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Transcript of Dr. Kirk W. Cameron

Date: February 11, 2025

Case: Tesla, Inc. -v- Graphite Charging Company LLC (PTAB)

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WORLDWIDE COURT REPORTING & LITIGATION TECHNOLOGY

Transcript of Dr. Kirk W. Cameron
Conducted on February 11, 2025

1 (194 to 197)

<p>194</p> <p>1 UNITED STATES PATENT AND TRADEMARK OFFICE</p> <p>2 BEFORE THE PATENT TRIAL AND APPEAL BOARD</p> <p>3</p> <p>4 TESLA, INC.,) Case No. 5 Petitioner,) IPR2024-00388 6 vs.) 7 GRAPHITE CHARGING COMPANY, LLC,) 8 Patent Owner.) 9</p> <p>10 DEPOSITION OF</p> <p>11 DR. KIRK CAMERON, Ph.D.</p> <p>12 Volume II</p> <p>13 Tuesday, February 11, 2025</p> <p>14 --oOo--</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24 Reported by: Michael C. Rowell, California CSR #13494 25 NCRA Registered Diplomate Reporter NCRA Certified Realtime Captioner</p>	<p>196</p> <p>1 INDEX OF EXAMINATION</p> <p>2 WITNESS: DR. KIRK CAMERON, PH.D.</p> <p>3 EXAMINATION BY PAGE</p> <p>4 Mr. Stein 197</p> <p>5 Mr. Shapiro 428</p> <p>6</p> <p>7 EXHIBITS FOR REFERENCE</p> <p>8 EXHIBIT NO. DESCRIPTION PAGE</p> <p>9 (No exhibits marked or attached.)</p> <p>10</p> <p>11 --oOo--</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>
<p>195</p> <p>1 APPEARANCES:</p> <p>2 For the Petitioner:</p> <p>3 MORGAN LEWIS 4 BY: ALEXANDER STEIN, ESQ. 5 THEODORE RAND, ESQ. 6 1301 Second Avenue #3000 7 Seattle, WA 98101 8 206.274.6437 9 206.274.6401 Fax 10 Alexander.Stein@MorganLewis.com 11 Theodore.Rand@MorganLewis.com</p> <p>12</p> <p>13 For the Patent Owner:</p> <p>14 DEVLIN LAW FIRM LLC 15 BY: JASON M. SHAPIRO, ESQ. 16 NADIIA LOIZIDES, ESQ. 17 1526 Gilpin Avenue 18 Wilmington, DE 19806 19 302.449.9010 20 302.473.3422 Fax 21 JShapiro@DevlinLawFirm.com 22 NLoizides@DevlinLawFirm.com 23</p> <p>24 --oOo--</p> <p>25</p>	<p>197</p> <p>1 BE IT REMEMBERED, that set on Tuesday, the</p> <p>2 11th day of February, 2025, commencing at the hour of</p> <p>3 7:40 a.m. (PST) thereof, via Zoom remote</p> <p>4 videoconferencing, before me, Michael C. Rowell, a</p> <p>5 Certified Shorthand Reporter of the State of California,</p> <p>6 there personally appeared</p> <p>7 DR. KIRK CAMERON, Ph.D.,</p> <p>8 having been called as a witness by the</p> <p>9 Petitioner, who, having been sworn by me to tell the</p> <p>10 truth, the whole truth, and nothing but the truth, was</p> <p>11 thereupon examined and testified as hereinafter set</p> <p>12 forth:</p> <p>13 --oOo--</p> <p>14 THE REPORTER: Dr. Cameron, if you would raise</p> <p>15 your right hand, please.</p> <p>16 Do you swear or affirm, under penalty of</p> <p>17 perjury, that the testimony you give in today's</p> <p>18 proceedings will be the truth, the whole truth, and</p> <p>19 nothing but the truth?</p> <p>20 THE WITNESS: Yes.</p> <p>21 THE REPORTER: Thank you.</p> <p>22 THE WITNESS: Thank you.</p> <p>23 EXAMINATION</p> <p>24 BY MR. STEIN:</p> <p>25 Q. Okay. Good morning, Dr. Cameron.</p>

<p>198</p> <p>1 A. Good morning.</p> <p>2 Q. So, we'll go through just a couple</p> <p>3 introductory questions, sort of like we did last time,</p> <p>4 and then -- then we'll jump into the substance.</p> <p>5 Is that okay?</p> <p>6 A. Sounds great.</p> <p>7 Q. And I believe at our last deposition, you told</p> <p>8 me, was that the first time you had been deposed? Is</p> <p>9 that right?</p> <p>10 A. Yes.</p> <p>11 Q. Have you been deposed any additional times</p> <p>12 after that last deposition you and I had?</p> <p>13 A. No.</p> <p>14 Q. Okay. And for today, we're discussing your</p> <p>15 testimony in IPR 2024-00388; is that your understanding?</p> <p>16 A. That is my understanding.</p> <p>17 Q. And if I use the shorthand "IPR" or "the</p> <p>18 proceeding" when I'm asking you questions, will you know</p> <p>19 what I'm referring to?</p> <p>20 A. Yes.</p> <p>21 Q. And the patent that we're talking about today</p> <p>22 is US Patent Number 8,291,243, which I'll probably refer</p> <p>23 to by the shorthand "the '243 patent" or simply "the</p> <p>24 patent."</p> <p>25 Is that okay with you?</p>	<p>200</p> <p>1 Q. And just like last time, the plan will be that</p> <p>2 we'll try to take a break about once an hour, but if you</p> <p>3 need an additional break or a pause, or, you know, the</p> <p>4 weather has an issue or something, just let me know.</p> <p>5 A. Very good. Thank you.</p> <p>6 Q. And just like last time, you continue to</p> <p>7 understand that you're not to discuss the content of</p> <p>8 your testimony with your counsel during the breaks,</p> <p>9 correct?</p> <p>10 A. Yes, sir.</p> <p>11 Q. Okay. And in this proceeding, you've</p> <p>12 submitted one declaration, which is Exhibit 2012; is</p> <p>13 that correct?</p> <p>14 A. I just want to check the exhibit number,</p> <p>15 but -- what number did you say?</p> <p>16 Q. 2012.</p> <p>17 A. Yes.</p> <p>18 Q. Okay. And if I refer to this as "the</p> <p>19 declaration" or "your declaration," is that -- is that a</p> <p>20 reasonable shorthand that you'll understand?</p> <p>21 A. Yes.</p> <p>22 Q. Okay. In preparation for your deposition</p> <p>23 today, how much time did you spend getting ready?</p> <p>24 A. Tens of hours, I would say.</p> <p>25 Q. Okay. Greater than 30?</p>
<p>199</p> <p>1 A. Yes.</p> <p>2 Q. And just like last time, I'm representing the</p> <p>3 Petitioner, Tesla, in the IPR.</p> <p>4 Do you understand my role?</p> <p>5 A. Yes.</p> <p>6 Q. And even though you're testifying virtually</p> <p>7 today, do you understand that the testimony you give</p> <p>8 under oath here is subject to the same penalty of</p> <p>9 perjury as though you were testifying in a courtroom?</p> <p>10 A. Yes.</p> <p>11 Q. And just like we did last time, I'll assume</p> <p>12 that you understand the questions that I ask, unless you</p> <p>13 explicitly tell me otherwise.</p> <p>14 Is that fair?</p> <p>15 A. Yes.</p> <p>16 (Discussion held off the record.)</p> <p>17 MR. STEIN: Okay. Let's go off the record.</p> <p>18 (Discussion held off the record.)</p> <p>19 (Whereupon, a recess was taken.)</p> <p>20 MR. STEIN: Okay, thank you.</p> <p>21 BY MR. STEIN:</p> <p>22 Q. So, Dr. Cameron, is there anything that would</p> <p>23 prevent you from thinking clearly and testifying</p> <p>24 truthfully today?</p> <p>25 A. No.</p>	<p>201</p> <p>1 A. Yes, probably.</p> <p>2 Q. Greater than 50?</p> <p>3 A. No, probably not greater than 50.</p> <p>4 Q. Did you spend more time preparing for this</p> <p>5 deposition than you did for the last one that you and I</p> <p>6 had?</p> <p>7 A. I don't recall. I just don't recall. This</p> <p>8 one had a lot of documents. It seemed like this had</p> <p>9 more documents, possibly, but I can't be sure.</p> <p>10 Q. And what -- what materials did you review</p> <p>11 during the less than 50 hours that you spent preparing</p> <p>12 for the deposition today?</p> <p>13 A. All right. So, I'm going to look at my deck</p> <p>14 here.</p> <p>15 MR. SHAPIRO: Objection, mischaracterizes</p> <p>16 testimony.</p> <p>17 MR. STEIN: Hey, Mike, the real-time isn't</p> <p>18 updating for me here. I don't know what happened.</p> <p>19 (Discussion held off the record.)</p> <p>20 THE WITNESS: So, under the Materials</p> <p>21 Considered section on page 7, I list Exhibits 1001</p> <p>22 through 1018. I reviewed those.</p> <p>23 BY MR. STEIN:</p> <p>24 Q. And you're referring to page 7 of Exhibit --</p> <p>25 A. Oh, of my declaration -- of Exhibit 2012.</p>

<p>202</p> <p>1 Excuse me.</p> <p>2 Q. And is this the complete list of the materials</p> <p>3 that you reviewed for the less than 50 hours that you</p> <p>4 spent preparing?</p> <p>5 MR. SHAPIRO: Objection, mischaracterizes</p> <p>6 testimony.</p> <p>7 THE WITNESS: No. Actually, there are a</p> <p>8 number of more files that aren't listed there. You</p> <p>9 didn't ask me, but am I allowed to use my device to see</p> <p>10 the files?</p> <p>11 BY MR. STEIN:</p> <p>12 Q. Yeah, but before you do that, can you confirm</p> <p>13 for me that any files that you access on your computer</p> <p>14 don't have any markings or highlighting or any</p> <p>15 annotations that weren't in the original files?</p> <p>16 A. I confirmed that, yes.</p> <p>17 Q. Okay.</p> <p>18 A. They're just the original files.</p> <p>19 Q. Okay.</p> <p>20 A. Okay. So, in addition to Exhibits 1001</p> <p>21 through 1018, there were also Exhibits 1019 through 1024</p> <p>22 that I consulted.</p> <p>23 I'll let you catch up, but then there's a few</p> <p>24 more things, so --</p> <p>25 Q. Okay. Got it. Go ahead.</p>	<p>204</p> <p>1 review the Board's Institution Decision?</p> <p>2 MR. SHAPIRO: Objection to form.</p> <p>3 THE WITNESS: Is there another name for that</p> <p>4 that it could be called? I feel like I may have looked</p> <p>5 at something that describes that -- what you're</p> <p>6 describing or what you're calling -- what you're naming</p> <p>7 it.</p> <p>8 Are you talking about the ex parte review?</p> <p>9 BY MR. STEIN:</p> <p>10 Q. No.</p> <p>11 A. Oh, okay. Then, the Board decision -- I don't</p> <p>12 recall. I can't confirm it, though, for sure. I just</p> <p>13 can't -- I would have to go through all of the</p> <p>14 documents.</p> <p>15 I can name all of the documents for you and</p> <p>16 you can tell me if one of them sounds like it, but</p> <p>17 without going through, it would be difficult.</p> <p>18 Q. Okay. And in terms of the materials in front</p> <p>19 of you, I know you mentioned some -- the device in front</p> <p>20 of you.</p> <p>21 Do you have any paper copies in front of you?</p> <p>22 A. Yes, I have paper copies, sadly, of</p> <p>23 everything, because I just need to in case we didn't use</p> <p>24 the electronic. But, yes, I believe I -- all of the</p> <p>25 ones I just mentioned to you, I should have hard copies</p>
<p>203</p> <p>1 A. Oh, you said "go ahead." I thought you</p> <p>2 said "but." Okay. Sorry.</p> <p>3 And then there's -- excuse me. Then there are</p> <p>4 two more files: the '388 petition, which I'm not sure</p> <p>5 if that was listed, I don't think so; and the patent</p> <p>6 owner Graphite's preliminary response. And then there's</p> <p>7 a few more files, too. Once you're ready, tell me.</p> <p>8 Q. Go ahead.</p> <p>9 A. And then there are Exhibits 2001 through 2015,</p> <p>10 2-0-1-5. I can read those, if you like, or we can -- if</p> <p>11 you know what they are, then...</p> <p>12 Q. Yeah, I got those.</p> <p>13 A. That's everything. And I have electronic</p> <p>14 versions of that in front of me, yeah.</p> <p>15 Q. Okay. And those materials that aren't listed</p> <p>16 on pages 7 and 8 of your declaration, did you review</p> <p>17 those before you wrote your declaration?</p> <p>18 A. Yes.</p> <p>19 Q. What about the Board's Institution Decision?</p> <p>20 Did you review the Institution Decision?</p> <p>21 A. Is that one of the ones that I listed?</p> <p>22 Q. No.</p> <p>23 A. I can't quite tell in real-time. I have names</p> <p>24 that don't seem to match that name.</p> <p>25 Q. Okay. So, as best you can tell, you did not</p>	<p>205</p> <p>1 surrounding me, because it's about five or 600 -- it's</p> <p>2 actually seven or 800 pages, actually.</p> <p>3 Q. Okay. So, on any of those seven or so hundred</p> <p>4 pages -- seven or 800 pages, do you have any markings,</p> <p>5 highlighting, anything like that?</p> <p>6 A. No. These are the same versions that are in</p> <p>7 that set of files, and I purposely did not annotate them</p> <p>8 in any way.</p> <p>9 Q. Okay. And I didn't ask you this, but where</p> <p>10 are you today, Dr. Cameron?</p> <p>11 A. Oh. Yeah, I'm at my home in Alexandria,</p> <p>12 Virginia.</p> <p>13 Q. Okay.</p> <p>14 A. And so the Metro goes by. I apologize if you</p> <p>15 hear the noise and stuff.</p> <p>16 Q. Okay. Is there anyone in the room with you?</p> <p>17 A. No, it's just me. But there are people in the</p> <p>18 house and I have a dog, so, it's possible that there</p> <p>19 might be noises.</p> <p>20 Q. Okay. How many other people are in the house</p> <p>21 with you?</p> <p>22 A. Currently, my wife, Alyssa, is the only one</p> <p>23 home, but my daughter -- one of my daughters is supposed</p> <p>24 to come home around lunchtime, and then the other one</p> <p>25 comes home around 6:00 p.m.</p>

<p>206</p> <p>1 Q. Okay.</p> <p>2 A. Yeah.</p> <p>3 Q. Okay. And we talked early that -- earlier</p> <p>4 that the patent at issue today is the '243 patent,</p> <p>5 right?</p> <p>6 A. Yes. You mentioned that.</p> <p>7 Q. Did you offer opinions in your declaration</p> <p>8 about any other patents?</p> <p>9 MR. SHAPIRO: Objection, form.</p> <p>10 THE WITNESS: To the extent that they were</p> <p>11 cited, yes. So, yes, I did talk about other patents in</p> <p>12 there.</p> <p>13 BY MR. STEIN:</p> <p>14 Q. What about the '245 patent?</p> <p>15 A. Oh, that is a typo. So, there is no '245</p> <p>16 patent. That should have said '243 in the deposition --</p> <p>17 in the declaration. And there's also -- I'll call it</p> <p>18 out for you. There's a reference to '45, which is also</p> <p>19 '243.</p> <p>20 So, anywhere it says '45 or anywhere it says</p> <p>21 '245, it should be '243. These are confirmed by the</p> <p>22 id. references. I did double-check that, so...</p> <p>23 Q. The id. references -- what do the</p> <p>24 id. references confirm?</p> <p>25 A. They refer to those documents. You know, it</p>	<p>208</p> <p>1 where that re-appears. So, that's in -- or a similar</p> <p>2 typo. So, paragraph 73, it says '245 patent; paragraph</p> <p>3 74, same thing; paragraph 79; paragraph 85, 86, and 87;</p> <p>4 is that right?</p> <p>5 A. Hold on. I heard -- you had me at 79, and</p> <p>6 then I was turning pages.</p> <p>7 Go ahead. What's after 79?</p> <p>8 Q. 85, 86, and 87.</p> <p>9 A. 85, 86, and 87. Yes, those should all read</p> <p>10 '243.</p> <p>11 Q. Okay. Let's go to paragraph 45 of your</p> <p>12 declaration.</p> <p>13 A. I'm there.</p> <p>14 Q. So, you said in the second line of paragraph</p> <p>15 45, "It is still invalid if the differences between the</p> <p>16 claimed subject matter and the prior art are such that</p> <p>17 the subject matter as a whole would've been obvious."</p> <p>18 MR. SHAPIRO: Objection -- oh, sorry, go</p> <p>19 ahead.</p> <p>20 BY MR. STEIN:</p> <p>21 Q. What does that mean?</p> <p>22 MR. SHAPIRO: Objection, form.</p> <p>23 THE WITNESS: I mean, I think it means what it</p> <p>24 says, but I'll say that "obvious" in this context should</p> <p>25 be relative to a person of ordinary skill in the art; it</p>
<p>207</p> <p>1 will say column X, line 17 or something, and I</p> <p>2 double-checked and from what I could tell, all of the</p> <p>3 ones that I looked at, they confirm that we're referring</p> <p>4 to the '243.</p> <p>5 Q. Let's just look at that briefly, so, for</p> <p>6 example, paragraph 72, where you say, "According to the</p> <p>7 '45 patent" on the bottom of page 21 of your</p> <p>8 declaration.</p> <p>9 A. Paragraph 72...</p> <p>10 MR. SHAPIRO: Objection, form.</p> <p>11 THE WITNESS: The id. reference, 1 -- so, that</p> <p>12 should be --</p> <p>13 I'll just read that paragraph for context.</p> <p>14 Yes. That is -- that id. reference is</p> <p>15 referring to patent '243, column 1, lines 31 to 34.</p> <p>16 Q. And what about when it says, at the bottom of</p> <p>17 page 21, paragraph 72, "the '45 patent"? So, there's</p> <p>18 nothing in this case of what -- what this '45 patent is,</p> <p>19 right?</p> <p>20 MR. SHAPIRO: Objection, form.</p> <p>21 THE WITNESS: I think I just mentioned this a</p> <p>22 minute ago. '45 is the typo that I pointed out to you,</p> <p>23 so it should be '243.</p> <p>24 BY MR. STEIN:</p> <p>25 Q. Okay. And let's -- let's just go through</p>	<p>209</p> <p>1 would be obvious to that person.</p> <p>2 BY MR. STEIN:</p> <p>3 Q. And what does "obvious" mean to you, in your</p> <p>4 own words?</p> <p>5 MR. SHAPIRO: Objection, form.</p> <p>6 THE WITNESS: I mean, to me, "obvious" is</p> <p>7 something that would be -- I mean, let me just see here.</p> <p>8 Yeah, if there are obvious differences between</p> <p>9 the claimed subject matter and the prior art, that would</p> <p>10 be obvious, right? So, the differences are obvious, or</p> <p>11 the similarities are obvious.</p> <p>12 BY MR. STEIN:</p> <p>13 Q. And what's an example of obvious differences?</p> <p>14 MR. SHAPIRO: Objection, form.</p> <p>15 THE WITNESS: I don't have an example off the</p> <p>16 top of my head. I mean, aren't we getting a little into</p> <p>17 the legalness -- the legalese of this here? "Obvious,"</p> <p>18 I believe, is a legal definition -- has a legal</p> <p>19 definition.</p> <p>20 BY MR. STEIN:</p> <p>21 Q. Correct, but you said here that you understand</p> <p>22 the legal standard for "obviousness"; is that still</p> <p>23 right? You understand that standard?</p> <p>24 A. Where do I say that?</p> <p>25 MR. SHAPIRO: Objection, mischaracterizes</p>

<p>210</p> <p>1 testimony, form.</p> <p>2 BY MR. STEIN:</p> <p>3 Q. Paragraph 45, "I have been informed by counsel</p> <p>4 and understand that even if," and then you continue.</p> <p>5 So, do you continue to understand these legal</p> <p>6 standards that you were informed by counsel, or do you</p> <p>7 no longer understand those?</p> <p>8 A. I continue to understand it in the way that I</p> <p>9 describe it here. I understand that even if a patent is</p> <p>10 not anticipated, it is still invalid -- valid if the</p> <p>11 differences between the claimed subject matter and the</p> <p>12 prior art are such that the subject matter as a whole</p> <p>13 would have been obvious at the time of invention to the</p> <p>14 person of ordinary skill in the art.</p> <p>15 Q. So, what's --</p> <p>16 A. That, I still believe, yes.</p> <p>17 Q. And what's an example of an obvious</p> <p>18 difference?</p> <p>19 MR. SHAPIRO: Objection, form.</p> <p>20 THE WITNESS: I don't have an example of one.</p> <p>21 Yeah, I don't have an example of one. I guess you could</p> <p>22 give me an example, and I could tell you whether I</p> <p>23 thought it was obvious or not. But, again, I just asked</p> <p>24 to opine on, you know, whether a person is of ordinary</p> <p>25 skill in the art at the time would've made an easy,</p>	<p>212</p> <p>1 a moment of clarity or a moment of inspiration, and I</p> <p>2 could foresee that in some instance, under one kind of</p> <p>3 problem, it might be very unusual to think of using the</p> <p>4 Pythagorean theorem, but in another instance, it might</p> <p>5 be very obvious, so I think a person skilled in the art</p> <p>6 has to make that determination.</p> <p>7 BY MR. STEIN:</p> <p>8 Q. Let's go to paragraph 20 of your declaration.</p> <p>9 A. 20.</p> <p>10 Q. Here, you say a list of all such cases in</p> <p>11 which I have consulted can be found in my CV.</p> <p>12 Can you show me where that list is in your CV?</p> <p>13 A. Under Consulting Activities.</p> <p>14 Q. Well, what did you refer to in paragraph 20?</p> <p>15 Show me what you were referring to in paragraph 20.</p> <p>16 A. Where is paragraph 20? Sorry, I don't have</p> <p>17 that here.</p> <p>18 "A list of all such cases I have consulted can</p> <p>19 be found in my CV." And then what was -- what was your</p> <p>20 question?</p> <p>21 Q. What is the list of all such cases that you</p> <p>22 were referring to in paragraph 20?</p> <p>23 A. It's under -- on my CV, it's page 25, under</p> <p>24 Consulting Activities.</p> <p>25 Q. How many -- how many times have you been</p>
<p>211</p> <p>1 logical conclusion to take another step in -- in the</p> <p>2 patent or in the -- based on the current state of the</p> <p>3 art, not the patent, but based on the current state of</p> <p>4 the art, that they would -- it was easy and obvious</p> <p>5 insight to what was already happening at the time.</p> <p>6 BY MR. STEIN:</p> <p>7 Q. But you're unable to give me sort of a</p> <p>8 tangible example of what an obvious difference is? Is</p> <p>9 that your testimony?</p> <p>10 MR. SHAPIRO: Objection, form.</p> <p>11 THE WITNESS: I'm not prepared to give you an</p> <p>12 example without thinking more deeply about it.</p> <p>13 BY MR. STEIN:</p> <p>14 Q. What if the difference -- let's draw a</p> <p>15 hypothetical. But what if the difference between a</p> <p>16 current invention and something older was the use of the</p> <p>17 Pythagorean theorem. Would that difference -- if the</p> <p>18 only difference were use of the Pythagorean theorem,</p> <p>19 would that be an obvious difference?</p> <p>20 MR. SHAPIRO: Objection, form, relevance.</p> <p>21 THE WITNESS: It would depend entirely on the</p> <p>22 context. And, you know, I don't know if that's relevant</p> <p>23 to this discussion, but it would depend entirely on the</p> <p>24 context.</p> <p>25 I mean, when you're inventing things, you have</p>	<p>213</p> <p>1 employed as an expert witness in a patent case?</p> <p>2 A. As an expert witness in a patent case.</p> <p>3 I mean, do you count the current</p> <p>4 proceedings --</p> <p>5 Q. Yeah.</p> <p>6 A. -- from the current engagement with what used</p> <p>7 to be Goldberg Segalla, and now it's Devlin?</p> <p>8 Q. Yes.</p> <p>9 A. And also, do you count that as two proceedings</p> <p>10 or one? Because there are two cases under that, right,</p> <p>11 '388 and '387. So, would that be one or two?</p> <p>12 Q. Let's count it as one -- one engagement.</p> <p>13 A. Okay. So, if you count engagements like</p> <p>14 you've just described, then the engagements that I've</p> <p>15 had are I believe, two, including this one, so, Ablan</p> <p>16 [phonetic] and Goldberg Segalla.</p> <p>17 Q. In paragraph 19, right above 20 --</p> <p>18 A. Can I clarify that for a second, is that I was</p> <p>19 an expert witness for Commonwealth of Virginia, and</p> <p>20 that's listed there, and I was an expert consult for the</p> <p>21 decision detective. But those were not cases at the</p> <p>22 time that I'm aware of. They were just consulting, if</p> <p>23 that makes sense. So, I didn't count them, but if you</p> <p>24 wanted to talk about those, we could talk about those.</p> <p>25 Sorry. Back to your question. Go ahead.</p>

<p>214</p> <p>1 Q. Yeah, yeah. So, paragraph 19, you refer 2 to "various other techniques for in-band and out-of-band 3 energy measurement." 4 Do you see that? 5 A. Yes. 6 Q. What are in-band and out-of-band energy 7 measurement and management? 8 A. That work is related to my IEEE fellow 9 designation, right, so I pioneered the area of basically 10 this notion of in-band and out-of-band as measurement -- 11 THE REPORTER: I'm sorry, sir, if I could ask 12 you to back up and restart your answer. 13 THE WITNESS: Oh, I'm sorry, Mike. Yeah, I 14 had this problem last time, I speak too fast. 15 I'm sorry, go ahead. Where do I start? 16 THE REPORTER: "That work is related to my" 17 and I lost the name of the organization. 18 THE WITNESS: Oh, okay. That work is related 19 to my IEEE fellowship. So, I'm an IEEE fellow. And so, 20 in that work -- or in the early days, I was doing power 21 measurement and management of server class systems and 22 computers, so, servers -- server energy management and 23 measurement. 24 And in that process, we developed a tool 25 called PowerPack, which is a software/hardware</p>	<p>216</p> <p>1 in-band measurement? 2 A. Yeah. These are something that were invented 3 in the late -- mid to late '90s, and they are basically 4 special registers on a microprocessor that allow you to 5 count things. 6 So, a simple thing is like, you know, I run a 7 program. It's like a thousand instructions. The CPU is 8 capable of counting those 1,000 instructions, right? 9 And so, it's just a counter that just accumulates 10 things. 11 So, you can imagine if you were -- to make the 12 extension, if you're trying to estimate the power, then 13 you're counting, you know, some estimate of how much 14 power maybe each instruction uses, and then you add them 15 all up, and that tells you how much power it consumed 16 over a period of time. 17 Q. Okay. And you developed some tool -- I 18 believe -- did you call it peak power? Was that right? 19 A. No. It was called PowerPack. 20 P-O-W-E-R-P-A-C-K, one word. 21 Q. And for the -- what was the general-use case 22 for PowerPack? 23 A. Oh. So, the general-use case for PowerPack, 24 at the time -- again, this is actually 25 probably 2001-2002 time frame, so, it predates some of</p>
<p>215</p> <p>1 infrastructure, that led to a number of things, but in 2 that design, we had what we referred to as in-band and 3 out-of-band measurement. 4 In-band -- well, I think out-of-band is the 5 one people are most familiar with, so I'll start with 6 that one. So out-of-band measurement is when I plug a 7 server or computer into a wall outlet, but the wall 8 outlet has a smart meter attached to it, so I'm really 9 putting this meter in between the computer and the wall, 10 so I'm measuring the power. 11 It's called "out-of-band" because the data 12 that you generate does not go back to the system that 13 you're measuring, hence the word out-of-band. 14 In-band is a little more esoteric for computer 15 scientists that are in the know, but it's the idea of I 16 use something on the system. We have things called 17 hardware counters. There are different tools that you 18 can use on a computer system to measure or estimate the 19 power usage of the system. 20 So, it's in-band, because it's on the same 21 device that you're measuring, if that makes sense. So, 22 that's in-band and out-of-band measurements. I hope 23 that makes it clear to you. 24 Q. Yeah. And you also mentioned hardware 25 counters. What are the hardware counters for the</p>	<p>217</p> <p>1 the stuff that we're talking about in this patent. 2 But, basically, PowerPack enables you to 3 gather information from a server that's running an 4 application using those in-band and out-of-band 5 measurements. It's the software infrastructure layer 6 that sits on top of that infrastructure I described to 7 you to gather all of the information, and then correlate 8 it back to the apps that are running on the system. 9 Q. I see. And is PowerPack something that would 10 run autonomously? 11 A. No, no. PowerPack is completely, you know, 12 run by a user, like a -- a pretty advanced user, yeah. 13 Q. Yeah. So, what does that mean, that it's 14 completely run by a user? 15 A. I mean, it's a tool that the user can call, 16 right, to measure things. So, the user decides when 17 it's measuring, what it's measuring. The user 18 interfaces with the tool to, you know, gather the 19 measurements. 20 Q. And does the user provide the measurements to 21 PowerPack, or does PowerPack autonomously go and measure 22 things? 23 A. The user provides, you know, boundaries or -- 24 what's the word -- parameters, or I guess the user 25 provides the queries that you're going to ask the</p>

<p style="text-align: right;">218</p> <p>1 system. It tells the system, I want to know -- back to 2 the example I used just a minute ago, I want to know, 3 you know, how much power these instructions consumed, 4 like something along those lines. 5 Q. And in order for PowerPack to measure, you 6 know, how much power those instructions consumed, when 7 it's making those measurements, is it doing that 8 autonomously? 9 MR. SHAPIRO: Objection, relevance. Outside 10 the scope. 11 THE WITNESS: Measurements, is it doing it 12 autonomously -- I don't -- I don't think so, because 13 the -- I mean, you know, you're -- the software is 14 designed to basically tell the system to measure 15 something, right? So, that -- that could be the 16 external -- either the out-of-band measurement, so it 17 could be telling that meter to start measuring and stop 18 measuring; and so it could also do the same thing on the 19 in-band measurements, start measuring, stop measuring. 20 The CPU is -- yeah, it has the register, so it 21 just does the measurements. So, I don't think I 22 understand the question, because, I mean, nothing is 23 happening autonomously. It's not -- it doesn't -- so, 24 it depends on what your definition of autonomous is, 25 right? This isn't something that's making decisions on</p>	<p style="text-align: right;">220</p> <p>1 point in time, what is your question? 2 Q. So the question was, what's the point when 3 PowerPack gets instructions to take a measurement? 4 MR. SHAPIRO: Objection, relevance, outside 5 the scope. 6 THE WITNESS: I didn't follow that. You 7 said -- did you just say "gets"? You said at what point 8 does PowerPack something? It either broke up, or it 9 wasn't clear. 10 BY MR. STEIN: 11 Q. Gets, G-E-T-S, instructions to take a 12 measurement. 13 A. At what point -- 14 MR. SHAPIRO: Objection, relevance. Outside 15 the scope. 16 THE WITNESS: At what -- at what point does 17 PowerPack get the instructions to take the measurements? 18 Is that your question? 19 BY MR. STEIN: 20 Q. Yep. 21 A. At what current point -- at what point in 22 time? 23 MR. SHAPIRO: Objection, relevance, outside 24 the scope. 25 THE WITNESS: I mean, we're running software</p>
<p style="text-align: right;">219</p> <p>1 its own. It's being told what to do. 2 Q. So, if something -- so, what's the point when 3 PowerPack gets instructions to take a measurement? 4 MR. SHAPIRO: Objection, relevance. Outside 5 the scope. 6 THE WITNESS: Yeah, I am having trouble. 7 We're getting a little far afield here, but I mean, 8 understanding how this relates to my opinions on these 9 matters. 10 But let's see. You said at what -- I think 11 you said the word "point," is that what you said? At 12 what point? What do you mean by "point" there? 13 Q. Well, is "point" a term in the English 14 language that you're familiar with? 15 A. Yes. 16 Q. So, apply your understanding of that term and 17 answer the question. 18 A. From context, it sounds like you are saying a 19 current point in time, which is a little more precise. 20 Is that -- is that what you're saying, a 21 current point in time? 22 Q. Again, apply your understanding and then 23 answer the question. 24 A. Okay. So, if I apply my understanding, 25 assuming that you mean, when you say "point," a current</p>	<p style="text-align: right;">221</p> <p>1 here. So, at the moment that you execute the software. 2 So, that would be -- well, no. I may clarify that a 3 little further, because that's not exactly true. 4 You asked -- I think you were more precise. 5 You said when does PowerPack get the measurement; isn't 6 that right? At what point did it get the measurements; 7 isn't that what you said? 8 Q. No. I'll read it one more time. 9 A. Okay. 10 Q. What's the point when PowerPack gets 11 instructions to take a measurement? 12 MR. SHAPIRO: Objection -- 13 THE WITNESS: Gets instructions to take a 14 measurement, okay. 15 MR. SHAPIRO: Objection, relevance, outside 16 the scope. 17 THE WITNESS: I mean, again, it's hard to 18 answer that. It would depend on what the user is doing, 19 right? Because, like, presumably, in your example, the 20 user wants some measurements, right? But the user can 21 also ask PowerPack to do other things, you know, to 22 identify -- so, when you instantiate and you run 23 PowerPack, there's a lot of stuff that has to happen 24 before the measurements actually start taking place. 25 So, I send it -- for example, if I'm measuring</p>

