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 SUR-REPLY

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U.S. Patent and Trademark Office
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Alexandria, VA 22313-1450
Submitted Electronically via PTAB E2E

TABLE OF EXHIBITS

Exhibit	Description
2001	U.S. Office of Personnel Management, Federal Holidays Overview, *available at* https://www.opm.gov/policy-data-oversight/pay-leave/federal-holidays/#url=2024 (last visited May 24, 2024)
2002	Unified Patents, Members
2003	*Tesla Inc. Annual Income Statement*, Wall St. J., https://www.wsj.com/market-data/quotes/TSLA/financials/annual/income-statement (last visited May 21, 2024)
2004	Non-Final Office Action, *Ex Parte* Reexamination of U.S. Patent No. 8,291,243, Control No. 90/019,303 (Apr. 11, 2024)
2005	Docket Report from May 24, 2024, *Graphite Charging Co. LLC v. Tesla, Inc.*, Case No. 3:24-cv-02717-VC (N.D. Ca.)
2006	Order Setting Initial Case Management Conference and ADR Deadlines, *Graphite Charging Co. LLC v. Tesla, Inc.*, Case No. 3:24-cv-02717-VC (N.D. Ca. May 7, 2024)
2007	Affidavit of Ms. Nadiia Loizides in Support of PO's Motion for P*ro Hac Vice A*dmission
2008	Joint Stipulation and Order Regarding Stay Pending Resolution of Petitions for *Inter Partes* Review and Mandamus as Amended, *Graphite Charging Co. LLC v. Tesla, Inc.*, Case No. 3:24-cv-02717-VC (N.D. Ca. May 31, 2024)
2009	Request for *Ex Parte* Reexamination of U.S. Patent No. 8,291,243, Control No. 90/019,303
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")

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I. INTRODUCTION

Petitioner's Reply (Paper 28; "Reply") failed to refute PO's arguments, and testimony of PO's expert Dr. Cameron remains unrebutted because Petitioner chose not to submit a supplemental declaration from its expert.

II. THE BOARD SHOULD ADOPT PO'S CONSTRUCTIONS

A. "Aggregate Feed"

PO presented arguments, supported by expert testimony, that a POSITA would understand the term "aggregate feed" in claim 8 to mean "a feed combining data from a plurality of other feeds." (POR 11; Ex-2012, ¶¶64-65.) Petitioner argued that PO's construction is wrong (Reply 2-5), but did not present rebuttal expert testimony.

1. Claim 8 supports PO's construction

First, Petitioner is wrong that claim 8 doesn't support PO's construction because it "separately" recites "a plurality of different feeds" and "the aggregate feed." (Reply 2-3.) Claim limitations are not construed in the abstract—a term must be considered, *inter alia*, in the context of the entire claim, as well as other claims and the specification. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005).

Here, the term "a plurality of different feeds" precedes the term "the aggregate feed" in the claim, suggesting that the latter feed is "the aggregate" of

the former feeds. Given the plain an ordinary meaning of "aggregate" (POR 10-12), nothing else makes sense in the context of the claim.

The specification further undermines Petitioner's argument because it consistently explains how "a feed aggregator logic component 206 within the memory 203 ***aggregates data from various providers 280 to create a single feed containing acquired data from all of the sources 280***[.]" (*See, e.g.*, EX-1001, 6:46-49.)[1] Thus, it is those multiple feeds (280) that are aggregated into a single feed.

Second, Petitioner is wrong that claim 8 doesn't say that the aggregate feed must specifically include the recited values obtained from different feeds. (Reply 3.) Claim 8 recites that the aggregate feed must include the high demand indicator if a linear combination of values is above a certain threshold, and that linear combination is obtained from a plurality of different feeds.

Third, Petitioner argues that an aggregate feed must include the high demand indicator. (Reply 3.) However, claim 8 is clear that the high demand indicator is included in the aggregate feed only "if the linear combination is above a certain threshold[.]" (Ex-1001, 11:65-67.) In other words, if the linear combination is ***not*** above a certain threshold, that indicator is not included in the aggregate feed.

[1] Unless specified otherwise, emphasis is added.

2. PO's construction doesn't read out embodiments

Petitioner is wrong that PO's construction reads out an "only data" embodiment. (Reply, 3-5.)

First, there is no disclosure of an "only data" embodiment. The Summary of the Invention explicitly states that "data relevant to the generation of electric power is acquired from an operating environment ***feed***." (Ex-1001, 1:61-64.) However, the specification uses the terms "feed," "feed/data providers," and "sources" interchangeably when discussing from whom information is acquired. (*See, e.g., id*. 5:2 ("feed/data providers"), 5:32-35 ("feed and/or sources 280"), 5:35-36 ("feed 280"), 5:57 ("The feeds 280 may comprise a variety of feeds and sources.").) Thus, when the patent refers generally to a "feed," it means a source from which data is received—not merely "data" as proposed by Petitioner. As Dr. Cameron explained: "all feeds contain data, but not all data is a feed." (Ex-1025, 429:21-430:8.) All of the embodiments include a "feed" (*i.e.*, a source from which data is received), and therefore claim 8 reads on all embodiments.

