

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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TESLA, INC.,  
*Petitioner,*

v.

GRAPHITE CHARGING COMPANY, LLC,  
*Patent Owner*

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Case IPR2024-00387  
U.S. Patent No. 8,103,391

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**PATENT OWNER'S SUR-REPLY**

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| 2001    | Docket Report from May 9, 2024, <i>Graphite Charging Company LLC v. Tesla, Inc.</i> , Case No. 5:24-cv-2717 (N.D. Ca.)                                                                                                                  |
| 2002    | Order Setting Initial Case Management Conference and ADR Deadlines, <i>Graphite Charging Co. LLC v. Tesla, Inc.</i> , Case No. 3:24-cv-02717-VC ( N.D. Ca. May 7, 2024)                                                                 |
| 2003    | Affidavit of Ms. Nadiia Loizides in Support of PO's Motion for <i>Pro Hac Vice</i> Admission                                                                                                                                            |
| 2004    | Joint Stipulation and Order Regarding Stay Pending Resolution of Petitions for <i>Inter Partes</i> Review and Mandamus as Amended, <i>Graphite Charging Co. LLC v. Tesla, Inc.</i> , Case No. 3:24-cv-02717-VC ( N.D. Ca. May 31, 2024) |
| 2005    | Declaration of Kirk Cameron in Support of Patent Owner                                                                                                                                                                                  |
| 2006    | Curriculum Vitae of Kirk W. Cameron, Ph.D.                                                                                                                                                                                              |
| 2007    | Deposition of C. Arthur MacCarley, IPR 2024-00387 (Oct. 17, 2024)                                                                                                                                                                       |

## I. INTRODUCTION

Petitioner's Reply (Paper 26; "Reply") failed to refute PO's arguments. Among other things, testimony of PO's expert remains unrebutted because Petitioner chose not to submit a supplemental declaration from its expert and did not challenge PO's expert's POSITA status. Petitioner also provided no invalidity arguments based on PO's constructions and, therefore, conceded that the claims are patentable if the Board adopts PO's constructions.

## II. CLAIM CONSTRUCTION

### A. The Patentees Acted as Their Own Lexicographers

The patentees clearly expressed intent to define certain terms and disavow the full scope of their plain and ordinary meaning, and PO's definitions are present *verbatim* in the specification. (Paper 24, 19-27; "POR.") Dr. Cameron explained that a POSITA would understand the portions of the specification that PO cited as definitions. (*E.g.*, Ex-1021, 92:23-94:16.) Although Petitioner asserted that all terms should be given their plain and ordinary meaning, Petitioner's expert Dr. MacCarley confirmed that the patentees used their own definitions. (Ex-2007, 46:8-47:13, 48:16-19; *see also id.* 17:23-25, 33:17-18, 43:9-11, 47:15-48:5.)

Petitioner's counterarguments fail. **First**, Petitioner argues that the specification references "interruptions" only in connection with representative embodiments. (Reply 1-2.) However, its expert interpreted definitions discussed

in embodiments as applying to the entire patent. (*E.g.*, Ex-2007, 46:8-47:13, 48:16-19.) PO's expert also confirmed that a POSITA would understand the "interruptions" definitions apply to the entire patent. (*E.g.*, Ex-1021, 94:9-16.)

Further, Petitioner's quotation to the Abstract states merely that one embodiment comprises a certain combination of interruptions—not that any definition is unique to that embodiment. Petitioner's quotation to Figure 5's discussion does not undermine the patentees' clear intent to define interruptions because the same interruptions are discussed, *inter alia*, in Figure 4. (Ex-1001, 11:15-18, 13:5-6.) Petitioner's quotation about non-limiting terminology in the '391 patent concerns use of singular and plural forms, articles, and the open-ended term "comprising"—but is silent regarding definitions. (*Id.* 15:29-39.)

Even assuming *arguendo* that the definitions in the '391 patent are merely exemplary descriptions (they are not), a claim term "may be clearly redefined without an explicit statement of redefinition" "'by implication' such that the meaning may be 'found in or ascertained by a reading of the patent documents.'" *Astrazeneca AB v. Mut. Pharm.*, 384 F.3d 1333, 1339-40 (Fed. Cir. 2004). Here, the patentees used the claim terms throughout the specification consistent with a single meaning, thus they—at a minimum—defined those terms by implication.

**Second**, Petitioner argues that PO "avoids" prosecution history. (Reply 2.) This argument is refuted for particular definitions *infra* Part II.B-D. However, as a

general matter, PO is not estopped from arguing a different construction than that applied during prosecution because the examiner uses the broadest reasonable interpretation standard, while the Board uses the *Phillips* standard. *DDR Holds. v. Priceline.com*, 122 F.4th 911, 918-19 & n.3 (Fed. Cir. 2024).

**Third**, Petitioner argues—without specificity—that there is no disavowal here. (Reply 3 n.3.) Petitioner's reliance on *Thorner* is puzzling because it explains

Where the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question.

*Thorner v. Sony Comput. Entm't*, 669 F.3d 1362, 1366 (Fed. Cir. 2012); *see also Hill-Rom Servs. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (disavowal through disparagement of “antiquated” or “inadequate” embodiments). Here, PO explained that by using their own definitions, the patentees disavowed, in relevant part, intra-system communication abnormalities, mere opening and closing of a switch, factory presets and disparaged less sophisticated systems. (POR 21, 24, 25-26; Ex-1001, 7:12-16.)