Transcript of Dr. Kirk W. Cameron
Conducted on February 11, 2025

8 (222 to 225)

<p style="text-align: right;">222</p> <p>1 a set of computers, right, so then I have to sort of 2 synchronize the fact that I'm measuring a set of 3 computers; I want to measure them all, maybe the same 4 instant in time, across the entire cluster. 5 So, when I tell PowerPack that's what I want, 6 right, the processes have to be, you know, distributed 7 in the system to, you know, be located on the remote 8 servers, and then they have to synchronize through 9 parallel software to start the measurements at the same 10 time and then synchronize at the end to send the data 11 back. 12 So, the point at which the measurements start 13 is when that first synchronization step occurs. And 14 it's only if that's what the user is asking it to do. 15 It's programmable. 16 Q. Yeah. So, is it your testimony that if 17 something is programmable, it can never be autonomous? 18 MR. SHAPIRO: Objection, form, relevance. 19 Outside the scope and mischaracterizes testimony. 20 THE WITNESS: That's a -- that's a really, 21 really big statement. And are you saying it in a 22 negative way? Like, say it again. I want to see what 23 the negatives are in the sentence. 24 BY MR. STEIN: 25 Q. Is it your testimony that if something is</p>	<p style="text-align: right;">224</p> <p>1 he responds saying, "Yeah, I think this is" -- like, 2 he's responding to it, and the Board will see it exactly 3 that way. 4 BY MR. STEIN: 5 Q. But you can answer the question, Dr. Cameron. 6 MR. SHAPIRO: As his attorney, I'm permitted 7 to object and -- 8 MR. STEIN: With one word objections. 9 MR. SHAPIRO: -- how the witness -- 10 MR. STEIN: One word. 11 BY MR. STEIN: 12 Q. All right. Go ahead, Dr. Cameron. 13 A. Yeah, I've kind of forgotten where we were. 14 Q. Sure. The pending question is: Is it your 15 testimony that if something is programmable, it can 16 never be autonomous? 17 MR. SHAPIRO: Objection, form, relevance, 18 scope. 19 THE WITNESS: I -- I just simply disagree with 20 the question the way it's phrased, because the -- it's 21 just -- it's saying basically that -- what you're asking 22 is like, if something -- you said if something is 23 programmable, it is never autonomous. 24 There are aspects of things that you would 25 program that could never be autonomous, and there are</p>
<p style="text-align: right;">223</p> <p>1 programmable, it can never be autonomous? 2 MR. SHAPIRO: Objection, form, relevance, 3 outside the scope, and mischaracterizes testimony. 4 MR. STEIN: Jason, I'll let it go for a little 5 bit, but if you're going to give more than one word 6 objections, we're going to have to pause for a bit, 7 because he's getting coached. He's responding in 8 accordance with the objections that you're providing, 9 which is coaching and is not permitted. 10 MR. SHAPIRO: I disagree. These are all 11 one-word objections. They're just different objections, 12 form -- 13 MR. STEIN: You said "outside the scope," 14 that's three words. You said "mischaracterizes 15 testimony," that's two words. Those are not one-word -- 16 MR. SHAPIRO: No, sir. It's not -- these are 17 not what is not permitted -- 18 MR. STEIN: Like I said, I'll give you a 19 little leeway -- 20 MR. SHAPIRO: -- we can go off the record -- 21 MR. STEIN: -- I'll give a little leeway 22 here but -- 23 MR. SHAPIRO: -- but these are not talking 24 objections. 25 MR. STEIN: -- if it keeps going on and then</p>	<p style="text-align: right;">225</p> <p>1 aspects of things that you could program that could 2 completely be autonomous. And so, I don't see why 3 there's a simple yes-or-no answer to the question as 4 it's phrased. 5 BY MR. STEIN: 6 Q. What I'm trying to understand is, are there 7 some portions that you can program, and then a device 8 operates autonomously within the parameters of that 9 programming? Is that something consistent with your 10 understanding? 11 MR. SHAPIRO: Objection, form, relevance. 12 THE WITNESS: Say that again. I think I have 13 an answer for you, but I want to make sure it parses 14 when you say it. 15 BY MR. STEIN: 16 Q. Sure. Are there some aspects that can be 17 programmed for a device, and then the device operates 18 autonomously within the parameters of that programming? 19 MR. SHAPIRO: Objection, form, relevance, 20 scope. 21 THE WITNESS: Again, we don't have a clear 22 definition of what autonomous means here. When I think 23 of autonomous, as a person of skill in the art, I think 24 that this is a piece of software, or hardware even, that 25 is capable of making decisions under varying sets of</p>

<p>226</p> <p>1 conditions.</p> <p>2 And so -- and the decisions are, you know, are</p> <p>3 sophisticated in nature, as opposed to just reacting to</p> <p>4 a number, and so that's how I would say it, is that</p> <p>5 the -- you know, it's -- it can be autonomous in the</p> <p>6 sense that it -- you know, if it's making decisions.</p> <p>7 But in the context of some of the things that</p> <p>8 we're looking at here, there are aspects that are</p> <p>9 certainly not autonomous at all, because they don't have</p> <p>10 a decision engine in them; and there are aspects that</p> <p>11 are somewhat autonomous because they do have a decision</p> <p>12 engine in them.</p> <p>13 BY MR. STEIN:</p> <p>14 Q. Let's take an example of a self-driving car.</p> <p>15 So, is the self-driving car something that has</p> <p>16 autonomous functions?</p> <p>17 MR. SHAPIRO: Objection, form, relevance,</p> <p>18 outside scope.</p> <p>19 THE WITNESS: I mean, by their very nature, an</p> <p>20 autonomous vehicle would have some sort of autonomy,</p> <p>21 right? It's in the word; it's the definition. So, I'm</p> <p>22 not sure if that's a loaded question or just, you</p> <p>23 know --</p> <p>24 Yes, if it says it's an autonomous vehicle,</p> <p>25 it's an autonomous vehicle. So...</p>	<p>228</p> <p>1 Q. So, what additional information would you need</p> <p>2 to know whether setting a destination undermines the</p> <p>3 autonomy of a self-driving car?</p> <p>4 A. Well, again --</p> <p>5 MR. SHAPIRO: Objection, form, relevance,</p> <p>6 scope.</p> <p>7 THE WITNESS: Let me use some examples. There</p> <p>8 are two examples here that, you know, would answer your</p> <p>9 question one way or the other. One would be, I use a</p> <p>10 map in the thing, I tell it the destination; it has</p> <p>11 nothing to do with the driving of the vehicle, even</p> <p>12 though the vehicle has some, you know, control over</p> <p>13 where you're going or what it's doing.</p> <p>14 And in another instance, you're telling it</p> <p>15 literally the location and it's mapping you to get you</p> <p>16 there, so it's doing a lot more decision analytics than,</p> <p>17 you know, in the first case. So...</p> <p>18 In the first case, if I just program a map,</p> <p>19 what does that have to do with the autonomy of the</p> <p>20 vehicle?</p> <p>21 BY MR. STEIN:</p> <p>22 Q. Let's say that the, you know, objective for</p> <p>23 the car is to reach a destination.</p> <p>24 Can we agree on that premise?</p> <p>25 MR. SHAPIRO: Objection, form.</p>
<p>227</p> <p>1 BY MR. STEIN:</p> <p>2 Q. And what if the driver of the vehicle sets the</p> <p>3 destination? Does that no longer make the vehicle</p> <p>4 autonomously operating?</p> <p>5 MR. SHAPIRO: Objection, form, relevance,</p> <p>6 scope.</p> <p>7 THE WITNESS: Again, if the -- it depends</p> <p>8 entirely on the implementation, so, I mean, yeah. I</p> <p>9 mean, is this a hypothetical example, or are we talking</p> <p>10 about an actual system that you can describe to me?</p> <p>11 BY MR. STEIN:</p> <p>12 Q. Are you able to understand the question? Do</p> <p>13 you know what a self-driving car is?</p> <p>14 MR. SHAPIRO: Objection, form.</p> <p>15 THE WITNESS: I don't have a self-driving car,</p> <p>16 so, you know, I -- I know what I've read about in the</p> <p>17 papers. I -- I don't have one.</p> <p>18 BY MR. STEIN:</p> <p>19 Q. Well, as a --</p> <p>20 A. So, I know that it exists, but I don't know</p> <p>21 how it's designed or how it functions, particularly.</p> <p>22 So, how am I supposed to answer the question? I mean,</p> <p>23 you're asking about the details of how these things</p> <p>24 work, and I don't think it's -- I don't have the</p> <p>25 expertise to talk to you about how it works.</p>	<p>229</p> <p>1 THE WITNESS: I would add to that -- you would</p> <p>2 have to add to that that the objective is to get a</p> <p>3 destination and not have the user intervene any further.</p> <p>4 Then I can agree with that.</p> <p>5 BY MR. STEIN:</p> <p>6 Q. Okay. If that's the objective, if the user is</p> <p>7 setting the destination, does the car perform that</p> <p>8 objective autonomously?</p> <p>9 MR. SHAPIRO: Objection, form, relevance,</p> <p>10 scope.</p> <p>11 THE WITNESS: Again, I need to draw your</p> <p>12 attention to there's a lot of assumptions into my</p> <p>13 answer, right? So, if I assume that the car is capable</p> <p>14 of that kind of autonomy, of getting -- you know, taking</p> <p>15 a destination as an input and resulting in getting me in</p> <p>16 various ways to a location, then the car has a certain</p> <p>17 amount of -- or a certain level of autonomy in it. But</p> <p>18 that is under a lot of assumptions.</p> <p>19 BY MR. STEIN:</p> <p>20 Q. What -- do you have any smart devices in</p> <p>21 your -- I know you said you're apparently not very</p> <p>22 familiar with self-driving cars, but do you have any</p> <p>23 smart devices in your home?</p> <p>24 MR. SHAPIRO: Objection, form, relevance,</p> <p>25 scope.</p>

<p>230</p> <p>1 THE WITNESS: I'm trying to think. Well, I 2 have, you know -- I'm trying to think if they're -- I 3 mean, what's a smart device, I guess would be the first 4 question. I mean, what is your definition of one? I 5 mean, I know in some of these documents, like -- I've 6 seen this before, is that people use the 7 word "intelligent," they use "smart," but they're such 8 subjective terms. So, without defining what you mean by 9 "smart" or "intelligent," it's hard for me to answer the 10 question. 11 BY MR. STEIN: 12 Q. Okay. Let's just break the term apart. 13 Is the term "smart" something that you're 14 familiar with in the English language? 15 A. Yes, sir. 16 MR. SHAPIRO: Objection, relevance, scope. 17 THE WITNESS: I do know my English. 18 BY MR. STEIN: 19 Q. Yeah, yeah. And what does "smart" mean to 20 you? 21 MR. SHAPIRO: Objection, form, relevance, 22 scope. 23 THE WITNESS: I mean, in the context of a 24 human being, it's someone who has the ability -- has 25 cognitive abilities, you know, to react to their</p>	<p>232</p> <p>1 the petition, you know, say that Wang references smart 2 appliances, and -- but those aren't -- the way they're 3 described, they're not smart. They don't -- they don't 4 make decisions on their own. So, they get settings from 5 a user, and they carry them out, so -- 6 Q. Right. And -- 7 A. So, that's one smart appliance, and my 8 definition of a smart appliance is one that analyzes 9 information to determine something. In this case in the 10 context of the patent here, it's high electric power 11 demand. 12 Q. Okay. Let's go back to what I was asking 13 about as well, though. So, in your home, do you have 14 any devices that perform functions autonomously? 15 MR. SHAPIRO: Objection, form. Objection, 16 relevance. Objection, scope. 17 THE WITNESS: I'm going to take you back, 18 Alex. I'm sorry to keep doing this, but it depends on 19 your definition of "autonomous," right? If your 20 definition is my definition -- that you have to have 21 some level of analysis that happens, not just based on a 22 user setting -- then I don't have any smart devices like 23 that in my house. 24 If you -- yeah. Like -- yeah, like the 25 autonomous vehicle we just talked about, so --</p>
<p>231</p> <p>1 environment. 2 BY MR. STEIN: 3 Q. Well, let's talk about in the context of 4 electronic devices, not human beings. 5 A. Okay. What do you want me to talk about? 6 Q. I want you to provide me with your definition 7 of what "smart" means to you. 8 MR. SHAPIRO: Objection, form, relevance, 9 scope. 10 THE WITNESS: Yeah. Again, I -- I thought I 11 talked about this in my deposition. So, allow me a 12 minute to consult that to get some context here. 13 I mean, -- I said "deposition," excuse me, I 14 mean declaration. Yeah. 15 Okay. So, if you look at paragraphs 91 and 16 92, I talk about smart appliances in the context of the 17 Wang patent, and I -- what I said a few minutes ago 18 still applies. 19 So, you know, yeah, basically, you're 20 analyzing information, right? And making decisions. 21 That's a decision engine. I referred to that earlier 22 when we were talking, and 91 and 92 describe it in 23 context in the Wang. 24 So, that's a great example. Wang says, you 25 know -- I think it -- or, no, the -- the documents in</p>	<p>233</p> <p>1 Q. Do you feel that your definition of 2 "autonomous" there would be something that your IEEE 3 colleagues would agree with? 4 MR. SHAPIRO: Objection, form. Objection, 5 relevance. Objection, scope. 6 THE WITNESS: I can tell you it's very 7 difficult to get a bunch of professors to agree on 8 anything, so -- 9 BY MR. STEIN: 10 Q. Yeah, so, is that something where reasonable 11 minds could differ, that maybe for other of your IEEE 12 colleagues, "autonomous" can include some manual 13 settings, and then the device operates within those 14 parameters? 15 A. I mean, I think that there are classes -- 16 MR. SHAPIRO: Objection, form. Objection, 17 relevance. Objection, scope. 18 THE WITNESS: Yeah, there are classes of 19 autonomy, right? So a smart thermostat is one type, you 20 know. The user still is setting these things, but the 21 thermostat is reacting to the temperature, right? So 22 it's a very simple, not-so-sophisticated autonomy; 23 because if the temperature goes up in the room, it might 24 turn the air-conditioning on, right, and if the 25 temperature goes down, it might turn the temperature,</p>

<p style="text-align: right;">234</p> <p>1 you know, back up.</p> <p>2 So, it has an element of autonomy, in that</p> <p>3 it's doing things by itself, but it doesn't have a</p> <p>4 decision engine that's making really, you know,</p> <p>5 autonomous decisions, in my example.</p> <p>6 Q. So, at the point when -- let's say the set</p> <p>7 point for the thermostat here is 75 degrees to turn on</p> <p>8 the air conditioner. At the point when the temperature</p> <p>9 in the house reaches 76 degrees, what does the</p> <p>10 thermostat do at that point?</p> <p>11 MR. SHAPIRO: Objection, form, relevance,</p> <p>12 scope.</p> <p>13 THE WITNESS: Yeah, I mean, I think -- I think</p> <p>14 what you were saying was it's getting too hot, and it</p> <p>15 would make it cooler. So, it would turn the</p> <p>16 air-conditioning on.</p> <p>17 But you realize, we've had that kind of</p> <p>18 technology -- those are called PLL. I don't need to</p> <p>19 tell you what kind of controller it is, but you have a</p> <p>20 controller in your car. You have cruise control.</p> <p>21 You've had cruise control since the 1970s.</p> <p>22 Are those -- is that an intelligent system? I</p> <p>23 don't think so. The thermostat is working much like</p> <p>24 cruise control. The cruise control doesn't even really</p> <p>25 require a computer, right? So it's not intelligent;</p>	<p style="text-align: right;">236</p> <p>1 MR. SHAPIRO: Objection, form, relevance,</p> <p>2 scope.</p> <p>3 THE WITNESS: I don't know how it works. I</p> <p>4 only know how I use it. So, I set it and it does its</p> <p>5 thing. It keeps, you know, a distance from the vehicle</p> <p>6 in front of me. And for all I know, that's as simple as</p> <p>7 the cruise control example from the 1970s.</p> <p>8 BY MR. STEIN:</p> <p>9 Q. And does it have a follow distance setting</p> <p>10 that you're able to change if you want to be closer or</p> <p>11 further away from the car in front of you?</p> <p>12 A. I think it has --</p> <p>13 MR. SHAPIRO: Objection, form, relevance,</p> <p>14 scope.</p> <p>15 THE WITNESS: I think it has four, so I can be</p> <p>16 like, you know, four different -- so, a discrete set</p> <p>17 of -- so, it's -- yeah, it's got four, I think. And I</p> <p>18 set it, right? I still set it. It doesn't tell me what</p> <p>19 to set it to, right? It doesn't change it dynamically.</p> <p>20 It's just static. I set it, and then it stays that way</p> <p>21 until it goes off.</p> <p>22 BY MR. STEIN:</p> <p>23 Q. Right. And how does the car in that cruise</p> <p>24 control setting with the follow distance, how does it</p> <p>25 know what distance to stay away from the car in front of</p>
<p style="text-align: right;">235</p> <p>1 it's not autonomous. It just is taking your settings,</p> <p>2 and it's, you know, reacting to them.</p> <p>3 Q. And what about cruise control with sort of a</p> <p>4 follow distance function? Is that intelligent?</p> <p>5 MR. SHAPIRO: Objection, form, relevance,</p> <p>6 scope.</p> <p>7 THE WITNESS: That depends entirely on the</p> <p>8 implementation, once again, right? I have that feature</p> <p>9 in my car.</p> <p>10 BY MR. STEIN:</p> <p>11 Q. Yeah.</p> <p>12 A. So, I'm familiar with that one. So, yeah, I</p> <p>13 mean, it depends on the implementation entirely. It</p> <p>14 could be designed like the cruise control and just uses</p> <p>15 a little signal to figure out if there's a car in front</p> <p>16 of you or not, or it could be much more complicated than</p> <p>17 that.</p> <p>18 Particularly, I believe, my understanding of</p> <p>19 Tesla -- I mean, I've ridden in Tesla vehicles; I don't</p> <p>20 have one and I don't use one -- but where they have the</p> <p>21 screens that have, you know, they show you all of the</p> <p>22 vehicles around you. I mean, that's a pretty</p> <p>23 sophisticated system.</p> <p>24 Q. And so, in the cruise control implementation</p> <p>25 that you have in your car, tell me how that works.</p>	<p style="text-align: right;">237</p> <p>1 you?</p> <p>2 MR. SHAPIRO: Objection, form, relevance,</p> <p>3 scope.</p> <p>4 THE WITNESS: I think we're getting very far</p> <p>5 afield from my expertise. So, I really don't know.</p> <p>6 BY MR. STEIN:</p> <p>7 Q. Is it taking any inputs you believe that allow</p> <p>8 it to determine how far away it is from the car in front</p> <p>9 of you?</p> <p>10 MR. SHAPIRO: Objection, form, relevance,</p> <p>11 scope.</p> <p>12 THE WITNESS: I don't know. I mean, I know</p> <p>13 that I input one of those discrete settings, but I don't</p> <p>14 know how it determines the distance.</p> <p>15 BY MR. STEIN:</p> <p>16 Q. If it did take inputs that allow it to</p> <p>17 determine how far it is away from a car in front of you,</p> <p>18 is that autonomous decision-making, taking that input</p> <p>19 and determining what change to make with the car to</p> <p>20 achieve the user-defined objective of a certain follow</p> <p>21 distance?</p> <p>22 A. This is getting --</p> <p>23 MR. SHAPIRO: Objection, form, relevance,</p> <p>24 scope.</p> <p>25 THE WITNESS: This is getting hugely</p>

<p>238</p> <p>1 hypothetical here, and I don't feel comfortable 2 commenting on these -- opining on these things that I 3 really don't know much about. 4 BY MR. STEIN: 5 Q. Let's go back to sort of your IEEE colleagues. 6 What would be some other definition -- if you 7 were in a room with your IEEE colleagues, what would be 8 some of the other definitions of "autonomous" that they 9 might provide? 10 MR. SHAPIRO: Objection, form, relevance, 11 scope. 12 THE WITNESS: I mean, again, I can't speak for 13 my colleagues in any way, shape, or form. So, the -- I 14 mean, I think "autonomous" here is much like we just 15 talked about a minute ago with "smart," is it's -- it's 16 a subjective word. It will have some version for each 17 person that you ask. 18 So, they're -- you know, some people might 19 think of it as like just -- you know, and honestly, 20 people in my field, they tend to use the hot word, 21 whatever it is, to describe whatever they're doing, 22 right? So, there's a tendency to broaden the definition 23 of these things. 24 That's why I hesitate to say what they would 25 think, because, you know, there are very simple things</p>	<p>240</p> <p>1 makes decisions. So, that could be implemented -- I 2 mean, most things that are algorithmic like that can be 3 implemented in hardware or software. 4 So, it could be a microprocessor, sure. You 5 could have a -- what do we call it, application-specific 6 processor that just does, like, one thing, and you could 7 implement my design, if I designed for you an analytic 8 engine or a decision engine, if I designed it in an 9 algorithm, you could implement that algorithm in 10 hardware, so that would result in a microprocessor, like 11 you asked. 12 And -- but I could also do it in software, so 13 it would be a software version of that methodology. Or 14 it could be a hybrid, it could be half and half; part of 15 it is running the processor, part of it is running the 16 software. 17 Q. Okay. Somewhere in that answer, you said you 18 can implement it in hardware or software. I want to 19 sort of understand what "or" means in this context. 20 So, does that mean you can implement it only 21 in software, only in hardware, and also in some 22 combination of hardware and software? Or what does "or" 23 mean here? 24 MR. SHAPIRO: Objection, form. 25 THE WITNESS: I can't see the transcript, but</p>
<p>239</p> <p>1 that they might call autonomous that I wouldn't agree 2 should be called autonomous, and vice versa. There 3 might be things I would call autonomous and they would 4 say, no way that's autonomous. 5 So I don't think there would be an agreed-upon 6 definition for quite such a broad category of words. I 7 think in the context of the Wang patent and in the 8 context of the '243 patent, I look at it, and I say it 9 has to have an analytic decision engine. If it doesn't, 10 it's not acting autonomously. 11 BY MR. STEIN: 12 Q. Is a processor an analytic decision engine? 13 MR. SHAPIRO: Objection, form, relevance, 14 scope. 15 THE WITNESS: It depends on the processor. 16 BY MR. STEIN: 17 Q. Is a processor capable of functioning as an 18 analytic decision engine? 19 MR. SHAPIRO: Objection, form. 20 THE WITNESS: Let me describe what an analytic 21 decision engine is, and then I'm going to say that, 22 basically, you can implement it in software or hardware, 23 including a microprocessor. 24 So, an analytic decision engine is something 25 that takes inputs, you know, and in a sophisticated way,</p>	<p>241</p> <p>1 I thought I said "or both." So, it would be software or 2 hardware or both, and it would be -- that would be a 3 hybrid. 4 BY MR. STEIN: 5 Q. And your use of the word "or" there, so what 6 does that cover? Does that cover just software and also 7 just hardware but not necessarily both of them? 8 MR. SHAPIRO: Objection, form, relevance. 9 THE WITNESS: What was the first part of the 10 sentence again? I've lost that part in my head. I know 11 that we are focused on the software or hardware piece, 12 but what was the first part that we were referring to? 13 BY MR. STEIN: 14 Q. Well, let's just break it down. 15 A. Yeah. 16 Q. So, you did use the phrase "software or 17 hardware," right? 18 A. Yeah. 19 Q. Okay. So, when you used the word "or," were 20 you intending to cover a software-only implementation 21 and a hardware-only implementation, or either of them as 22 alternatives? 23 MR. SHAPIRO: Objection, form, relevance. 24 THE WITNESS: I thought I was saying that -- I 25 was talking about the decision engine, right, and that</p>

<p>242</p> <p>1 that is an algorithm.</p> <p>2 And so an algorithm can be implemented in</p> <p>3 software. An algorithm can be implemented -- in only</p> <p>4 software; an algorithm can be implemented in only</p> <p>5 hardware; or an algorithm can be implemented in a</p> <p>6 combined version of hardware and software. That is what</p> <p>7 I meant to say.</p> <p>8 BY MR. STEIN:</p> <p>9 Q. Okay. And in that context, what does the</p> <p>10 word "or" mean?</p> <p>11 MR. SHAPIRO: Objection, form, relevance.</p> <p>12 THE WITNESS: I don't understand that</p> <p>13 question. It means what the standard meaning. What</p> <p>14 does it mean? One or the other. Software or hardware</p> <p>15 means software or hardware, not both; but then the</p> <p>16 software and hardware means both, right? So, I'm not</p> <p>17 sure what I'm missing there.</p> <p>18 BY MR. STEIN:</p> <p>19 Q. Is that understanding of the word "or," is</p> <p>20 that the same understanding that a person of skill in</p> <p>21 the art would have had for the '243 patent?</p> <p>22 MR. SHAPIRO: Objection, form, relevance.</p> <p>23 Scope.</p> <p>24 THE WITNESS: Is "or" the same meaning as in</p> <p>25 the '243 patent? Well, where are you referring to in</p>	<p>244</p> <p>1 THE WITNESS: Yeah, give me a minute to look</p> <p>2 at this one.</p> <p>3 BY MR. STEIN:</p> <p>4 Q. Sure.</p> <p>5 A. Okay. So, it was on 41, right?</p> <p>6 Q. Yeah.</p> <p>7 A. "A service provider publishes or pushes an</p> <p>8 aggregated data feed." That's the sentence that we're</p> <p>9 looking at. So, I'm trying to see if the rest of the</p> <p>10 sentence gives me any more indication there.</p> <p>11 I mean, in this context, we're talking about</p> <p>12 basically these service providers that, you know,</p> <p>13 distribute data, like related to whatever the service</p> <p>14 provider is doing.</p> <p>15 So, they basically are saying, okay, I'm --</p> <p>16 you know, a service provider publishes the data. What</p> <p>17 could that mean? Publishes, in computer science, tends</p> <p>18 to mean pushes the data to, like, a place or pushes the</p> <p>19 data -- in this case, it goes on to say "pushes an</p> <p>20 aggregated data feed," right, including</p> <p>21 something-something to the receiving computational</p> <p>22 device.</p> <p>23 And so what this is saying is basically</p> <p>24 that -- I think what it's saying is that in the</p> <p>25 vernacular of the service provider, it might consider it</p>
<p>243</p> <p>1 the software -- in the '243 patent? That would be my</p> <p>2 first question.</p> <p>3 BY MR. STEIN:</p> <p>4 Q. Are you aware of anything in the '243 patent</p> <p>5 that uses "or" in some nonstandard fashion?</p> <p>6 A. That's a --</p> <p>7 MR. SHAPIRO: Objection, form, relevance,</p> <p>8 scope.</p> <p>9 THE WITNESS: Yeah, that's a tough question to</p> <p>10 answer without looking at the patent. I mean, I'm going</p> <p>11 to just do something to see, but if I type in the word</p> <p>12 "or" in search, I get 67 matches. So, do you want me to</p> <p>13 look through all 67 matches?</p> <p>14 BY MR. STEIN:</p> <p>15 Q. We can -- we can look at an example. How</p> <p>16 about column 4? I just picked one randomly here.</p> <p>17 Column 4, it looks like the sentence starts at line 41.</p> <p>18 It says -- I'm looking at the line -- column</p> <p>19 4, line 41 of Exhibit 1001: "The service provider</p> <p>20 publishes or pushes an aggregated data feed," and then</p> <p>21 it continues. So the "or" in that context of the '243</p> <p>22 patent, is that being used in the same fashion that you</p> <p>23 used it, for hardware or software?</p> <p>24 MR. SHAPIRO: Objection, form, relevance,</p> <p>25 scope.</p>	<p>245</p> <p>1 publishing, because, you know, maybe it's a -- it</p> <p>2 publishes it to a place that then gets pushed, or it</p> <p>3 pushes it without the, let's call it, the publication</p> <p>4 step.</p> <p>5 So, that's how I read this.</p> <p>6 Q. Okay. And I want to make sure my question was</p> <p>7 understood, too, because I was trying to really just</p> <p>8 understand the meaning of the term "or" in the '243</p> <p>9 patent.</p> <p>10 So, in this example of column 4, line 41 to</p> <p>11 42, when it says "the service provider publishes or</p> <p>12 pushes," does that mean it publishes and pushes? It has</p> <p>13 to always do both?</p> <p>14 MR. SHAPIRO: Objection, form, relevance,</p> <p>15 scope.</p> <p>16 THE WITNESS: I think it's using the words</p> <p>17 interchangeably, where it says "publishes or pushes,"</p> <p>18 just, again, depending on the vernacular of the service</p> <p>19 provider, whether they consider that a publishing event</p> <p>20 or a push event is kind of -- it depends on the service</p> <p>21 provider.</p> <p>22 And then what's really, I think, important</p> <p>23 here is where it says, "To a computational device,"</p> <p>24 right? So, either way, that information is ending up on</p> <p>25 the computational device.</p>

<p style="text-align: right;">246</p> <p>1 Q. Yeah, yeah, but I still don't think -- I hope</p> <p>2 we're not talking past each other here.</p> <p>3 But do you understand that I'm trying to get</p> <p>4 your understanding as one of skill in the art as to what</p> <p>5 just the word "or" means in the '243 patent.</p> <p>6 Do you understand that that's my question?</p> <p>7 A. Yes, I do, and let me --</p> <p>8 MR. SHAPIRO: Objection to form, relevance,</p> <p>9 scope.</p> <p>10 THE WITNESS: -- and let me comment on that,</p> <p>11 is that, you know, there were, what, 67, you know,</p> <p>12 instances of "or" in the '243 patent. So, without</p> <p>13 seeing at least a few more instances -- you're asking me</p> <p>14 to do a generalization without seeing all of the other</p> <p>15 66, or whatever it was, 66 references to the word "or."</p> <p>16 So --</p> <p>17 BY MR. STEIN:</p> <p>18 Q. Okay. Yeah, let's --</p> <p>19 A. I can say that I know what it means in this</p> <p>20 instance because we looked at it. We looked at it in</p> <p>21 context, and I was able to interpret it for you, right,</p> <p>22 but I can't say that that's applicable to every instance</p> <p>23 of the word "or" in the document.</p> <p>24 Q. Okay. But I'm still not sure I have gotten an</p> <p>25 answer though, because I still don't understand if</p>	<p style="text-align: right;">248</p> <p>1 computational device, because to me, that's the crux of</p> <p>2 the sentence, right?</p> <p>3 So, from the writer's perspective, I feel like</p> <p>4 it's -- it could be, you know, a version of both,</p> <p>5 because publishes and pushes are oftentimes kind of the</p> <p>6 same thing or they are entangled and so on. So...</p> <p>7 Q. Okay. So, it could be publish; it could be</p> <p>8 push; it could be publish and push. It just has to get</p> <p>9 to the computational device; is that generally accurate</p> <p>10 to what you just said?</p> <p>11 MR. SHAPIRO: Objection, form, relevance,</p> <p>12 scope, mischaracterization --</p> <p>13 THE WITNESS: I --</p> <p>14 MR. SHAPIRO: -- answered.</p> <p>15 THE WITNESS: I'm sorry.</p> <p>16 I'll just say it again, which is that the</p> <p>17 service -- it's the service provider's vernacular here,</p> <p>18 and whatever they use, and it depends on the service</p> <p>19 provider, publishing or pushing, the data that they</p> <p>20 share, it could be either. It could be a form of both,</p> <p>21 so...</p> <p>22 BY MR. STEIN:</p> <p>23 Q. Let's try another example.</p> <p>24 A. Sure.</p> <p>25 Q. Column 5, line 22 to 23. I'm looking where it</p>
<p style="text-align: right;">247</p> <p>1 you've told me, when it says "the service provider" --</p> <p>2 goodness -- "publishes or pushes," does that mean it has</p> <p>3 to publish and push? Or does it mean it can only</p> <p>4 publish or only push?</p> <p>5 MR. SHAPIRO: Objection, form, relevance,</p> <p>6 scope, asked.</p> <p>7 THE WITNESS: The word "only" is giving me</p> <p>8 pause, so give me a second.</p> <p>9 BY MR. STEIN:</p> <p>10 Q. Okay.</p> <p>11 A. In this instance, again, not -- I can't speak</p> <p>12 to the rest of the document, but in this instance, this</p> <p>13 sentence, "the service provider publishes or pushes," I</p> <p>14 think what's important here is how it ends up getting to</p> <p>15 the computational device.</p> <p>16 So, I don't think it's exclusive to, like,</p> <p>17 only publishes or only pushes, because I think it could</p> <p>18 be, you know -- I was reading it as, you know, in the</p> <p>19 vernacular of the service provider, whenever it does,</p> <p>20 like, publishes -- if it's publishes, then it's</p> <p>21 publishes; if it's pushes, then it's pushes.</p> <p>22 So, in that case, it's one or the other, but</p> <p>23 it could also be read as publishes or pushes, meaning</p> <p>24 all of the -- I think all of the writers have to care</p> <p>25 about is whether or not the data makes it to the</p>	<p style="text-align: right;">249</p> <p>1 starts, "Examples include batteries and power components</p> <p>2 configured to receive alternating or direct current</p> <p>3 electrical power."</p> <p>4 Do you see that?</p> <p>5 A. Yes. 22, right? "Examples include batteries</p> <p>6 and power components configured to receive alternating</p> <p>7 or direct current electrical power."</p> <p>8 Is that what you just said? I think so.</p> <p>9 Q. Yes, sir. And I'm wondering here, what does</p> <p>10 "or" mean in this excerpt from the '243 patent?</p> <p>11 A. Okay, give me a minute.</p> <p>12 MR. SHAPIRO: Objection, form, relevance,</p> <p>13 scope.</p> <p>14 THE REPORTER: And, Mr. Stein, this is the</p> <p>15 reporter, just at some point in the next couple of</p> <p>16 minutes, if we could get a break, that would be</p> <p>17 fantastic.</p> <p>18 MR. STEIN: Yeah, sure, Mike, it's just we're</p> <p>19 kind of in the middle of a line of questioning, so let's</p> <p>20 just try to resolve that, and then I'm happy to take a</p> <p>21 break.</p> <p>22 THE REPORTER: Thank you.</p> <p>23 THE WITNESS: Okay. You're asking what the</p> <p>24 definition of "or" is, and the sentence part that says</p> <p>25 "Examples include batteries and power components</p>