Second, Dr. Cameron did not admit "generally" that "or" in the '243 patent refers to alternate options. On the contrary, he stressed that context is necessary to understand whether the patentees used the inclusive and exclusive "or" in each instance. (*E.g.*, Ex-1025, 246:1-23, 248:16-20, 250:5-7.) Similarly, when asked about Ex-1001, 4:43-44, Dr. Cameron explained that a POSITA would understand

that the keyword there is "aggregated," meaning "it's aggregating these ***feeds or sets of data from individual service providers***." (Ex-1025, 252:1-4.)

Third, even assuming Petitioner is right (it is not), its own *Laitram* case teaches that "[i]f everything in the specification were required to be read into the claims, or if structural claims were to be limited to devices operated precisely as a specification-described embodiment is operated, there would be no need for claims." *Laitram Corp. v. NEC Corp.*, 163 F.3d 1342, 1347 (Fed. Cir. 1998).

Petitioner's *Vitronics* is distinguishable because there the Federal Circuit rejected a construction that read out the ***only*** embodiment disclosed in the specification. *Vitronics v. Conceptronic*, 90 F.3d 1576, 1583 (Fed. Cir. 1996). Without that embodiment, the claims would be completely divorced from the specification. In a subsequent opinion, the Federal Circuit explained that "where the patent describes multiple embodiments, every claim [doesn't] need to cover every embodiment. This is particularly true where the plain language of a limitation of the claim [doesn't] appear to cover that embodiment." *Pacing Techs. v. Garmin Int'l*, 778 F.3d 1021, 1026 (Fed. Cir. 2015).

B. "Current Amount of Consumption"

PO presented arguments, supported by expert testimony, that a POSITA would understand the term "reducing a current amount of consumption of electric power" to mean "a reduction in power consumption that takes place in the present

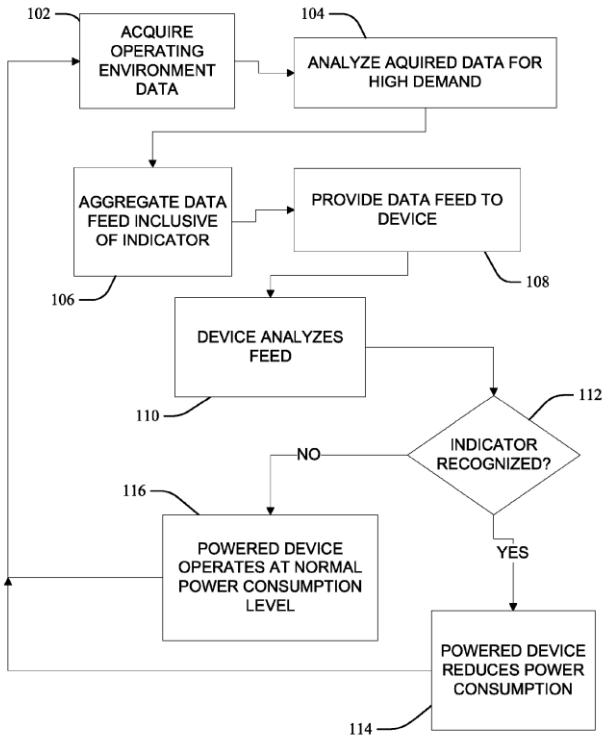
as opposed to some future time." (POR 12; Ex-2012, ¶66-69.) Petitioner argued that PO's construction is wrong (Reply 5-8), but did not present rebuttal expert testimony.

First, Petitioner's attorney argument that the claims do not exclude "future" power reductions because claim 10 recites "***running nonessential services only when*** *the spot price value of electricity is low*" is nonsensical. (Reply 5 (emphasis original).) Running nonessential services in the future doesn't reduce power consumption in the future (Ex-1001, 8:61-62)—it increases it.

Second, Petitioner is wrong about the portions of the specification PO cited as "examples of power reductions that take place in the present." (Reply 6.) Whereas PO's position is supported by expert testimony (Ex-2012, ¶¶66-69), Petitioner's is not. Dr. Cameron also testified that a POSITA would understand those power reduction actions in column eight of the '243 patent to be "more instantaneous than . . . delayed." (Ex-1025, 328:6-17). Petitioner's other examples (Ex-1001, 1:61-67, 2:66-3:7, 5:32-43, 6:21-33) are consistent with PO's construction as well.

The '243 patent's specification highlights the immediacy of power consumption reduction: "in response a high-demand indicator may cause the computational device 230 to trigger ***immediate*** power savings operations as well as postpone or otherwise schedule power-consuming activities as a function of

preferential spot prices[.]" (*Id.* 6:14-18.) Figure 1 also shows a device reducing consumption (step 114) immediately after the indicator is recognized (step 112):



In contrast, Petitioner has failed to cite a single example in the patent where power consumption is reduced at a future time.

Third, Petitioner is wrong that the distinction between future and present power reduction actions is untenable in view of Ex-1027. (Reply 7.) To begin, Ex-1027 was submitted untimely and without the Board's leave and is not properly part of the record. (Paper 29, 3-4.) Additionally, Petitioner failed to establish Ex-1027's publication date, and thus there is no proof that delay times discussed there were known in the art at all relevant times.