*Yita* is distinguishable because there the patent owner failed to direct the Board to **any** part of the specification using the words “deeply concave.” *Yita v. Macneil IP*, IPR2023-00172, Paper 70, \*18 (PTAB June 6, 2024). Here, the

patentees expressly defined various terms in the specification.

In *Rosmed*, there was no clear intent to define the term “analyze the breathing patterns,” and the patent owner pieced together an “implied” definition from discussions of sleep and awake periods that contradicted language of certain dependent claims. *Resmed, v. NY University*, IPR2022-00994, Paper 68, \*14-18, 30 (PTAB Dec. 6, 2023). Here, the patentees expressly defined various terms in the specification, and PO’s constructions do not create contradictions among claims.

**B. PO’s “Interruption” Constructions Are Correct**

The patentees clearly acted as lexicographers and disavowed less sophisticated systems, such as those Petitioner asserts here, as Dr. Cameron testified. (*E.g.*, Ex-1021, 62:7-13, 70:19-24, 137:12-13, 161:10-14; *supra* Part II.A.) Further, Dr. Cameron did not make the purported admission that examples in the specification should not be used to limit the claims’ scope. (Reply 4.) Petitioner’s counsel asked whether a single sentence from the specification—“Request 414 is a message signaling the start of charging process 404[.]” (Ex-1001, 12:3-4)—is “a description of the present invention[.]” (Ex-1021, 67:12-14). Dr. Cameron properly declined this inappropriate generalization. (Ex-1021, 67:22-68:9.)

**1. “Data services interruption” has a third-party requirement**

The patentees acted as lexicographers by setting forth a definition and consistently used “data services interruptions” to mean interruptions from third-party data sources as that term is defined in the patent. (Ex-1001, 13:38-46, 8: 38-44, 8: 40-44.) Dr. Cameron’s testimony confirmed this. (Ex-1021, 95:22-96:2, 97:20-98:20, 103:2-14.)

Petitioner’s counterarguments fail. **First**, Petitioner argues that claim language does not recite third parties. (Reply 4.) But Petitioner’s own *Thorner* explains that disavowal occurs “even though the language of the claims, read without reference to the specification, might be considered [broader].” *Thorner*, 669 F.3d at 1366.

**Second**, Petitioner argues that data services interruptions may be caused by “any other problems preventing a data service from exchanging information with other components of an electric vehicle transaction infrastructure[.]” and “[t]hose ‘other components’ are depicted in Figure 3 and include components from [local] parties to the charging transaction, not solely third parties[.]” (Reply 5.)

To begin, the local, intra-system components are not considered data services under the ’391 patent, and do not even have the word “data” in their names. As Dr. Cameron explained, a POSITA would know that the data services 308 in Figure 3 is a third party as defined because it is depicted as a cylinder, while

all local components are placed into rectangular shapes. (Ex-1021, 104:24-105:25.) Petitioner ignored this distinction in its Reply.

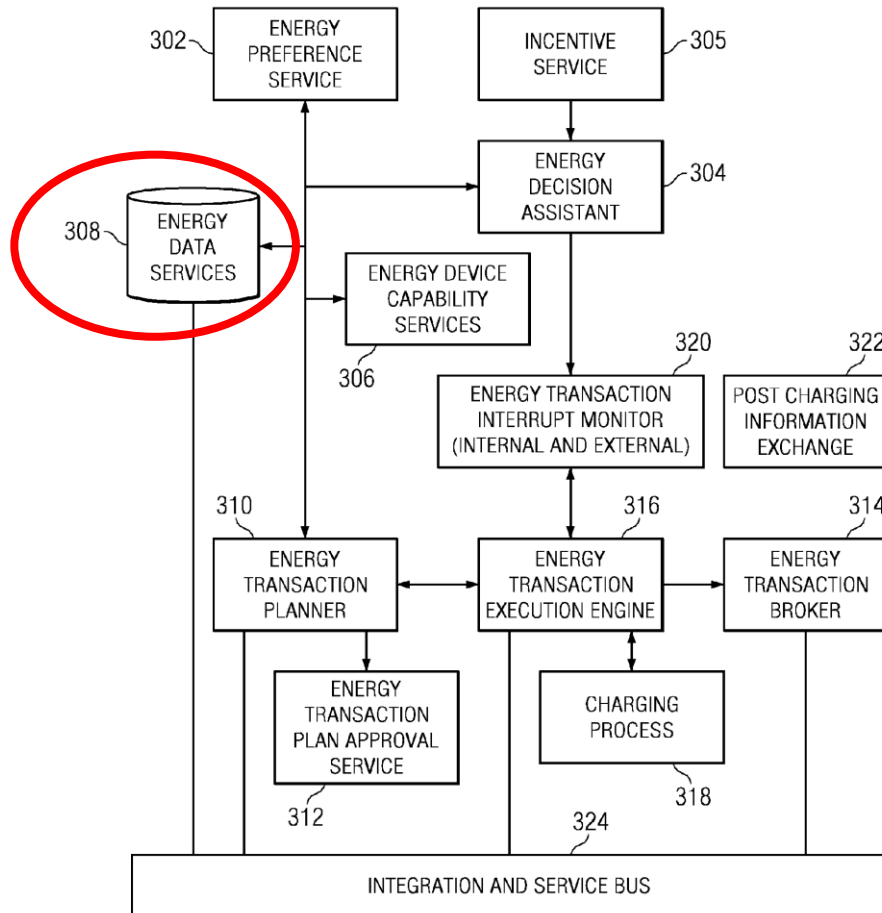


FIG. 3

(Ex-1001 fig.3 (color added).)