<p>250</p> <p>1 configured to receive alternating or direct current 2 electrical power"; correct? That's what you're asking? 3 BY MR. STEIN: 4 Q. Yep. 5 A. In this case, it's exclusive, right? It's one 6 or the other, because machines don't typically take in 7 both alternating and direct. I mean, I don't -- I'm not 8 aware of any. There might be one that take into -- that 9 are powered by both alternating and direct current. We 10 tend to choose one or the other. 11 Q. Okay. And let's look at another example. 12 A. That is a great example of how context does 13 matter. So, go ahead, tell me your next example. 14 Q. Sure, sure. 15 Back to column 4, line 44 -- 43 to 44, I'm 16 looking at where it says, "(for example, at 108 to 17 Figure 1 above), including aggregating feeds or data 18 from any individual service providers." 19 Do you see that? 20 A. If you don't mind, I'm a little confused. You 21 said column 4, line -- 22 Q. 43 to 44. 23 A. Oh, 43. I was -- yeah. I thought you were 24 asking the same one you asked earlier, but this is a 25 different one, right? Or, no, it might be the same one.</p>	<p>252</p> <p>1 publishing or pushing aggregated -- I guess the keyword 2 there is "aggregated," because the word "aggregated" 3 tells me that, you know, it's aggregating these feeds or 4 sets of data from individual service providers. 5 So, that means that, I don't know, one 6 person's feed is another person's data. So, you know, 7 it's -- it's kind of one or the other, but they could 8 obviously be called both too, right? So -- 9 BY MR. STEIN: 10 Q. I see. So, in this portion of the '243 11 patent, you're saying it could be the feeds; it could be 12 the data; or it could be some combination of both? 13 MR. SHAPIRO: Objection, form, relevance, 14 scope, answered. 15 THE WITNESS: Because it's aggregating the 16 feeds, yes. 17 BY MR. STEIN: 18 Q. Okay. And let's look at your declaration too. 19 So, paragraph 34, you also use the term "or": 20 "I understand that a US patent or foreign patent 21 qualifies as prior art," paragraph 34. 22 Let me know when you get there. 23 A. Yeah, sorry, give me a second. 34. 34. 24 All right. I'm at 34. Should I read it, or 25 do you want to direct me somewhere?</p>
<p>251</p> <p>1 Q. Same sentence, but a couple of lines down. 2 A. Okay. So, 43, to how far? 3 Q. 44? 4 A. Oh, just 43. 5 Q. The parenthetical that has "for example" -- 6 A. Oh, "for example," yeah, okay. 7 Q. -- and then continuing to "including 8 aggregating feeds or data from any individual service 9 providers." 10 So, here, again, we see the word "or" in the 11 '243 patent, correct? 12 A. Yes, "including aggregating feeds or data," is 13 how it says -- or reads, yeah. 14 Q. And what does "or" mean in this excerpt of the 15 '243 patent? 16 MR. SHAPIRO: Objection, form, relevance, 17 scope. 18 THE WITNESS: I think this one is similar to 19 the one before it, which is basically the -- it could be 20 only feeds; it could be only data; it could be both. 21 Because if you look at the whole sentence, 22 "The service provider publishes or pushes an aggregated 23 data feed, (for example, 108 of Figure 1) including 24 aggregating feeds," so, it's referring back to that 25 first part of the sentence, where it was talking about</p>	<p>253</p> <p>1 Q. Yeah. The use of the word "or" in that first 2 line there, "I understand that a US or a foreign patent 3 qualifies." What does "or" mean in this context? 4 A. Oh, okay. 5 MR. SHAPIRO: Objection, form, relevance, 6 scope. 7 THE WITNESS: In this case, it appears to mean 8 one or the other, because you wouldn't have a patent 9 that -- I mean, yeah, a foreign patent by its definition 10 seems to be not a US patent. So, if it's foreign to the 11 US, which this is the US Patent Trade Office, that would 12 seem pretty obvious. So, one or -- 13 BY MR. STEIN: 14 Q. Okay. 15 A. -- the other, yeah. 16 Q. And then one other thing and then we'll take a 17 quick break here -- I know the reporter wanted a 18 break -- because I forgot to do this. 19 But Exhibit 2012, if you could go to page 54, 20 and can you confirm for me that that's your signature on 21 page 54 of your declaration? 22 A. Oh, yeah. This is -- we're in the document. 23 I was looking for another document, sorry. 24 Yes, that is my signature on -- appears to be 25 my signature on line -- whatever page that is.</p>

<p>254</p> <p>1 Q. And did you physically sign this, or did you 2 apply a digital signature? 3 A. Oh, that's a digital one. 4 Q. Did you put the digital signature there, or 5 did you provide it to counsel, that they could apply it? 6 A. Counsel gives me a PDF, and I put it on the 7 PDF. 8 Q. And this date, is that the date, November 27, 9 2024, when you applied the digital signature? 10 A. Yes. 11 MR. STEIN: Okay. I think the court reporter 12 wanted a break. So, why don't we -- how long do you 13 need? Mike, we can go off the record. 14 (Whereupon, a recess was taken.) 15 BY MR. STEIN: 16 Q. Dr. Cameron, do you remember we were talking 17 about what "autonomous" means earlier? 18 A. Uh-huh. 19 Q. What about the term "automatic"? Is that -- 20 does that term have a different meaning, as compared to 21 autonomous? 22 MR. SHAPIRO: Objection, form, relevance. 23 THE WITNESS: Let me think on that for a 24 second, because I thought I talked about that in my -- 25 in my declaration.</p>	<p>256</p> <p>1 set point of 75 degrees, is the thermostat making an 2 automatic decision to turn on the air conditioner? 3 A. I -- I object to the word "decision." It -- 4 you know, it takes as a parameter input that 5 temperature, and, you know, it has very -- it doesn't 6 make any decision. It just has like three choices of 7 what it can do. It's not, you know, considering the 8 inputs in much more of a sense than that. So I wouldn't 9 call that -- I wouldn't call that a decision, right? 10 It's just reacting to the temperature in the 11 environment. 12 Q. Let me reframe the question. 13 So, at the point when the home reaches a set 14 point of 75 degrees and the thermostat recognizes that, 15 would the thermostat make -- automatically turn on the 16 air conditioner? 17 A. Yeah. I think it's important to understand 18 the context here. So, you know, a user set the 19 settings, so that was the user's role. And then the 20 thermostat is just responding to the user's input and 21 turning the -- 22 If you want to call it that, it is -- with 23 that user intervention, once the user has intervened, 24 and so the user intervenes, and then without further 25 intervention, it triggers the air conditioner.</p>
<p>255</p> <p>1 Right. So, let me just see. I'm remembering 2 the context of this. I want to take you back to the 3 discussion we had earlier, which was that autonomous is 4 subjective in terms of its -- you know, the way people 5 understand it in the field. And so, it can mean many 6 things. 7 "Automatic" is a bit more precise because it 8 describes something that is an automated process, 9 meaning it takes place typically without user 10 intervention. 11 So, yeah. So, yeah, I think I answered your 12 question. You asked if they're the same thing. I kind 13 of said no, because "autonomous" is this, you know, more 14 vague term. 15 Q. Okay. So, going back to our example we had 16 earlier of this smart thermostat. 17 Do you remember that example we talked about? 18 A. Yes. 19 Q. So, we had talked about an example where you 20 have a set point of 75 degrees, where once you reach 21 that set point, you turn on the air conditioner. 22 Do you remember that discussion? 23 A. Yeah, like the cruise control, if you remember 24 my -- my example. 25 Q. Yeah. So, at the point when you reach that</p>	<p>257</p> <p>1 Q. And without further intervention -- further 2 user intervention is the same thing as "automatic," in 3 your understanding, right? 4 A. Again, even "automatic" is a bit of a loaded 5 term. Like "autonomous," it can mean different things 6 to different people, but I would say that is an 7 automated function based on user input. So, it is 8 automated in that way. 9 Q. And is that understanding true for the 10 pre-2008 time frame that's relevant for the '243 patent? 11 A. Again, I would use my example of cruise 12 control. You know, if cruise control is automated, then 13 yes, that would be the discussion -- that would be the 14 description or, you know, what people would think. 15 Q. In the pre -- 16 A. Yeah. 17 Q. -- pre-2008 time frame, correct? 18 A. Yes. 19 Q. I'm trying to find my citation here. Oh, so, 20 in the '243 patent, column 4, lines 52 to 57, if you 21 could just direct your attention there, then I'll ask 22 the question momentarily. 23 A. 52 to 57, in column 4, right, you said? 24 Q. Yeah. 25 A. Okay, 52.</p>

<p>258</p> <p>1 All right. I've directed my attention there, 2 but I haven't read it. 3 Q. Okay. Line 52 mentions power-setting 4 indicators. 5 Do you see that statement? 6 A. Yes. 7 Q. What are power-setting indicators in the '243 8 patent? 9 A. This will just take a minute to -- 10 Okay. So, I think if you go to the end of 11 that sentence, it basically says "other data 12 relevant" -- and, you know -- or "data relevant to 13 energy costs." That's the context for this -- this 14 example. 15 And the paragraph starts out as an example, by 16 the way. So, it -- these are all examples, as opposed 17 to other things. So, the power-setting indicator, much 18 like an environmental data input there, referring to 102 19 and 108 in Figure 1, include several things listed here 20 that I won't read, unless you want me to, in the 21 category of data relevant to energy costs. 22 Q. And could those power-setting indicators 23 referenced in column 4, line 52 of the patent, could 24 those be the indications of high demand that are 25 referenced in claim 1 of the patent?</p>	<p>260</p> <p>1 mentioned in the claim. 2 Q. Okay, okay. So, let's look at those examples 3 at column 4, starting at line 52 and continuing to 57. 4 Let's start with a spot price of electricity. 5 So, when that spot price of electricity is 6 analyzed, is it always indicative of high demand? 7 A. No. In fact, if you go to my -- I believe I 8 talked about this in my -- in my claim. Let me -- let 9 me back that up for a second and just say. 10 Oh, I might need to search on this one. 11 Sorry. 12 Q. Sure. 13 A. Yeah. 14 Yeah, okay. 15 Sorry. I'm having trouble finding the part 16 where I talk about -- and you might be able to help me, 17 if you remember -- the part where I talk about the fact 18 that price doesn't always follow demand. 19 Q. I don't -- I don't believe you did discuss it 20 for spot price of electricity; I think you discussed it 21 for tariff rates. But I'm asking -- 22 A. Ah, for tariff rates, yeah. 23 Q. -- spot price of electricity. 24 A. Yeah, thank you for that. Give me a moment. 25 Right, so, yeah, basically, the tariffs, spot</p>
<p>259</p> <p>1 A. No, I don't think so. Claim 1, you said? 2 Q. Yeah. 3 A. Let me pause on that answer and let me just 4 double-check, but I want to look back at claim 1. 5 So I think the missing piece there -- sorry, 6 it's column 4, 52 or 53, I think. The missing piece 7 there is that the environment -- I mean, if you look at 8 claim 1, right, the environmental data inputs -- and 9 this says "or as power-setting indicators," right? 10 So then you go to claim 1, and what I want to 11 point out to you there is, I guess it's step 2 of 12 claim 1, where it says "analyzing the operating 13 environmental condition data to determine an indication 14 of a high demand for electric power from the power grid 15 system." 16 So, those -- that data -- you asked if that 17 is -- I believe you asked if that is an indication of 18 high demand, and I believe that the indication of high 19 demand depends on the analysis. 20 So, I think my answer of "no" holds, because 21 you're taking that environmental condition data, you're 22 taking that -- what did I call it? Power settings or 23 something like that -- let me look back -- power-setting 24 indicators, you're taking those data, and you're 25 analyzing them to determine the high-demand piece that's</p>	<p>261</p> <p>1 prices for electricity, they're not -- they don't 2 directly correlate always to -- to high demand. There's 3 a whole -- there's a lot of reasons that the price could 4 increase that have nothing to do with the demand for 5 power. So, that -- 6 THE REPORTER: I'm sorry, I missed a word 7 there. You said "So, that..."? 8 THE WITNESS: Sorry, Mike, I forgot what I 9 said. I can just repeat generally. 10 So, what I said was that much like tariffs, 11 spot prices for electricity don't have a direct 12 correlation with high demand indication, because there 13 are other reasons besides demand. Demand is one reason 14 price could go up, but there are other reasons as well. 15 Sorry. Excuse me. 16 BY MR. STEIN: 17 Q. And what about the next example in the '243 18 patent, column 4, line 52 going on to 53, "a rate of 19 change of price of electricity." Is that always 20 indicative of high demand for electric power? 21 A. Again, I would refer you to the definition I 22 just gave, which is basically, it can be indicative of 23 demand, but it isn't necessarily. Because, I mean, if a 24 spot price is -- is not indicative of it, neither is a 25 change in the price spot or the price itself.</p>

<p style="text-align: right;">262</p> <p>1 Q. Okay. And moving to the next example, column 2 4, line 54, the next one is "weather conditions." 3 Are weather conditions in the '243 patent 4 always indicative of high demand for electric power? 5 A. Again -- well, let me just see if I -- for 6 context, let me see. I don't think I was asked that, 7 but I'll just double-check that I was. 8 Right. It suffers a similar fate here, which 9 is that, you know, weather can be a reason for power 10 demand to increase, but it may not be the only reason, 11 right, or it may not be -- it may not track exactly. 12 Q. And what -- in thinking about the weather 13 conditions a little bit more, if -- are weather 14 forecasts, including in 2008, occasionally wrong? 15 A. I'm not a weatherman. I can only use my 16 experience with The Weather Channel, you know, like -- 17 Q. Yeah. 18 A. So, do you want me to go with based on my 19 experience? 20 Q. Yes, please. 21 A. Certainly, I've experienced, you know, 22 thinking the weather was going to be one thing and 23 having -- because of the forecast, and having it be 24 another. 25 Q. Yeah. So, thinking about the '243 patent and</p>	<p style="text-align: right;">264</p> <p>1 Right. So, you're talking a little bit -- I 2 mean, it -- again, you're only asking for my opinion, 3 right? So, in my opinion, you know, you're talking a 4 little bit out of context, because the -- my 5 understanding is for the '243 patent is that it's 6 considering current weather conditions. 7 So, in your example, if it did have data 8 that was, let's call it predictive data, that it was 9 using in an analysis somewhere, it would also have 10 current weather conditions and data. So, it could 11 presumably adapt to the current weather conditions. So, 12 that would mean that it's not the same. 13 I mean, a current weather condition is 14 different from a forecast, right? Current weather, is 15 what we talked about that's what happens, and you're 16 like, oh, well, you know, it didn't get it right. But 17 if they have the current weather condition data, then 18 they can make a decision at that time and so they don't 19 have to worry about a misprediction. 20 Q. Well, let's look at that. So, are you 21 referring to claim 5 of the '243 patent? 22 A. I wasn't referring to any claim. I looked at 23 the claims. 24 Q. Okay. 25 A. I wasn't referring to a particular claim, but</p>
<p style="text-align: right;">263</p> <p>1 whether weather conditions indicate high demand, could 2 it be that the analysis determines that there is 3 predicted to be high demand, but then in actuality, the 4 demand event does not materialize? 5 A. Yeah, I -- I'm a little confused by the way 6 that question is worded. Could you say it maybe in a 7 different way? 8 Or -- I can't determine whether I'm being 9 asked to comment on the ability for a system to predict 10 the weather or the ability to, you know, adapt to 11 getting it wrong or something like that. 12 So, maybe you could say it in a different way. 13 Q. Yeah. I suppose what I'm asking is, you know, 14 when you determine in the '243 patent that there is an 15 indication of high demand for electric power, does it 16 contemplate the possibility where that determination in 17 actuality is wrong? That you think there was going to 18 be high demand, but you don't actually end up having a 19 high demand event, for instance, because the weather 20 forecast was incorrect? 21 A. Yeah. I'm formulating an answer here, but let 22 me just check something. 23 Q. Sure. 24 A. Let me check something in the claims, too. 25 Give me a moment.</p>	<p style="text-align: right;">265</p> <p>1 several of the claims mention "current," right? And 2 then I think claim 5 does talk about -- is that the one 3 that talks about the weather? I would have to look. 4 Right, that is the -- it talks about unusual 5 weather conditions. So, I see why you're referring to 6 that, but it actually refers to -- my understanding is 7 it includes claim 1, and claim 1 talks about current 8 conditions in the analysis piece. 9 Q. Well, does it though, Dr. Cameron? I don't 10 see where it -- 11 A. Yeah, let me double-check. 12 Q. I see the word "current" for current amount of 13 consumption, but I don't see the words "current weather" 14 or "current conditions." 15 A. No, not in claim 1. You wouldn't see anything 16 about weather, right? 17 It's under -- I misspoke. It's under the 18 "computational device automatically reducing a current 19 amount of consumption" -- 20 THE REPORTER: I'm sorry, you said, "It's 21 under the..."? 22 THE WITNESS: Oh, it's under the -- I guess -- 23 is that -- do you call it the steps? The third step in 24 claim 1, is that the right way to refer to it, Alex? 25 Yeah, okay, the third step in claim 1, where</p>

<p style="text-align: right;">266</p> <p>1 it says "a computational device automatically reducing a 2 current amount of consumption," and then claim 5 3 includes the methods of claim 1, which would include 4 that step. And then it talks about the unusual weather 5 conditions. 6 So, was there another question in there, Alex? 7 BY MR. STEIN: 8 Q. Yeah, yeah. You said more than once that the 9 claim references current weather or current conditions, 10 but I don't see that in the claims. 11 Am I missing something? 12 A. No, and to be clear, I was referring to 13 claim 1, not claim 5. You suggested claim 5. You asked 14 me what claims I looked at, when I was looking through. 15 I had looked at -- particularly at claim 1 to see about 16 the current conditions. 17 Because, remember, the -- that was referring 18 back to the text, that my understanding was that they 19 were talking about current weather conditions, so hence 20 the look at the word "current." 21 Q. Okay. But if we look at claim 5, which is 22 where "weather" is mentioned, it doesn't say current 23 weather condition, does it? 24 A. It says unusual weather condition, which could 25 include current, right?</p>	<p style="text-align: right;">268</p> <p>1 unusual weather condition that may result in heavy 2 demand. So, maybe while you're considering this, just 3 also consider for me the impact of the word "may" in the 4 claim language. 5 A. Okay. 6 Okay. So, I mean, I look at claim 1, and it 7 tells me that -- or teaches to me that, basically, you 8 know, it's trying to figure out how and whether to 9 reduce the power consumption at the current time, 10 because the analysis and everything is driven into the 11 computational device, which is determining whether or 12 not to reduce a current amount of consumption. 13 And then when you go forward to claim 5, it 14 basically says that the -- in fact, I'll read the first 15 part of the sentence, "wherein the analyzing the 16 operating environmental" -- 17 THE REPORTER: I'm sorry, sir, if you could 18 back up -- 19 THE WITNESS: Yeah, sorry, I'll read it again. 20 Sorry, Mike. 21 Okay. In claim 5, it says, "The method of 22 claim 1, wherein the analyzing the operating 23 environmental condition data determines indication of 24 the high demand for electric power," and then it goes on 25 to say that -- the part that Alex was referring to, the</p>
<p style="text-align: right;">267</p> <p>1 Q. Could it also include a forecast for an 2 unusual weather condition? 3 A. I mean, that's a hypothetical. I don't know. 4 I mean, it basically -- the context of the patent seems 5 to be about data that's current, present data, or data 6 at the present time. 7 I don't see it precluding other data, but -- 8 because it also aggregates, you know, for like -- it 9 looks at -- in places, it talks about aggregating 10 different things. So, I mean, like, it's getting a lot 11 of data, and so, certainly, that data could include 12 weather prediction data, I imagine. 13 It doesn't say that explicitly anywhere that I 14 remember, though. It talks mostly about the current 15 state. 16 Q. Okay. But just looking at the language of 17 claim 5, since it doesn't use the word "current," that 18 could also cover sort of forecasted weather, unusual 19 weather conditions as well, right? 20 A. I need to look a little more deeply, because I 21 really do think it's entangled with claim 1, and I want 22 to see what the -- what it tells me when I read them 23 both. 24 Q. And I might also direct your attention in 25 claim 5. If you continue, sort of line 30 indicates an</p>	<p style="text-align: right;">269</p> <p>1 unusual weather conditions, right, "if the operating 2 environment condition indicates an unusual weather 3 condition, that may result in heavy demand." 4 So, to me, even that portion with the "may," 5 is basically saying, Okay, well, the job here is to 6 determine whether there's a high demand for electric 7 power at this moment, right now. And so -- because of 8 claim 1 and the construction, as I read it, there. 9 And then here, it's saying -- again, it starts 10 with the high demand as the driver for the analysis it's 11 about to do using the weather condition. And I think 12 the word "may" there is basically saying, Well, it may 13 or may not. So, the analysis will determine whether or 14 not the unusual weather condition actually results in a 15 high demand for electric power. 16 That's my answer. Sorry, I... 17 BY MR. STEIN: 18 Q. That's just a little bit confusing to me, 19 Dr. Cameron -- 20 A. Sure. 21 Q. -- because if we look at claim 5, it 22 doesn't -- oh, I think Jason has got an issue, I think. 23 A. He's got new headphones, so -- 24 MR. SHAPIRO: Can you hear me now? 25 THE WITNESS: Yes.</p>

<p>270</p> <p>1 MR. SHAPIRO: Oh, shoot.</p> <p>2 THE WITNESS: Did you make some objections?</p> <p>3 MR. SHAPIRO: Yeah, I made objections, and</p> <p>4 I -- all right.</p> <p>5 Okay. Well, the last question was objection,</p> <p>6 form and answered.</p> <p>7 Go ahead.</p> <p>8 BY MR. STEIN:</p> <p>9 Q. Okay. So, looking at claim 5, again,</p> <p>10 Dr. Cameron, when it -- when it uses the term "may," I'm</p> <p>11 just trying to understand what that term means in the</p> <p>12 context of claim 5, because --</p> <p>13 A. Yep.</p> <p>14 Q. -- it seems to me like you're saying that term</p> <p>15 is meaningless. Is that right?</p> <p>16 A. Well, it's not meaningless. It's just giving</p> <p>17 you the indication that -- I mean, another way to think</p> <p>18 about it would be "may or may not result in a heavy</p> <p>19 demand." It's not meaningless, right? It has meaning.</p> <p>20 I mean, the whole point here is trying to</p> <p>21 determine whether this unusual weather condition is</p> <p>22 going to impact the demand for power.</p> <p>23 Q. And let's -- let's go back to claim 1 as well.</p> <p>24 So, you're referring to the analyzing step, correct?</p> <p>25 "Analyzing the operating environmental condition data to</p>	<p>272</p> <p>1 A. Yeah.</p> <p>2 Q. -- is that always indicative of a high demand</p> <p>3 for electric power?</p> <p>4 A. Yeah, and --</p> <p>5 MR. SHAPIRO: Objection, form.</p> <p>6 THE WITNESS: -- let me clarify what I just</p> <p>7 said about time of day, because I said it for all of the</p> <p>8 other ones, but, you know, it would have to -- it would</p> <p>9 have to be a thoughtful determination on whether time of</p> <p>10 day would impact the demand for power.</p> <p>11 For a facility -- let me look here. There's a</p> <p>12 lot of commas in this sentence. I need a moment to --</p> <p>13 BY MR. STEIN:</p> <p>14 Q. Sure.</p> <p>15 A. Where is this...</p> <p>16 Yeah, and basically the same answer, "may or</p> <p>17 may not," you know, needs some kind of analysis to</p> <p>18 determine whether it will or will not affect high demand</p> <p>19 for electric power.</p> <p>20 Q. Okay. And continuing, line 56 of column 4 of</p> <p>21 the patent, the next one is census data associated with</p> <p>22 a specified energy use or demand. Is that always</p> <p>23 indicative of a high demand for electric power?</p> <p>24 MR. SHAPIRO: Objection, form.</p> <p>25 THE WITNESS: I think same, "may or may not,"</p>
<p>271</p> <p>1 determine"?</p> <p>2 A. I'm referring -- no. When I was just</p> <p>3 referring to that now, I was reading from claim 5, so,</p> <p>4 just to be clear. I was reading the part where it</p> <p>5 says -- at the very beginning, "wherein the</p> <p>6 analyzing" -- I'm reading slow for Michael -- "the</p> <p>7 operating environmental condition data determines</p> <p>8 indication of the high demand."</p> <p>9 I'm not reading from claim 1; I'm reading from</p> <p>10 claim 5. But I can go back to claim 1, if you want.</p> <p>11 Q. Let's go back -- I want to go back to column</p> <p>12 4, the examples that we were talking about, continuing</p> <p>13 now after weather conditions, column 4, line 54 to 55.</p> <p>14 The next one that I see is "time of day."</p> <p>15 Do you see that one?</p> <p>16 A. I do.</p> <p>17 Q. Is time of day always indicative of a high</p> <p>18 demand for electric power?</p> <p>19 MR. SHAPIRO: Objection, form.</p> <p>20 THE WITNESS: Like the other ones, it may or</p> <p>21 may not be, right?</p> <p>22 BY MR. STEIN:</p> <p>23 Q. And then continuing to the next one, line 55</p> <p>24 of column 4 of the patent, "a facility (e.g. a</p> <p>25 household, building or company) energy use" --</p>	<p>273</p> <p>1 and requires an analysis.</p> <p>2 BY MR. STEIN:</p> <p>3 Q. And then the last one, column 57 -- or, sorry,</p> <p>4 column 4, line 57 of the patent, "as well as other data</p> <p>5 relevant to energy costs."</p> <p>6 What is "other data relevant to energy costs"</p> <p>7 in the '243 patent?</p> <p>8 A. I would --</p> <p>9 MR. SHAPIRO: Objection to form.</p> <p>10 THE WITNESS: I would take that as its direct</p> <p>11 meaning, which is it's just a catch-all for things that</p> <p>12 might also be relevant to energy costs.</p> <p>13 So, all of these examples, right, we said that</p> <p>14 they may or may not, depending on the analysis, affect</p> <p>15 demand. And so it's a pretty reasonable statement to</p> <p>16 make to say that, in addition, there are other data that</p> <p>17 could be relevant to energy costs that we haven't listed</p> <p>18 here, but they are relevant to -- potentially relevant</p> <p>19 to energy costs.</p> <p>20 BY MR. STEIN:</p> <p>21 Q. Are some of these data points more relevant</p> <p>22 than others for determining high demand for electric</p> <p>23 power?</p> <p>24 MR. SHAPIRO: Objection, form.</p> <p>25 THE WITNESS: I don't -- I don't think you</p>

<p style="text-align: right;">274</p> <p>1 could classify them in that way reasonably, because, you 2 know, they certainly could -- like, at any moment in 3 time, any one of them could be -- what was the word you 4 used? More relevant -- what did you say? 5 BY MR. STEIN: 6 Q. More relevant. 7 A. More relevant or more indicative, yeah, at any 8 moment in time. Again, the analysis is what determines 9 it for you. So, you know... 10 Q. Are you aware of any sort of knowledge that a, 11 you know, person of ordinary skill in the art would have 12 had in 2008 related to sort of the relative importance 13 of each of these data points, relative to what indicates 14 high demand for electric power? 15 MR. SHAPIRO: Objection, form. 16 THE WITNESS: Am I aware of, that's what I 17 think you said, am I aware of what people in 2008 18 would've thought? I -- I can tell you that, myself, I 19 wouldn't have been able to rank order them, and I'm a 20 POSITA, so -- like, there's -- again, without an 21 analysis. 22 So, following an analysis, you could 23 potentially order them, and it would change as the data 24 changes, right? So, yeah, I think that's where I'll 25 leave it. I mean, that's how I would think about it. I</p>	<p style="text-align: right;">276</p> <p>1 Do you see that? 2 A. I'm sorry. I didn't get the line numbering, 3 so I couldn't follow where you started. Could you -- 4 Q. Column 11, line 55. 5 A. It is claim 7, though, right? 6 Okay. So, I was at claim 7, 55. Okay. I'm 7 sorry, please just tell me where you started again. 8 Q. "If the" and then continuing to the end. 9 A. "If the operating environmental condition 10 data," from there? 11 Q. Yeah. 12 A. Okay. 13 Sorry. I'm reading the whole claim. 14 Okay. I read it, and, yeah, what was your 15 question? I don't think you asked a question, so I 16 just -- 17 Q. No, I just wanted you to be at the right part. 18 So, you've read claim 7 now, right? 19 A. Yes, sir, I did. 20 Q. Is a relatively environmentally friendly 21 energy producer reaching output capacity always 22 indicative of high demand for electric power? 23 MR. SHAPIRO: Objection, form. 24 THE WITNESS: I want to mention two things 25 here. One is that 7 I believe says, towards the top, a</p>
<p style="text-align: right;">275</p> <p>1 wouldn't be able to rank order them. 2 Q. Okay, yeah. So, following the analysis, how 3 might you potentially order them? 4 MR. SHAPIRO: Objection, form. 5 THE WITNESS: I'd need the outcome of the 6 analysis, Alex. Without such, how do I do that? I 7 don't know how to answer your question. I mean, you 8 would analyze each one. 9 Like, if you're looking for a methodology, you 10 would analyze each one based on some thoughtful, you 11 know, tool that you have developed or insight that you 12 developed, and then, you know, you would determine. 13 And I think -- I don't even know -- I don't 14 even know how you would order them. I mean, what would 15 you rank order them by, for example? Would it be on how 16 much they affect the demand, how fast they affect the 17 demand? You know, there's a lot of different variables 18 in there that I just can't speak to. 19 Q. Let's go to claim 7, which is at column 11, 20 line -- yeah, claim 7 of the patent, column 11, line 55. 21 A. Yes, I'm there. 22 Q. So, this one says, "If the operating 23 environmental condition data feed information indicates 24 a relatively environmentally friendly energy producer is 25 near its output capacity."</p>	<p style="text-align: right;">277</p> <p>1 "plurality of potential energy producers." So, even 2 though that says something about if the environmental 3 condition data feed information indicates a relatively 4 environmentally friendly energy producer, it's one among 5 many, right? 6 So, if I had, you know, you know, data with 7 one among many being at capacity, it doesn't really tell 8 me anything about whether I'm under a high demand 9 condition or not. 10 So, I mean, you would need more data, and/or 11 you would have to do an analysis, right? That's what 12 I'm saying. Back to my -- what I just said a minute 13 ago, "may or may not" would need an analysis. 14 BY MR. STEIN: 15 Q. Right. But looking at claim 7, again, though, 16 I do see where it says "plurality of potential energy 17 producers," but then the clause we were talking about, 18 starting at line 53 of column 11 -- 19 A. Uh-huh. 20 Q. -- the "analyzing," so, that recitation is 21 giving us more specificity about what happens with 22 analyzing; "the analyzing the operating environmental 23 condition data determines the indication of the high 24 demand for electric power from the power grid system if 25 the operating environmental condition data feed</p>