Furthermore, Ex-1027's screensaver preferences are manually set by the user, instead of "power reduction actions taken by the power analyzer" in the '243 patent. (Ex-1001, 8:47-48.) Thus, it is of no import that the user in Ex-1027 may set the slider at 10 minutes mark. (Ex-1027, 10.) Also, the user there may set the slider at 0 minutes as well, as Dr. Cameron testified. (Ex-1025, 326:17.)

Contrary to Petitioner's assertions, Dr. Cameron did not concede that "it wouldn't have been uncommon for you to set up a setting [for the waiting time] to be minutes **or an hour**." (Reply 7 (emphasis original).) Dr. Cameron was asked to opine how a user—not the decision engine as in the '243 patent—could have configured the waiting time on a laptop in 2008. (Ex-1025, 326:4-8.)

And Dr. Cameron did not concede that certain power-reduction operations, such as turning off memory, are not instantaneous, even if taking less than seconds. (Reply 7.) What Dr. Cameron said was: "if the system is [turning off one or more memory banks], yeah, it's pretty quick. It's—you know, it's not instantaneous, but it's, you know, less than seconds to do it." (Ex-1025, 330:9-12.) He then explained that it may take longer if data needs to be moved first. (*Id.* 330:22-25.) Additionally, the question he was answering was not when the power-reduction operations take place or how long before these operations begin but "***how long would it take to realize a power savings*** when you turn off one or more banks of

memory[.]" (*Id.* 329:2-5.) "Realizing" power savings is different from initiating/undertaking power-reduction operations.

Fourth, Petitioner argues that there are four usages of "current" in the specification, none of which "imposes a temporal restraint." (Reply 7 n.3.) This is an attorney argument and cannot rebut Dr. Cameron's testimony. Further, none of Petitioner's four examples concern the phrase "reducing current amount of consumption."

Fifth, Petitioner's argument that PO is improperly importing specification examples into the claims fails because the claims recite the term "current." (*E.g.*, Ex-1001, 11:1, 11:18-19, 12:9-10, 12:24, 12:61, 14:2.) And the claims are drafted narrower than the specification, which also discloses power reduction actions that do not reduce a current consumption of power, (Ex-1001, 8:61-62), as PO's expert explained (Ex-2012, ¶¶67-69).

Laitram supports PO's position because it teaches that "it is the claims, not the written description, which define the scope of the patent right." *Laitram*, 163 F.3d at 1347. Further, *Laitram* is distinguishable because there a new limitation added during reexamination did not appear in the specification. *Id.* at 1347.

III. GROUND 1: WANG DOESN'T RENDER CLAIMS 1-20 OBVIOUS

A. Claim 1

1. Wang Doesn't Render Obvious 1[B] and 1[C]

i. PO is correct about the user's role in Wang

First, Petitioner's argument that Wang meets 1[B] and 1[C] because it discloses that appliances can "use [tariff] information to regulate appliance usage in a manner as to minimize utility costs" (Reply 10 (quoting Ex-1005, 41:8-9)) is misleading because the very same sentence that Petitioner quotes states "subject to any constraints needed to accommodate appliance user life style choices." (Ex-1005, 41:10; see also 41:11-12.)

Relatedly, Petitioner argues that Wang discloses that appliances use user-programmed settings to perform automatic load-shedding operations, such as fully powering the elements during low tariff times. (Reply 10.) However, Dr. Cameron's testimony that a POSITA would understand that Wang's user sets the settings, and the appliance merely "react[s] to those numbers," (Ex-1025, 340:4-9; *see also id.* 338:3-339:5, 341:1-343:11), and that reacting to user-programmed settings is not the same as 1[B] and 1[C], (*id.* 234:13-235:2), is unrebutted by Petitioner's expert.

Second, Petitioner's argument that the user in Wang only establishes threshold preferences, after which the system performs automatic load-shedding decisions based on those settings (Reply 10) fails because, as Dr. Cameron explained, an element of autonomy doesn't mean that Wang's devices (*e.g.*, thermostat) are making independent decisions. (Ex-1025, 233:18-234:25.)

Third, Petitioner's reliance on Wang disclosing the user's ability to override set point programming (Reply 11) is unavailing because the user inputs that programming in the first place (Ex-1005, 52:10-13).

Fourth, Petitioner's argument that the claims permit user input, (Reply 11-12), is unsupported by any evidence. As explained by Dr. Cameron's unrebutted testimony, elements 1[B] and 1[C] must be performed automatically by decision engine(s). (Ex-1025, 226:2-12, 231:19-232:5.)

Palo Alto's holding that replacement of manual activity by automation is generally motivated, *Palo Alto Networks v. Centripetal Networks*, IPR2021-001148, Paper 40, *34 (PTAB Feb. 9, 2023), is inapplicable here because Petitioner did not argue that Wang discloses the user performing 1[B] and 1[C].

ii. Wang doesn't render obvious high electric power demand indication

First, Petitioner's argument that claim 1's "high electric power demand indication" need not indicate high electric power demand, (Reply 12-13), is nonsensical, especially considering that Petitioner advocated for the plain and ordinary meaning of all terms. (Pet. 11.)