Petitioner's **third** argument that data services 308 is only exemplary (Reply 7) fails for the reasons discussed *supra* Part II.A.

**Fourth**, Petitioner argues that “the Examiner during [nonfinal rejection] mapped the claimed data services interruption to ‘manual inputs from [a] user via user interface’” in Pellegrino. (Reply 7.) The patentees chose to distinguish

Pellegrino because it only functions to verify vehicles and all vehicle verification activities there take place before “the flow of electricity.” (Ex-1007, 39-40.)

Nowhere did they admit that Pellegrino disclosed data services interruptions. (*Id.*)

PO is not estopped from advancing new arguments before the Board. *3M*

*Innovative Props. v. Avery Dennison Corp.*, 350 F.3d 1365, 1373-74 (Fed. Cir.

2003) (silence in response to examiner’s characterization is not acquiescence if the claim is eventually allowed on grounds unrelated to unrebutted characterization).

*Cordis* is inapplicable because the term there was not defined in the specification—defendant was arguing a narrow construction based on prosecution history disclaimer. *Cordis Corp. v. Medtronic*, 339 F.3d 1352, 1357-60 (Fed. Cir. 2003).

## **2. “Manual override interruption” is limited to user instructions**

The patentees acted as lexicographers and defined “manual override interruption” as an instruction that causes ETEE to terminate the charging process, which a user may generate during the flow of electricity by interacting with a user interface, where “instruction” means an encoding of a series of operational steps specifying the details to be executed according to those operational steps. (POR 22-25.) Using a discrete switch or command keys is not enough, as Dr. Cameron’s unrebutted testimony confirms. (*E.g.*, Ex-2005, ¶¶ 74-78, 117; Ex-1021, 133:12-17, 174:8-175:10.)

Petitioner's counterarguments fail. **First**, Petitioner argues that the claim language does not specify who causes the interruption, where it is caused, or that it is a series of operational steps. (Reply 8.) Again, disavowal may occur even though the language of the claims may appear broader if read without reference to the specification. *Thorner*, 669 F.3d at 1366.

Furthermore, both the claim language and specification support PO's construction. The specification defines "[m]anual override interruption 422 [as] **an instruction** that causes energy transaction execution engine 416 to terminate charging process 404." (Ex-1001, 12:26-28.) And claim 2 recites, in relevant part, "responsive to receiving, **from a user**, the manual override interruption . . . ." (*Id.* 16:64-65.)<sup>1</sup> The specification further explains that "**User 420 may generate manual override interruption 422 by interacting with a user interface . . .**" (*Id.* 12:28-36.) Dr. Cameron's un rebutted testimony confirms that a POSITA would understand that an instruction here is a series of operational steps. (Ex-2005, ¶ 75.)

**Second**, Petitioner argues that portions of the '391 patent's specification related to Figures 4 and 7 are illustrative only. (Reply 8-9.) Again, the patentees acted as lexicographers by defining this term and used the term consistently throughout. *Astrazeneca*, 384 F.3d at 1339-40.

**Third**, Petitioner asserts that in the non-final rejection, the examiner

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<sup>1</sup> Unless specified otherwise, emphasis is added throughout this Brief.

“indicated that a *manual override interruption* “can consist of **any sort of input by the user** that results in access being denied[,]” which, according to Petitioner, does not exclude opening and closing of a switch. (Reply 9 (emphasis original).)

However, the patentees never admitted that Pellegrino disclosed this limitation. (Ex-1007, 41.) PO is not estopped from advancing new arguments before the Board; *Cordis* is inapplicable. (*Supra* Part II.A-B.1.)

### **3. “Preference interruption” is limited to user-specified preferences**

The patentees acted as lexicographers and expressly defined “preference interruption” as a set of one or more interruptions that are caused from a violation of a user specified preference, as Dr. Cameron’s un rebutted testimony confirms. (Ex-1001, 13:22-24; POR, 25-27; Ex-1021, 148:6-16, 151:10-18.)

Petitioner’s counterarguments fail. **First**, PO does not ignore the claim’s plain language. (Reply 10.) As noted in the POR, courts depart from the plain and ordinary meaning when, as here, a patentee acts as its own lexicographer or disavows the full scope of the claim term in the specification or during prosecution. (POR, 19 (*citing Hill-Rom Servs. V. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014)).)

**Second**, Petitioner’s distinction between users and participants is meritless. (Reply 10.) Users and parties (or participants) to the charging process are used synonymously. (Ex-1001, 12:22-24, 13:24-26, 7:43-49.)

**Third**, Petitioner asserts that other parties may also specify preferences.

(Reply 10.) However, the specification distinguishes users and parties/participants, on one hand, from third parties, on the other hand. (Ex-1001, 13:33-36.) Notably, in another section of the Reply, Petitioner concedes that “[a] user is not a third party, as PO’s expert explained.” (Reply 7.)

