of electric power from the power grid system by the computational device if the analyzing determines the high electric power demand indication.” (Ex-1001 at 12:12-27.) Thus, independent claim 11 recites essentially the same limitation discussed above with respect to claim 1 (e.g., Limitation 1[C]) that is not disclosed by Cooley.

As such, for the same reasons as discussed above with respect to claim 1 in Section VI.C.1 *supra*, Cooley does not anticipate this claim because Cooley does not “cause a computational device to automatically reduce a current amount of consumption of electric power from the power grid system by the computational

device if the analyzing determines the high electric power demand indication.”

(EX2012, ¶199.)

4. Claim 15

Claim 15 recites: “An article of manufacture, comprising: a computer readable tangible storage medium having computer readable program code embodied therewith, the computer readable program code comprising instructions which, when executed on a computer system, cause the computer system to: acquire operating environmental condition data relevant to the generation of electric power in a power grid system from an operating environment feed input; analyze the operating environmental condition data to determine an indication of a high demand for electric power from the power grid system; and cause a computational device to automatically reduce a current amount of consumption of electric power from the power grid system by the computational device if the analyzing determines the high electric power demand indication.” (Ex-1001 at 12:48-64.) Thus, independent claim 15 recites essentially the same limitation discussed above with respect to claim 1 (e.g., Limitation 1[C]) that is not disclosed by Cooley. As such, for the same reasons as discussed above with respect to claim 1 in Section VI.C.1 *supra*, Cooley does not anticipate this claim because Cooley does not “cause a computational device to automatically reduce a current amount of consumption of electric power from the power grid system by the computational

device if the analyzing determines the high electric power demand indication.”

(EX2012, ¶200.)

5. Claim 18

Claim 18 recites: “A programmable device comprising: a processing means; a memory in communication with the processing means comprising a logic component; and a network interface in communication with the processing means and the memory; wherein the processing means is configured to: acquire operating environmental condition data relevant to the generation of electric power in a power grid system from an operating environment feed input; analyze the operating environmental condition data to determine an indication of a high demand for electric power from the power grid system; and cause a computational device to automatically reduce a current amount of consumption of electric power from the power grid system by the computational device if the analyzing determines the high electric power demand indication.” (Ex-1001 at 13:19-14:5.) Thus, independent claim 18 recites essentially the same limitation discussed above with respect to claim 1 (e.g., Limitation 1[C]) that is not disclosed by Cooley.

As such, for the same reasons as discussed above with respect to claim 1 in Section VI.C.1 *supra*, Cooley does not anticipate this claim because Cooley does not “cause a computational device to automatically reduce a current amount of consumption of electric power from the power grid system by the computational

device if the analyzing determines the high electric power demand indication.”

(EX2012, ¶201.)

VII. DR. MACCARLEY’S TESTIMONY SHOULD BE ACCORDED LITTLE WEIGHT BECAUSE OF HIS CONNECTIONS WITH TESLA

Dr. MacCarley’s testimony should be given little—if any—weight due to bias because he has received material support for his academic activities and other benefits from Tesla—Petitioner in this IPR. *See Varian Med. Sys. v. William Beaumont Hospital*, IPR2016-00169, Paper 79 at 30, 2017 Pat. App. LEXIS 5415 at *45 (P.T.A.B. May 4, 2017) (“A financial interest is certainly a factor in deciding how much weight to give [an expert’s] testimony.”).

For instance, Dr. MacCarley admitted during his deposition in IPR2024-00387 that

- his connection with Tesla has lasted a decade (EX2013 at 78:21-22);
- he received “two Tesla North American standard chargers, Level 2 chargers, charge ports, for educational purposes[.]” (*id.* at 78:23–79:1);
- on several occasions, he and his students were allowed access to Tesla’s facilities, including in Tesla’s “earliest days when they were operating out of not much more than a garage, converting Lotus Elises to Tesla Roadsters[.]” and that at that time Tesla “shared some of their batteries with us” (*id.* at 79:14–80:1);
- he took his students to view Tesla’s facilities in the area, including in Palo Alto (*id.* at 80:13-15);
- he and his students received opportunities to see how Tesla “build their vehicles and chargers and—and some of their innovative marketing too[.]” (*id.* at 80:17-20);
- he was “instrumental” in forwarding his best students to Tesla’s recruiters, resulting in at least thirty of his students accepting job offers from Tesla (*id.* at 81:2-12);
- a Tesla recruiter is his former student (*id.* at 81:9-12); and

- he considers Tesla jobs to be one of the most prestigious opportunities for his students (*id.* at 81:13-18).

This clearly creates a conflict of interest prejudicial to PO. To make things worse, neither Petitioner nor Dr. MacCarley disclosed this conflict of interest to the Board. For these reasons, the Board should give little weight to Dr. MacCarley's testimony.

VIII. CONCLUSION

Patent Owner respectfully requests that the Board find the challenged claims to be patentable for the reasons stated herein.

Dated: November 27, 2024

/Jason M. Shapiro/
Jason M. Shapiro
Registration No. 35,354
Devlin Law Firm LLC
1526 Gilpin Ave.
Wilmington, DE 19806
Telephone: (302) 449-9010

*Counsel for Patent Owner Graphite
Charging Company, LLC*

CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that there are 12,933 words in this paper, excluding any table of contents, table of authorities, mandatory notices under 37 C.F.R. § 42.8, certificate of word count, certificate of service, or appendix of exhibits. This certification relies on the word count of the word-processing system used to prepare this paper.

Dated: November 27, 2024

/Jason M. Shapiro/

Jason M. Shapiro
Registration No. 35,354
Devlin Law Firm LLC
1526 Gilpin Ave.
Wilmington, DE 19806

*Counsel for Patent Owner Graphite
Charging Company, LLC*

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing Patent Owner's Response and Exhibits 2012-2015 were served on November 27, 2024, by filing the documents through the Patent Trial and Appeal Board End to End System as well as delivering copies via electronic mail upon the following email addresses for the attorneys of record for the Petitioner: Tesla-Graphite243-IPR@morganlewis.com and pmargulies@tesla.com.

Dated: November 27, 2024

/Jason M. Shapiro/

Jason M. Shapiro
Registration No. 35,354
Devlin Law Firm LLC
1526 Gilpin Ave.
Wilmington, DE 19806

*Counsel for Patent Owner Graphite
Charging Company, LLC*