Second, Petitioner's argument that "[c]laim 1 merely requires *an indication* not a correct determination of high demand for electric power," (Reply 13), misses the point because the claimed "indication" is a determination of high electric power demand—not data that ***may*** indicate same. (*E.g.*, Ex-1001, 2:66-3:7, 4:32-

38.) Claim 1 says as much and even recites ***how*** the indication is determined (by "analyzing the operating environmental condition data"). (Ex-1001, 10:65-67.)

Claim 7 does not support Petitioner's position. (Reply 13.) Like claim 1, from which claim 7 depends, the "indication" is a determination (following analysis of operating environmental condition data) and not evidence of high demand. The decision engine recognizes the "indication" in the aggregated data feed and acts upon it. (Ex-1001, 11:1-5, 2:66-3:7.) It is irrelevant whether the data could indicate something other than high power demand. Dr. Cameron supported PO's position when he testified that the fact that one of a relatively environmentally-friendly producers is near its output capacity is insufficient under the '243 patent, and that an analysis is required to determine an indication. (Ex-1025, 276:24-277:11.)

Claim 5 doesn't support Petitioner's position either. (Reply 14.) The modal predicate "may result" in claim 5 refers to "unusual weather condition"—it doesn't define the "indication." (Ex-1001, 11:30-32.) Claim 5's "indication" of high power demand is still a result of an independent determination by the decision engine.

Third, Petitioner argues that the '243 patent's specification discloses that the "indication" can indicate other things like weather conditions, etc. (Reply 14 (quoting Ex-1001, 4:50-57).) While the examples Petitioner points to may serve as

power setting indicators 108 (Ex-1001, 4:52), that doesn't eliminate the requisite analysis and aggregation at steps 102-106 before the aggregate feed that may include the indicator is provided to a computational device (*id.* 2:66-3:11).

Fourth, regarding Petitioner's argument in footnote 5, (Reply 15), the specification discloses aggregating data into a data feed that also includes a high-demand indicator if the analysis determines a high-demand condition. (Ex-1001, 2:66-3:7.) That indicator has a structure (*e.g.*, a markup in XML) recognized by the computing device, which then reduces power consumption. (*Id.* 3:8-20; 4:32-38.)

iii. Claims require a decision engine

First, claim 1 requires 1[B] and 1[C] to be performed automatically by decision engine(s) whereas Wang's appliances merely react to the user's settings and do not perform the requisite analysis or independent power-reducing actions as in claim 1. (*Supra* Part III.A.1(i).)

Second, contrary to Petitioner's argument (Reply 16),[2] Wang's processor 416 cannot be a decision engine because it doesn't perform the analyzing step or independent power-reducing actions based on the result of the analyzing step. At best, it may be configured to extract time reference and tariff information from

[2] Petitioner's cite concerns analyzing the environmental condition data. (Pet. 24.) If Petitioner's position is that processor 416 performs independent power-reducing actions, that is an impermissible new argument.

UMC messages, update real time clock, and store received power tariff information . (Ex-1005, 49:16-20.)

Third, contrary to Petitioner's argument that it relied on Wang's appliances as a whole (Reply 16-17), Wang's appliances as a whole do not disclose 1[B] and 1[C]. (Ex-2012, ¶¶90-120.) And Wang's display 200 cannot display a high demand indication, perform the required analysis, or perform power-reducing actions. (*Infra* Part IV.F.)

Fourth, Wang reacts directly to user instructions and data (*e.g.*, user settings and time)—it doesn't analyze data to determine an indication of high demand or perform power-reducing actions in response to an indication determined by an analysis.

Fifth, Wang teaches away because it discourages taking the human user out of "the loop" (*i.e.*, autonomous/automatic operation) due to safety and liability concerns. (Ex-1005, 35:11-17; Ex-2012, ¶¶110-114.)

2. Wang's Tariff-Data Example Doesn't Disclose 1[B] or 1[C]

Tariff data is not "high electric power demand indication" that is determined by "analyzing the operating environmental condition data"—it is merely data that can be used in such analysis. (*Supra* Part III.A.1(ii); POR 18.) Petitioner fails to present any evidence that Wang analyzes tariff data in any way, much less to determine a "high electric power demand indication," or that such analysis is

inherently obvious (which is an impermissible new argument requiring evidence that the missing limitation is necessarily present or the natural result of combination of elements in the prior art—and cannot be established by probabilities or possibilities). *Hospira, Inc. v. Fresenius Kabi USA*, 946 F.3d 1322, 1329 (Fed. Cir. 2020).

3. Wang's Non-Tariff Data Example Doesn't Disclose 1[B] or 1[C]

Contrary to Petitioner's assertion (Reply 18), PO noted that Wang fails to teach or suggest analysis of AESO information (Pet. 17). Petitioner's argument that analyzing AESO information to determine a high power demand indicator would be obvious because a POSITA would have recognized that AESO data could be used to determine high demand is based entirely on impermissible hindsight. It is also not enough—Wang does not analyze data to determine the required indicator, which is a predicate for 1[B] and 1[C]. (*Supra* Part III.A.1.)