<p style="text-align: right;">278</p> <p>1 information indicates a relatively environmentally 2 friendly energy producer is near its output capacity." 3 So, doesn't -- that seems to just require one 4 relatively environmentally friendly energy producer be 5 near its output capacity. Is that not right? 6 MR. SHAPIRO: Objection, form. 7 THE WITNESS: It's a claim. Right or wrong, 8 it says what it says. So, when I read it, "wherein the 9 analyzing the operating environmental condition data," 10 that's the plurality of data, right, plurality of 11 potential energy producers of the power grid system from 12 above in claim 7. 13 And so it's looking across all of these energy 14 producers in the power grid system to determine the 15 indication of the high demand for electric power from 16 the power grid system. 17 And the "if" clause seems to indicate that it 18 certainly could be under the condition where one of the 19 environmentally friendly energy producers is near its 20 output capacity. To me, it's just making a statement 21 that, you know, it's part of the data it's analyzing. 22 So... 23 Q. And so in your testimony earlier, and correct 24 me if I'm wrong, was that a relatively environmentally 25 friendly energy producer being near its output capacity</p>	<p style="text-align: right;">280</p> <p>1 for myself here, "wherein the operating environmental 2 condition..." 3 To clarify, in case I said something different 4 earlier, is that it basically says that the feed 5 comprises information describing an output capacity and 6 a current output of each of a plurality of potential 7 energy producers of the power grid system. 8 So, I don't think I said anything to 9 contradict that, but if I did, then that's -- that's 10 what it says. 11 Q. Okay. Okay. So, the beginning of claim 7 12 seems to be saying what's in the feed. 13 And then the next part that I want to talk 14 about is this "wherein" clause starting at line 53, 15 which seems to be telling us about the analysis, right, 16 "wherein the analyzing," and then it continues. 17 So it seems like one part is telling us what's 18 in the feed; another part is telling us something about 19 the analyzing. Is that how a person of ordinary skill 20 understands claim 7? 21 MR. SHAPIRO: Objection, form. 22 THE WITNESS: I would say -- I would read 23 claim 7 that way, but I would also just draw your 24 attention to the mention of claim 1. 25 So, I have to keep glancing back and forth to</p>
<p style="text-align: right;">279</p> <p>1 is not alone an indication of high demand; is that what 2 you said earlier? 3 MR. SHAPIRO: Objection, mischaracterizes. 4 THE WITNESS: Yeah, well, I just want to bring 5 it back to -- you pointed out that, basically, it refers 6 to -- in that clause, the "if the operating 7 environmental condition data feed ... indicates a 8 relatively environmentally friendly producer is near its 9 output capacity." 10 So, what I am stating is that, you know, in 11 the context of plurality of potential energy producers, 12 the -- having the environmental friendly producer data 13 could be relevant; or it may not, depending on the 14 analysis. 15 Q. And I'm trying to understand too, like, what 16 claim 7 is saying as a person of ordinary skill in the 17 art understands it. 18 So, the piece I'm getting confused on is, I 19 know in the first part of claim 7, lines sort of 51 to 20 52, it is saying that the feed comprises information 21 about a plurality of potential energy producers. 22 I see where the feed comprises that. Do you 23 agree with that? 24 MR. SHAPIRO: Objection, form. 25 THE WITNESS: Let me just read it and state it</p>	<p style="text-align: right;">281</p> <p>1 claim 1 to get context for, you know, the additional 2 steps of claim 1 as part of claim 7. 3 BY MR. STEIN: 4 Q. Sure. But in that analyzing step, where it 5 provides further detail in claim 7, it seems to say it's 6 only looking at a relatively environmentally friendly 7 energy producer is near its output capacity. It doesn't 8 say that it has to analyze all of the data from all of 9 these other potential energy producers. 10 That might be in the feed, but what claim 7 is 11 saying doesn't seem to require that it's analyzing all 12 of that data; it just says it's looking at one of these 13 producers being the relatively environmentally friendly 14 energy producer. 15 MR. SHAPIRO: Objection, form. 16 THE WITNESS: But are you saying, then, that 17 the claim 1 part where it says "analyzing the operating 18 environmental condition data" -- the data -- "to 19 determine an indication of high demand for electric 20 power from the power grid system," that that's no longer 21 valid in claim 7? Because I'm reading them together. 22 BY MR. STEIN: 23 Q. Correct. Yeah, no, no, I think that's 24 correct. But it just seems to me when it's getting to 25 the "analyzing," when it's giving us more specificity,</p>

<p>282</p> <p>1 it's telling us more about how we get to this indication 2 of high demand, right? 3 So, one is, what's the analyzing doing; the 4 other is, how do I get to this indication of the high 5 demand. 6 Isn't that how claim 7 is structured? 7 MR. SHAPIRO: Objection, form. 8 THE WITNESS: Claim 1 is pretty -- I mean, you 9 agreed to what I said. So, claim 1 is pretty clear that 10 the high-demand analysis includes the operating 11 environmental conditions data to determine the 12 indication. 13 So, if claim 7 doesn't trump that, then it 14 basically says that, claim 7, that the set of data can 15 include the environmentally friendly energy producer. 16 I feel like it's just saying, like, there's 17 additional data that might be available to you, and use 18 it. 19 BY MR. STEIN: 20 Q. Right. 21 A. It's not contradicting claim 1. 22 Q. Sure. But then it seems to say the -- it 23 seems to tell us what the pertinent data point is, and 24 it seems to be that that's the relatively 25 environmentally friendly energy producer being near its</p>	<p>284</p> <p>1 that that is this one data point, this relatively 2 environmentally friendly energy producer reaching or 3 nearing its output capacity. 4 A. Yeah, I think that -- 5 MR. SHAPIRO: Objection, form. 6 THE WITNESS: -- it's a difference of opinion 7 here, right? As I read it, I feel like it's telling me 8 that the environmentally friendly energy producer is yet 9 another factor or variable that I consider when I do my 10 analysis. 11 It's not telling me, though, I can only use 12 that. It's telling me that, Hey, I want to call out to 13 you particularly that it might matter if one of the 14 energy producers is an environmentally friendly energy 15 producer and it's at near capacity. 16 Because, in essence, you're basically running 17 out of your -- let's call it -- if that's the only -- 18 and, again, the matter is entirely the context. But if 19 I make the assumption that that's the only energy 20 producer that's available, that's -- you know, let's 21 call it green, then that might mean something to me or 22 my analysis. 23 So I guess we just see it differently, is all 24 I am saying. 25 ///</p>
<p>283</p> <p>1 output capacity, and the other data points aren't as 2 necessary or necessary at all to reach this 3 determination. 4 MR. SHAPIRO: Objection, form, answered. 5 THE WITNESS: Well, yeah, I mean, there wasn't 6 a question there. I think that was just your statement, 7 but -- 8 BY MR. STEIN: 9 Q. Yeah. I mean, do you disagree with that 10 statement? 11 A. Oh, well -- 12 MR. SHAPIRO: Objection, form, asked and 13 answered. 14 THE WITNESS: -- I would have to hear it again 15 and in little pieces, if you don't mind. 16 Yeah, go ahead. 17 BY MR. STEIN: 18 Q. So, it seems to be, you know, you can have an 19 analysis that looks at, you know, this output capacity 20 from these different potential energy producers, and 21 then that can be one thing, and that can be consistent 22 with how you're describing claim 1. 23 But then you can also have in claim 7 it 24 telling us what is the pertinent data point that allows 25 us to determine this indication. It seems to be saying</p>	<p>285</p> <p>1 BY MR. STEIN: 2 Q. And then looking at that claim 7 again, I want 3 to understand what a skilled person knows from the 4 term "relatively environmentally friendly energy 5 producer." 6 So, what is the skilled person's understanding 7 of that term in the context of the '243 patent? 8 A. Right, yeah. I mean, at the time, I would 9 think it would mean something that doesn't, you know, 10 hurt the atmosphere particularly badly or the 11 environment. That's how I would interpret it. 12 Q. And what does the modifier "relatively" 13 provide that the skilled person can't understand from 14 environmentally friendly energy producer without that 15 additional modifier? 16 MR. SHAPIRO: Objection, form. 17 THE WITNESS: That's a reasonable question. I 18 would read it to read as, basically, when you're looking 19 back to that plurality, the plurality of potential 20 energy producers, that you could ask yourself how 21 environmentally friendly is one versus the other. 22 And then the most or whatever -- does it say 23 the most -- oh, something in that group, you know, the 24 relative order in which, you know, these things would be 25 environmentally friendly would give you an indication</p>

<p style="text-align: right;">286</p> <p>1 of, you know, what might be a relatively environmentally 2 friendly energy producer. 3 I think it's there to say basically that it 4 doesn't have to just be environmentally friendly; it 5 might just be environmentally friendly among its peers. 6 BY MR. STEIN: 7 Q. And could that mean this plurality of 8 potential energy producers is all fossil fuel energy 9 producers, but one of them just happens to be 10 less polluting than the others, and that would qualify 11 as a relatively environmentally friendly energy 12 producer? 13 MR. SHAPIRO: Objection, form. 14 THE WITNESS: Yeah, it's hard to get in -- 15 because my understanding of, like, the actual ability to 16 clean the carbon emissions from different kinds of power 17 plants is limited. So, I would just say that there 18 would be some metric that you would use to figure out, 19 you know, how much carbon it's emitting into the 20 environment. It could be any one of any number of types 21 of fuel production. 22 In fact, in these patents and stuff, you see a 23 bunch of examples of various kinds of fuel production, 24 and so it could be any of those, if not others. 25 ///</p>	<p style="text-align: right;">288</p> <p>1 I mean, it talks about that there would be a 2 way, right? It says -- well, it talks about this as 3 being part of the analysis step, I believe. So, 4 "analysis of the energy producer feed may indicate that 5 one or more ... environmentally friendly (or 'green') 6 energy producers are near capacity, resulting in an 7 issuance..." 8 So, I believe what it's saying here is 9 basically that, you know, if I'm looking at it from -- 10 this is why context and your -- your goals matter here, 11 right? I mean, it might be that the goal of one person 12 or one version of this patent would be to go out there 13 and say I want to, you know, focus on the 14 environmentally friendly energy producers and make sure 15 that they're, you know, used efficiently or effectively. 16 And so when I think about the high-demand 17 indicator, then maybe in that example, I want to 18 understand and analyze the use of environmentally 19 friendly energy producers. Yeah. 20 We talked about already, like, how someone 21 might do it, but I don't see a precise description. But 22 from this, one could imagine that it could be done, just 23 based on either the type of fuel they are using or -- I 24 mean, like solar is easier to understand than, let's 25 say, coal-powered in terms of its impact on the</p>
<p style="text-align: right;">287</p> <p>1 BY MR. STEIN: 2 Q. And does the patent provide an objective 3 boundary for understanding what would be a relatively 4 environmentally friendly energy producer versus one that 5 is not? 6 MR. SHAPIRO: Objection, form, answered. 7 THE WITNESS: That's a good question. Let's 8 see. 9 Yeah, so, give me a second to read this, but 10 I'm looking at column 5, and I'm not sure exactly 11 where -- I mean, "environmentally friendly" appears on 12 62, but I want to read the whole thing before I comment. 13 Okay. I think -- were you at -- were you 14 asking basically if there's any kind of definition for 15 "environmentally friendly" in the patent? 16 Q. Sort of. I'll just read the question again. 17 I said, does the patent provide an objective 18 boundary for understanding what would be a relatively 19 environmentally friendly energy producer versus one that 20 is not. 21 MR. SHAPIRO: Objection, form. 22 THE WITNESS: Well, the only other thing where 23 it mentions "environmentally friendly," which is back, 24 as I said, in column 5, row 62, analysis -- so, I don't 25 think it gives us a way.</p>	<p style="text-align: right;">289</p> <p>1 environment, but that's not a perfect characterization 2 either. 3 There's all kinds of different -- there are 4 smart coal power plants now and, you know, somewhat more 5 environmentally friendly ones. There are some that are 6 more efficient because they do other things. 7 So, yeah, I mean, they don't tell you how to 8 do it, but I don't think that they have to. They say 9 that they're giving you this idea that, Hey, we thought 10 about considering the environmentally friendliness of 11 these producers in our analysis. And that's how I read 12 it, in my opinion. 13 BY MR. STEIN: 14 Q. It looks -- and I just -- let's look at that 15 part that you just pointed us to, column 5, line 60 -- 16 A. Column 5, line 63 -- 17 Q. -- 62 -- yeah, okay. But that says "thus 18 analysis" and then it indicates, "may indicate that one 19 or more local, more environmentally friendly energy 20 producers are near capacity." 21 Isn't it saying, the analysis is whether those 22 producers are at capacity or not; it doesn't seem to be 23 an analysis as to whether those are environmentally 24 friendly producers or not. Aren't those two different 25 things?</p>

<p>290</p> <p>1 MR. SHAPIRO: Objection, form.</p> <p>2 THE WITNESS: Are what two different things?</p> <p>3 The -- I think I get it, but just say it real quick.</p> <p>4 BY MR. STEIN:</p> <p>5 Q. The determination of output capacity versus</p> <p>6 the determination as to whether this is an</p> <p>7 environmentally friendly producer or not.</p> <p>8 A. Yeah, I did hear it right.</p> <p>9 MR. SHAPIRO: Objection, form.</p> <p>10 THE WITNESS: Okay. So, yes, they are two</p> <p>11 different things, right? So, but by saying how they</p> <p>12 phrase it is to say "more environmentally friendly</p> <p>13 energy producers are near capacity" gives one the</p> <p>14 indication that they understand or they have some sort</p> <p>15 of definition for what an environmentally friendly green</p> <p>16 energy producer would be.</p> <p>17 And so, I feel like that's sort of resting on,</p> <p>18 you know, just a general understanding that there are,</p> <p>19 you know, environmentally friendly types of ways to</p> <p>20 produce energy and less friendly ways.</p> <p>21 And, yes, that is separate from the</p> <p>22 determining a high demand on the electric production --</p> <p>23 electricity production, but, again, I think they're</p> <p>24 categorizing it for you and saying, like, we can use the</p> <p>25 environmentally friendly analysis, in our analysis, of</p>	<p>292</p> <p>1 know, power plants. I mean, these things have different</p> <p>2 environmental impacts, and a person of ordinary skill in</p> <p>3 the art at the time would know that, that those exist,</p> <p>4 that you would have ways of deciding whether or not they</p> <p>5 would be -- one would be better -- quote, better than</p> <p>6 the other, but it would be subjected to the user's point</p> <p>7 of view.</p> <p>8 Q. And what about the determination of being near</p> <p>9 capacity? Does the patent tell us what being near</p> <p>10 capacity means? What are the boundaries for being near</p> <p>11 to a producer's capacity?</p> <p>12 MR. SHAPIRO: Objection, form.</p> <p>13 THE WITNESS: That one, I have to take a</p> <p>14 minute.</p> <p>15 Excuse me.</p> <p>16 I don't see any -- I mean, in a quick perusal,</p> <p>17 I don't see any definitions for "near capacity," so it's</p> <p>18 a somewhat subjective notion.</p> <p>19 BY MR. STEIN:</p> <p>20 Q. And what about the notion of a maximum</p> <p>21 continuous rating for an energy producer? Is that</p> <p>22 something that a skilled person would have been familiar</p> <p>23 with in this time period?</p> <p>24 MR. SHAPIRO: Objection, form.</p> <p>25 THE WITNESS: I mean, I know that's mentioned</p>
<p>291</p> <p>1 whether it's a high -- you know, if we care -- I mean,</p> <p>2 if we're only looking at environmentally friendly power,</p> <p>3 and that's the only power we want to use, then we can</p> <p>4 use those as inputs to our high demand indication.</p> <p>5 And if those green versions of energy</p> <p>6 producers are at high capacity, then that might mean</p> <p>7 high capacity to us, right? So almost a different</p> <p>8 definition -- did I say "high capacity"? High demand,</p> <p>9 sorry -- high demand to us because the high demand is on</p> <p>10 the green energy producing ones.</p> <p>11 But, again, that's an analysis that would be</p> <p>12 done by an algorithm that would take that into</p> <p>13 consideration, so --</p> <p>14 BY MR. STEIN:</p> <p>15 Q. But does it -- yeah. Does the patent provide</p> <p>16 us with the details about what the definition of "an</p> <p>17 environmentally friendly energy producer" actually is?</p> <p>18 MR. SHAPIRO: Objection, form, answered.</p> <p>19 THE WITNESS: Yeah, I don't -- I -- without</p> <p>20 looking more carefully, I don't think so. But this is</p> <p>21 the closest it gets.</p> <p>22 BY MR. STEIN:</p> <p>23 Q. And what about --</p> <p>24 A. A person -- a POSITA would understand that</p> <p>25 there are coal power plants and there are wind, you</p>	<p>293</p> <p>1 in some of the ancillary documentation. I could pull it</p> <p>2 out. Let's see.</p> <p>3 BY MR. STEIN:</p> <p>4 Q. And is that -- is that the type of data point</p> <p>5 that would allow for some sort of analysis as to whether</p> <p>6 an energy producer is near its capacity or not, making</p> <p>7 use of that maximum continuous rating?</p> <p>8 MR. SHAPIRO: Objection, form.</p> <p>9 THE WITNESS: Yeah, so I'm looking at -- I</p> <p>10 don't know. There's a whole bunch of them, but because</p> <p>11 I turned to it -- I'm on page 5 of Exhibit 1018, where</p> <p>12 it mentions this notion of maximum -- you said maximum</p> <p>13 continuous rating, right?</p> <p>14 BY MR. STEIN:</p> <p>15 Q. Correct.</p> <p>16 A. Yeah. So, I mean, a person of ordinary skill</p> <p>17 in the art probably wouldn't fully understand this table</p> <p>18 but would understand generally what the terms are, to</p> <p>19 mean maximum continuous rating, total net generation,</p> <p>20 et cetera.</p> <p>21 And so when I look at this, I think, okay, you</p> <p>22 know, you could look and say, oh, you know, this -- I</p> <p>23 mean, pick any of these if you want, coal, gas, hydro --</p> <p>24 pick anything and say, okay, look at, you know, how much</p> <p>25 we're using versus how much I have capacity for, and you</p>

<p style="text-align: right;">294</p> <p>1 could think about some, I don't know, threshold that you 2 might hit for being near capacity, right? 3 But it would depend entirely on a lot more 4 information than is available here, because it would 5 need -- you would need to know each of these -- at each 6 of these sites and each of these -- I mean, I think the 7 capacity is probably going to be -- or "at or near 8 capacity," that determination, the subjective one, is 9 going to be -- what's the word -- influenced by whether 10 it's coal, gas, hydro, wind, et cetera, and influenced 11 by the individual plant, because every plant will be 12 different. You know, some plants recapture their 13 energy; some do not. 14 So, you know, the efficiency is not clear just 15 from this set of data. So, I would have no way of 16 knowing from this set of data and the MCR example that 17 you used of how to rank these by greenness or, what did 18 we call it, environmentally friendliness. Because for 19 example, there's biomass in other -- does that include 20 nuclear? It just says "other." So, you know, and 21 nuclear has a whole other set of characteristics than 22 all of these other ones. 23 So, and some people think nuclear is green; 24 some people don't think it is. And so it's entirely 25 subjective, and this wouldn't be enough information for</p>	<p style="text-align: right;">296</p> <p>1 doesn't say anything about that. Like -- yeah. 2 BY MR. STEIN: 3 Q. Yeah, but let's -- I think the thing I'm 4 struggling with, Dr. Cameron, is the juxtaposition of 5 what the patent gives in terms of guidance on what an 6 environmentally friendly producer is versus what you're 7 saying are these additional characteristics you need in 8 the context of the prior art. It just -- it feels to me 9 like there's a bit of an inconsistency here. 10 You're saying the patent doesn't need to 11 provide much guidance, because a POSITA can figure it 12 out, but for the prior art, you need all of these extra 13 characteristics. So, help me understand why those two 14 things aren't inconsistent. 15 A. Yeah, they aren't -- 16 MR. SHAPIRO: Objection, form. 17 THE WITNESS: They aren't inconsistent. What 18 I said earlier, just to repeat it myself and I'll just 19 emphasize what I said earlier, is that my read of the 20 '243 patent is that the developers, the writers of the 21 patent could come up with a -- you know, with enough 22 data, could come up with a way of specifying the, let's 23 say, rank ordering of environmentally friendly machines, 24 like the ones on this list, right? 25 But that's because they can get all kinds of</p>
<p style="text-align: right;">295</p> <p>1 me to make that determination. 2 Q. So, the information that you have here, when 3 it lists hydro and wind plants, you're saying that's 4 insufficient for determining whether those are 5 relatively environmentally friendly energy producers? 6 MR. SHAPIRO: Objection, form, 7 mischaracterizes testimony. 8 THE WITNESS: I'm going to say it this way, is 9 that, these are -- hydro and wind can be extremely -- in 10 some instances can be extremely environmentally 11 friendly. It might also be terribly inefficient, or 12 they might also be unavailable during certain days or 13 times, so that makes them less useful, right? 14 So there are more characteristics here than 15 just, you know, to -- if there was an equation for 16 energy -- for, you know, this notion of environmentally 17 friendliness. It's not so much that hydro and wind 18 aren't environmentally friendly, but you do have to look 19 at the big picture. 20 I mean, a coal plant can be incredibly -- 21 incredibly efficient and can be incredibly -- because 22 they have been around for so long, and then it can also 23 be not so terrible for the environment because they 24 recapture all of the carbon or things like that. 25 And so, you know, you really don't know. It</p>	<p style="text-align: right;">297</p> <p>1 data, you know, these feeds, the plurality of feeds, all 2 of these things. And so, with all that data -- it's a 3 lot more data than is right here in this document that 4 I'm looking at, which, you know, you said -- you said 5 basically could we use maximum continuous rating; that's 6 certainly not enough data, right? 7 So I said that with more data, you could do 8 it, and I think in the patent, they're saying, you know, 9 We have all of this data, we'll use it, right, and we'll 10 think about these other things too because we have all 11 of this other data. 12 And here, you're saying, you know, I have a 13 limited set of data. Why -- you know, how is that 14 different from the patent? Because in the patent, it 15 has a lot more data. 16 BY MR. STEIN: 17 Q. Yeah. But I think we're -- let's break it 18 apart, though, too, because there are two different 19 things we're talking about. 20 A. Okay. 21 Q. One is the determination of whether a producer 22 is environmentally friendly; the other one is whether a 23 producer is nearing its output capacity. 24 And those are different, right, Dr. Cameron? 25 MR. SHAPIRO: Objection, form, answered.</p>

<p>298</p> <p>1 THE WITNESS: Yeah, I mean, the notion that 2 the capacity or -- or near capacity and the notion of 3 environmentally friendly are two different concepts, 4 yes. 5 BY MR. STEIN: 6 Q. Okay. And let's talk about the one about 7 output capacity. So, just talking about output 8 capacity, can a POSA, a person of skill in the art in 9 2008, can they get maximum continuous rating data, total 10 net generation data, and use those numbers to determine 11 whether a producer is near its capacity? 12 A. Yeah, hang on -- 13 MR. SHAPIRO: Objection, form. 14 THE WITNESS: Yeah, you changed the words you 15 used. You didn't say "near capacity" in the beginning 16 of the sentence. I mean, Mike can go back and check, 17 but I heard something different. It wasn't -- you 18 didn't start with "near capacity." You started with 19 something like -- was it "maximum capacity"? Or was 20 it -- 21 BY MR. STEIN: 22 Q. I said, can a POSA, a person of skill in the 23 art in 2008, can they get maximum continuous rating 24 data, total net generation data, and use those numbers 25 to determine whether a producer is near its capacity?</p>	<p>300</p> <p>1 that appears to be a distinction without a difference, 2 that if the -- if you have this data and you can use it 3 to compare and figure how close you are to output 4 capacity, you would think if that's a tenable 5 difference, the patent would explain how it sort of 6 inventively determines whether you're near output 7 capacity. But you told me a moment ago it doesn't 8 provide that boundary. 9 A. Hang on -- 10 MR. SHAPIRO: Objection, form. 11 THE WITNESS: You have an assumption in there 12 that I don't agree with, right? You're assuming that 13 that is the only way to get -- to figure out how you're 14 near capacity, to calculate it as just this equation 15 that you just described, maximum over current use. 16 But another way could be that there's a data 17 stream where each of the -- the providers of the -- 18 producers of power just send data on what their capacity 19 is at this moment. That's kind of a calculation. 20 Sorry. Go ahead. 21 MR. SHAPIRO: You finished. 22 THE WITNESS: Anyway, I'll just stop there. 23 MR. SHAPIRO: I just -- Nadiia needs to go at 24 1:30, like she mentioned earlier. 25 THE WITNESS: Oh, okay.</p>
<p>299</p> <p>1 A. Ah. 2 MR. SHAPIRO: Objection, form. 3 THE WITNESS: Yeah, I mean, I'm not saying 4 yes. I just am saying the same thing I said before, 5 was, it depends, right? Like, if you go -- if you pick 6 just a random power plant, right, that power plant might 7 be designed to only get to 80 percent of the rating you 8 just described. 9 Another power plant might be designed to get 10 to 90 percent, right? So, how do I know, if I can 11 calculate -- I mean, if you have all of that data that 12 you just mentioned, and I calculate the percentage of 13 maximum I'm using at the current moment, how do I know 14 whether or not I'm at near capacity? 15 Because the capacity is not a set percentage; 16 it is going to be varied by the different power 17 manufacturers and everything. 18 So, that's what I mean. 19 BY MR. STEIN: 20 Q. Sure. And can you tell me where in the patent 21 now it defines how you determine whether an energy 22 producer is near its output capacity? If that's an 23 important determination, you would think the patent 24 would describe it, right? 25 Because you're -- you're pointing to something</p>	<p>301</p> <p>1 MR. SHAPIRO: If it's okay if we take a break 2 now, Alex -- I know you would prefer to keep going, but 3 she did let us know earlier at the beginning of the 4 deposition that she needs to -- she needs to step away 5 at 1:30. 6 MR. STEIN: All right. Fair enough. I mean, 7 it is interruptive of where we are at, but I understand 8 that I agreed to that earlier. 9 MR. SHAPIRO: Appreciate it. 10 MR. STEIN: Can we make it short? How long do 11 we need here? 12 MR. SHAPIRO: She said 15 minutes. 13 MR. STEIN: All right. That's unfortunate. 14 Okay. Fine. 15 MR. SHAPIRO: Thank you, Alex. 16 THE WITNESS: Thanks. 1:45, our time? 17 MR. STEIN: Yeah. 18 MR. SHAPIRO: Yeah, okay. 19 (Whereupon, a recess was taken.) 20 BY MR. STEIN: 21 Q. So, Dr. Cameron, before the interlude there, 22 we were talking about this maximum continuous rating 23 from this data called the AESO report. 24 Do you remember that? 25 A. I do.</p>

<p>302</p> <p>1 Q. And in your declaration at paragraph 48, is</p> <p>2 paragraph 185 where you're discussing this combination</p> <p>3 of the Wang reference and the AESO data?</p> <p>4 A. Hang on, you referred to --</p> <p>5 MR. SHAPIRO: Object -- objection to form.</p> <p>6 THE WITNESS: You referred to 48.</p> <p>7 BY MR. STEIN:</p> <p>8 Q. Yeah.</p> <p>9 A. And then you also referred to another one --</p> <p>10 oh, page 48?</p> <p>11 Q. Page 48 --</p> <p>12 A. Oh, I see, I'm sorry --</p> <p>13 Q. -- of the declaration, paragraph 185.</p> <p>14 A. Okay. I'm there now.</p> <p>15 Q. Okay.</p> <p>16 Is this the portion of your declaration where</p> <p>17 you discuss your opinions related to the Wang and the</p> <p>18 AESO data combination from the petition?</p> <p>19 A. Checking something...</p> <p>20 Can you ask your question again? I just want</p> <p>21 to make sure that I understand it precisely.</p> <p>22 Q. Sure. Is this the portion of your declaration</p> <p>23 where you discuss your opinions related to the Wang and</p> <p>24 the AESO data combination from the petition?</p> <p>25 MR. SHAPIRO: Objection, form.</p>	<p>304</p> <p>1 is, yes, I talk about it there, but I also talk about it</p> <p>2 in the context of the Wang patent, because Wang mentions</p> <p>3 AESO. That's why I was checking. Okay.</p> <p>4 Q. Sure. And you understand that the petition</p> <p>5 raised arguments based on Wang as an anticipatory</p> <p>6 reference but also Wang in combination with AESO data</p> <p>7 for purposes of obviousness, right?</p> <p>8 A. I thought you said it wrong there. Let me</p> <p>9 just see.</p> <p>10 Q. I did say it wrong. I meant --</p> <p>11 A. Yeah, you said anticipation for Wang, and it's</p> <p>12 actually obviousness.</p> <p>13 Q. Let me strike that question.</p> <p>14 You understand that there's a ground 1 in the</p> <p>15 position where Wang is used alone for rendering the</p> <p>16 claims obvious, and then there's a ground 2, where Wang</p> <p>17 is used in combination with AESO data to render obvious</p> <p>18 certain claims of the patent. So, there were two</p> <p>19 different grounds.</p> <p>20 A. Yes, and I understand that there are two</p> <p>21 different grounds, and I --</p> <p>22 Q. Yeah, and as it pertains to that second</p> <p>23 ground, is paragraph 185 of your declaration where you</p> <p>24 discuss that second ground?</p> <p>25 A. Yes.</p>
<p>303</p> <p>1 MR. STEIN: Mike, just for your reference, I'm</p> <p>2 saying Wang, W-A-N-G, not "weighing."</p> <p>3 THE REPORTER: Got it, thank you.</p> <p>4 THE WITNESS: I'm just trying to double-check</p> <p>5 something before I --</p> <p>6 BY MR. STEIN:</p> <p>7 Q. Okay.</p> <p>8 A. Pardon me, I have to pull up Wang also.</p> <p>9 Yeah, this is what I was trying to ascertain.</p> <p>10 Give me a second.</p> <p>11 So, it looks like in my declaration, I talk</p> <p>12 about AESO on page 40- -- I mean, is the one we're on</p> <p>13 51? You have 48. So, like, I don't know, I'm using</p> <p>14 the -- you know how it has the differential between the</p> <p>15 numbers?</p> <p>16 So, if I use math here, it would be just -- it</p> <p>17 looks like, yeah, the one where it says ground 2, that's</p> <p>18 page 48, and then I think it's page 37 in the printed</p> <p>19 version. Let me see. I mean, in terms of the way that</p> <p>20 the -- it was actually numbered, not how it appears in a</p> <p>21 PDF.</p> <p>22 Yeah, on page 37, I talk about AESO again, and</p> <p>23 I want to point out to you just that, you know, in</p> <p>24 reference to your question, like, is this the part where</p> <p>25 I talk about Wang and the AESO on page 48, the answer</p>	<p>305</p> <p>1 Q. And in that paragraph, do you dispute that</p> <p>2 there would have been a reasonable expectation of</p> <p>3 success in combining Wang and AESO data?</p> <p>4 MR. SHAPIRO: Objection, form.</p> <p>5 BY MR. STEIN:</p> <p>6 Q. I'm asking specifically about that paragraph.</p> <p>7 A. Yeah --</p> <p>8 MR. SHAPIRO: Objection, form.</p> <p>9 THE WITNESS: Yeah, your -- your question was</p> <p>10 really long and, like, asking me to agree with</p> <p>11 something. So, could you ask it either a different way</p> <p>12 or just a little bit at a time?</p> <p>13 BY MR. STEIN:</p> <p>14 Q. In paragraph 185, which you just told me is</p> <p>15 the only paragraph where you discuss ground 2, in that</p> <p>16 paragraph, do you dispute that there would have been a</p> <p>17 reasonable expectation of success in combining Wang and</p> <p>18 AESO data?</p> <p>19 A. I mean, if --</p> <p>20 MR. SHAPIRO: Objection, mischaracterization.</p> <p>21 THE WITNESS: Yeah, if you're asking me</p> <p>22 whether or not that paragraph talks about whether or not</p> <p>23 Wang AESO would have been obvious, it does state -- the</p> <p>24 last sentence, basically, tells you that it would not</p> <p>25 meet the definition of "obvious," because it doesn't --</p>

<p>306</p> <p>1 the person wouldn't be motivated -- a POSITA wouldn't be 2 motivated to use AESO to determine the high-power demand 3 indicator. 4 BY MR. STEIN: 5 Q. Okay. Let's try it another way. 6 So, paragraph 185, do you mention "reasonable 7 expectation of success" in that paragraph? 8 A. I do not use the words "reasonable expectation 9 of success" in that paragraph. 10 Q. And in that paragraph, do you raise any 11 arguments as to why there would not have been a 12 reasonable expectation of success in combining Wang and 13 AESO data? 14 MR. SHAPIRO: Objection, form. 15 THE WITNESS: I'm going to have to look at the 16 claims again. 17 Also, before I do this, can you tell me what 18 you mean by "reasonable expectation of success"? 19 Success doing what? 20 BY MR. STEIN: 21 Q. Do you understand what "reasonable expectation 22 of success" means in the context of an obviousness 23 argument? 24 MR. SHAPIRO: Objection, form. 25 THE WITNESS: I'm going to look at back at my</p>	<p>308</p> <p>1 I mean, if you're asking me, you know, like, at the 2 time, if we combined it, it wouldn't be obvious. So, I 3 don't think a POSITA would be able to just make it work. 4 I mean, that's kind of what you're asking me. 5 Q. But you haven't -- in this specific paragraph, 6 you haven't disputed the presence of "a reasonable 7 expectation of success," right? You said the words 8 aren't there. So, if the words aren't there, how did 9 you dispute it? 10 MR. SHAPIRO: Objection, form, answered, 11 mischaracterizes testimony. 12 THE WITNESS: I dispute that they'd even think 13 of the idea. So, if they wouldn't think of the idea, 14 how could they be successful at it? 15 BY MR. STEIN: 16 Q. So, in this paragraph, 185, do you explain 17 that? 18 A. I say they -- 19 MR. SHAPIRO: Objection, form. 20 THE WITNESS: I say that it would not have 21 motivated a POSITA to determine a high-demand power 22 indicator. So, that's what I say. To me, that says 23 they wouldn't have been motivated to do it. So, if they 24 have no motivation, how would they attempt it? If they 25 do not attempt, how could they be successful?</p>
<p>307</p> <p>1 definition of obviousness, give me one second, because I 2 understand it as I wrote it. What did I say, give me a 3 moment. 4 Okay. So, paragraph 55 of my declaration, I 5 say, "Further, I understand that for an obviousness 6 challenge based on a single reference, in view of the 7 knowledge and skill of a POSITA, there must be a 8 motivation to make the combination and a reasonable 9 expectation that such combination would be successful; 10 otherwise, a skilled artisan would not arrive at the 11 claimed combination. 12 "In other words, when a gap in a single prior 13 art reference requires filling with, for example, the 14 POSITA's knowledge, there must be a further showing that 15 the POSITA would have arrived at the claimed invention." 16 So, to your reference, that's 48, right? 17 BY MR. STEIN: 18 Q. 185, page 48. 19 A. Yeah, 185, page 48. 20 So, I'm back to what I stated before, which is 21 what I said is still true: An AESO would not have been 22 motivated -- not have motivated a POSITA to determine a 23 high-power demand indicator, which means they wouldn't 24 even attempt it. 25 So, I'm not sure if I'm getting the question.</p>	<p>309</p> <p>1 BY MR. STEIN: 2 Q. And in this paragraph, you say AESO would not 3 have motivated a POSITA to determine. 4 Did you ever -- did you take into any 5 consideration whether Wang -- or Wang would have 6 motivated a POSITA to look to AESO data? 7 MR. SHAPIRO: Objection, form, 8 mischaracterizes testimony. 9 THE WITNESS: I took -- I mean, it's under 10 ground 2, so, in that context, I'm thinking of Wang plus 11 AESO. 12 BY MR. STEIN: 13 Q. So, did you explain here whether Wang would've 14 motivated a skilled person to consult the AESO data? 15 And do you explain that in this paragraph? 16 MR. SHAPIRO: Objection, form. 17 THE WITNESS: Yeah, I'm confused by the 18 question. Maybe say it a different way. It was two 19 questions, but then I wasn't clear what you're asking. 20 BY MR. STEIN: 21 Q. So, it looks to me like you're saying AESO 22 would not have motivated. That's what -- this paragraph 23 is only three sentences long. 24 A. Right. 25 Q. So, you say AESO would not have motivated --</p>