Dr. Cameron did not make the purported admission that users were third parties, either. The context shows that he was grappling with a confusing question from Petitioner’s counsel. (Ex-1021, 114:6-19.) He then explained that “my understanding is it was people involved in the transaction that can be on the side of the user,” (*id.* 114:22-24), and distinguished the station attendant and utility companies **from** “other third parties” (*id.* 115:4-12).

**Fourth**, Petitioner argues that PO’s construction is inconsistent with its litigation position because PO alleged that a preference interruption could be “dynamic load management configurations, and/or a specific charge” and because dynamic load management configurations are not user specified. (Reply 11 (quoting Ex-1014, 19-20).) But the next quote in the Reply that purportedly discusses dynamic Power Management functionalities “in your home” does not appear either in Ex-1014 or Ex-1024. (See Reply 11 (relying on Ex-1014, Ex-1024.) Indeed, Ex-1024 concerns Tesla’s Superchargers used during long-distance

travel. (Ex-1024, 3.) In any event, other than a conclusory statement, Petitioner does not explain how the quoted language is inconsistent with PO's construction.

**C. “Request” and “Response” Are Messages Including a Header and a Body**

A POSITA would understand the “requests” and “responses” to be messages including a header and a body. The specification defines them as messages (Ex-1001, 12:3-4 (“**Request** 414 is a *message* . . . .”), 12:12-19 (“**Response** 418 is a *message* . . . .”).) The '391 patent also disparages systems using signals as less “complete, flexible, and interoperable.” (*Id.* 7:15-16.) Dr. Cameron's testimony confirms this. (Ex-1021, 166:17-167:1 (message must include a header and body), 135:1-4, 135:11-17, 136:11-17, 137:2-15 (complex systems require messaging), 159:6-160:19, 161:10-21 (no incentive to use messages in simpler systems); Ex-2005, ¶¶ 93-94.) His testimony remains unrebutted—although Petitioner could have submitted a supplemental declaration.

Petitioner's counterarguments fail. Regarding *intrinsic evidence*, Petitioner repeats the same arguments about ignoring the claim language and that embodiments are illustrative (Reply 11-12), which both fail for the same reasons as discussed above in connection with lexicography and disavowal. (*Supra* Part II.A-B.)

Petitioner asserts that in the non-final rejection, the examiner mapping requests and responses to Pellegrino, did not limit them to messages. (Reply 12.)

But the patentees never conceded that Pellegrino disclosed the '391 patent's request and response (Ex-1007, 39-40), and PO is not estopped from advancing new arguments before the Board based on a *Phillips* construction (*supra* Part II.A).

As ***extrinsic evidence***, Petitioner cites to two dictionaries defining requests and responses as signals. (Reply 13.) To begin, extrinsic evidence cannot outweigh intrinsic evidence. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317-24 (Fed. Cir. 2005) (*en banc*). Further, only the third, ***least*** prevalent definition of “response” in Petitioner’s Exhibit 1022 as much as mentions the word “signals.” That definition is specific to response from a responder (in its first meaning) used in radars and satellite communications where signals are emitted automatically. (Ex-1022, 3.) This is different from the '391 patent where ETEE makes decisions, as experts for both parties confirm. (*E.g.*, Ex-1021, 116:4-14; Ex-2007, 18:20-22.)

Petitioner’s dictionaries likewise supports PO’s definition of “request”:

A message sent from one object (the sender) to another object (the receiver), ***directing the receiver to fulfill one of its responsibilities***. Specifically, a request may be for the value of an attribute, for the value of a participant property, for the application of an operation, or for the truth of a constraint. *Request* also ***encompasses sentences of such requests. Logical sentences*** about the property values and constraints of objects are used for queries, pre-conditions, post-conditions, and responsibility realizations. ***See also: message***.

(Ex-1023, 3 (bold added).) Moreover, Ex-1023 defines “request message” as a “message that generates one or more response messages when processed.” (*Id.* 4.)

**D. Claim 7 Requires Identifying an Operational Parameter Before Each Charging Transaction**

Dr. Cameron's un rebutted testimony shows that identifying an operational parameter happens during the pre-charge phase, and a user may change an interrupt condition involving one or more operational parameters at that time. (Ex-2005, ¶¶ 101-103.) A factory preset is not changeable and cannot be an operational parameter. (*Id.* ¶¶ 104-105.)

Petitioner's counterarguments fail. **First**, it argues that nothing supports the pre-charge phase requirement. That is false—both the specification and Dr. Cameron's un rebutted testimony support that. (Ex-1001, 7:12-25; Ex-2005, ¶¶ 102-103.)

**Second**, Petitioner argues that operational parameters are not limited to changeable ones. However, all of Petitioner's quotes to the specification list changeable parameters, including prices of electricity and available incentives. (Reply 14.)

**Third**, Petitioner argues that the examiner indicated in non-final rejection that the operational parameters "include battery or vehicle type." (Reply 14.) The examiner was again discussing Pellegrino where the battery and vehicle type are not used as operational parameters, as that term is understood in the '391 patent. As the patentees explained, under Pellegrino the battery and vehicle type are stored to verify the user and the vehicle, and to determine, *inter alia*, if the user's account

is blocked or if there is an outstanding stolen property report on record—not to determine interruptions. (Ex-1008, 7:8-16; Ex-1007, 40.)