Additionally, AESO tables would not enable a POSITA to perform 1[B] or 1[C] because a POSITA would not be versed in reading electric plant tables, as Dr. Cameron testified. (Ex-1025, 293:16-17; *infra* Part IV.A.) Furthermore, the AESO tables are missing critical information, such as whether a plant recaptures its energy and whether it is designed to operate at less than 100% capacity. (Ex-1025, 294:12-13, 299:2-14.)

B. Claim 2

The Petition did not dispute that Wang—including AESO tables therein—fails to disclose determining a high power demand indicator based on a small size fossil fuel plant coming on-line. (Pet. 35; Ex-2012, ¶122.) Instead, Petitioner argued that it would have been obvious based on general knowledge. (Pet. 35-36.)

However, Petitioner has not provided any evidence other than Dr. MacCarley's conclusory statements. Further, Dr. Cameron's testimony that a POSITA would understand that generic references to peaking plants do not imply that a small-size fossil fuel plant is coming on-line remains unrebutted by Petitioner's expert. (Ex-2012, ¶124.)

Petitioner's belated attempt to buttress its argument with an article purportedly published in 2022 (Reply 20) is unavailing because the article is not properly part of the record (Paper 18, 6-7). It doesn't support Petitioner's argument because the only "peaking units" it discusses are the models that improved on the world's first 5-MW steam turbine delivered in 1903. (Ex-1015, 2.) Petitioner's only other "support" is AESO data and the '243 patent's alleged "admissions," both of which are lacking. (*Infra* Part IV.A; POR 20.)

Petitioner's arguments concerning TNG and MCR values in AESO tables are refuted *supra* Part III.A.3 and *infra* Part IV.A. Finally, Petitioner's

characterization of PO's positions as "rigid" (Reply 21), is unavailing and cannot fill the gaps in the prior art.

Petitioner's cases are distinguishable. The *KSR* Court rejected the Federal Circuit's approach as "rigid" because it required application of the so-called teaching-suggestion-motivation test to justify combining elements from two references. *KSR v. Teleflex*, 550 U.S. 398, 413-15 (2007). Here, Petitioner is relying on uncorroborated and disputed statements about general knowledge to supply a missing element going to the heart of the claim, which is insufficient. *Arem S.A.R.L. v. Apple, Inc.*, 832 F.3d 1355, 1361-1364 (Fed. Cir. 2016).

Petitioner's *Fleming* and *Caterpillar* both dealt with combinations of disclosed elements from two references in view of the general knowledge, which is not the case here. *Fleming v. Cirrus Design*, 28 F.4th 1214, 1222-23 (Fed. Cir. 2022); *Caterpillar v. Wirtgen*, IPR2018-00155, Paper 13, *35 (PTAB May 22, 2019).

C. Claim 4

Petitioner concedes that a reference to XML in Wang does not imply that an RSS feed is being used, but argues that an RSS feed was one of a finite number of known protocols and that a POSITA would have been motivated to "at least try using a well-known technique like RSS." (Reply 22 (citing Pet. 39-40, 51-52).

However, Dr. Cameron testified that RSS was less prevalent than XML, that not all POSITAs would have known of it, and that one can use XML without knowing RSS. (Ex-1025, 408:22-409:10, 409:18-19.) This testimony remains unrebutted.

Neither Petitioner, nor its expert ever explained how RSS would allegedly improve Wang systems or showed evidence of a decision engine using RSS to make determinations or issue directives. (Pet. 40-41.) Petitioner never asserted that familiarity with RSS was required to qualify as a POSITA, either. (*Id.* 11.)

Further, the cited paragraphs of Dr. MacCarley's declaration should be given little weight because they are uncorroborated. While Dr. MacCarley quotes what appears a non-peer reviewed e-draft of unknown publication date (if any), stating that an RSS feed "is simply a link to an XML file that is structured in a certain way" (Ex-1003, ¶116 (quoting Ex-1004 at 1)), that e-draft is not properly part of the record (Paper 18, 5-6). In any event, Dr. MacCarley did not rely on that e-draft for the hyperbolized statement that RSS has purportedly "taken the Web by storm," as Petitioner now argues, nor does this e-draft prove RSS's purported notoriety. (*See* Reply 23 (quoting Ex-1014, 1).) Indeed, Dr. Cameron unrebutted testimony explained that Ex-1004 should be given little, if any, weight. (Ex-1025, 414:3-415:12.)

Petitioner is wrong that the '243 patent acknowledges RSS's notoriety because it states that "XML files us[e] standard RSS notations." (Reply 23.) Dr. Cameron explained that "standard RSS notations" doesn't mean that RSS was an industry standard at relevant times—it means that there was a standard, unified way to utilize RSS feeds. (Ex-1025, 410:14-16, 412:9-17.)

Petitioner's quoting Ex-1026 from the '243 patent's *ex parte* reexamination is of no import. (Reply 23 (quoting Ex-1026, 10).) Ex-1026 is not properly part of the record at least because it was belatedly submitted and incomplete. (Paper 29.) Additionally, RSS was allegedly disclosed in the relevant prior art reference (Forth), which Petitioner concedes is not the case here.