<p>310</p> <p>1 THE REPORTER: I'm sorry, there was a lot of</p> <p>2 cross-talk there. The last question I have is "So, you</p> <p>3 say AESO would not have motivated...?"</p> <p>4 MR. SHAPIRO: And I said objection, form.</p> <p>5 THE REPORTER: Thank you.</p> <p>6 BY MR. STEIN:</p> <p>7 Q. So, we had another objection to a partial</p> <p>8 question, but this was -- in this paragraph that's three</p> <p>9 sentences long, paragraph 185, you say AESO would not</p> <p>10 have motivated.</p> <p>11 Anywhere in this paragraph, do you explain or</p> <p>12 describe whether Wang would've motivated consultation of</p> <p>13 AESO? Again, that's the flip of what you're saying</p> <p>14 here. You're saying whether AESO would have motivated.</p> <p>15 I'm asking if you have anything in this</p> <p>16 paragraph explaining whether Wang would have motivated</p> <p>17 this.</p> <p>18 MR. SHAPIRO: Objection, form,</p> <p>19 mischaracterizes testimony.</p> <p>20 THE WITNESS: Yeah, for this, I think I would</p> <p>21 have to go back to -- what would it be? Would it be the</p> <p>22 petition? I mean, I'm responding to -- isn't it -- I'm</p> <p>23 responding to, in the petition, ground 2, right?</p> <p>24 BY MR. STEIN:</p> <p>25 Q. Yeah.</p>	<p>312</p> <p>1 Wang itself would've motivated consulting AESO? I</p> <p>2 understand that you're saying AESO doesn't motivate this</p> <p>3 small fossil fuel plant coming online. I got that.</p> <p>4 I'm saying does Wang -- did you talk about</p> <p>5 whether Wang motivates that in this three-sentence</p> <p>6 paragraph? Do you talk about it or not?</p> <p>7 A. I do not --</p> <p>8 MR. SHAPIRO: Objection, form.</p> <p>9 THE WITNESS: I don't mention Wang in this</p> <p>10 three-sentence paragraph, so...</p> <p>11 BY MR. STEIN:</p> <p>12 Q. And now I want to go back to, we were talking</p> <p>13 about, remember, maximum continuous rating and total net</p> <p>14 generation before the interlude.</p> <p>15 A. Yes.</p> <p>16 Q. And I believe you were telling me that in</p> <p>17 order to determine whether you're near output capacity,</p> <p>18 you need more data. I think that was about where we</p> <p>19 sort of were interrupted.</p> <p>20 Is that about where we were?</p> <p>21 MR. SHAPIRO: Objection, form,</p> <p>22 mischaracterizes testimony.</p> <p>23 THE WITNESS: Let me just add some more detail</p> <p>24 there, is that you had stated that using MCR was a proxy</p> <p>25 for -- or I guess TNG was -- no, I'm sorry.</p>
<p>311</p> <p>1 A. So, in the petition -- so, I mean, if you take</p> <p>2 this in the context of me responding to the petition --</p> <p>3 let me have a look at that.</p> <p>4 I'm still looking at the review. So...</p> <p>5 I mean, I still would have to read more to</p> <p>6 answer it more precisely, but what I will say is that</p> <p>7 this -- what is mentioned here, this notion related to</p> <p>8 small-sized fossil fuel plants coming online, the</p> <p>9 existence of coal plants, and the use of AESO is in</p> <p>10 various places -- numerous places, in 86, 87, 88 of the</p> <p>11 IPR -- or the IPR, the review, and, therefore, to me,</p> <p>12 this is in the context of the IPR.</p> <p>13 So, back to your question.</p> <p>14 Q. Yeah, I'm not sure of the struggle here,</p> <p>15 Dr. Cameron. I thought it was a simple -- there's --</p> <p>16 A. I can be clear. You said are the words there,</p> <p>17 and I said no, the words are not there.</p> <p>18 Q. Yeah.</p> <p>19 A. But your indication is that the context is not</p> <p>20 there, but I'm suggesting that the context is.</p> <p>21 Q. No, sir. No, I wasn't trying to talk about</p> <p>22 the context. I'm just trying to understand what you</p> <p>23 have in paragraph 185, and it's difficult to just get an</p> <p>24 answer from you.</p> <p>25 So, in paragraph 185, do you explain whether</p>	<p>313</p> <p>1 The amount of power being used versus the</p> <p>2 amount of power maximum, that that was a proxy, some</p> <p>3 formula there was a proxy for the capacity. And I</p> <p>4 stated that while that could be true, it also -- the</p> <p>5 actual "near capacity" changes with the context of the</p> <p>6 fuel plant.</p> <p>7 So, for one fuel plant, near capacity might be</p> <p>8 97 percent; for another, it might be 80 percent. That's</p> <p>9 where I remember we were leaving off. Sorry, that was</p> <p>10 just my synopsis.</p> <p>11 BY MR. STEIN:</p> <p>12 Q. And in your declaration, can you point me to</p> <p>13 where you explain this aspect of capacity changing with</p> <p>14 the context of the fuel plant? Show me where in your</p> <p>15 declaration you talk about that.</p> <p>16 MR. SHAPIRO: Objection, form.</p> <p>17 THE WITNESS: I'm confused by the question.</p> <p>18 Talk to me -- I mean, how would I search that? What</p> <p>19 word are you using there? The capacity of the plant,</p> <p>20 you said?</p> <p>21 BY MR. STEIN:</p> <p>22 Q. Well, that was your word, right, Dr. Cameron?</p> <p>23 You said, and I stated "you," that "while that could be</p> <p>24 true, it also" -- "the actual 'near capacity' changes</p> <p>25 with the context of the fuel plant."</p>

<p>314</p> <p>1 So, your statement there, "the actual 'near 2 capacity' changes with the context of the fuel plant," 3 can you point me to where in your declaration you talk 4 about that?</p> <p>5 A. Oh, I see.</p> <p>6 I only mention "near capacity," it looks like, 7 in paragraph 63 of my declaration. But my understanding 8 was that you were asking me to opine on -- in real-time 9 here on what "near capacity" meant.</p> <p>10 So, I don't mention it in my -- other than the 11 citation I just said, but I did talk about it because 12 you asked me to, as I recall.</p> <p>13 Q. And are there power plants that are capable of 14 operating up to 100 percent of their maximum continuous 15 rating in 2008?</p> <p>16 MR. SHAPIRO: Objection, form, relevance.</p> <p>17 THE WITNESS: We have reached the -- the 18 level -- my level of expertise for how operating plants 19 work. You asked me about, you know, a definition for 20 "near capacity," and I told you that that was a 21 subjective number.</p> <p>22 And so my example was simply just to point out 23 to you that it could be a subjective number, not to be 24 able to declare that I know what the right number would 25 be. So, if I said that, I want to strike that.</p>	<p>316</p> <p>1 BY MR. STEIN:</p> <p>2 Q. And a person of skill in the art in the 2008 3 time frame, would they know what total net generation of 4 zero would mean in this context?</p> <p>5 MR. SHAPIRO: Objection, form, relevance, 6 scope.</p> <p>7 THE WITNESS: I'm going to look back at my -- 8 refresh my memory on the -- what we declared was a 9 POSITA.</p> <p>10 Yeah, I think this is where we disagree, 11 right? In my opinion, the -- I mean, I'll just read it, 12 right, "bachelor's in electrical and computer 13 science" --</p> <p>14 THE REPORTER: I'm sorry, I lost you after 15 "computer science," sir.</p> <p>16 THE WITNESS: Oh, I'm sorry, I forgot. I just 17 forget.</p> <p>18 -- "or a related degree, along with at least 19 two years of professional experience, working on 20 techniques for managing the power consumption of 21 electrical or electronic devices connected to a power 22 grid with additional education substituting for 23 professional experience and vice versa."</p> <p>24 And then I say, "My proposed definition is 25 more consistent with the state of the field of the</p>
<p>315</p> <p>1 BY MR. STEIN:</p> <p>2 Q. Let's go back to paragraph 178 of your 3 declaration.</p> <p>4 Actually, strike that. Let's go back to this 5 discussion of maximum continuous rating total net 6 generation.</p> <p>7 In 2008, what does it mean when a plant would 8 have a total net generation of zero?</p> <p>9 MR. SHAPIRO: Objection, form, relevance.</p> <p>10 THE WITNESS: Yeah, I'm going to point you 11 back to my earlier comment that I am not a power plant 12 engineer, and so I can just say what it describes itself 13 as, right, the -- the total net generation. Like here, 14 it says in the AESO report. So...</p> <p>15 BY MR. STEIN:</p> <p>16 Q. So, if a plant has generated zero, does that 17 mean that the plant is offline?</p> <p>18 MR. SHAPIRO: Objection, form, relevance, 19 scope.</p> <p>20 THE WITNESS: Yeah, again, I want to point out 21 that I'm not an expert -- I wasn't asked to talk about 22 or, you know, I don't declare myself as an expert in 23 power plant engineering. So, I don't know. It could 24 mean that; it could mean something else.</p> <p>25 ///</p>	<p>317</p> <p>1 invention of the '243 patent to adapt power consumption 2 of a computational device in response to environmental 3 conditions. Whereas, the Petitioner's definition 4 introduces terms, such as, 'intelligent' and concepts, 5 such as 'control of utility grid or electricity' that, 6 in my opinion, are unnecessary or unclear."</p> <p>7 And so, ask your question again in that 8 context.</p> <p>9 MR. STEIN: I object to the answer as 10 nonresponsive, and I'm going to move on, because this 11 is --</p> <p>12 THE WITNESS: Okay.</p> <p>13 BY MR. STEIN:</p> <p>14 Q. So, let's -- let's go back to paragraph 178 of 15 your declaration.</p> <p>16 A. 178 of my declaration.</p> <p>17 Q. And I'm looking at the sentence immediately 18 above that paragraph.</p> <p>19 A. Okay. I believe I'm there. I'm on 178, but I 20 believe you said above. Is it go back to the page 21 before, or --</p> <p>22 Q. No, just that -- do you see the parenthetical 23 immediately above paragraph 178 starting at Pet. at 60, 24 68?</p> <p>25 A. Yes.</p>

<p>318</p> <p>1 Q. And that says, "Claims 12 to 14 are otherwise 2 analogous to claims 2, 5, and 9 respectively." 3 Do you see that? 4 A. Yes. 5 Q. Do you know what "respectively" means here? 6 A. I mean, I would have to look at the Petition. 7 Q. Okay. What -- are you still looking for 8 what -- 9 A. Yeah, I'm trying to -- 10 Q. -- "respectively" means? 11 A. Well, to me, "respectively" usually means 12 you're referring back to something, right? So, I'm 13 trying to figure out what it's referring back to, 14 because it's in your declaration, right -- or your 15 Petition. So... 16 Excuse me. 17 Q. So the earlier -- claims 12 to 14 includes 12, 18 13, 14, right? 19 A. Yeah, I see that. That's what I have here. I 20 have the patent with the 12, 13, and 14. 21 Q. Yeah. Then it seems to say claims 2, 5, and 9 22 respectively, so does that just create a correspondence 23 between claims 2 and 12, 5 and 13, and 9 and 14? Is 24 that what "respectively" does there? 25 MR. SHAPIRO: Objection, form.</p>	<p>320</p> <p>1 the IPR. And I'm going to need more time to make a 2 determination as to why it says 2, 5, and 9, and 3 respectively, because -- I mean, I understand what it 4 means, but I have to look, right? 5 So, when I believe -- or let me back up. What 6 you asked me was, you know, how do I interpret or what 7 do I understand this to mean "respectively," right? 8 Q. Yes. 9 A. And I have the same common understanding of 10 the meaning of the word as you described, which is 11 "respectively," it would refer to 2, 5, and 9 -- sorry, 12 12, 13, and 14. 13 However, I would want to read what the IPR 14 says about it's -- the obviousness claims, to understand 15 what it's referring to exactly. It's harder for me to 16 do it without spending more time. I can spend some 17 time, but it's going to take a little time. 18 Q. Now, let's just look at the underlying claim. 19 So, go to the patent, if you wouldn't mind? 20 A. I have the patent right here, yeah. 21 Q. Yeah, if you could just compare claims 2 to 22 12, 5 to 13, and 9 to 14, and let me know if they 23 have -- if they, you know, recite similar features. 24 MR. SHAPIRO: Objection, form. 25 THE WITNESS: They do -- they do appear to</p>
<p>319</p> <p>1 THE WITNESS: Yeah, so, in my declaration, I'm 2 literally quoting from you, and I look at the Petition, 3 and that's exactly what it says. So, it -- it should 4 mean that, but when I look at 12, 13, and 14, they refer 5 to claim 11 -- well, 12 refers to 11, 13 refers to 12, 6 and 14 refers to 12; and 11 is -- it looks like it's an 7 independent claim. 8 So, yeah, I'm somewhat -- I guess I'm a little 9 bit confused by that, now looking at it. 10 BY MR. STEIN: 11 Q. But when it say -- so, if 2 corresponds to 12, 12 5 to 13, and 9 to 14, and then it says "and are obvious 13 for similar reasons," does it mean that those 14 corresponding claims refer back to the analysis for 2, 15 5, and 9? 16 A. I mean, in my declaration, or in your -- 17 Q. What's your understanding of the phrase that 18 you reproduced in your declaration? That's what I'm 19 asking. 20 A. Yeah, yeah. I see. 21 Well, there is a typo here in my -- in my 22 declaration. The quotation actually begins before the 23 word "claims." 24 Q. Okay. 25 A. So, I am literally quoting from the -- from</p>	<p>321</p> <p>1 correlate. To be clear, 2, 5, and 9 correlate to 12, 2 13 -- wait, did I do that right? Yeah, 2, 5, and 9. 3 Well, I should say it the other way around. 4 12 corresponds to 2, right; 13 corresponds to 5, and 9 5 corresponds to -- I'm sorry, 14 corresponds to 9. I 6 hope I got that right. Sorry. 7 BY MR. STEIN: 8 Q. Yeah, yeah. Let's look at claim -- claim 2. 9 A. Claim 2? 10 Q. It's column 11, line 6 or so, it starts. 11 And this is where it recites that, you know, 12 around line 11 to 12, a small-sized fossil fuel plant is 13 coming online. 14 And my question is, what boundaries does the 15 patent provide for what it means that a small-sized 16 fossil fuel plant is coming online. 17 A. Right. 18 MR. SHAPIRO: Objection, form. 19 THE WITNESS: I wonder -- would you give me a 20 moment to try to turn this light on? I can't see very 21 well. 22 BY MR. STEIN: 23 Q. Sure. 24 A. I mean, this print is pretty small. 25 Q. Yeah.</p>

<p>322</p> <p>1 A. It was claim 2 that we were talking about, 2 right? 3 Q. Yeah. 4 A. And small-sized fossil fuel plant, I think you 5 pointed out. 6 Q. Yes, but specifically, I asked what boundaries 7 does the patent provide for what it means that a 8 small-sized fossil fuel plant is coming online. 9 MR. SHAPIRO: Objection, form. 10 THE WITNESS: Okay. I'm looking at, in the 11 patent, column 3, lines -- I think it starts at about 12 58, I guess. "Smaller power plants, such as 13 hydroelectric plants" -- excuse me -- "and small-size 14 fossil fuel plants can be brought online quickly and are 15 often used to meet peak power demand. 16 "However, smaller fossil fuel power plants are 17 typically more much inefficient and less clean than 18 larger power plants, and energy produced by smaller 19 power plants is often sold through an auction-style 20 process," and then it says "Spot market," "which may 21 result in energy costs a couple of orders of magnitude 22 more expensive than the energy produced by larger power 23 plants." 24 So, you asked me what the patent means or 25 describes as a small-sized fossil fuel plant, and --</p>	<p>324</p> <p>1 BY MR. STEIN: 2 Q. And when it's turned online, it starts to 3 generate some positive number? Is that what happens? 4 MR. SHAPIRO: Objection, form. 5 THE WITNESS: Well, as the patent actually 6 talks about, right, there's a -- there's a process to 7 online power stations. So, in the confines of the 8 process, yeah. As soon as the -- whatever procedures, 9 whatever processes are necessary to start up the power 10 plant, that's when it comes online. 11 BY MR. STEIN: 12 Q. Okay. Let's look at column 8, line 47, 13 "Examples of power reduction actions," and let me know 14 when you get there. 15 A. 8-47, "Examples of power reduction actions," 16 yes, I see it. 17 Q. So, if we go down to the example at line 51 of 18 column 8 of the patent -- 19 A. Uh-huh. 20 Q. -- "reducing a waiting time before disks 21 316/332 of the computer system are suspended." 22 A. Uh-huh. 23 Q. Do you understand what that's referring to? 24 A. Yes. 25 Q. Can a waiting time be user defined?</p>
<p>323</p> <p>1 BY MR. STEIN: 2 Q. No, I asked what it means for them to come 3 online -- 4 A. To come online. 5 Q. -- the boundaries for them coming online. 6 A. Oh, to come online means they are powered up 7 so that they can produce power. 8 Q. So, what would their generation of power look 9 like before they have been brought online? 10 MR. SHAPIRO: Objection, form. 11 THE WITNESS: Well, if your definition of -- 12 what did you say? Did you say capacity or power? What 13 did you say? 14 BY MR. STEIN: 15 Q. What would their generation of power look like 16 before they have been brought online? 17 MR. SHAPIRO: Objection, form. 18 THE WITNESS: Okay, so, that's a mixed use of 19 the word "generation," right? The word "generation" 20 could mean what it's capable of generating, or it could 21 mean what it's generating at the moment. 22 If you mean, what is it generating at the 23 moment, when it's turned off or offline, it's generating 24 nothing, right? But it's capable of generating some 25 number.</p>	<p>325</p> <p>1 A. Can a waiting time... 2 MR. SHAPIRO: Objection, form. 3 THE WITNESS: "Reducing a waiting time before 4 disks of the computer system are suspended." Can it be 5 done by a user? 6 BY MR. STEIN: 7 Q. Can the waiting time be user defined? 8 A. Oh, the waiting time. 9 MR. SHAPIRO: Objection, form. 10 THE WITNESS: I mean, we have that capability 11 in a laptop, so it can be. The context would matter, 12 you know. Like, it's hard to answer. Again, these 13 questions, I apologize, they're hard to answer, but I 14 mean, a lot of it is what did you design, what did you 15 implement, right? 16 So, in this context too, if we're talking 17 about a laptop, then a lot of us have power settings on 18 our laptop that talk about, you know -- like, what I 19 would say, what you ordinarily see in a laptop is 20 something like it's going to go into a lower power mode, 21 and then that mode includes things like, you know, 22 shutting down the disks. 23 So, it's not always precise, that a user is 24 saying, "Hey, turn my disks off." It's more like I'm 25 selecting an option that includes that.</p>

<p>326</p> <p>1 BY MR. STEIN: 2 Q. Okay. 3 A. And what -- 4 Q. Sure, sure. So, for laptops in this 2008 time 5 period relevant to the '243 patent, what would have been 6 some of the options that a user could have configured 7 for, you know, reducing this waiting -- or for setting 8 this waiting time, I guess? 9 MR. SHAPIRO: Objection, form. 10 THE WITNESS: What would have been the options 11 to set this waiting time? 12 BY MR. STEIN: 13 Q. Like the times, the amount of time they could 14 pick. Like, what's the range? 15 A. Oh, you mean how long they could set it to? 16 Q. Yeah, yeah, yeah. 17 A. Well, it could be instantaneous, right? So, 18 it's a spectrum. Like, it starts at instantaneous, I 19 click a button and it goes off; all the way to, I don't 20 know, something reasonable in terms of minutes or -- or 21 it often can be tied to other things, too, like maybe 22 when the monitor shuts off, right. So... 23 Q. Okay. So, I guess you said it could be 24 instantaneous up to 20 minutes? What's the minutes sort 25 of range that would be reasonable in this time period?</p>	<p>328</p> <p>1 on -- sorry. I did a search, and then I -- we were in 2 column 4? No. 3 Q. Where we are now? Column 8 on -- 4 A. Oh, sorry. 5 Q. -- 51. 6 A. You know, in the context of the '243 -- I 7 mean, in this context, they're just talking about all 8 kinds of different power reduction actions, right? 9 But in the -- in the claims, they're talking 10 about reducing the current amount of consumption of 11 electrical power. So, I think about this, and I think, 12 oh, well, you know, in this context, right here in the 13 patent, you're asking me what it means right here in 14 this patent, well, they're thinking more instantaneous 15 than they are like delayed. 16 But the capability would be there, I already 17 mentioned that. In 2008, the capability would be there. 18 Q. And there's another one here, the example at 19 column 8, line 54, "turning off one or more banks of 20 memory 316/332 of the computer system." 21 A. "Turning off one or more banks of memory," 22 yeah. 23 MR. SHAPIRO: Objection, form. 24 Go ahead. 25 ///</p>
<p>327</p> <p>1 A. Yeah, I mean, I kind of have -- 2 MR. SHAPIRO: Objection, form, relevance, 3 scope. 4 THE WITNESS: Go ahead. 5 I kind of have no idea, right? I mean, it was 6 like 2008. I mean, like, whatever the laptops were 7 capable of then. I mean, certainly, it wouldn't -- I'll 8 just use an example, it wouldn't have been uncommon for 9 you to set up a setting to be minutes or an hour, right? 10 But beyond that, it's typically -- you know, it's 11 nighttime/daytime kind of scheduling, so, it's 12 different. 13 BY MR. STEIN: 14 Q. In this example here of reducing a waiting 15 time in column 8, line 51, does it say you reduced the 16 waiting time to zero, or it could be some non-zero 17 waiting time that you reduced to? 18 MR. SHAPIRO: Objection, form. 19 BY MR. STEIN: 20 Q. Basically, it could be zero, or it could be 21 non-zero? 22 A. I hear you. I hear you. In the context of 23 the '243 -- let me double-check something before I say 24 this. 25 We kind of talked about this earlier. We were</p>	<p>329</p> <p>1 BY MR. STEIN: 2 Q. In this time period, how long would it take to 3 realize a power savings when you turn off one or more 4 banks of memory? Say, you only turn off one bank of 5 memory. 6 A. Yeah -- 7 MR. SHAPIRO: Objection, form. 8 THE WITNESS: Yeah, I want to qualify 9 something I just said a minute ago about the disk drive 10 ones, because you asked if a user could do it, but what 11 I didn't say was that it doesn't have to be a user, 12 right? The system could make a determination to do 13 that. 14 And I think that's relevant because of what 15 you just asked about the memory, is that the same thing 16 is true for memory. Like, normally when I think about 17 turning off banks of memory, you're basically inside the 18 system. The system is making that determination to save 19 some energy for whatever reasons it has. 20 Like, users don't think about it as, "Hey, I 21 want to turn off my memory," right? That's not 22 something that usually we think about. But, again, back 23 to the same example with the disk drives, is that if a 24 user said, I want, you know, basically -- let's call 25 it -- maybe it's a -- there's high, medium, and low</p>

<p>330</p> <p>1 power settings in your laptop, right? So you select 2 medium, and maybe that includes powering down the 3 memory, right? 4 So, my thought is that the user can sort of -- 5 I guess it's somewhat of an indirect control, but can 6 control that to some extent. But it's also something 7 that we oftentimes think about is controlled by the 8 system. 9 Oh, and you asked about how long. So, if the 10 system is doing it, yeah, it's pretty quick. It's -- 11 you know, it's not instantaneous, but it's, you know, 12 less than seconds to do it, if you -- 13 Well, hang on. That's actually -- again, 14 everything -- everything depends on the context, right? 15 So, if I -- like, here's an example: Like, a lot of 16 times -- and we actually did some designs in some of my 17 work, but where you shut off banks of memory, right? 18 Well, you can't just do that willy-nilly, because if you 19 do it, you might lose a bunch of data. 20 BY MR. STEIN: 21 Q. True. 22 A. Yeah, and so, if the data has already been 23 moved around and you're not going to lose any data, you 24 can shut it off, like lickety-split, but if you have to 25 move the data first, then it takes longer, right?</p>	<p>332</p> <p>1 A. Yeah. This is a pretty neat functionality 2 that developed around that time frame. The -- the idea 3 was that I would be running a bunch of applications 4 or -- we usually talk about threads -- but processes, 5 threads, applications, are running on a system. And I 6 have more than one system in this example. So, a simple 7 example might just be two systems, so let's just use 8 that. 9 So, I have two systems. One of them is at, 10 let's say, you know, half its capacity to handle jobs, 11 and the other one is at, you know, 25 percent or 12 something like that. And so it might make economic 13 sense, or it might make energy efficiency sense to only 14 have one of those machines running at 75 percent 15 capacity, instead of two machines running at -- one at 16 50, one at 25 percent, right? 17 So, what I would do, then, is I would say, 18 hey, you know -- and the system would normally do this. 19 I mean, again, it's one of those things, once again, it 20 can be caused by a user, or a user could say, hey, go do 21 this, but most of the time, the system is making these 22 decisions. 23 And so the system says, I see an opportunity 24 for energy efficiency so I will move all of the tasks, 25 all of the jobs, all of the processes that are on the</p>
<p>331</p> <p>1 There's not one answer, is what I mean, so -- 2 Yeah, sorry, these systems are extremely 3 complicated, right? So, there's always this -- you have 4 these tradeoffs that you're dealing with. 5 Q. Okay. And then continuing just sort of 6 understanding what these mean to a skilled person, 7 column 8, line 55 -- actually, not 55. Let's look at 8 58. 9 Do you see the one that says consolidating 10 loads from one or more computational devices onto the 11 single computer system -- 12 A. Yes. 13 THE REPORTER: I'm sorry, I lost the word 14 after "computer system." 15 MR. STEIN: Single computer system. 16 THE REPORTER: Okay. Thank you. 17 THE WITNESS: And, yes, I am there. I see 18 where you're talking about. 19 BY MR. STEIN: 20 Q. Okay, okay. Yeah, what is it -- just talk me 21 through how it works in this time period and what the 22 patent is referring to here, what it means to 23 consolidate loads from one or more computational devices 24 onto the single computer system and then turn off the 25 other ones.</p>	<p>333</p> <p>1 lightly-loaded 25 percent system to the system that's 2 running at 50 percent, and then I effectively make that 3 system run at 75 percent. 4 Because you actually -- the reason it works or 5 that it's valuable is that you -- you have to pay a 6 certain amount of costs just to keep the system on. So, 7 there's like a low-level amount of, like, power that 8 you're going to use. And because of that, for that 9 reason, once you migrate the loads, you would put that 10 first system into a low-power mode or turn it off. 11 But in that mode, it's going to be slower to 12 wake up. You know, it's going to have some 13 consequences, but you do save the energy. So, you do 14 that. 15 And in data centers today, they do it all over 16 the place. They're just moving stuff around, just 17 trying to consolidate load, trying to -- so, you can 18 imagine if you did that at scale, that's -- that's 19 what's happening in a modern data center. 20 By the way, are we going to have lunch at some 21 point? I know you guys are West Coast, but I mean, 22 like, here -- 23 MR. SHAPIRO: Yeah, it's 2:45 here. 24 THE WITNESS: Okay, yeah, lunch has come and 25 gone, but maybe a break in a little bit for lunch?</p>

<p>334</p> <p>1 MR. STEIN: Yeah --</p> <p>2 MR. SHAPIRO: Is this a --</p> <p>3 THE WITNESS: Yeah, I want Alex to get to a</p> <p>4 point where, yeah, he feels comfortable.</p> <p>5 MR. STEIN: It's fine. This would be Jason's</p> <p>6 tactic to interrupt with breaks, but let's just go ahead</p> <p>7 and take a break. I don't mind.</p> <p>8 MR. SHAPIRO: Oh, I wasn't suggesting it. The</p> <p>9 witness was, so I'm not sure what you're trying to</p> <p>10 suggest --</p> <p>11 MR. STEIN: We're off the record, Mike. We're</p> <p>12 good.</p> <p>13 (Whereupon, a recess was taken.)</p> <p>14 MR. STEIN: Okay.</p> <p>15 BY MR. STEIN:</p> <p>16 Q. Hey, Dr. Cameron, welcome back from the lunch</p> <p>17 break.</p> <p>18 A. Thanks for the lunch break. I appreciate it.</p> <p>19 Q. Yeah. Did you talk with your counsel during</p> <p>20 the lunch break?</p> <p>21 A. No, sir, I did not.</p> <p>22 Q. Did you talk with your counsel during any</p> <p>23 other break today?</p> <p>24 A. No, sir.</p> <p>25 Q. Do you have any electronic devices in the room</p>	<p>336</p> <p>1 BY MR. STEIN:</p> <p>2 Q. Okay. Let me look at the Wang -- or sorry, I</p> <p>3 use two different pronunciations, because I was told</p> <p>4 that in the native tongue, it's Wang, sort of like</p> <p>5 W-O-N-G, but I kind of read it as Wang, so I'm not sure</p> <p>6 which one you prefer, but I'll keep going with Wang.</p> <p>7 A. I work with a lot of Chinese students, and</p> <p>8 they're all pretty tolerant. Yeah, so any way you like,</p> <p>9 but, yeah, Wang should be the appropriate, the Chinese</p> <p>10 pronunciation, yeah.</p> <p>11 Q. Okay. Let's try to be appropriate. Let's go</p> <p>12 with Wong [phonetic], but it's still spelled W-A-N-G,</p> <p>13 just for the court reporter.</p> <p>14 So, could you -- do you have a copy of the</p> <p>15 Wang reference, Exhibit 1005?</p> <p>16 A. Yes, I have a copy of it in paper and,</p> <p>17 obviously, electronically.</p> <p>18 Q. Okay. I mean, as long as you -- you've</p> <p>19 already told me there's no markings on either version,</p> <p>20 so just use whatever you're comfortable with.</p> <p>21 A. Thanks.</p> <p>22 Q. So, open whichever version that you have, and</p> <p>23 just confirm for me that it's marked in the lower right</p> <p>24 corner with "Tesla, Inc. Exhibit-1005" and then a page</p> <p>25 number.</p>
<p>335</p> <p>1 with you, other than your computer?</p> <p>2 A. I do. I have the iPad, which I think I</p> <p>3 mentioned earlier, and I have my phone. Both of them</p> <p>4 are basically disconnected from any kind of outside</p> <p>5 communications.</p> <p>6 Q. You haven't received any outside messages</p> <p>7 during the course of this deposition?</p> <p>8 A. No, sir.</p> <p>9 Q. Okay.</p> <p>10 A. That's always a concern, because I trust the</p> <p>11 technology to turn it off, but, you know, it doesn't</p> <p>12 always listen, right? But it did; it listened.</p> <p>13 Q. In the 2008 time frame that's relevant to the</p> <p>14 '243 patent, would a person of ordinary skill in the art</p> <p>15 have understood the connection between critical weather</p> <p>16 warnings and high stress on the power grid?</p> <p>17 MR. SHAPIRO: Objection, form.</p> <p>18 THE WITNESS: I mean, again, based on my own</p> <p>19 personal experience, you know, if you have a -- everyone</p> <p>20 has been in a big storm or a hurricane or something,</p> <p>21 and, you know, like trees fall on lines, and we lose</p> <p>22 power and everything.</p> <p>23 So, I think the fact that it causes stress on</p> <p>24 the power grid is pretty commonly known, beyond the</p> <p>25 POSITAS, yeah.</p>	<p>337</p> <p>1 A. Both -- both are marked exactly as such, yes.</p> <p>2 Q. Let's look at Wang page 15.</p> <p>3 A. May I ask, before you do that, are you going</p> <p>4 to go by the Tesla markings in terms of page numbers, or</p> <p>5 the actual page numbers, like in a PDF?</p> <p>6 Q. I'm going to go by the pages that were</p> <p>7 original to the documents.</p> <p>8 A. The original ones, okay, even different.</p> <p>9 Okay, that's fine.</p> <p>10 All right. So, you're looking at page 15 of</p> <p>11 the original document numbers?</p> <p>12 Q. Yes.</p> <p>13 A. Yes, I'm there.</p> <p>14 Q. And do you see line 30 --</p> <p>15 A. Yes.</p> <p>16 THE REPORTER: I'm sorry, you said</p> <p>17 "line 30..."?</p> <p>18 THE WITNESS: Oh, it starts with "In some</p> <p>19 embodiments," I think is what Alex, I think, said.</p> <p>20 BY MR. STEIN:</p> <p>21 Q. Yeah. Okay. So, it says, "In some</p> <p>22 embodiments, each appliance is user programmable and is</p> <p>23 capable of storing user configuration data, e.g., using</p> <p>24 nonvolatile memory."</p> <p>25 What does it mean in the context of the Wang</p>