### **III. ALL ASSERTED GROUNDS FAIL**

As an initial matter, Petitioner offers no invalidity arguments for Grounds 1-6 if the Board adopts PO's constructions. (*E.g.*, Reply 15-16, 20.) It also fails to refute PO's non-construction positions under all Grounds.

#### **A. Ground 1: Kimura Does Not Render Claims 1, 4-8, 11-15, and 18-20 Obvious**

Petitioner failed to meet its burden in Ground 1. Petitioner conceded that Ground I fails as to all claims if the Board adopts PO's constructions. (Reply 15-16.) Petitioner also ignored PO's non-construction positions.

Relevant to all claims, Petitioner failed to rebut Dr. Cameron's testimony that Kimura's processors do not even have capability to receive messages. (Ex-1021, 162:5-8, 163:21-164:13.) For claims 5 and 12, it failed to rebut Dr. Cameron's testimony that voltage threshold is a factory preset. (Ex-2005, ¶ 97.) Regarding claims 7, 14, and 19, Petitioner failed to explain how Kimura's battery controller "detect[s] by identifying" voltage as an operational parameter from a set of operational parameters conforming to predefined interrupt conditions. (Ex-2005, ¶¶ 104-105.) On the contrary, Petitioner cited to no disclosure in Kimura where an operational parameter is identified from a set of operational parameters—it simply alleged that it is. (Reply 34-35.)

**B. Ground 2: Kimura-Hotta Does Not Render Claims 2, 5, 9, 12, and 16 Obvious**

**1. Claim 2**

To begin, Petitioner cannot explain why pressing Kimura's main switch functions as taught for Hotta's stop command key. (POR 39; Petition 57.)

Petitioner also concedes that Hotta does not teach or suggest that manual interruption is an instruction. (Reply 17-18.)

Regarding motivation to combine, Petitioner *first* asserts that Kimura teaches that "various changes and modifications" may be made without departing from its scope. (Reply 17 (quoting Ex-1002, 12:30-34).) This boiler-plate language cannot provide motivation to combine, especially considering that Hotta discloses two-stage charging subroutines different from the '391 patent and Kimura. (POR 40.) There are no additional implementation insights in Hotta. And Dr. Cameron's testimony about disincentives to make systems more complex remains unrebutted. (Ex-1021, 161:5-21.)

*Second*, Petitioner argues that the lack of disclosure of the main switch implementation in Kimura would have motivated a POSITA to look at references like Hotta. (Reply 17.) But Kimura's main switch is an on/off switch, and a POSITA would not need to seek additional implementation details for merely "opening and closing [it]," as Dr. Cameron's unrebutted testimony shows. (POR 24; Ex-2005, ¶¶ 77, 133-135; Ex-1021, 174:8-175:10.) Even assuming that a

POSITA would consider combining Kimura and Hotta (she would not), Hotta discloses discrete switches and “ON/OFF” signals as features separate from command keys, which would not incentivize a POSITA to combine those features. (See Ex-1003, 4:1-11, 4:59-67, 5:25-26.)

**Third**, Petitioner argues motivation to combine under the obvious-to-try and simple-substitution theories. (Reply 17.) As Dr. Cameron explained, there would be not motivation to make more complex (and more expensive) systems (Ex-1021, 161:5-21), and it would not be simple because Hotta uses two-stage charging subroutines (Ex-2005, ¶ 118). Contrary to Petitioner's new argument, two-stage charging subroutines are not immaterial because the use of command keys in Hotta is tied to them. (See, e.g., Ex-1003 figs.8-10.)

Lastly, Petitioner makes two arguments that there was no improper incorporation from Dr. MacCarley's discussion of J1772 in connection with claim 2 in Ground 2. (Reply 17-18.) **First**, Petitioner states that U.S. Pub. No. 2009/0177580 (“Lowenthal”)—that the patentees disclosed to the examiner during prosecution—mentions J1772. (Ex-1007, 75.) But Lowenthal briefly refers to portions of J1772 only for examples of suitable receptacles. (Ex-1025, [0036], [0044].) Nothing in Lowenthal indicates that J1772 has any relevance here.

**Second**, Petitioner asserts that the Petition cited to Dr. MacCarley's discussion of J1772 on page 36. (Reply 18.) To begin, page 36 of the Petition

cites to Dr. MacCarley's declaration—"Ex-1009 ¶¶ 44-95 (also discussing confirmation from J1772)"—specifically in connection with claim 1 under Ground 1 and does not as much as mention that it could be relevant for claim 2 under Ground 2. Further, page 36 of the Petition does not provide any specifics of Dr. MacCarley's opinions beyond indicating support for his conclusion that Kimura renders obvious claim 1 *somewhere* in his declaration. This is the quintessence of improper incorporation by reference. *Gen. Access Sols. v. Sprint Spectrum L.P.*, 811 F. App'x 654, 657 (Fed. Cir. 2020). *Netlist* is distinguishable because, unlike here, the cited paragraphs of the declaration there provided "the necessary factual bases" for the petitioner's specific arguments. *Samsung v. Netlist*, IPR2022-01427, Paper 48, \*61 (PTAB Apr. 1, 2024).