D. Claim 5

Petitioner argues that PO's allegation regarding Wang's "critical weather warning" is not responsive because the Petition discussed providing the same environmental condition data to Wang's Appliance/Load Shed Application Processor ("A/LSAP"). (Reply 24 (citing Pet. 24, 40-41).) This is untrue.

Pages 41-42 of the Petition cite only to Wang's disclosure of critical weather warning and to Section 9.1.2 of the Petition. In turn, Section 9.1.2 of the Petition also discusses only critical weather warnings. (Pet. 15, 18, 20.) Page 24 cites to Ex-1005, 47:33-48:6 and 49:16-23, neither of which as much as mentions weather conditions. Page 40 concerns claim 4 and there are no cross-references to page 40

in Petition's discussion of claim 5 on pages 41-42, thus it is irrelevant for the claim 5 analysis. Even assuming that it was relevant, page 40 provides nothing but a conclusory statement that "A POSA would have found it obvious to shift weather data collection upstream to the UMC server 362." (Pet. 40.) Thus, this is a new argument, and Petitioner did not fill the gap between critical weather warnings and claim 5's limitations.

Wang also doesn't suggest that the same environmental condition data be disclosed to the A/LSAP—it merely discloses displaying weather alerts. There is no indication that the A/LSAP can be configured to respond to weather conditions, either. Dr. MacCarley's testimony to the contrary is speculative and uncorroborated, making it a classic case of hindsight analysis. *Ortho-McNeil Pharm. v. Mylan Labs*, 520 F.3d 1358, 1364 (Fed. Cir. 2008).

E. Claim 7

Petitioner is wrong that Wang's express teachings contradict PO's position that Wang merely discloses that AESO information can be displayed to the user. (Reply 24-25.) The quote from Wang relied on by Petitioner ("get such information in front of people **and their appliances**") actually supports PO's position because in the very next sentence Wang explains that the information is given to the appliance for display to the user before the appliance is used. (Ex-1005, 35:9-11.)

Petitioner's argument that Wang describes how the information would typically be interpreted, noting that users would postpone energy consuming tasks (Reply 25), also supports PO's position that it is the users and not appliances that make energy consumption decisions in Wang.

Finally, it is false that PO doesn't rebut the Petition's arguments (Pet. 50-51) that a POSITA could use Table 2's data to identify whether a relatively environmentally-friendly energy producer is near its output capacity. (Reply 25.) PO rebutted Petitioner's argument in its POR (POR 25-26, Ex-1012, ¶¶138-140) and herein at *supra* Part III.A.3 and *infra* Part IV.A.

F. Claim 8

Petitioner's belated attempts to provide evidence corroborating its conclusory arguments 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 fail. Petitioner cites to paragraphs 145-146 of Dr. MacCarley's declaration as supporting evidence (Reply 26), but except for addition of phrases like "in my opinion," those paragraphs *verbatim* repeat the two corresponding paragraphs in the Petition. (*Compare* Ex-1003, ¶¶145-146, *with* Pet. 55-56.) Thus, Dr. MacCarley's declaration should be accorded little or no weight.

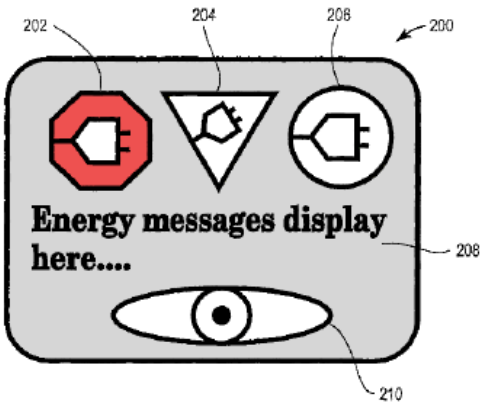
Google is inapposite. There, the Board refused to disregard an expert's declaration in its entirety, explaining that it would assign an appropriate weight to

the expert's testimony for each claim/issue. *Google v. Flypsi*, IPR2023-00360, Paper 33, *21 (PTAB July 31, 2024). Here, PO highlighted the inadequacies of Dr. MacCarley's declaration specifically in connection with claim 8.

Petitioner's remaining efforts fail to support its assertion that a POSITA would be motivated to weigh data from a plurality of feeds. Petitioner originally argued the weighing motivation came from Wang's goal of allowing customers to make informed choices. (Pet. 55.) But additional limitations in claim 8 would frustrate this alleged goal by withholding the underlying information from the customer and instead providing an indicator in an aggregate feed. (POR 28-29; Ex-2012, ¶¶147-148.)

Petitioner argues that PO misunderstands the user's role in Wang and "relies on an unstated premise that the aggregate feed cannot include a visible indication." (Reply 27.) Not so—Wang doesn't disclose a decision engine making determinations independently from the user or issuing directives. (Ex-1025, 342:3-10; *supra* Part III.A.1(i).)