<p>338</p> <p>1 reference, Exhibit 1005, that each appliance is user 2 programmable? 3 A. It means a user can set the settings for the 4 appliance. Oh, and let me check my -- I can't remember 5 if I opined on that or not. Did I opine on that? 6 Pardon me. 7 Your question was, what does it mean to be 8 user programmable, right? 9 Q. Yes. 10 A. Okay. Yeah, I think I stand by what I just 11 said, which is that the user can -- I mean, an appliance 12 is typically settings, right? We talked about with 13 the -- the thermostat, the cruise control. Yes. 14 Q. And what does it mean, the second half of that 15 sentence, that "each appliance is capable of storing 16 user configuration data, e.g., using nonvolatile 17 memory"? 18 A. Oh, geez, I didn't return to that document, 19 but I have it right where you were. 20 Yeah, so, when the user does the settings, 21 right, like the thermostat settings we just mentioned or 22 the cruise control settings, it holds that data in a 23 piece of memory. It's called nonvolatile because it -- 24 as long as you main -- main, sorry. It persists in the 25 absence of electricity, right? So if I turn the</p>	<p>340</p> <p>1 include that ability? 2 MR. SHAPIRO: Objection, form. 3 THE WITNESS: Right. So, the -- 4 Yeah, I think I'll use the thermostat example 5 again, right, is that you could set a high and low value 6 on power tariff, and then so, the user sets that, and 7 then the system will record that. And then much like it 8 would do if you set the high and low temperature, it 9 will react to those numbers. 10 BY MR. STEIN: 11 Q. And so, once those features have been 12 programmed, when the appliance performs its ability 13 here, is it doing that automatically? 14 MR. SHAPIRO: Objection, form. 15 THE WITNESS: I feel like we covered this 16 earlier when we talked about automatic versus automated 17 versus autonomous, and, you know, I would reflect on 18 those comments because we were much deeper in the 19 conversation. 20 But I think it goes on to say here that, you 21 know, it uses -- I didn't realize it when I was giving 22 it to you, but that next sentence uses the thermostat as 23 an example of using -- of doing set points. And so, you 24 know, you're setting these set points, just like I kind 25 of described a minute ago.</p>
<p>339</p> <p>1 computer off, it's still there, you know. Whatever I'm 2 turning off, it's still there. 3 So, it's called nonvolatile because it's 4 nonvolatile, whereas, you know -- yeah, I can go on, but 5 I don't want to bore you with memory. 6 Q. Okay. And then the next sentence of the Wang 7 reference, Exhibit 1005, at line 31, it seems to give us 8 examples of what these programmable features are. So, 9 the sentence says, "Programmable features in such 10 appliances include the ability to determine how power 11 tariff and grid status information is to be used." 12 So, what is the ability to determine how power 13 tariff and grid status information is to be used? 14 A. Okay. Let me stare at this a little bit. 15 Did you pull out part of the sentence, or you 16 asked what that whole sentence means? I thought you 17 pulled out part of the sentence, "how power tariff and 18 grid status information is to be used." 19 Q. Yeah, I can withdraw the previous one and just 20 ask it again. I was pointing to page 15 of Wang, 21 Exhibit 1005, line 31 to line 33. 22 And my question was, it says, "Such appliances 23 include the ability to determine how power tariff and 24 grid status information is to be used." 25 So, what does it mean for the appliances to</p>	<p>341</p> <p>1 And so, just like when we just talked about 2 the cruise control and the temperature settings, the 3 users in the loop, when they are setting -- are setting 4 up the settings, and then there is a very simple 5 controller that reacts to the change in temperature and 6 checks it against the setting, it turns on the AC or 7 turns off the AC. 8 BY MR. STEIN: 9 Q. And at the time, when it turns on the AC or 10 turns off the AC, is the user actually performing that 11 on or off function, or is the thermostat, in your 12 example, doing that? 13 MR. SHAPIRO: Objection, form. 14 THE WITNESS: I mean, the -- you know, I said 15 earlier today that, you know, it's -- it's automated in 16 the sense like your cruise control system that it, you 17 know, it reacts to -- you know, it reacts and tries to 18 maintain a set point. 19 And so -- so the user's involvement is at the 20 first stage, when they set the set points, and then the 21 system runs and, you know, does what it is capable of 22 doing in that instance; like, in this case, very simple, 23 on/off of the air-conditioning, engage or don't engage. 24 BY MR. STEIN: 25 Q. And when it does that engage or don't engage,</p>

<p>342</p> <p>1 the thermostat is functioning automatically; is that 2 right?</p> <p>3 MR. SHAPIRO: Objection, form.</p> <p>4 THE WITNESS: It's automated, right? I mean, 5 I don't want to give the impression that it's like 6 making a decision. It's just automated, right? It's 7 like a -- it just reacts to a set point -- I'm sorry, 8 the current value versus the set point.</p> <p>9 It's just about the simplest controller I can 10 think of.</p> <p>11 BY MR. STEIN:</p> <p>12 Q. In Wang, let's go to -- there's some claims in 13 Wang, page 66, numbered page 66, of Exhibit 1005.</p> <p>14 A. Yeah.</p> <p>15 Q. I'm looking at line 6, where there's a 16 numbered claim 16.</p> <p>17 A. 16.</p> <p>18 Q. Page 66 of Exhibit 1005.</p> <p>19 A. Oh, I'm sorry, yeah. Line 6, number 16, 20 that's what you said, on 66?</p> <p>21 Q. Yeah, yeah.</p> <p>22 A. Okay. All right.</p> <p>23 Q. So, there, it says you have a receiver 24 assembly comprising a microcontroller for controlling 25 the appliance as a function of the energy tariff</p>	<p>344</p> <p>1 A. I see 330, and I see 320, and I see -- what 2 was the other one? 330, 320, and --</p> <p>3 Q. 340, the fridge.</p> <p>4 A. 340, okay, yeah, the fridge.</p> <p>5 Q. Is each of those appliances functioning in the 6 manner you described?</p> <p>7 MR. SHAPIRO: Objection, form.</p> <p>8 THE WITNESS: I mean, they're -- they're 9 different, right? I mean, like the -- but they -- you 10 know, I mean, I would say they could be, but they may or 11 may not be depending on the design, right? So, they 12 certainly could be very simple controllers that just 13 regulate temperature, much like the 320, which it looks 14 like is the thermostat, right?</p> <p>15 So, in that way, they could be very similar, 16 but, of course, you know, there's -- they could be -- 17 they could have more settings than just that setting, 18 right?</p> <p>19 Q. Sure. And then, let's see -- that's a long 20 reference.</p> <p>21 A. Yeah, it's a long one. This is double -- 22 double paging. It's really thick.</p> <p>23 Q. I'm looking at stamped page 80, Figure 10.</p> <p>24 A. Stamped page 80, Figure 10, yes.</p> <p>25 Q. Are you familiar with what this -- this graph</p>
<p>343</p> <p>1 information.</p> <p>2 So, what does it mean for a microcontroller to 3 control an appliance as a function of energy tariff 4 information?</p> <p>5 A. That's a good follow-on to the question I just 6 answered, where I said it's about the simplest 7 controller I can think of. It basically is a 8 microcontroller, right, that takes as input the energy 9 tariff information and then operates in the same fashion 10 that I just described to you, that sort of on/off, 11 reacting to the set point.</p> <p>12 Q. And that functionality you're describing, if 13 we look at Figure 5 on page 76 of Wang -- and now I'm 14 referring to the number in the stamp, because there 15 isn't an original number.</p> <p>16 A. Oh, okay.</p> <p>17 Q. But it's Figure 5.</p> <p>18 A. I see, Figure 5, yeah.</p> <p>19 Q. Stamped page 76.</p> <p>20 A. Oh, I see, in the stamp, that's what you mean. 21 You mean the lower right corner, yes. Go ahead, I'm 22 there.</p> <p>23 Q. Yeah, there's a device 330, a device 320, and 24 a device 340.</p> <p>25 Do you see those?</p>	<p>345</p> <p>1 is depicting?</p> <p>2 A. I would have to look --</p> <p>3 MR. SHAPIRO: Objection to form.</p> <p>4 THE WITNESS: I would have to look back in the 5 text to be exact, so, maybe I could do that, where they 6 reference Figure 10. I mean, I'm inclined to say yes. 7 Let me just see what they say in the text.</p> <p>8 Oh, wait, is this one searchable?</p> <p>9 Okay.</p> <p>10 Do you know where they reference it in the 11 text? Again, a long document --</p> <p>12 BY MR. STEIN:</p> <p>13 Q. Yeah, I believe it's -- I don't know where 14 exactly you want it to go, but I think it's pages 51 and 15 52, the numbered pages.</p> <p>16 A. Numbered pages.</p> <p>17 Q. Yeah.</p> <p>18 A. Tell you what, I'll use this for that part. 19 It's...</p> <p>20 Oh, okay.</p> <p>21 It's page 80 on the stamp, right, Figure 10?</p> <p>22 Q. Yeah, Figure 10, but then I was also telling 23 you where the --</p> <p>24 A. Yeah, yeah. I have got two docs going here 25 now. Give me a minute. I want to be able to refer to</p>

<p>346</p> <p>1 the picture while I read the --</p> <p>2 Q. Sure.</p> <p>3 A. Yeah, it doesn't -- I mean, you referenced me</p> <p>4 here. I mean, is there anywhere else that it talks</p> <p>5 about Figure 10?</p> <p>6 Oh, wait, yeah, you're right. I searched --</p> <p>7 let me just add a short description.</p> <p>8 So, yeah, it looks like that's the only place</p> <p>9 on 51 -- 51 of the original page numbers. Okay, so, I</p> <p>10 think I can answer your question now. Let me go back to</p> <p>11 it. Maybe ask it again for context, but I think I'm</p> <p>12 caught up now.</p> <p>13 Q. I think all I asked was, what does the graph</p> <p>14 in Figure 10 of the Wang Exhibit 1005 reference depict?</p> <p>15 A. Yeah. It's not very -- it's not labeled very</p> <p>16 well, but it appears to depict signals. Well, okay,</p> <p>17 first of all, it's kind of a weird graph, because it's</p> <p>18 got one graph on top of the other. So, there are two</p> <p>19 graphs, right, the top graph, the X axis is time and the</p> <p>20 Y axis is temperature, and then the bottom graph, the</p> <p>21 X axis is time, and the Y axis is dollars.</p> <p>22 So, the bottom graph is easier maybe for a</p> <p>23 layperson to understand, right? It's an energy tariff,</p> <p>24 so, it's traveling along at one setting, and then it</p> <p>25 goes up to, you know, another more expensive presumably</p>	<p>348</p> <p>1 If it's hot in the summer, but, you know, you</p> <p>2 can tolerate a little more -- or a little less</p> <p>3 air-conditioning, or if it's cold in the winter and you</p> <p>4 can tolerate a little less heat, that's what this is</p> <p>5 describing.</p> <p>6 Q. Okay. And then what about in the chart for</p> <p>7 Figure 10, do you see right before the tariff kicks up</p> <p>8 in the lower plot with dollars on the Y axis --</p> <p>9 A. Yeah.</p> <p>10 Q. -- before that happens, it looks like there's</p> <p>11 a set point change.</p> <p>12 Why does Wang change the set point before the</p> <p>13 tariff changes?</p> <p>14 MR. SHAPIRO: Objection, form.</p> <p>15 THE WITNESS: Oh, oh. There was a discussion</p> <p>16 in this about -- let me see if I can find it.</p> <p>17 Yeah, it says something about -- I'll just use</p> <p>18 the example, is the -- on, I guess, it would be -- the</p> <p>19 way it's written, page 51 at 20 -- line 20-ish, "The</p> <p>20 HVAC controller instructs the air conditioner to lower</p> <p>21 the room temperature somewhat below the nominal consumer</p> <p>22 defines comfort set point for a short period of time</p> <p>23 just prior to the beginning of the higher power</p> <p>24 tariffs."</p> <p>25 So, it's basically got -- I mean, again,</p>
<p>347</p> <p>1 setting. And it continues for a while, and then it goes</p> <p>2 back down to what's called the original setting and then</p> <p>3 over. So, that's just an expression that says that the</p> <p>4 energy tariff goes up and down.</p> <p>5 And the top part is telling you, basically,</p> <p>6 well, what happens to my system when that tariff</p> <p>7 changes? Because the design, as you read in that other</p> <p>8 section, page 51, the HVAC thermostat embodiment</p> <p>9 section, in that section, you know, it basically is</p> <p>10 saying, oh, we're going to replace the -- instead of a</p> <p>11 temperature set point, right, we're going to set into an</p> <p>12 energy tariff set point. So, that's that point then,</p> <p>13 the energy tariff, that's going to determine how the</p> <p>14 system reacts.</p> <p>15 And so, what you see in the upper graph is</p> <p>16 that nominally, the air conditioner and the heating set</p> <p>17 points are staying the same, but the moment the energy</p> <p>18 tariff kicks up -- I guess let me just be clear.</p> <p>19 Because it doesn't say this in the graph, but I remember</p> <p>20 from the reading, is that -- let's say the price goes</p> <p>21 up, and so the air conditioner's set point changes,</p> <p>22 right, to reflect that, and in both cases, I think both</p> <p>23 the air-conditioning set point and the electric heat set</p> <p>24 point, I believe at least in the embodiment, they were</p> <p>25 talking about doing it to save energy, right?</p>	<p>349</p> <p>1 you've told it that -- or the way the controller is</p> <p>2 designed is to understand that during certain seasons,</p> <p>3 you're going to want to preemptively set the normal set</p> <p>4 point a little higher or a little lower. It doesn't say</p> <p>5 much more than that.</p> <p>6 So, presumably, that set point would start</p> <p>7 either higher or lower, given the time of year or the</p> <p>8 season. I think of it as kind of a -- what's the word?</p> <p>9 It's -- oh, shoot. I don't know how to say it. But,</p> <p>10 you know, basically, it's doing what it says there,</p> <p>11 which is just during a certain type of season, it's</p> <p>12 trying to operate at a different set point, given the</p> <p>13 season.</p> <p>14 BY MR. STEIN:</p> <p>15 Q. Let's go back to the patent, column 8.</p> <p>16 A. Which patent?</p> <p>17 Q. The '243 patent.</p> <p>18 A. Okay.</p> <p>19 Q. Yeah, Exhibit 1001.</p> <p>20 A. Yeah, I'm there. I didn't get the reference,</p> <p>21 inside the patent, but go ahead.</p> <p>22 Q. Yeah. Column 8, lines 60- -- what was that --</p> <p>23 64?</p> <p>24 A. 64, yeah.</p> <p>25 Q. Do you see how it says it, "Should also be</p>

<p>350</p> <p>1 noted that the algorithm described..."</p> <p>2 What algorithm is the patent referring to at</p> <p>3 column 8, line 64?</p> <p>4 MR. SHAPIRO: Objection, form.</p> <p>5 THE WITNESS: Excuse me. Let me read a little</p> <p>6 bit here.</p> <p>7 Did I opine on this in my declaration?</p> <p>8 BY MR. STEIN:</p> <p>9 Q. But you understand the whole '243 patent</p> <p>10 document, right?</p> <p>11 A. I understand the full patent document. I've</p> <p>12 read the document, and I've provided my opinions on</p> <p>13 aspects of it, so --</p> <p>14 Q. Yeah. So, are you able to understand what the</p> <p>15 algorithm refers to in column 8, line 64 of the '243</p> <p>16 patent?</p> <p>17 A. With --</p> <p>18 MR. SHAPIRO: Objection, form, relevance,</p> <p>19 scope.</p> <p>20 THE WITNESS: -- a little more time to look at</p> <p>21 this. I just want to see -- I mean, that's why I asked</p> <p>22 if I opined on it. If I opined on it, then I would -- I</p> <p>23 could refresh my memory. If I didn't, then I have to</p> <p>24 look at it in real-time.</p> <p>25 That's what you're asking me to do, right?</p>	<p>352</p> <p>1 BY MR. STEIN:</p> <p>2 Q. So --</p> <p>3 A. -- so that's either a forward or a backward</p> <p>4 reference.</p> <p>5 Q. Okay. So, the algorithm here at column 8,</p> <p>6 line 64, is something that we have to discern from the</p> <p>7 claims? That's what you're saying?</p> <p>8 MR. SHAPIRO: Objection, form,</p> <p>9 mischaracterizes testimony, relevance, scope.</p> <p>10 THE WITNESS: No, I mean, I would just -- you</p> <p>11 asked me, you know, how I would think about it. I would</p> <p>12 think about it in the context of the claims, but that</p> <p>13 doesn't mean that -- I mean, there are a number of</p> <p>14 places -- one, two, three, four, five places that the</p> <p>15 algorithm is mentioned in the patent.</p> <p>16 So, I would look at all four of those before I</p> <p>17 would really, yeah, comment further on that.</p> <p>18 BY MR. STEIN:</p> <p>19 Q. Okay. Go ahead and look at those, and let me</p> <p>20 know if you have a further comment.</p> <p>21 A. All right. It's going to take a minute.</p> <p>22 Q. Go ahead.</p> <p>23 Still absorbing the five references to</p> <p>24 algorithm?</p> <p>25 A. Two, three, four, five. I'm on number four.</p>
<p>351</p> <p>1 BY MR. STEIN:</p> <p>2 Q. However you would like to answer the question.</p> <p>3 It's your testimony.</p> <p>4 A. Yeah, I need to check the -- refresh my memory</p> <p>5 from the other document, and then I can look at the --</p> <p>6 in context, if I don't mention it there.</p> <p>7 From this paragraph, I don't seem to mention</p> <p>8 it in my declaration, so -- because I didn't think or I</p> <p>9 wasn't -- I didn't find it relevant or whatever.</p> <p>10 But to answer your question, that paragraph,</p> <p>11 right, is talking about power reductions. It seems to</p> <p>12 be referring to the claims, which would be the methods</p> <p>13 of the patent, so, that's what I would take it to mean</p> <p>14 in this context.</p> <p>15 I mean, I can go and pull out -- well, we can</p> <p>16 talk about the claims and the relationship, but that's</p> <p>17 how I would read it -- or I did read it, actually.</p> <p>18 Q. So, when it says, "It should also be noted</p> <p>19 that the algorithm described..." "described" is a</p> <p>20 reference to the claims that follow below; it's not</p> <p>21 referring to something above?</p> <p>22 MR. SHAPIRO: Objection, form, relevance,</p> <p>23 scope.</p> <p>24 THE WITNESS: My read of the word "described"</p> <p>25 would be described herein --</p>	<p>353</p> <p>1 Q. Okay.</p> <p>2 A. Almost done.</p> <p>3 Q. All right.</p> <p>4 A. But each of them is substantially a paragraph.</p> <p>5 You can look yourself, just search on the word</p> <p>6 "algorithm."</p> <p>7 Q. Sure.</p> <p>8 Okay. So, you asked what algorithm in</p> <p>9 column 8, line 64 --</p> <p>10 Q. Correct.</p> <p>11 A. -- what is that referring to.</p> <p>12 Well, as I mentioned, it's mentioned a number</p> <p>13 of times. It means -- it generally means the methods by</p> <p>14 which the -- going to the claims now, for example, in</p> <p>15 claim 1, the methods of acquiring, analyzing, and then</p> <p>16 reducing the current amount of consumption, right?</p> <p>17 So, it's -- the algorithm is the -- you know,</p> <p>18 is the -- the intelligence -- or not "intelligence."</p> <p>19 That's the wrong word. Strike that.</p> <p>20 It's the -- it's the algorithm. I mean,</p> <p>21 that's what it is. It's literally the heart of the</p> <p>22 analytics or decision engine of what's proposed in the</p> <p>23 '243 patent. It has a bunch of different contexts, and</p> <p>24 those are described in the claims. So, that is the</p> <p>25 algorithm.</p>

<p>354</p> <p>1 Q. And then that -- line 64, it continues. It 2 says, "That algorithm can be made substantially more 3 complex, for example, extended to have multiple 4 thresholds." 5 Does the patent provide any examples of what 6 the multiple thresholds might be? 7 MR. SHAPIRO: Objection, form, relevance, 8 scope. 9 THE WITNESS: Yeah, I'm not going to be able 10 to answer that without more time, and not time you have 11 enough here. 12 BY MR. STEIN: 13 Q. Why are you unable to answer that, 14 Dr. Cameron? 15 A. Because it says -- 16 Q. You just spent about five, six minutes 17 answering a question about algorithm -- 18 A. Yeah, about one word. This is a whole 19 other -- I mean, it literally -- what's important here 20 is where it says "substantially more complex." 21 Q. Yeah. 22 A. And then it gives an example, but, I mean, 23 like, I have no context for that example. 24 Q. But you've read -- you've read this patent, 25 correct?</p>	<p>356</p> <p>1 MR. SHAPIRO: Objection, form, relevance, 2 outside the scope, answered. 3 THE WITNESS: I would need time to opine on 4 that, Alex -- 5 BY MR. STEIN: 6 Q. How much time -- 7 A. And I can't do everything in real-time right 8 here. 9 Q. How much time would you need? You said you 10 prepared for upwards of 50 hours, yet you can't -- 11 A. I did. Yes, sir, I did. Yes, I did. I mean, 12 I don't know your technical ability. I mean, I have a 13 pretty good technical ability, but I still don't -- I'm 14 just not going to comment on something that literally 15 says "complex" that, you know, before I -- without a 16 significant amount of time to do it. 17 Q. Okay. How much time do you -- 18 A. Also, I thought that was in some -- that was 19 mentioned somewhere else in the -- in the set of 20 documents, wasn't it? 21 Q. I don't know. 22 A. Well, I mean, I looked -- you asked about the 23 50 hours. I was asked to look at a lot of documents, 24 and I appreciate -- 25 Q. My question is still pending, and I want to</p>
<p>355</p> <p>1 A. Yes, sir, I have read this patent. 2 Q. Probably multiple times -- 3 A. Yes, I have. 4 Q. Multiple times, right? 5 A. Multiple times. 6 Q. But you can't tell me, sitting there today, 7 whether the patent has an example of what these multiple 8 thresholds are? 9 MR. SHAPIRO: Objection, form, relevance, 10 scope, answered. 11 THE WITNESS: Yeah, I didn't talk about -- 12 anything about multiple thresholds. Did I talk about 13 multiple thresholds in my -- in my declaration? 14 BY MR. STEIN: 15 Q. Well, you talked about -- 16 A. Did we read through that? 17 Q. You understand the patent from the perspective 18 of a person of ordinary skill in the art, right? 19 A. Yes. 20 Q. Okay. So, part of the patent says that 21 there's an example of having multiple thresholds. So, I 22 would like to know what the patent tells us about what 23 those multiple thresholds are, as a person of ordinary 24 skill in the art. 25 A. But I --</p>	<p>357</p> <p>1 know whether you're capable of answering, and if you 2 aren't, how long you would need to answer it. 3 And the question was -- 4 MR. SHAPIRO: Objection, form, relevance, 5 scope, and answered. 6 MR. STEIN: Again, objecting before there's 7 even been a question. 8 BY MR. STEIN: 9 Q. And the question was, in the '243 patent, what 10 is any example the patent gives of what these multiple 11 thresholds are? 12 MR. SHAPIRO: You're asking -- I'm going to 13 caution you not to harass the witness, Alex. You asked 14 the question several times. He's given you his answer. 15 MR. STEIN: There hasn't been an answer, 16 Jason. I'm happy to take that to a higher authority, 17 but there has been no answer. 18 THE WITNESS: I think I found it. Give me a 19 minute. 20 BY MR. STEIN: 21 Q. Okay. 22 A. Yeah. So, in -- which one is this? -- 23 Exhibit 2010, there's a discussion at multiple 24 thresholds. 25 Q. Which page are you looking at, Dr. Cameron?</p>

<p>358</p> <p>1 A. I just searched on "multiple," and I get one, 2 two -- oh, in the electronic version, it's page 37. The 3 actual is -- oh, is 4, yeah. So, the bottom of the page 4 number is 4. The number in the document, whatever it 5 is, it's page 37. 6 And so -- so, I saw these documents, but I -- 7 you know, I didn't -- I didn't opine. I didn't look at 8 them. I would have to read all of these and come back 9 to you at another time. 10 BY MR. STEIN: 11 Q. Are these -- 12 A. So, that's in the context of this -- how is it 13 related to the patent, other than it's just a mention of 14 there's other complex forms? And they give you an 15 example. It's a simple example, right? So, yeah, I 16 don't know -- I don't know how else to better answer 17 you, Alex. I'm sorry. 18 Q. Okay. Well, I mean, my question is still 19 pending, then: How long would it take you to tell me 20 whether there's an example in the patent of what these 21 multiple thresholds are? 22 A. Yeah, I have no idea. 23 MR. SHAPIRO: Objection, form, relevance, 24 scope, and answered. 25 THE WITNESS: It would not be in the context</p>	<p>360</p> <p>1 Yeah. That -- that whole phrase that we have 2 just been talking about, "multiple thresholds 3 progressively triggering," all appears in the -- in some 4 of the documents related to the ex parte's review. And, 5 I mean, I looked at them, but I didn't analyze them. 6 So, the fact that there are pages and pages of this 7 tells me I need time, and it's not going to be something 8 that I can do here in real-time for you. I'm sorry. 9 Q. But you did review the patent, as we have 10 covered a few times, right? 11 A. Yes, sir, I did. I have said that multiple 12 times as well. 13 Q. And what -- let's just go back to the word 14 "progressively." 15 Do you understand what the word 16 "progressively" means? 17 MR. SHAPIRO: Objection, form, relevance, 18 scope, answered. 19 THE WITNESS: Again, I -- I think -- I don't 20 think this is relevant. I don't think I should answer 21 that, because I don't have any context here. So... 22 BY MR. STEIN: 23 Q. Are you able to tell me what the 24 word "progressively" means in the context of the '243 25 patent or not?</p>
<p>359</p> <p>1 of what we have left in the time today, so -- 2 BY MR. STEIN: 3 Q. And then the quotation continues. It says, 4 "Progressively trigger additional power-saving actions." 5 Can you tell me whether there's any example in 6 the patent of what it means to "progressively trigger 7 additional power-saving actions"? 8 MR. SHAPIRO: Objection, form, relevance, 9 scope, I believe answered. 10 THE WITNESS: I -- what was I going to say 11 there? That was a part of the same example, and I would 12 refer you to my previous answer, which is it's a part of 13 the other documents that... 14 BY MR. STEIN: 15 Q. What is a part of the other documents, 16 Dr. Cameron? 17 A. That phrase that you just used. 18 Q. The phrase appears in the patent, right? 19 A. Just a moment. Remind me where -- what column 20 that was? Oh, in column 8, right? Yeah, column 8, 21 "progressively trigger power-saving actions." That's 22 the one that you're referencing? 23 Q. Yes. 24 A. Correct, yeah. Oh, after that -- 25 Progressively...</p>	<p>361</p> <p>1 MR. SHAPIRO: Objection, form, relevance, 2 scope, answered. 3 THE WITNESS: Technically, this is not in the 4 context of the -- I mean, like in the sense that it's -- 5 in this moment, it's saying an example, right? So, 6 that's technically just an example. It's almost a 7 hypothetical here. And so you're asking me to comment 8 on a hypothetical, and I just don't think it would be 9 wise for me to do so. 10 BY MR. STEIN: 11 Q. This is -- 12 A. I mean, you're asking me as an expert, and I'm 13 kind of like -- I value my opinion on things, and so I 14 don't want to give you an opinion that I can't stand 15 behind, and without more time, I don't see how I could. 16 And if you parse each word out of this thing, 17 I mean, that's like taking everything out of context. 18 There is context here. It is important, and I think I 19 need to apply it to any interpretation of any aspect of 20 this part of the sentence. 21 So, again, I fall back on my previous answer, 22 and I don't know what else to tell you. 23 Q. Well, you've still not given me an answer, so 24 if your answer is no, that's fine, but I'll ask it one 25 more time. Are you able to tell me in the context of</p>

<p>362</p> <p>1 the '243 patent what the word "progressively" means.</p> <p>2 MR. SHAPIRO: Objection, form, relevance,</p> <p>3 scope, answered.</p> <p>4 MR. STEIN: Not answered.</p> <p>5 MR. SHAPIRO: Answered. You're asking him the</p> <p>6 same thing over again. He told you. You're harassing</p> <p>7 him.</p> <p>8 MR. STEIN: There's no answer.</p> <p>9 BY MR. STEIN:</p> <p>10 Q. Go ahead.</p> <p>11 A. I think I've answered it. I'm sorry.</p> <p>12 Q. So, what -- if you've given me the answer,</p> <p>13 then tell me what your definition of progressively is in</p> <p>14 the context of the '243 patent.</p> <p>15 A. No, my answer is that I'm not prepared to</p> <p>16 opine on the definition of those words in that sentence,</p> <p>17 because I haven't had time to review it. And I did not</p> <p>18 talk about it in my declaration, which I thought this</p> <p>19 was about, where you're supposed to ask me questions</p> <p>20 about your interpretation of my declaration.</p> <p>21 So, since I didn't talk about it, it's not</p> <p>22 clear to me why we're even talking about it here.</p> <p>23 Q. Let's go to column 6, line 34 of the patent.</p> <p>24 A. 6, line 34. Okay.</p> <p>25 Q. Actually, since you'd like to stick to the</p>	<p>364</p> <p>1 different feeds. Each of the different feeds having a</p> <p>2 different weight, and if -- you know, and so on.</p> <p>3 So, that's all I am saying, is that the</p> <p>4 context is important. So, you can't just search and</p> <p>5 replace it, but when you talk, you know, mathematically,</p> <p>6 it's a linear combination of values.</p> <p>7 Q. So, is there a difference between what a</p> <p>8 weighted function is and what a weighted function that</p> <p>9 comprises a linear combination of values is, in the</p> <p>10 context of the '243 patent?</p> <p>11 MR. SHAPIRO: Objection, form.</p> <p>12 THE WITNESS: Let me just see if I understand</p> <p>13 the question. Is there a difference between a weighted</p> <p>14 function and a linear combination of values?</p> <p>15 BY MR. STEIN:</p> <p>16 Q. No, a weighted function standing alone and</p> <p>17 then a weighted function comprising a linear combination</p> <p>18 of values; that's two different concepts. Are they</p> <p>19 different?</p> <p>20 MR. SHAPIRO: Objection, form.</p> <p>21 THE WITNESS: I mean, you asked it in the</p> <p>22 context of a POSITA, right, a person of skill in the</p> <p>23 art, and when I see that, I think, okay, it's -- the</p> <p>24 weighted function is a linear combination of values in</p> <p>25 this case.</p>
<p>363</p> <p>1 claims, let's just go there. So, claim 8.</p> <p>2 A. Claim 8.</p> <p>3 Q. Of the patent.</p> <p>4 A. Yes. Go ahead.</p> <p>5 Q. It says, "Applying a weighted function."</p> <p>6 Do you see that?</p> <p>7 A. Yes, sir.</p> <p>8 Q. What is a weighted function to a person of</p> <p>9 skill in the context of the '243 patent?</p> <p>10 A. Yeah, keep in mind, it technically says "a</p> <p>11 weighted function comprising a linear combination of</p> <p>12 values." So --</p> <p>13 Q. Okay.</p> <p>14 A. -- it is a linear combination of values.</p> <p>15 Q. So, the claim could also just say "applying a</p> <p>16 linear combination of values," and it would mean the</p> <p>17 same thing?</p> <p>18 MR. SHAPIRO: Objection, form,</p> <p>19 mischaracterizing testimony.</p> <p>20 THE WITNESS: Yeah, no, you're basically</p> <p>21 saying -- I mean, you asked me what a weighted function</p> <p>22 is, and I said, as stated there, it's a linear</p> <p>23 combination of values, right?</p> <p>24 But what's important in the context of the</p> <p>25 patent is that it's obtained from a plurality of</p>	<p>365</p> <p>1 So, I mean, a weighted function is just a</p> <p>2 function that has these coefficients, right? And</p> <p>3 that's, you know, like -- that's your implementation of</p> <p>4 the linear combination of values, but there are very</p> <p>5 many different ones you could create, right, that would</p> <p>6 be weighted functions.</p> <p>7 And so whereas a linear combination is sort of</p> <p>8 a broader mathematical description of something than</p> <p>9 just the weighted function.</p> <p>10 Does that make sense, Alex?</p> <p>11 BY MR. STEIN:</p> <p>12 Q. I'm just reading it to see if I understand.</p> <p>13 Just give me a moment.</p> <p>14 A. Yeah, yeah, go ahead.</p> <p>15 Q. Yeah, no, I don't think I understand. So,</p> <p>16 what does it mean for a linear combination to be a</p> <p>17 broader mathematical description of something?</p> <p>18 A. Yeah. So, a linear combination, right, would</p> <p>19 be -- and I don't have a chalkboard here or something,</p> <p>20 right? So, if I can say it in the most simplest sense,</p> <p>21 right, it would be like Y equals alpha1 times A plus</p> <p>22 alpha2 times B plus alpha3 times C, okay, and that is a</p> <p>23 linear combination. It could also be a weighted</p> <p>24 function, right, because of the relationship.</p> <p>25 But a linear combination might mean that A, B,</p>