## 2. Claim 5

Claim 5's language is clear: a preference interruption is detected during the flow of electricity and is an interruption due to a violation of the user's preference. (Ex-1001, 17:8-11.) Petitioner identified fully charging the battery by the boarding time as a preference under Hotta. But Hotta does not teach, *inter alia*, an interruption **due to a violation** of the user's preference because Hotta's charging process is not interrupted if the battery cannot be fully charged by the boarding time. Instead, a message conveying that is displayed, and the charging continues. (Ex-1003, 8:23-38.)

Petitioner's counterargument fails. Petitioner emphasizes that it used Hotta for its teaching of "user selection of a preference in a charging process." (Reply 18.) As explained above, Hotta teaches meeting the boarding time "preference" or continuing charging if it cannot be met, which is the opposite of terminating the charging process under the '391 patent. (Ex-1001, 16:57-59). Petitioner never explained in the Petition or Reply how or why a POSITA would combine Hotta with Kimura, given these contrasting teachings.

### **3. Claims 9, 12, and 16**

Petitioner does not develop its arguments regarding claims 9, 12, or 16. Thus, this challenge fails alongside its arguments regarding claims 2 and 5.

### **C. Ground 3: Kimura-King Does Not Render Claims 3, 10, and 17 Obvious**

Petitioner fails to address PO's non-construction positions. Petitioner argues that PO misunderstands Kimura-King combination, and that POSITA would be motivated to build Kimura's charger to make use of King's non-volatile memory to store Kimura's operational parameters. (Reply 19-20.) This argument is unavailing because Kimura does not disclose the same processes or products as the '391 patent, as Dr. Cameron explained. (Ex-2005, ¶ 127-128.) Indeed, Petitioner does not deny that the data stored in King's non-volatile memory is not an operational parameter. (Reply 19-20.)

Further, Petitioner does not dispute that Kimura and King have different purposes and that King aims to prevent overcharging of old batteries, as Dr. Cameron explained. (Ex-2005, ¶ 128.) Thus, there was no motivation to combine.

**D. Ground 4: Keith Does Not Anticipate Claims 1, 2, 4-9, 11-16, and 18-20**

To prove anticipation, Petitioner must show that each 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). Petitioner failed this high bar.

**1. Claims 1, 4, 7, 8, 14-15, 18-19, and 20**

To begin, Petitioner concedes that these claims should be upheld if the Board adopts PO's construction of "request" and "reply." (Reply 20.) Additionally, Petitioner has failed to rebut Dr. Cameron's testimony that Keith does not disclose operational parameters recited in claims 7, 14, and 19 because, *inter alia*, Keith does not disclose an operational parameter identified from a set of operational parameters that conform to a set of predefined interrupt conditions, that is changeable during the pre-charge stage. (Ex-2005, ¶¶ 152-154.)

**2. Claims 2, 9, and 16**

Petitioner fails to show anticipation of these claims because, *inter alia*, Keith discloses a different process and moving Keith's charge/run switch into an open position is different from generating instructions. (Ex-2005, ¶¶ 132-144.)

Petitioner's counterarguments fail. **First**, Petitioner argues that PO equates the charging process with the flow of electricity. (Reply 21-22.) Not so. Claim 2 recites, in relevant part, that the manual override interruption causes "terminating the charging process." (Ex-1001, 15:64-65.) Petitioner argued that Keith anticipates claim 2 because it purportedly discloses that "a manual override interruption occurs when 'the operator moves a charge[/]run switch 77 into the open position.'" (Petition 80.) Thus, it was Petitioner who equated Keith's turning of the switch with "terminating the charging process."

**Second**, Petitioner argues that the claims do not expressly require ETEE to perform the termination of the charging process or to stop the flow of electricity and that it is "immaterial" whether the "operating of the charge/run switch in Keith" or Keith's purported ETEE-equivalent "stops the charge." (Reply 21-22.) But claim 1, from which claim 2 depends, recites, in relevant part, "responsive to detecting the one or more interruptions, sending **a response to [ETEE] to terminate the charging process.**" (Ex-1001, 16:57-59.) Thus, an instruction is sent to ETEE to terminate, which is different from Keith where the operator moves the charge/run switch. Thus, Keith cannot anticipate.

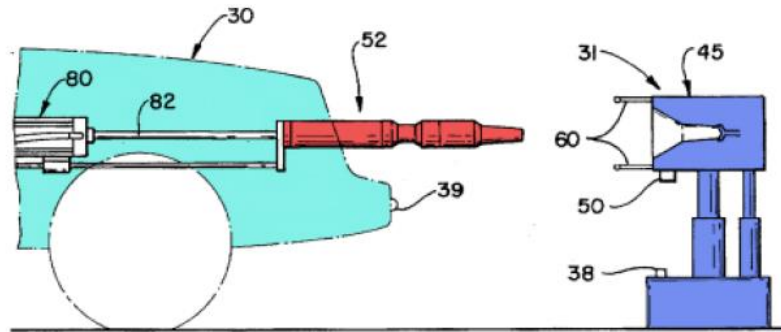
**Third**, Petitioner argues that PO's position on "follow-up actions" in Keith's vehicle charge computer (purported ETIM-equivalent) and not the station charge computer (purported ETEE-equivalent) is wrong because (i) it relates to "the close

position” of the charge/run switch when the Petition related to the open position, and (ii) is inconsistent with Keith’s teachings that the charge will continue until the operator transfers the charge run switch 77 into the open position, after which certain displays are made and the vehicle is reenabled. (Reply 22.) This is a red herring.