Claim 8's "indication" cannot be met by Wang's "visible indicator," either. (Reply 27.) Under the plain and ordinary meaning, the "indication" is an element that can be included in an aggregate feed that the computing device can recognize and respond to, whereas Wang's visible indication is intended for the user:



(Ex-1005 fig.2 (coloring added by Petitioner).)

Wang's display 200 doesn't display an aggregate feed and has nothing to do with a decision engine making independent decisions. Nor is there any evidence display 200 applies a "a weighted function comprising a linear combination" as recited in claim 8.

Elements 202, 204, and 206 cannot represent a plurality of different feeds because they convey the same type of information and cannot be activated simultaneously. (Ex-1005, 22:25-23:1.) Moreover, they cannot be the '243 patent's "indication" because the signals communicated to the user through display colors are published by the provider and are not a determination by a decision engine. (*Id.* 22:20-21.) Further, Wang doesn't disclose how these signals are generated by the provider.

Petitioner also asserted that claim 8's limitations are one of a finite number of analysis methods and would have been obvious to try. (Pet. 56.) PO countered that Wang doesn't analyze 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. (POR 29; Ex-2012, ¶¶149-151.) PO's argument remains unrebutted.

Additionally, PO argued that even if Wang did disclose such analysis (it does not), numerosity of linear and other methods weighed against obviousness. (POR 30, Ex-2012, ¶¶152-153.) Petitioner counters—without any explanations—that PO misunderstands Petitioner's positions. (Reply 27.) Thus, PO's numerosity argument remains unrebutted.

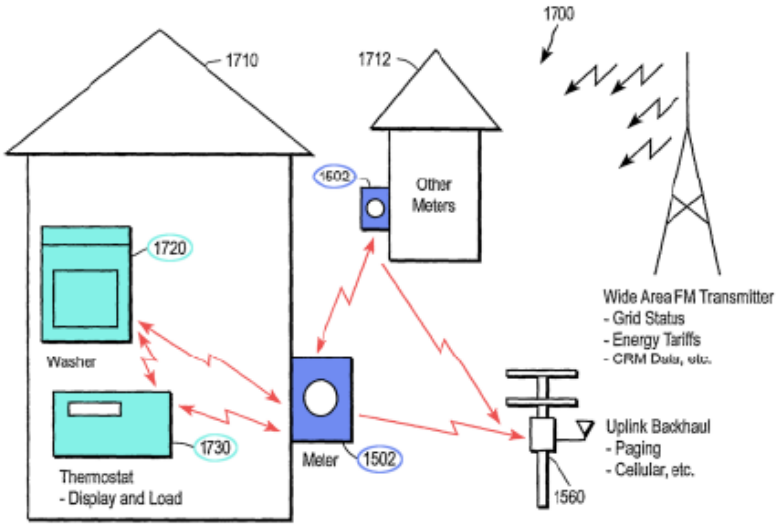
DexCom is distinguishable because there the petitioner argued obviousness based on combinations of elements from different figures of the same patent, and the patent owner argued that the numerosity of possible combinations of elements in that patent defeated the challenge. *DexCom v. Abbot*, IPR2022-00605, Paper 29, 57-58 (PTAB July 10, 2023). Here, Petitioner doesn't rely on different embodiments—it simply conjures missing elements from thin air with uncorroborated statements. Reliance on uncorroborated and disputed statements about general knowledge to supply a missing element which goes to the heart of the claim is improper. (*Supra* Part III.B.)

Petitioner saw the weighing motivation in Wang's discussion of users' preferences for particular energy types. (Pet. 55-56.) PO countered that such preference to postpone energy consuming tasks (to those points in time when more

renewable energy sources are used) would not have motivated a POSITA to weigh the information from various feeds, and that such postponement doesn't involve reducing a current power consumption (at best, it maintains the current power consumption). (POR 30-31; Ex-2012, ¶¶154-159.)

Petitioner now argues that the PO conflates the "analyzing" and "reducing" steps of claim 1, and that claim 8 adds limitations to the "analyzing" step. (Reply 28.) But claim 8 is dependent from claim 1 and thus must meet all of its limitations—including the requirement of reducing "current" power consumption. Furthermore, Wang doesn't disclose either the "analyzing" or "reducing" steps. Thus, PO's arguments remain unrebutted. (*Supra* Part III.A.)

Finally, Petitioner argues that Wang's Fig. 17 discloses an aggregate feed. (Reply 28.)



(Ex-1005 fig.17 (coloring added by Petitioner).)

Yet, Figure 17 shows only one feed—the UMC messages broadcast by FM transmitter 1750. (Ex-1005, 60:14-15, 60:30-32.) Wang's meters 1502 transmit appliance and meter usage data to the service provider. (Ex-1005, 60:24-27.) While the POR referred to these as communication feeds, PO explained that there is no indication that one meter uses data from another meter to perform any type of analysis. (POR 35-36; Ex-2012, ¶¶162-165.)