<p>366</p> <p>1 and C are vectors, right? So they're not just one 2 value; they're actually a set of values, right? So, 3 they're -- like a vector, right? And so that's a bit of 4 a broader mathematical use of a weighted function. 5 Does that make sense? 6 Q. Not exactly. So, what is the difference 7 between having one value versus a set of values in the 8 vector -- in the vector space? 9 A. Yeah -- 10 MR. SHAPIRO: Objection, form. 11 MR. STEIN: Man, you don't let me finish. 12 BY MR. STEIN: 13 Q. -- in this particular -- 14 MR. SHAPIRO: Well, you take long pauses. 15 Everyone thinks you're done. 16 MR. STEIN: All right, Jason. 17 BY MR. STEIN: 18 Q. Yeah, so, go ahead Dr. Cameron. 19 A. Yeah, so in my example, right, I mean, a 20 weighted function is typically a simpler version of a 21 linear combination, but it still has the characteristics 22 of a linear combination. 23 And I can only kind of give you an idea for -- 24 based on examples. I have to see them to be able to 25 make a determination. But so, in that example I just</p>	<p>368</p> <p>1 in the analysis step -- yeah. 2 Yeah, you're doing an analysis, right, to 3 determine if they're across these -- I think it's -- 4 across these feeds. You're doing this analysis to 5 determine whether or not there's an indication of high 6 demand, right? So, that is sort of the -- the -- what's 7 the word, you know, that's the heart of the 8 decision-making part of this -- this patent, what 9 implementation might look like or the decision engine, 10 right? 11 It's that calculation that's being made that's 12 determining, and in a simple sense, it's got these 13 weights, but it could be more complicated, right? 14 Q. In the next part of claim 8, what does it mean 15 to evaluate the linear combination being above a certain 16 threshold? 17 A. Yeah, so -- 18 MR. SHAPIRO: Objection, form. 19 THE WITNESS: My equation I gave you a minute 20 ago, there is a "Y equals" in front of it. I said it 21 once, but I didn't keep repeating it. So it's Y equals 22 alpha1 times A, et cetera. It's the Y, when it does the 23 computation, that's the value, and then there's a 24 threshold for that value, and then, you know, depending 25 on where you are relative to that threshold, it</p>
<p>367</p> <p>1 gave you, alpha A plus -- sorry, alpha1 A plus alpha2 B 2 plus alpha3 C, it's hard to do that in the air, but in 3 that example, like, a weighted function might just be A, 4 B, and C are, you know, some set points or some value 5 like we're used to thinking, like a single integer. 6 And then in the linear combination, the 7 broader -- the broader world, it could be a vector. So, 8 you know, it could be that each of them is a vector, 9 like the A is a vector A, so it would be A1, A2, A3, all 10 the way to AN, and B1, B2, B3, all the way to BN, and so 11 on, or it could be that a linear combination is alpha A1 12 plus alpha 2, A2, plus alpha 3, dot dot dot, right? 13 So... 14 This is what I mean. It's like there's 15 mathematical descriptions of things-- to me, in this 16 case, a weighted function is an implementation. 17 Q. And then so, the other thing -- 18 A. Actually, let me back that up and say it's an 19 algorithm, right? Because the whole idea here in the 20 '243 patent is that you're trying to come up with a 21 methodology, and we were talking about claims here, 22 right? 23 So, you're talking about a methodology to take 24 a series of steps to do an evaluation, and the 25 analysis -- yeah, the analysis step -- I believe this is</p>	<p>369</p> <p>1 determines an action. 2 BY MR. STEIN: 3 Q. Yeah, and this -- this certain threshold 4 that's recited in claim 8, does the patent give us an 5 example of what that certain threshold might be? 6 MR. SHAPIRO: Objection, form. 7 THE WITNESS: That's an interesting question. 8 BY MR. STEIN: 9 Q. I know we had some sensitivities a minute ago, 10 but I'm asking you specifically -- specifically about 11 the claim language, certain threshold in claim 8, 12 whether there's an example in the patent. 13 A. You're asking if there's an example -- wait, 14 you said two things there. So, it sounds like you said 15 is there an example in claim 8, or did you mean to 16 say -- 17 Q. At a certain -- certain threshold in claim 18 8 -- 19 A. Yeah. 20 Q. -- is there an example of what that is in the 21 patent? 22 A. Okay, fair enough. 23 MR. SHAPIRO: Objection, form. 24 THE WITNESS: Threshold is mentioned a number 25 of times in the patent. Let me look back again.</p>

<p>370</p> <p>1 So, just to -- I mean, just as an example in 2 column 6 at line 32 -- or 31, I guess it starts -- 3 actually, let me go back a little bit. I'll just use it 4 starting at 28. 5 So, "In one example, a data/feed analyzer 6 logic component is configured with a weighted function 7 comprising a linear combination of values obtained from 8 the plurality of different sources or feeds with 9 appropriate weights, wherein if the linear combination 10 is above a certain threshold power savings according to 11 the present invention is triggered or ended." 12 I'm afraid I think -- I'm doing a quick look 13 here, but I mean my -- my memory tells me that there -- 14 there wasn't a explicit definition of a value for a 15 threshold. 16 But keep in mind that the -- again, the whole 17 idea here is that, you know, you're trying to determine 18 whether -- you're looking at data that, as we mentioned 19 in several examples, right, that the -- the price, for 20 example, that doesn't necessarily indicate more demand 21 on the power -- power grid, right? It might, but it 22 might not. 23 And so you're creating these weighted 24 functions, these linear combinations, these equations 25 and these algorithms to determine whether or not based</p>	<p>372</p> <p>1 BY MR. STEIN: 2 Q. Yeah. And what about the sort of benefits 3 that a person of skill in the art in the context of the 4 '243 patent would understand as to why you would use a 5 linear combination of values. 6 Is that something that a POSA would've been 7 familiar with? 8 A. Oh, that's a good question. 9 MR. SHAPIRO: Objection, form. 10 THE WITNESS: See, the way I look at it is 11 like -- is like how I would approach it at the moment in 12 time that this occurred, right, is that I would be 13 there, and I think, I have this problem. I want to 14 figure out what's going on in the demand side of the 15 system -- of the systems. And those systems are 16 extremely complicated. 17 We already talked about the fact that there's, 18 you know, all of these potential feeds, a plurality of 19 feeds I think is the language in the patent. There's 20 this aggregation of all of them. There's this analysis 21 of all of them. 22 And so I don't -- I don't think a POSITA would 23 necessarily go to any kind -- I mean, like, there 24 would -- there's a -- I mean, I think I do say this in 25 my -- I might want to look at it. I talk about --</p>
<p>371</p> <p>1 on this data that doesn't always tell you directly 2 what's happening on the power grid. You're trying to 3 figure out the best you can whether or not there is a, 4 you know, an additional demand on the power system. 5 And so, in order to do that, you have to have, 6 you know, like a concept, a conceptual way of looking at 7 that weighted function in determining, you know, what 8 elevates itself to the fact where it's going to actually 9 indicate that there is demand on the system, and so 10 that's going to be context-sensitive and depend on the 11 equation. The equation is going to be different for 12 every set of circumstances, every set of feeds. 13 And so, it makes sense that they wouldn't give 14 you a direct value, because they don't have one. It's 15 going to be dependent on what your input is, what you're 16 measuring, what feeds you're looking at, and then what 17 your -- your Y, whatever your output is in, like, some 18 number. It might be meaningless to us, but to them, 19 they say, okay, if it's above this threshold, that 20 indicates that, you know, there's a demand on the 21 system. 22 And so, if I'm them, I would write it like 23 this too. I would say there is a threshold, but it's 24 dependent on the context. 25 ///</p>	<p>373</p> <p>1 because I don't always remember it off the top of my 2 head, but there's a whole bunch of other things that 3 come to mind for someone like me, a POSITA, that you 4 might do first, right? 5 Not only that, like, I don't -- yeah, I don't 6 see it in the evidence, the Wang or the Cooley patents, 7 for example. I don't see any evidence that people were 8 thinking along this line in that context. It's only in 9 the context of the '243 patent that you would even think 10 that you need something like this. 11 That's why in Wang, the very simple controller 12 for the temperature, and even that diagram you had me go 13 through -- Figure 10, I think it was -- it was very 14 simple, right? It's the simplest of controllers. 15 Because in the context, at the time, they're not 16 thinking about all of these pluralities of feeds and 17 having to, you know, have this analytic engine or 18 decision engine to basically make a -- you know, a 19 pretty sophisticated -- or generate a pretty 20 sophisticated solution here. 21 And so -- so, to me, it's not -- it's not 22 something that would be obvious to someone in the -- you 23 know, to use this kind of technique. You have a 24 thousand techniques. It's like having math at your 25 disposal. You can use all kinds of stuff, but you don't</p>

<p>374</p> <p>1 know what the right one is, and so why would you pick 2 any of them, even if, you know, you had the motivation 3 to do all that. 4 And I think in the context of Wang, again, you 5 don't have the motivation there, because, you know, it 6 wasn't -- people weren't doing that at the time. So... 7 BY MR. STEIN: 8 Q. But I was just asking about whether the 9 benefits of using a linear combination of values 10 would've been known. 11 So, was the answer no? 12 MR. SHAPIRO: Objection, form, 13 mischaracterizes testimony. 14 THE WITNESS: What's the benefit -- I mean, 15 was there benefit, I mean, again, in the context, you -- 16 this reminds me of a conversation that we had earlier 17 today. It's like, if there's no motivation, if there's 18 no reason to do something, then why would you think of a 19 solution to it? 20 So, right? That's what you asked me earlier. 21 I don't follow the logic of that line of -- that line of 22 logic, basically, that, you know, it doesn't exist; I 23 have no motivation to create it, and yet I should think 24 about, you know, like, that it would be obvious to me 25 that I would just use that technique here and now --</p>	<p>376</p> <p>1 A. Yeah, like -- 2 MR. SHAPIRO: Same objections. 3 THE WITNESS: I mean, you use linear methods 4 when they're the best solution to the problem that 5 you're facing. So, I mean, but you have to figure that 6 out. It's not just linear methods. You have nonlinear 7 methods, for example. That's a whole other class, 8 right? 9 And there's a class of linear methods. It's 10 not just linear combinations. There's whole bunches of 11 them. There's regression methods. There's mixed 12 models. There's stochastics. There's, you know, just 13 so many of them. So, I mean, like, to say -- you might 14 be motivated to use a linear, you know -- I don't even 15 know -- actually, I'm not going to finish that sentence. 16 I don't have -- I don't have a good reason. I 17 know that, you know, we think about these things when we 18 try to make solutions to problems, and -- like in the 19 real world, like in my research, you know, we look for 20 all kinds of solutions to all kinds of problems, and 21 there's never, like, a silver bullet just sitting there, 22 saying, like, use me. 23 It's like trial and error, and it's, you know, 24 consulting lots of different people in lots of different 25 disciplines, and, you know, it doesn't quite work like</p>
<p>375</p> <p>1 BY MR. STEIN: 2 Q. Okay. Let's reframe the starting point a 3 little bit. 4 A. Okay. 5 Q. So, before the '243 patent, had 6 mathematicians, engineers, or other folks used a linear 7 combination of values before the patent? 8 MR. SHAPIRO: Objection, form, relevance, 9 scope. 10 THE WITNESS: I mean, linear methods have 11 existed for a very long time, so, absolutely, it's been 12 around for a long time. 13 BY MR. STEIN: 14 Q. And what were some of the reasons why, you 15 know, persons of skill in the art would've elected to 16 use linear combinations of values before the patent? 17 MR. SHAPIRO: Objection, form, relevance, 18 scope. 19 THE WITNESS: I mean, that's a really 20 interesting question that I can't -- I don't have an 21 answer to, is like why would people -- I mean, it sounds 22 like you were asking, like, why would people use linear 23 methods to solve problems. Is that what you're asking? 24 BY MR. STEIN: 25 Q. Yes.</p>	<p>377</p> <p>1 that. 2 There's not like -- it's not a hammer, right? 3 It's not a hammer. It's just -- it's a methodology. 4 There are lots of different methodologies. So, it's 5 hard to say what would motivate someone to use that. We 6 use them when we think they're the right solution to a 7 problem we're facing. 8 BY MR. STEIN: 9 Q. Let's go to column 3, line 58 of the patent. 10 A. Yeah. 11 Q. Do you see it mentions hydroelectric plants 12 there, column 3, line 58? 13 A. Yeah. Let me just -- I put that somewhere. 14 Where did I put it? 53, line 38 -- well, somehow, I 15 lost the hard copy, but it's here somewhere. 16 53, line 38; is that right? 17 Q. Yeah. 18 A. No, not 53. This is the patent -- wait, which 19 patent -- '243 -- 20 Q. '243, column 3, line 58. 21 A. Sorry. I heard column 58 again. 22 Okay. 58, hydroelectric plants. I see, 23 "Smaller power plants, such as hydroelectric plants," is 24 what I see. 25 Q. Yeah, yeah. So, why is a hydroelectric plant</p>

<p>378</p> <p>1 an example of a smaller power plant?</p> <p>2 MR. SHAPIRO: Objection, form.</p> <p>3 THE WITNESS: Well, I mean, in this case, I</p> <p>4 assume -- there's no good definition. I thought we</p> <p>5 talked about small power plants earlier or small-sized</p> <p>6 fossil fuel plants and stuff like that, that they're</p> <p>7 pretty subjective -- it's pretty subjective terminology.</p> <p>8 And so using -- I mean, I could easily think</p> <p>9 of a hydroelectric plant that would be small, and I can</p> <p>10 think of one that would be super large, right, like</p> <p>11 Niagara Falls or something, you know.</p> <p>12 Yeah, I'm reading this thinking they are just</p> <p>13 using that as an example of a small one. But then they</p> <p>14 talk more about -- remember, we talked about this</p> <p>15 earlier, the fact that they can be brought online</p> <p>16 quickly. That's kind of a big criteria, because my</p> <p>17 understanding is that in -- and I'm not an expert, but I</p> <p>18 mentioned this earlier, in the power plants.</p> <p>19 But my understanding is that it is easier to</p> <p>20 online a small one than a large one, so, like, that</p> <p>21 would be a pretty good way to distinguish between small</p> <p>22 and large. But that's not the only difference either,</p> <p>23 so --</p> <p>24 Q. Okay. And what about -- let's jump over to</p> <p>25 claim 9 of the patent in column 12.</p>	<p>380</p> <p>1 BY MR. STEIN:</p> <p>2 Q. Okay. Okay. We are right at about 1:30. Why</p> <p>3 don't we take a break.</p> <p>4 How long would you like, Dr. Cameron?</p> <p>5 A. Oh, I think 15 minutes will suffice.</p> <p>6 Q. Okay. So, it's 1:45 for me, 4:45 for you.</p> <p>7 A. Yep. See you then.</p> <p>8 (Whereupon, a recess was taken.)</p> <p>9 BY MR. STEIN:</p> <p>10 Q. Okay, Dr. Cameron, so we just took about a 15,</p> <p>11 20-minute break. Did you discuss anything with your</p> <p>12 counsel during the break?</p> <p>13 A. No, sir.</p> <p>14 Q. Did you speak with anyone during the break?</p> <p>15 A. I did. I ran into my wife and my daughter</p> <p>16 downstairs while I was getting a drink, but yeah.</p> <p>17 Q. Told them how much fun you're having?</p> <p>18 A. Yeah, that's what they asked.</p> <p>19 "How's it going?" "It's going great," that's</p> <p>20 the answer, always.</p> <p>21 Q. Okay. Let's take a look at claim 6 of the</p> <p>22 '243 patent.</p> <p>23 A. Okay. Oh, shoot, yeah. I got it, I got it, I</p> <p>24 got it. Claim 6 you said, right? For some reason, I</p> <p>25 was going to column 6.</p>
<p>379</p> <p>1 A. Claim 9 --</p> <p>2 Q. We'll go about three more minutes here, and</p> <p>3 we'll stop at the half hour for a break, sorry, not to</p> <p>4 conclude.</p> <p>5 A. Sure, yeah. Thank you for that.</p> <p>6 Claim 9, column 12, I think you said, right?</p> <p>7 Q. Yeah.</p> <p>8 A. Okay, I'm there.</p> <p>9 Q. So, here, it says, you know, at line 4, "The</p> <p>10 operating environmental condition data that comprises at</p> <p>11 least one of," and then it lists two things.</p> <p>12 Do you see that?</p> <p>13 A. I do.</p> <p>14 Q. What does that "at least one of" mean? Does</p> <p>15 it mean both of these two things?</p> <p>16 MR. SHAPIRO: Objection, form.</p> <p>17 THE WITNESS: Yeah, I remember reading this.</p> <p>18 Yeah, I'm just looking back at that for a</p> <p>19 second. I feel like these questions should be easy, and</p> <p>20 they are not always. But I do think I agree with the</p> <p>21 idea that it means one or the other or both, right? I</p> <p>22 mean, I think it could mean all three, but at least --</p> <p>23 yeah, because it says at least one of, right? So, it</p> <p>24 could be one or the other or both.</p> <p>25 ///</p>	<p>381</p> <p>1 Q. Yeah.</p> <p>2 A. Claim 6. Please go ahead, yeah.</p> <p>3 Q. So, do you see -- excuse me, column -- claim</p> <p>4 6, line 40, it's in column 11, it talks about "a present</p> <p>5 amount of consumption of electric power."</p> <p>6 Do you see that phrase?</p> <p>7 A. Yes.</p> <p>8 Q. And then in claim 1, we have in column 11,</p> <p>9 line 1, "a current amount of consumption of electric</p> <p>10 power."</p> <p>11 What's the difference between "a current</p> <p>12 amount of consumption of electric power," as stated in</p> <p>13 claim 1, and "a present amount of consumption of</p> <p>14 electric power," as stated in claim 6?</p> <p>15 MR. SHAPIRO: Objection, form.</p> <p>16 THE WITNESS: Okay. Give me a minute.</p> <p>17 Okay.</p> <p>18 Okay. The comparison between the -- the word</p> <p>19 "present," on line 44, in column 11, and the column 10,</p> <p>20 line -- I'm sorry, it's also column 11 -- column 11,</p> <p>21 line 1, I guess, that's 1. They appear -- I mean, okay,</p> <p>22 so, keeping in mind that there's some circular logic --</p> <p>23 not quite circular logic, but, you know, the logic work</p> <p>24 its way back, right?</p> <p>25 Because you go -- from 6, you go -- you</p>

<p>382</p> <p>1 include claim 3, you include claim 1 in claim 3, right?</p> <p>2 So, my take on that, because they are different steps in</p> <p>3 the claims, but, you know, you also look -- and notice</p> <p>4 in, and I want to point out that in claim 6, it also</p> <p>5 says -- I believe it says. Let me check before I say it</p> <p>6 does.</p> <p>7 Oh, wait, okay. All right.</p> <p>8 Right, okay. Right, and then...</p> <p>9 Just give me a moment here. I'm just</p> <p>10 double-checking before I give you my answer.</p> <p>11 Oh, okay. There's one. I was trying to</p> <p>12 determine if "present" was used in that way anywhere</p> <p>13 else in the document also, it's used in column 4. It's</p> <p>14 used in a lot of places, but many times, it's just as</p> <p>15 the present invention, but there are places in columns 3</p> <p>16 and 4 -- is it 3 and 4, or just 4?</p> <p>17 No, it's 3 and 4. So, in column 3 at line 22,</p> <p>18 in column 4 at line 16, 17 -- 18, you know, it's using</p> <p>19 "present" to mean current. It's quite confusing,</p> <p>20 because oftentimes they use present to mean -- you know,</p> <p>21 it's here, not -- in a different context, right, the</p> <p>22 present invention, the present -- something present in a</p> <p>23 data feed.</p> <p>24 So, there's a lot of use of the word "present"</p> <p>25 throughout, but there are places where they use it the</p>	<p>384</p> <p>1 out that it also -- "present" has a number of other</p> <p>2 meanings in this document, you know, so...</p> <p>3 I'm just saying that "present" doesn't always</p> <p>4 mean current, but in this context, I think it does.</p> <p>5 BY MR. STEIN:</p> <p>6 Q. So, did the inventors make a mistake when they</p> <p>7 used "present amount" in claim 6, when they should have</p> <p>8 used "current"?</p> <p>9 MR. SHAPIRO: Objection, form, relevance,</p> <p>10 scope, answered.</p> <p>11 THE WITNESS: I don't -- I don't think it's a</p> <p>12 mistake. I mean, it means the present amount. They</p> <p>13 use -- like I said, they use "the present amount" in</p> <p>14 other places. I already pointed them out to you, in the</p> <p>15 document, where it means current.</p> <p>16 So, it's just a different word. In this</p> <p>17 context, I think they mean the same thing.</p> <p>18 Q. And what about the use of the indefinite</p> <p>19 article "a" before "present amount"? So, it says "a</p> <p>20 present amount," rather than referring back using a</p> <p>21 definite article like "the," to something that was</p> <p>22 recited earlier. Does that have any significance to</p> <p>23 you?</p> <p>24 MR. SHAPIRO: Objection, form, answered.</p> <p>25 THE WITNESS: Now you're causing me to look</p>
<p>383</p> <p>1 same way that they use current.</p> <p>2 And so, then, going back to claim 6 -- I think</p> <p>3 we started with that -- and the fact that it references</p> <p>4 in support of this conclusion, in addition to what I</p> <p>5 just said, it includes claim 3 and claim 1, where in</p> <p>6 claim 1 in particular -- I think maybe in claim 2</p> <p>7 also -- I mean, claim 3 --</p> <p>8 Yeah, in claim 1 and claim 3, they use</p> <p>9 "current." So, that tells me most likely -- or as I</p> <p>10 read it, I shouldn't say most likely. But as I read it,</p> <p>11 "present" in claim 6 means current.</p> <p>12 Sorry. That was a long way to go there, but I</p> <p>13 tried to give you supporting evidence of how I came to</p> <p>14 my conclusion.</p> <p>15 BY MR. STEIN:</p> <p>16 Q. So, there's no difference between "present</p> <p>17 amount" and "current amount" between claim 1 and</p> <p>18 claim 6?</p> <p>19 MR. SHAPIRO: Objection, form, answered.</p> <p>20 THE WITNESS: I'll look back at claim 6.</p> <p>21 I don't see any. I don't -- I mean, I would</p> <p>22 say no substantial difference. You know, they're</p> <p>23 certainly not the same word, right? They just -- they</p> <p>24 have the same meaning, seemingly, in this context. But</p> <p>25 I would also -- as I referenced a minute ago, I pointed</p>	<p>385</p> <p>1 back at "current" and see if they used -- you said</p> <p>2 the -- they used the word -- oh, they say "a current."</p> <p>3 BY MR. STEIN:</p> <p>4 Q. Just to be clear, Dr. Cameron, did you already</p> <p>5 answer a question from me about the difference between</p> <p>6 the definite and indefinite article in claim 6?</p> <p>7 A. No, no. No, I haven't answered your question.</p> <p>8 Q. Thank you.</p> <p>9 A. You like me to tell you what I'm doing, I</p> <p>10 remember from last time, so, I'm trying to give you a</p> <p>11 little hint, is what I'm looking at. I was looking to</p> <p>12 see what article they use with the word "current." But</p> <p>13 you asked it in the context of the word "present" --</p> <p>14 Q. Yes.</p> <p>15 A. -- but I thought that you had said -- it</p> <p>16 sounded like you said that in other places, they</p> <p>17 use "the" with "current," and it's not always the case,</p> <p>18 right? That's what I was checking.</p> <p>19 Q. Okay.</p> <p>20 A. So, I see it as relevant because, you know,</p> <p>21 you asked about "present," and I was asking -- you're</p> <p>22 asking me, like, is it significant that it's, you</p> <p>23 know, "a" versus "the," yeah, and so, it doesn't appear</p> <p>24 to be.</p> <p>25 Q. Okay.</p>

<p>386</p> <p>1 A. Let me just double-check.</p> <p>2 Q. Sure.</p> <p>3 A. Yeah, when you were telling me, did you -- oh,</p> <p>4 okay. Were you referring to the fact that it says "a</p> <p>5 present" and "the present" in the same paragraph?</p> <p>6 Q. No.</p> <p>7 A. Okay.</p> <p>8 Q. I was trying to understand whether the --</p> <p>9 because you were saying "present" in claim 6 and</p> <p>10 "current" in claim 1 sort of refer to the same thing.</p> <p>11 And then I was trying to understand if the use of "a</p> <p>12 present amount" has any significance in claim 6 when</p> <p>13 we're considering whether that refers to the same thing</p> <p>14 as "the current amount" in claim 1.</p> <p>15 A. I see. Yeah, I stand by what I said, which is</p> <p>16 I don't think it matters here. I think "present" has</p> <p>17 the same meaning, but I would -- to buttress that, my</p> <p>18 opinion, is to say that inside that paragraph, later in</p> <p>19 the paragraph, it says "the present" on line 44 of</p> <p>20 column 11.</p> <p>21 So, on line 40, it says "a present," and on</p> <p>22 line 44, it says, "the present," but I think they mean</p> <p>23 the same thing.</p> <p>24 Q. So, when it's doing the automatically reducing</p> <p>25 in claim 6, which says at line 40 of column 11,</p>	<p>388</p> <p>1 MR. SHAPIRO: Objection, form.</p> <p>2 THE WITNESS: Okay, let me look.</p> <p>3 Okay. And then...</p> <p>4 I think you used the word "reduction," right?</p> <p>5 And by that, do you basically mean they mean effectively</p> <p>6 the same thing basically? Is that what you mean?</p> <p>7 BY MR. STEIN:</p> <p>8 Q. Well, I was trying to use the claim language.</p> <p>9 So, it says claim 1, column 1 --</p> <p>10 A. Oh, reduction, you're talking about reducing.</p> <p>11 Oh, okay --</p> <p>12 Q. Yeah, I was talking about reducing. I just</p> <p>13 used a different tense of it, yeah.</p> <p>14 A. I was thinking reducing, reductive language,</p> <p>15 but you mean reducing, like actually reducing the power.</p> <p>16 Q. Yeah.</p> <p>17 A. Okay. All right. Sorry, I was looking at it</p> <p>18 a little different. Let me look at it again.</p> <p>19 Q. Okay.</p> <p>20 A. Okay. Okay. I'm probably going to confuse it</p> <p>21 a little bit more by saying this, but claim 3 is</p> <p>22 important here, do you realize? Because claim 3 talks</p> <p>23 about increasing the current amount of consumption,</p> <p>24 right?</p> <p>25 So, and in claim 6, you're -- those two</p>
<p>387</p> <p>1 "Automatically reducing a present amount of</p> <p>2 consumption," is that doing a different reduction than</p> <p>3 the automatic reduction we see recited in claim 1?</p> <p>4 MR. SHAPIRO: Objection, form, answered.</p> <p>5 THE WITNESS: I'm not sure how to interpret</p> <p>6 that question, because claim 1 and claim 6 are</p> <p>7 different, even though claim 6 is, you know, dependent</p> <p>8 on claim 1, but they are different contexts.</p> <p>9 So, when you said are they the same, it kind</p> <p>10 of confused me, because, obviously, they are not the</p> <p>11 same, right? They're two different claims for a reason.</p> <p>12 So, but I had already answered that "present"</p> <p>13 and "current," you know, in my opinion mean the same</p> <p>14 thing. So, did I miss something in there? I'm just</p> <p>15 confused, maybe?</p> <p>16 BY MR. STEIN:</p> <p>17 Q. Yeah. I guess I'm sort of asking about the</p> <p>18 pairing of automatically reducing in claim 1, column 11,</p> <p>19 line 1, "automatically reducing a current amount of</p> <p>20 consumption of electric power," and then in claim 6, at</p> <p>21 line 40, "automatically reducing a present amount of</p> <p>22 consumption of electric power."</p> <p>23 So, are those two different reductions, or</p> <p>24 could they be the same reduction?</p> <p>25 A. I see.</p>	<p>389</p> <p>1 occurrences of the word "present," for example, one</p> <p>2 talks about -- yeah, present amount of consumption --</p> <p>3 yeah, one talks about -- one -- one reference to that</p> <p>4 word "present," talks about reducing, and the other one</p> <p>5 talks about increasing, right?</p> <p>6 So, then you go back to 3, and 3 talks about</p> <p>7 increasing, and then you go back to 1, and it talks</p> <p>8 about reducing.</p> <p>9 So, if your question is, basically, that part</p> <p>10 of claim 6 at line 40, where it says, "Automatically</p> <p>11 reducing a present amount of consumption of electric</p> <p>12 power from the power grid system by the computational</p> <p>13 device," by some version of the transient property, you</p> <p>14 go through 3 and then go to 1. And to me, those are</p> <p>15 effectively the same kind of reduction.</p> <p>16 So, does that make sense? Did that track?</p> <p>17 Because claim 6 is talking about reducing and</p> <p>18 increasing; claim 3 is only talking about increasing,</p> <p>19 and claim 1 is talking about reducing. That's the</p> <p>20 connection I'm making here.</p> <p>21 And you asked specifically about reducing, so</p> <p>22 in order to make the connection from 6 to 1, I feel like</p> <p>23 you kind of have to go through 3, because 3 says the</p> <p>24 method of claim 1, right? That's what I'm trying to</p> <p>25 say.</p>

<p>390</p> <p>1 Q. And yeah -- okay. So, claim 6 also says 2 there's, in column 11, line 37, "updating an internal 3 state table." What's an internal state table to a 4 person of skill in the field of the '243 patent? 5 A. The internal state is typically -- well, let 6 me just see where else they reference it, because I want 7 to see if there's any other context here. 8 Yeah, it's -- you know, I think I would 9 interpret it -- as a POSITA, I would interpret that to 10 mean just a data structure. So, a data structure is 11 just, you know, like a table is an example of a data 12 structure. And so, this one is actually calling it a 13 table, right? 14 So, it's basically a data structure of, you 15 know, entries or values, and in this case, it has to do 16 with the environmental feed. And if you look in the 17 patent, the internal state table is used to update -- or 18 it updates the internal state of the system as new 19 information comes in. 20 Q. And this data structure of an internal state 21 table, was that an element that would have been known to 22 a person of skill before the '243 patent? 23 MR. SHAPIRO: Objection -- 24 THE WITNESS: Did you say the data element? 25 What did you say before the table --</p>	<p>392</p> <p>1 right? Their input is data, right? 2 So, as the new data comes in, they need to 3 pull that data from somewhere, and we talked a little -- 4 maybe not in the context here, but we talked -- you 5 know, there's a diagram somewhere -- let me see. 6 And this is related. Give me a second to 7 connect the dots. 8 But Figure 3, you know, there is a memory. 9 So, an internal state table is going to be stored in 10 memory, and then that's going to be a place that the 11 decision engine, like the software or hardware that's 12 making the decisions, it's going to go to that to get 13 the most up-to-date data, right? 14 So, that internal state table is being updated 15 with the changes to the internal state over time, and 16 so -- yeah. 17 So, data structure is, like, broadly known to 18 computer scientists. A typical computer scientist would 19 see, basically they would interpret that as, oh, it's a 20 table in the memory. And so, that's why I'm pointing 21 out the memory to you. 22 Q. Okay. And let's go back to paragraph 153 of 23 your declaration. 24 A. Okay. 153, yep, right here, gotcha. 25 Q. Okay. So, here, it looks like you list -- oh,</p>
<p>391</p> <p>1 BY MR. STEIN: 2 Q. I was just using your language. So, I said in 3 this data structure of an internal -- 4 A. Oh, data structure, sorry. 5 Q. Yeah, was that an element that would have been 6 known to a person of skill before the '243 patent? 7 MR. SHAPIRO: Objection, form. 8 THE WITNESS: Data structures date back to the 9 beginning of computer science, so, yes. 10 BY MR. STEIN: 11 Q. What about this -- 12 A. Yeah, data structure. 13 Q. Yeah. What about the storage of downloaded 14 data in internal state tables? 15 MR. SHAPIRO: Objection, form. 16 THE WITNESS: I mean, an internal state table 17 is just a little bit more of a generic name than data 18 structure. Data structure, you know, has sort of a 19 meaning in computer science. 20 Internal state table, you would just say, oh, 21 that's a table that contains internal state information, 22 you know. So, in terms of internal state, that's going 23 to be whatever -- how -- you know, back to the 24 whatchamacallit, the analysis, the algorithms, all of 25 the stuff we talked about, you know, they need data,</p>	<p>393</p> <p>1 three lines from the bottom of paragraph 153, you 2 have -- classifiers. 3 Do you see that? 4 A. Yes, I do. 5 THE REPORTER: I missed the word before 6 "classifiers." 7 MR. STEIN: Statistical. 8 THE WITNESS: Statistical. 9 THE REPORTER: Thank you. 10 THE WITNESS: Yeah. 11 BY MR. STEIN: 12 Q. Are you listing that as an alternative to 13 applying a weighted function comprising a linear 14 combination of values obtained from a plurality of 15 different feeds? 16 MR. SHAPIRO: Objection, form. 17 THE WITNESS: Let me take a look back here to 18 refresh my memory. 19 Right, so these are all, including the 20 statistical classifiers, ways to analyze data. 21 So, did that answer your question? Because 22 you asked specifically about that one, but these are all 23 ways to analyze data, neural networks, you know, 24 decision trees, all of these things. 25 ///</p>