To begin, it was Petitioner who relied on Keith’s disclosure relating to the close position, as PO pointed out in the POR. (POR 52; Petition 81.) Further, PO’s “follow-up actions” argument explained that moving Keith’s switch cannot cause the station charge computer (purported ETEE) to terminate the charging process because the switch is coupled to Keith’s vehicle charge computer (purported ETIM) and follow-up actions occur there. (POR 49-50.) For instance, the displays and reenabling the vehicle that Petitioner cites (Reply 22) take place vehicle-side (Ex-1005, 8:32-34).

Petitioner’s reliance on Keith’s Figure 16 (Reply 22) is misplaced because it shows what is happening vehicle-side (Ex-1005, 23:9-11). Especially untenable is Petitioner’s argument that steps 449 of Keith’s Figure 16 take place at the station charge computer (Reply 22-23) because steps 449 include, for example, the vehicle retracting its charging probe and unlocking of the brakes to remove the vehicle from the charging station (Ex-1005, 23:35-39).

Lastly, the charging process cannot continue (and therefore cannot terminate) after the vehicle physically detached from the station, as Petitioner's reproduction of Keith's Figure 19 shows:



(Reply 23.) There is simply no way for Keith's station computer to continue giving instructions to the vehicle after the vehicle detaches. (Ex-1005, 2:16-21.)

**Fourth**, Petitioner appears to argue that, while a human being can be a user, not all users must be human beings. (Reply 24 n.10.) But Petitioner's example—that a charging station attendant can be a user—supports PO's position that a user must be a human being.

### 3. Claims 5 and 12

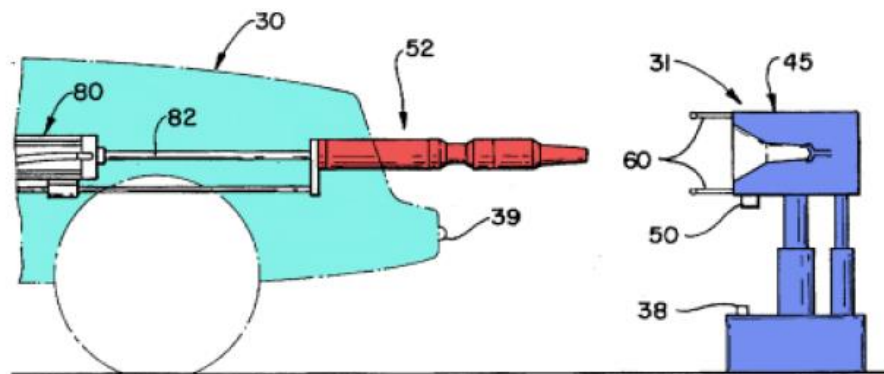
Petitioner's arguments fail because, *inter alia*, Keith does not disclose “avoidance of extra fees” in the sense that Petitioner argues. (Reply 25.) “Overpayment” can only occur at the beginning of the process disclosed in Keith, when the cash is deposited before the “battery routine” takes place. (Ex-1005, 17:58-18:47.) To avoid overpayment, a maximum charge sum is calculated at that

point. The charging continues until that sum is exhausted. (*Id.* 17:58-64.) This has nothing to do with a preference interruption recited in claims 5 and 12 of the '391 patent.

#### 4. Claims 6 and 13

Petitioner's *first* counterargument that PO conflates the charging process and the electricity flow fails for the same reasons as with claim 2. (*Supra* Part III.D.2.)

*Second*, Petitioner argues that Keith's charge station computer terminates the charging process after Keith's equivalent of a data services interruption because the station "can check to see that the probe has disembarked before lowering the **probe receptacle head 45** . . . the probe is commanded to be retracted." (Reply 25.) But Keith's probe retraction happens vehicle-side. (*Supra* Part III.D.2.)



(Reply 23.) Petitioner's quote from Keith (reproduced above) shows that the only step occurring station-side after the probe disembarks is lowering the probe

receptacle head 45. That step is not part of the charging process, which cannot continue after the vehicle physically detached from the station.

**E. Ground 5: Keith Does Not Render Claims 3 and 8-19 Obvious**

**1. No proof that Keith renders these claims obvious**

Petitioner failed to meet its burden in Ground 5, too. Among other things, Keith is lacking the requisite disclosure of operational parameters. Petitioner's counterarguments are meritless. It *first* argues that claims 3, 10, and 17 do not require that every stored operational parameter be used for interruption detection and that Keith teaches that the vehicle charge computer “stores the kilowatt hours [i.e., energy] and cost[.]” (Reply 26.)

But, as Dr. Cameron explained, kilowatt hours and cost are not operational parameters under Keith. (Ex-2005, ¶¶ 167-170.) Petitioner admits as much—“Keith does not appear to disclose using these two parameters at the vehicle charge computer 72 for interruption detection . . . .” (Petition 96.) Keith does not disclose storing voltage or current, and storing kilowatt hours and cost in Keith relates to prevention of overpayment and has nothing to do with monitoring for and/or detecting interruptions. (Ex-2005, ¶¶ 169-170.)