G. Claim 9

This challenge fails at least for the same reasons as with claim 1. Petitioner argues that PO fails to address the Petition's reliance on Wang's teachings that "real time energy tariff data" can be particularly useful for energy curtailment 'in SPOT energy markets where energy prices continually change.'" (Reply 29 (quoting Ex-1005, 61:7-9).) However, Wang teaches that the real time energy tariff data is useful not because of energy curtailment, but "***to minimize data storage requirements*** [because], e.g., ongoing energy consumption costs could be calculated in real time and ***stored in a single accumulation register within the meter***." (Ex-1005, 61:5-7.)[3]

[3] Petitioner provides no separate arguments for claims 3, 6, or 10-20. (Reply 29.) Thus, Ground 1 fails as to these claims for the same reasons as above.

IV. GROUND 2: WANG-AESO DOESN'T RENDER CLAIMS 2, 12–14, AND 20 OBVIOUS

A. Claims 2, 12, and 20

Petitioner argues that the Petition disclosed how to interpret AESO data to determine if a small-size fossil fuel plant is coming on-line based on MCR and TNG values in the table below. (Reply 30-31; Pet. 81.)

COAL			
UNIT	MCR	TNG	DCR
Battle River #3	148	0	0
Battle River #4	148	152	0
Battle River #5	368	383	0
Genesee #1	384	382	0
Genesee #2	384	383	0
Genesee #3	450	458	0
H.R. Milner	143	140	0
Keephills #1	381	376	0
Keephills #2	381	353	0
Sheerness #1	378	393	0
Sheerness #2	378	0	0
Sundance #1	280	280	0
Sundance #2	280	272	0
Sundance #3	353	344	0
Sundance #4	353	348	0
Sundance #5	353	343	0
Sundance #6	399	0	0
Wabamun #4	279	210	0

(Ex-1006.) However, per Dr. Cameron, a POSITA would not know how to interpret such tables and they are missing critical information. (Ex-1025, 293:16-17, 294:12-13, 299:2-14; *supra* Part III.A.3.)

Also, apart from impermissible hindsight, there is no evidence that a POSITA would have been motivated to modify Wang to analyze the AESO table

to determine a high power demand indicator if a small-size fossil fuel plant comes on-line. (Ex-2012, ¶185.) Petitioner argues that a small-sized plant comes on-line when its TNG changes from zero to a non-zero value, (Reply 30), but provides no evidence that Wang could monitor TNG changes or that a POSITA looking at the AESO data would determine a high power demand indicator when a small-sized plant has a non-zero TNG. In fact, the AESO table suggests otherwise since two of the largest and most efficient plants (Sundance#6 and Sheerness#2) are shown operating below capacity, while the second smallest (Battle River #4) is shown exceeding its capacity.

B. Claims 13-14

Petitioner asserts that "[c]laims 13 and 14 thus rely on AESO data for the obviousness of features recited in the claims from which they depend (claims 11 and 12) and rely on Wang for features that remain in the combined Wang-AESO system, based on teachings that Wang supplies." (Reply 31-32.) However, the Petition stated only: "Claims 12-14 depend (directly or indirectly) from obvious Claim 11. Section 9.11. Claims 12-14 are otherwise analogous to Claims 2, 5, and 9, respectively, and are obvious for similar reasons. Ex-1003 ¶¶215; *cf.* Sections 10.2, 9.5, and 9.9." (Pet. 82.) Petition's Section 9.11 asserted obviousness of claim 11 under Ground 1 (Pet. 63-68), Section 9.5—obviousness of claim 5 under Ground 1 (*id.* 41-42), and Section 9.9—obviousness of claim 9 under Ground 1 (*id.*

59-61). All of these sections relied solely on Wang.[4] Because Petitioner's Reply impermissibly introduces a new—and undeveloped—obviousness theory not disclosed in the Petition, Ground 2 fails as to claims 13-14. Further, Petitioner fails to prove obviousness of claims 11-14 under Grounds 1-2. (*Supra* Parts III.A-B, D, G-H & IV.A).

V. GROUND 3 FAILS

Petitioner admits that Ground 3 fails if the Board agrees with PO's claim construction. (Reply 8.) Further, Dr. Cameron's non-construction opinions—including that Cooley doesn't disclose automatically reducing a current amount of consumption of electric power from the power grid—remain unrebutted. (Ex-2012, ¶¶193-196; *see also id.* ¶¶186-201.)

VI. DR. MACCARLEY IS BIASED

Placement of students with Tesla increased Dr. MacCarley's academic standing, receiving money was not necessary when he received gifts-in-kind, and his own university cautioned against accepting gifts. *See* https://calstate.policystat.com/policy/17168998/latest/.

[4] Section 10.2 concerned obviousness of claim 2 under Ground 2 (Pet. 79), which Petitioner concedes is irrelevant for claims 13-14 (Reply 31).

Dated: April 9, 2025

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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that there are 5,546 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.

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CERTIFICATE OF SERVICE
UNDER 37 C.F.R. § 42.6(e)(4)

The undersigned hereby certifies that a copy of the foregoing Patent Owner's Sur-Reply was served on April 9, 2025, by filing this document through the Patent Trial and Appeal Board End to End System as well as delivering a copy via electronic mail upon the following email addresses for the attorneys of record for Petitioner: Tesla-Graphite243-IPR@morganlewis.com and pmargulies@tesla.com.

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