Furthermore, the '391 patent's claims recite that operational parameters *must* be used for interruption decisions. For instance, claim 3 depends from claim 1, which recites, in relevant part,

- “monitoring a ***set of operational parameters*** of the charging process during the flow of electricity ***for one or more interruptions . . .***”;
- “detecting the one or more ***interruptions*** during the flow of electricity ***from the set of operational parameters . . .***”;
- “***responsive to detecting the one or more interruptions***, sending a response to the energy transaction execution engine to terminate the charging process.” (Ex-1001, 16:46-59.)

**Second**, Petitioner argues that there is no requirement that the recited storage device be located at the same device that is performing monitoring and detection. (Reply 26.) This is a red herring argument because Petitioner failed to show that operational parameters (voltage and current) are stored at all.

**Third**, Petitioner argues that even if the claims require that stored parameters must be used for interruption detection, Keith discloses that the charge station computer detects interruptions based on the stored kilowatt hours and cost values. (Reply 26.) Those values are not operational parameters as that term is understood in the '391 patent because they are used in Keith to prevent overpayment.

## **2. No proof of motivation to combine**

Dr. Cameron's testimony that a POSITA would have no motivation to combine Keith's disclosure with a POSITA's knowledge in the art remains un rebutted. (Ex-2005, ¶ 166.) Indeed, Dr. MacCarley admitted that he did not analyze motivation to combine and reasonable expectation of success. (Ex-2007, 71:23-72:19.)

Petitioner argues that no showing of motivation or reasonable expectation of success is required because the Petition relies on a single embodiment from Keith explicitly teaching the combination. (Reply 26-27.) However, this is not the same combination, as Petitioner tacitly admits. (*Id.* 26.)

*Philip Morris* is distinguishable. There, a single reference taught alternative heating element arrangements for a smoking article and combinations between the chosen heating element arrangement and the rest of the smoking article. *Philip Morris v. RAI*, IPR2020-00921, Paper 32, \*34 (PTAB June 30, 2022).

**F. Ground 6: Keith-Nor Does Not Render Claims 6 and 13 Obvious**

Petitioner failed to develop Ground 6 arguments in its Reply. (Reply 27.) Accordingly, Ground 6 fails at least for the reasons discussed in the POR and above.

**G. Evidence of Dr. MacCarley's Conflict of Interest Remains Unrebutted**

Based on Dr. MacCarley's admissions of long-standing connections to Tesla, PO submitted that his opinions should be given little to no weight due to a clear conflict of interest. (POR 70-71.) Petitioner fails to refute this.

**First**, Petitioner argues that Dr. MacCarley's "desire for [his students'] success" is not bias. (Reply 16 n.6.) But a track record of Tesla student placements increases his prestige and standing at California Polytechnic, while students he placed provide him with access and may serve as a future source of

funding. As Dr. Cameron put it, Tesla was part of Dr. MacCarley's "critical path." (Ex-2021, 138:17-24.) All of this incentivizes Dr. MacCarley to cultivate his relationship with Tesla. *Ferring B.V. v. Barr Labs.*, 437 F.3d 1181, 1189 (Fed. Cir. 2006) (ongoing mutually-beneficial relationship).

**Second**, Petitioner argues that Dr. MacCarley is unbiased because Tesla did not give him money. However, Tesla gave him gifts in kind, including chargers, charge ports, and sharing innovative marketing. (Ex-2007, 78:21-80:20.) Dr. MacCarley's own university recognizes that gifts may create a conflict of interest. *Gifts to Agency, Distribution of Tickets, and Reporting of Ceremonial Roles*, CAL. POLY., <https://calstate.policystat.com/policy/17168998/latest/> (last reviewed Dec. 17, 2024).

**Third**, relying on *Trans Ova* and *Offshore*, Petitioner argues that Dr. MacCarley swore to his "financial disinterest" and "[n]othing more is required." (Reply 16 n.6.) This is not Petitioner's call. The Board will evaluate Dr. MacCarley's testimony obtained on cross-examination and make an appropriate determination. *Offshore Tech. v. Innovative Pressure*, IPR2020-00923, Paper 43, \*18 (PTAB Oct. 28, 2021).

Further, the *Offshore* Board found that the expert was unbiased because he had **general** "business interests related to the industry as a whole." *Id.* at 17. In

contrast, Dr. MacCarley has a specific interest in and a long-standing relationship with Tesla. (Ex-2007, 80:7-12.)

*Trans Ova* is inapplicable because, unlike Dr. MacCarley, the witness there was not an expert and provided background information non-critical to patentability issues. *Trans Ova v. XY*, IPR2018-00250, Paper 35, \*10 n.9 (PTAB June 26, 2019).

#### IV. CONCLUSION

For the reasons here and in PO's Response, the Board should uphold claims 1-20 as valid.

Respectfully submitted,

Dated: March 12, 2025

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**CERTIFICATE OF WORD COUNT**

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that there are 5,593 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: March 12, 2025

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**CERTIFICATE OF SERVICE**

The undersigned certifies that on DATE, pursuant to 37 C.F.R. § 42.6(e), a copy of **PATENT OWNER'S SUR-REPLY** was served via email (as consented to by counsel) to counsel of record for Petitioner as follows:

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