<p>394</p> <p>1 BY MR. STEIN:</p> <p>2 Q. And then if we go back to column 6 of the</p> <p>3 patent, column 6, lines 39 to 45 --</p> <p>4 A. I'm with you, I think.</p> <p>5 Q. Yeah, at the end of that, sort of 43 to 44,</p> <p>6 "Statistical classifiers are not limited to linear</p> <p>7 functions" --</p> <p>8 A. Uh-huh.</p> <p>9 Q. -- does that mean, in at least some examples,</p> <p>10 you can use statistical classifiers as part of a linear</p> <p>11 function?</p> <p>12 A. No. I think it means that it's -- oh, go</p> <p>13 ahead, I'm sorry. I stepped on somebody. No?</p> <p>14 MR. SHAPIRO: Objection, form.</p> <p>15 THE WITNESS: Let me backtrack that before I</p> <p>16 say a definitive answer, but -- so, strike that.</p> <p>17 Hang on a second. I lost my place there.</p> <p>18 40? Line 40, statistical classifiers...</p> <p>19 You asked something specific about a</p> <p>20 statistical classifier and linear. Maybe say it again,</p> <p>21 now that I have read this.</p> <p>22 BY MR. STEIN:</p> <p>23 Q. Sure, yeah. I was trying to understand, it</p> <p>24 says statistical classifiers are not limited to linear</p> <p>25 functions, so, then I asked whether in some examples a P</p>	<p>396</p> <p>1 in that context. That's all I said, was like -- and I</p> <p>2 heard linear or something like that.</p> <p>3 THE REPORTER: Thank you.</p> <p>4 BY MR. STEIN:</p> <p>5 Q. So, let's go back to the patent, so, column 6,</p> <p>6 line --</p> <p>7 A. 40 or something?</p> <p>8 Q. Yeah, 44 --</p> <p>9 A. 43.</p> <p>10 Q. -- 43, yeah.</p> <p>11 So, where it says, "Statistical classifiers</p> <p>12 are not limited to linear functions," maybe just explain</p> <p>13 to me what that means to a person of skill in the art.</p> <p>14 MR. SHAPIRO: Objection, form, scope.</p> <p>15 THE WITNESS: I mean, it literally means that</p> <p>16 you could have a statistical classifier with a nonlinear</p> <p>17 function, one of the ones that I just showed you -- that</p> <p>18 I just went to.</p> <p>19 So, statistics and machine learning, all of</p> <p>20 these -- in fact, all -- if you look back at that -- I</p> <p>21 hate going back to that list, but, you know, a lot of</p> <p>22 these things, analysis of variance, Bayesian,</p> <p>23 stochastic, I mean, linear regression, these are all</p> <p>24 things that are heavily influenced by statistics, right?</p> <p>25 So, they kind of all flutter back and forth</p>
<p>395</p> <p>1 OSA would be able to include statistical classifiers as</p> <p>2 part of a linear function.</p> <p>3 A. Oh.</p> <p>4 MR. SHAPIRO: Objection, form, relevance,</p> <p>5 scope.</p> <p>6 THE WITNESS: I mean, as I recall the use of</p> <p>7 statistical classifiers, if my memory serves me, it's</p> <p>8 classification, you know, statistical-based</p> <p>9 classification, right, that relies on functions.</p> <p>10 So, I think it's just saying that it's not</p> <p>11 limited to linear functions, right? So, if you go back</p> <p>12 to where we just were in the 153 -- in fact, I am</p> <p>13 including it there, next to neural networks, which is a</p> <p>14 nonlinear function, right?</p> <p>15 So, I think you asked maybe to prove the</p> <p>16 negative here, but I mean, I don't know if I answered it</p> <p>17 the way -- considering how you asked it, yeah --</p> <p>18 BY MR. STEIN:</p> <p>19 Q. Sure.</p> <p>20 A. -- or something like that.</p> <p>21 THE REPORTER: I'm sorry. You said,</p> <p>22 "Considering how you asked it, yeah," and then I lost</p> <p>23 some words and you said, "or something like that."</p> <p>24 THE WITNESS: Oh, I think I said something</p> <p>25 like linear -- yeah, he had mentioned the word "linear"</p>	<p>397</p> <p>1 between statistics and math and, you know, the world of</p> <p>2 linear and nonlinear functions.</p> <p>3 And so, going back to the patent, it says --</p> <p>4 excuse me -- "Statistical classifiers are not limited to</p> <p>5 linear functions." I believe they're just saying these</p> <p>6 can be nonlinear functions as well.</p> <p>7 BY MR. STEIN:</p> <p>8 Q. So, what does it mean a couple lines above</p> <p>9 that, line 40 of that same column 6 in the '243 patent,</p> <p>10 it says, "Some embodiments may consider functions</p> <p>11 embedded in statistical classifiers, where the actual</p> <p>12 form of a function is known only implicitly and is</p> <p>13 computed automatically."</p> <p>14 What does that mean?</p> <p>15 A. Yeah --</p> <p>16 MR. SHAPIRO: Objection, form, relevance,</p> <p>17 scope.</p> <p>18 THE WITNESS: Let me double-check, but I don't</p> <p>19 think I talked about this at all in my thing, my</p> <p>20 declaration. Just in the listing, yeah.</p> <p>21 So, going back to the patent real quick.</p> <p>22 Right, so this might take a little math. So,</p> <p>23 it's hard to do, you know, without a board, but,</p> <p>24 basically, using it as an example would be machine</p> <p>25 learning techniques, right?</p>

<p>398</p> <p>1 And like, you're all familiar with ChatGPT, 2 I'm sure, or those kind of things, the chatbots that are 3 out there now. So, the way that they generally work is 4 they have these huge number of -- we call them -- I 5 would call them vectors, but you could call them 6 matrices, right? 7 So, they have these huge matrices, 8 ridiculously large, billions of numbers, right? And so 9 what they do -- the rows and the columns, they have some 10 sort of meaning relative to what they're studying, and 11 then what they do is they -- they have these equations 12 associated with those columns and rows. And then they 13 run stuff, or they look at stuff or, you know, analyze 14 data, and then they create this new matrix of all of 15 these -- of all of these coefficients, right? 16 And so, what you're really doing there is 17 you're creating a new function, okay? So, when you 18 create that new function, and it doesn't look like the 19 functions we all remember from math, when we were, you 20 know, Y equals MX plus B, right? It's this huge crazy 21 scale set of equations that aren't really decipherable 22 to us. 23 And so, my read of this is that when they say, 24 where the actual form of a function is known only 25 implicitly, that implicitness is there. You know,</p>	<p>400</p> <p>1 So, my question is, is there any difference 2 between claim 5's "heavy demand for power from the power 3 grid system" and claim 1's "high demand for electric 4 power from the power grid system"? 5 MR. SHAPIRO: Objection, form. 6 THE WITNESS: Yeah, let me have a look. 7 Okay. So, I'm going to refer you back to 8 column 6, line 5, where it does use the word "heavy 9 demand on the power infrastructure which may trigger 10 computer power consumption reduction." 11 So, and then when I look at that, and then 12 back to claim 5 and claim -- claim 5 and claim 1, I, you 13 know, POSITA, a person skilled in the arts, I look at 14 that and I see the heavy demand is, in this context, 15 "heavy demand" is the same as or is analogous to or 16 similar to -- what's the other word, high -- was it 17 "high" -- "high demand," yeah. 18 Q. So, there's no difference in terms of what 19 claim 5 calls "heavy demand," possibly imposing a higher 20 demand on the grid than the "high demand" of claim 1? 21 MR. SHAPIRO: Objection, form. 22 THE WITNESS: Yeah, I -- again, in case you 23 didn't catch the reference, it was column 6, line 5, but 24 there, it also talks about "heavy demand" in the context 25 of weather conditions.</p>
<p>399</p> <p>1 you're not staring at a Y equals MX plus B like 2 equation. You're staring at a matrix of all of these 3 values, and as the inputs come in, the values update 4 over and over and over again. 5 So, you never truly have like what we would 6 consider a closed form equation like all of us learned 7 in basic math, right, or basic algebra. So, yeah, 8 that's my take to meaning that -- or reading that, 9 excuse me. 10 Q. Okay. Let's look at claim 5 of the patent, 11 also column 11, line 31. 12 I'll wait until you get there, and then I'll 13 ask the question. 14 A. Sorry. It's column 11, line 31, right? 15 Q. Uh-huh. 16 A. Okay. 17 Q. Do you see where it references "result in 18 heavy demand for power from the power grid system"? 19 A. Yeah, "may result in heavy demand for power 20 from the power grid system," I see that. 21 Q. Yeah. So looking at what claim 5 says for 22 heavy demand for power from the power grid system, and 23 claim 5 depends on claim 1, claim 1 mentions what we 24 talked about a few times at column 10, line 64, an 25 indication of high demand for electric power.</p>	<p>401</p> <p>1 So, I do read them as being similar. 2 BY MR. STEIN: 3 Q. I'm just not sure, looking at column 6, that 4 it really adds much. You know, line 5, doesn't it just 5 sort of seem to repeat the claim language from claim 5? 6 MR. SHAPIRO: Objection, form. 7 THE WITNESS: Doesn't it seem to repeat the 8 claim language from 5? 9 I mean, those are different sentences. I 10 mean, do they have -- I was kind of making that 11 connection, that they actually -- you know, it's just -- 12 it's buttressing it in the claim from the text. That's 13 all I see it as, is just confirming that there's a 14 consistency from, you know, the spec to the claim, and, 15 you know -- 16 So, it's not like it doesn't appear at all in 17 this spec, right? It does appear in that context. 18 That's how I read it, as confirming it, but, you know... 19 BY MR. STEIN: 20 Q. Yeah, but what does claim 6 tell you that 21 allows you to, you know, form the conclusion that "heavy 22 demand" is analogous, I think is what you said, to the 23 "high demand" in claim 1? 24 MR. SHAPIRO: Objection, form. 25 ///</p>

<p>402</p> <p>1 BY MR. STEIN:</p> <p>2 Q. Just because it doesn't link the two terms</p> <p>3 together.</p> <p>4 MR. SHAPIRO: Objection, form.</p> <p>5 THE WITNESS: And that last comment, explain</p> <p>6 that, just because it doesn't link the -- what do you</p> <p>7 mean? What doesn't link the two terms together?</p> <p>8 BY MR. STEIN:</p> <p>9 Q. I think we can at least -- I mean, maybe we</p> <p>10 can sort of peel it apart, but we would agree that</p> <p>11 "heavy" and "high" are two different words, right?</p> <p>12 A. Yes, of course, yeah.</p> <p>13 Q. And the thing I'm struggling with, is column 6</p> <p>14 which I've looked at, line 5 that you pointed me to --</p> <p>15 A. Column 6 or claim 6? Sorry, you said</p> <p>16 "column."</p> <p>17 Q. I'm looking at column -- because you pointed</p> <p>18 me to column 6 --</p> <p>19 A. Oh, column, yeah, yeah, my bad.</p> <p>20 Q. -- where it points to "heavy demand," but it</p> <p>21 doesn't sort of tell us how "heavy" relates to "high</p> <p>22 demand," or whether they're the same or whether they're</p> <p>23 different, even though they are two different words.</p> <p>24 So, that's the thing, I'm not understanding</p> <p>25 how the statement in column 6 illuminates how two</p>	<p>404</p> <p>1 So, it says "wherein the analyzing the</p> <p>2 operating environmental condition data determines</p> <p>3 indication of the high demand for electric power, if the</p> <p>4 operating environmental condition data indicates an</p> <p>5 unusual weather condition that may result in heavy</p> <p>6 demand for power from the power grid system."</p> <p>7 So, it seems like, because it's using those</p> <p>8 two different terms, one being part of a determination</p> <p>9 to find the other, that doesn't suggest to you that</p> <p>10 these do have some difference in meaning?</p> <p>11 MR. SHAPIRO: Objection, form.</p> <p>12 THE WITNESS: No, it doesn't suggest they have</p> <p>13 a different meaning. High demand is used pretty</p> <p>14 consistently to talk about the, you know, the result of</p> <p>15 the analysis, is determining whether there's high demand</p> <p>16 on the power grid itself.</p> <p>17 And so, you know, "heavy demand" is just</p> <p>18 another way of saying that, but they've used "high</p> <p>19 demand" pretty consistently to talk about the output of</p> <p>20 the analysis.</p> <p>21 So, I feel like they just are using a</p> <p>22 different word here, just for whatever reason they had.</p> <p>23 BY MR. STEIN:</p> <p>24 Q. And what about the --</p> <p>25 A. You're asking, do I think it was pointed? No,</p>
<p>403</p> <p>1 different words can mean the same thing.</p> <p>2 MR. SHAPIRO: Objection, form.</p> <p>3 THE WITNESS: I wasn't using it in that way.</p> <p>4 I was using what's in column 6 to basically explain to</p> <p>5 me, you know, how the -- the authors are thinking</p> <p>6 about "heavy," right? And they are being highly</p> <p>7 consistent, is my point.</p> <p>8 So, to me, that -- I guess maybe -- maybe it's</p> <p>9 a little more precision here, would be that, to me, that</p> <p>10 buttresses the use of it in claim 6 but not necessarily</p> <p>11 the link to the word "high."</p> <p>12 Q. Okay.</p> <p>13 A. Yeah. So, I mean -- just, yeah, that's --</p> <p>14 parsing it a little bit more, that's how I would say it.</p> <p>15 Q. And I think you meant claim 5, right, not</p> <p>16 claim 6 --</p> <p>17 A. Yeah, we keep using the number 6, and yes, I</p> <p>18 did.</p> <p>19 Whatever I said there, I was referring to the</p> <p>20 claim that we were discussing, which I believe was</p> <p>21 claim 5, yeah.</p> <p>22 Q. So, is there a difference in -- so, if we look</p> <p>23 at claim 5, the other thing that I wanted to talk to you</p> <p>24 about with the "heavy demand" piece, is it says -- it</p> <p>25 does actually link the two terms together.</p>	<p>405</p> <p>1 I don't. I think it was -- they could have used "high</p> <p>2 demand" there. I think, you know, in that case, it's</p> <p>3 interchangeable.</p> <p>4 Q. And is there no difference in claim 5 between</p> <p>5 the terminology "indication of the high demand" and the</p> <p>6 terminology "may result in high demand"? And I'm</p> <p>7 focusing in particular on the word "indication," as</p> <p>8 compared to the word "result."</p> <p>9 MR. SHAPIRO: Objection, form.</p> <p>10 THE WITNESS: Okay. So, same claim, right,</p> <p>11 claim 5?</p> <p>12 BY MR. STEIN:</p> <p>13 Q. Correct.</p> <p>14 A. Okay. You did realize that it says</p> <p>15 "indication," and in the same sentence, it says</p> <p>16 "indicates," right?</p> <p>17 Q. Yeah.</p> <p>18 A. So, it's kind of reinforcing the use of the</p> <p>19 word "indication."</p> <p>20 Q. Correct, but then, what's the difference</p> <p>21 between what's being indicated and what results -- you</p> <p>22 know, what indicates the high demand and what results in</p> <p>23 heavy demand? So, the difference between "indication"</p> <p>24 and "indicates," as compared to "result," in the context</p> <p>25 of claim 5 of the patent.</p>

<p>406</p> <p>1 A. Yeah, I actually --</p> <p>2 MR. SHAPIRO: Objection, form.</p> <p>3 THE WITNESS: Here, they're different, right?</p> <p>4 To me, here, "result" means as a consequence of, right?</p> <p>5 The indication, the fact that the data indicates, and,</p> <p>6 therefore, it may result -- you know, it may be a</p> <p>7 consequence -- or how do I say it? Heavy demand is a</p> <p>8 consequence, right, of the high demand indication and</p> <p>9 the -- the indication from the data, right?</p> <p>10 Because it says "may," right? So it's</p> <p>11 saying -- let's see if I can reword it a little bit here</p> <p>12 to help explain what I'm trying to say.</p> <p>13 Actually -- boy, you read this a number of</p> <p>14 times, and it reads a little differently. Let me read</p> <p>15 this again. Let me strike that and answer it again,</p> <p>16 please.</p> <p>17 Yeah, actually, it changed my read after I</p> <p>18 read it a couple of more times, is that it actually --</p> <p>19 "result" does mean "indicates," because I look at it as</p> <p>20 just -- let me parse it as I go, right,</p> <p>21 You know, you're analyzing and determining an</p> <p>22 indication of high demand, and then your condition data</p> <p>23 indicates an unusual weather condition, and then,</p> <p>24 remember, that's the analysis step. So, in there,</p> <p>25 you're analyzing whether or not what -- the conditions</p>	<p>408</p> <p>1 MR. SHAPIRO: Objection, form.</p> <p>2 THE WITNESS: Let me refresh my context here</p> <p>3 for a minute, and I'll come back right back to you.</p> <p>4 MR. SHAPIRO: Objection, scope.</p> <p>5 BY MR. STEIN:</p> <p>6 Q. Just making sure, are you considering the</p> <p>7 question, Dr. Cameron, or do you --</p> <p>8 A. Yes, sir. I was -- as I mentioned, I do try</p> <p>9 to tell you, Alex, what I'm doing, is, you know, I'm</p> <p>10 refreshing my memory of the context of RSS in the patent</p> <p>11 by looking back at my declaration, if you just give me a</p> <p>12 moment.</p> <p>13 Q. Got it, thank you.</p> <p>14 A. Yeah.</p> <p>15 Okay. I think I'm -- yeah. I'm caught up.</p> <p>16 So, your question was, if a POSITA --</p> <p>17 something about a POSITA in RSS, correct?</p> <p>18 Q. It was: Was really simple syndication</p> <p>19 something that was an element known to a person of skill</p> <p>20 before the '243 patent?</p> <p>21 MR. SHAPIRO: Objection, form, scope.</p> <p>22 THE WITNESS: I mean, RSS is one of a number</p> <p>23 of data formats, basically. So -- so, how do I think</p> <p>24 about this?</p> <p>25 Yeah, I'm not sure that every POSITA would</p>
<p>407</p> <p>1 that you're witnessing, the conditions that you're</p> <p>2 measuring, you know, the analysis of the feeds --</p> <p>3 whether or not that based on your analysis tells you</p> <p>4 whether or not there might be heavy demand on the power</p> <p>5 grid, right?</p> <p>6 Remember, the whole thing here is we're all</p> <p>7 about trying to analyze -- you know, take all of these,</p> <p>8 let's call them, potentially, seemingly unrelated data</p> <p>9 streams in some way. They're related to power, but they</p> <p>10 don't tell you the exact thing that's happening. You</p> <p>11 have got to interpret them and analyze them.</p> <p>12 And so, in the context of the patent, this</p> <p>13 feels to me like, you know, you're analyzing it, and</p> <p>14 then it's -- your analysis might well indicate whether</p> <p>15 or not this is going to be something on the -- that</p> <p>16 results in heavy or high demand on the power grid.</p> <p>17 That's my read.</p> <p>18 BY MR. STEIN:</p> <p>19 Q. Are you familiar with "really simple</p> <p>20 syndication" and the mention of it in the '243 patent?</p> <p>21 A. Yep, process. I think I talk about this in my</p> <p>22 declaration as well.</p> <p>23 Q. Was "really simple syndication" something that</p> <p>24 was an element known to a person of skill before the</p> <p>25 '243 patent?</p>	<p>409</p> <p>1 know about RSS. RSS is a subset of XML. XML at the</p> <p>2 time was more prevalent, I think. But there's also,</p> <p>3 like, others, like JSON and stuff. So, there's others</p> <p>4 that people use.</p> <p>5 So, you know, a random POSITA might be</p> <p>6 familiar with one but not the other. So, your statement</p> <p>7 was something like would a POSITA know what it is, and I</p> <p>8 think a POSITA would know what XML is but not</p> <p>9 necessarily be familiar with RSS. Some would, some</p> <p>10 wouldn't, yeah.</p> <p>11 BY MR. STEIN:</p> <p>12 Q. Okay. So, some POSAs would have been familiar</p> <p>13 with RSS before the patent, but some would not have</p> <p>14 been? That's your testimony?</p> <p>15 A. Yeah --</p> <p>16 MR. SHAPIRO: Objection, form,</p> <p>17 mischaracterizes, and scope.</p> <p>18 THE WITNESS: Yeah, it's hard to know just how</p> <p>19 popular RSS was in 2008.</p> <p>20 BY MR. STEIN:</p> <p>21 Q. Did I ask you how popular it was, Dr. Cameron?</p> <p>22 MR. SHAPIRO: Objection to form.</p> <p>23 THE WITNESS: Well, No, you did not, but you</p> <p>24 asked me whether a POSITA would know about it, and</p> <p>25 that's asking me, you know, if it would be sort of part</p>

<p style="text-align: right;">410</p> <p>1 of the common vernacular in 2008, and so XML was. I 2 remember that. I just can't remember how prevalent RSS 3 was at the time. So...</p> <p>4 BY MR. STEIN:</p> <p>5 Q. Okay. Let's see if the patent helps us 6 here --</p> <p>7 A. Okay.</p> <p>8 Q. -- since this one is, again, difficult. 9 So, column 4, line 40, the patent says, "And 10 may instead update XML files using standard RSS 11 notation."</p> <p>12 So, what does the patent mean by "standard RSS 13 notations"?</p> <p>14 A. Well, as I said before, RSS is a data format. 15 So, to be RSS, let's call it compliant, you would have 16 to meet the RSS format.</p> <p>17 Q. And if it was standard by the time the patent 18 was written, does that not mean or suggest that it was 19 something known to a person of skill in the art before 20 the patent?</p> <p>21 MR. SHAPIRO: Objection, form.</p> <p>22 THE WITNESS: I mean, there are -- there are 23 tons of standards. Yeah, I mean, there are just tons of 24 them. So, I mean, I don't know all of the standards, 25 you know, for all of the data services and computer</p>	<p style="text-align: right;">412</p> <p>1 THE WITNESS: I believe you asked that 2 question a minute ago. I was just maybe filling in some 3 more details about it.</p> <p>4 But here's the thing, Alex, is that a standard 5 is necessary for RSS because everybody has to comply 6 with the standard to take in RSS feeds. It doesn't 7 imply that it's widely known or anything. It's just an 8 agreed-upon standard among the people who use it.</p> <p>9 So, if you use it, you definitely know it; if 10 you don't use it, you don't know it. So, it's not 11 like -- "standard" is not -- I don't think -- I don't 12 think you're using it -- I mean, to me, in this case, 13 "standard" means, like, the actual, you know, document 14 that says, "This is how we do RSS feeds. This is the 15 protocol to use. This is the way the data is 16 structured. You must follow this to be compatible with 17 RSS feeds."</p> <p>18 It doesn't mean that, you know, I've talked to 19 everybody and said, Hey, this is standard, let's all use 20 it. You know, it's an actual standard, like, that you 21 have to meet.</p> <p>22 BY MR. STEIN:</p> <p>23 Q. So, I'm just trying to make sure I've got your 24 testimony clear on the record. So, your testimony is 25 that a person of skill in the art would not have known</p>
<p style="text-align: right;">411</p> <p>1 science. So, it's not reasonable that everyone would 2 know all of the standards.</p> <p>3 That's -- that's kind of why I answered my 4 question the way I did, is like, you're asking me to say 5 whether or not everybody that was a POSITA would know 6 what RSS is. And I --</p> <p>7 BY MR. STEIN:</p> <p>8 Q. No, sir, it's not --</p> <p>9 A. -- I can't say that definitively. That's why 10 I'm hesitant.</p> <p>11 Q. Yeah, and that isn't what I asked you, to be 12 fair.</p> <p>13 I asked you, looking at this statement in the 14 column 4, line 40, whether the fact that the patent 15 refers to standard RSS notations, if that shows or at 16 least suggests that because RSS notations had become 17 standard, that this was something that a person of 18 ordinary skill in the art would've known before the 19 patent.</p> <p>20 I've not asked you about all standards; I've 21 not asked you about every single POSA. My question, I'm 22 hoping, can be answered for what it states.</p> <p>23 A. Well, to be clear, you asked --</p> <p>24 MR. SHAPIRO: Objection -- objection, form, 25 scope.</p>	<p style="text-align: right;">413</p> <p>1 about RSS before the patent?</p> <p>2 MR. SHAPIRO: Objection, mischaracterizes, 3 scope.</p> <p>4 THE WITNESS: Yeah, I'm going to correct 5 myself and just say, I don't know. I don't know whether 6 a POSITA would have known about RSS at the time of the 7 patent. I just don't recall. I wasn't particularly 8 familiar with it, like, I mean, I -- yeah, so, I don't 9 even remember when I knew about it. So...</p> <p>10 So, I'll just stick with that. Whatever I 11 said before, you know, aside, I would just say now that 12 I just don't know, the answer to your question.</p> <p>13 THE WITNESS: We have gone another hour. How 14 are you doing, Mike?</p> <p>15 THE REPORTER: One moment, if we could go off 16 the record?</p> <p>17 MR. STEIN: Sure.</p> <p>18 (Discussion held off the record.) 19 (Whereupon, a recess was taken.)</p> <p>20 BY MR. STEIN:</p> <p>21 Q. Okay. So, Dr. Cameron, we were talking about 22 RSS feeds, right?</p> <p>23 A. Yeah.</p> <p>24 Q. Do you have a copy of Exhibit 1014?</p> <p>25 A. 1014. Maybe it's easier to do it here, with</p>

<p style="text-align: right;">414</p> <p>1 all of these piles. Let me see.</p> <p>2 1014. RSS -- yeah. Okay.</p> <p>3 Q. Do you see the first sort of full sentence in</p> <p>4 that paragraph, "AJAX and RSS are two technologies that</p> <p>5 have taken the web by storm."</p> <p>6 A. Okay.</p> <p>7 Q. What does it mean when a technology has taken</p> <p>8 the web by storm in 2006?</p> <p>9 A. I have no idea honestly what that means.</p> <p>10 Q. No idea?</p> <p>11 A. I mean, that could be a lot of things. I</p> <p>12 mean, you know, in circles of people that talk about</p> <p>13 things, when they use something, they get really excited</p> <p>14 about it. So, I don't know if that's hyperbole or if</p> <p>15 that has some, you know, calculable meaning.</p> <p>16 Q. Okay. So --</p> <p>17 A. Nice sentence, though. I mean, it sounds</p> <p>18 nice.</p> <p>19 Q. So, seeing that doesn't change your answers</p> <p>20 that you gave me earlier, that you're not sure if a</p> <p>21 person of skill would have been familiar with RSS before</p> <p>22 the '243 patent?</p> <p>23 MR. SHAPIRO: Objection --</p> <p>24 THE WITNESS: I thought about it over the</p> <p>25 break, and, yeah, I stand by that answer because, you</p>	<p style="text-align: right;">416</p> <p>1 Q. Do you recall that?</p> <p>2 A. Yes.</p> <p>3 Q. And so, your testimony today is that POSA, a</p> <p>4 person of skill in the art, would have been familiar</p> <p>5 with XML, but you don't know if they would have been</p> <p>6 familiar with RSS, right?</p> <p>7 MR. SHAPIRO: Objection --</p> <p>8 THE WITNESS: I don't know that they would</p> <p>9 be -- sorry.</p> <p>10 MR. SHAPIRO: Objection, answered,</p> <p>11 mischaracterizes, and scope.</p> <p>12 THE WITNESS: I don't know if they would have</p> <p>13 been familiar with RSS, yeah.</p> <p>14 BY MR. STEIN:</p> <p>15 Q. And this -- are you able to understand this</p> <p>16 statement, what it means to update XML files using</p> <p>17 standard RSS notation?</p> <p>18 A. Yes.</p> <p>19 Q. And what does it mean to you?</p> <p>20 A. It's basically a way to communicate -- I think</p> <p>21 strange -- I'll use the terminology in the patent.</p> <p>22 It's a way to communicate feeds to external</p> <p>23 users, right. So, you can set up these standard</p> <p>24 notations, like in software, right, so that someone can</p> <p>25 basically -- or you can push RSS notifications to your</p>
<p style="text-align: right;">415</p> <p>1 know, the only time you -- there's so many things, like,</p> <p>2 you know, you -- not everybody knows everything about</p> <p>3 everything in computer science, right? There's no way.</p> <p>4 So, when you look at these formats and stuff,</p> <p>5 there are dozens, if not hundreds, of them sometimes.</p> <p>6 And so you -- you know, you use whatever one you're</p> <p>7 exposed to. So, you don't -- you know, you don't</p> <p>8 know -- I can't say what random POSITA would know or not</p> <p>9 know in terms of a very specific --</p> <p>10 I did say that XML I think is -- was pretty</p> <p>11 widely known. That's probably because it's bigger.</p> <p>12 It's broader, right.</p> <p>13 I'm sorry, go ahead, Mike.</p> <p>14 THE REPORTER: I was just going to say I</p> <p>15 missed the word after "objection" from Mr. Shapiro.</p> <p>16 MR. SHAPIRO: Oh. Form, scope.</p> <p>17 THE REPORTER: Thank you.</p> <p>18 BY MR. STEIN:</p> <p>19 Q. We'll go back to the part of the patent we</p> <p>20 were looking at a moment ago.</p> <p>21 A. Sure.</p> <p>22 Q. That was column 4, line 41.</p> <p>23 So, that was the area that says "may instead</p> <p>24 update XML files using standard RSS notations."</p> <p>25 A. Uh-huh.</p>	<p style="text-align: right;">417</p> <p>1 subscriber list, and that's one way to think about it,</p> <p>2 and people can also pull from your RSS.</p> <p>3 But the RSS dictates basically the -- you</p> <p>4 know, the format of the data, so, you're bringing the</p> <p>5 data in and you know how to parse the data or, you know,</p> <p>6 interpret the data in the RSS formats. RSS is, like,</p> <p>7 helpful in that way.</p> <p>8 Q. Yeah. And so following this statement in the</p> <p>9 patent at column 4, line 40 to 41, approximately how</p> <p>10 long does it -- would it have taken a person of skill in</p> <p>11 the art to update an XML file using standard RSS</p> <p>12 notation?</p> <p>13 MR. SHAPIRO: Objection, form, scope.</p> <p>14 THE WITNESS: To update an XML file using the</p> <p>15 standard RSS notations...</p> <p>16 I mean, it would depend on how skilled they</p> <p>17 are at doing XML and RSS, if they are familiar with it.</p> <p>18 This is what I keep saying, is that, like, not everyone</p> <p>19 is familiar with everything, right? So, it would depend</p> <p>20 on their level of expertise at those two particular</p> <p>21 tools.</p> <p>22 BY MR. STEIN:</p> <p>23 Q. Okay. Across a range of expertise levels,</p> <p>24 then, what's the range of how long this would take?</p> <p>25 MR. SHAPIRO: Objection, form, scope,</p>

<p>418</p> <p>1 relevance.</p> <p>2 THE WITNESS: That's hard to know.</p> <p>3 You know, I deal with students a lot, Alex,</p> <p>4 and, like, there's a true bifurcation across their skill</p> <p>5 sets that come in the door. And so I'm, you know,</p> <p>6 basing this on my experience that, you know, there are</p> <p>7 people that try to do things that it takes them a very</p> <p>8 long time, and there are people that, you know, can do</p> <p>9 things pretty quickly.</p> <p>10 And they're no less computer scientists by the</p> <p>11 time they get through our programs, but -- but they, you</p> <p>12 know, they just have varying levels of skill, both</p> <p>13 before and after they graduate. So --</p> <p>14 BY MR. STEIN:</p> <p>15 Q. Yeah. So, how long would it have taken you in</p> <p>16 2008 to update an XML file using standard RSS notations?</p> <p>17 MR. SHAPIRO: Objection, form, relevance, and</p> <p>18 scope.</p> <p>19 THE WITNESS: It would -- it would have taken</p> <p>20 me some time. I hadn't -- I didn't use RSS much. I'd</p> <p>21 used XML somewhat before. I'm not a big -- I mean,</p> <p>22 these things usually go hand -- in fact, if you look at</p> <p>23 that article, they go hand in hand with things like Java</p> <p>24 and JavaScript, but I'm more of a C and C++ guy.</p> <p>25 So, like I said, that's -- actually, I'm a</p>	<p>420</p> <p>1 of day beyond their business. So, I mean, it's a</p> <p>2 whole -- there's a whole stack of software, you know,</p> <p>3 that people at every level of the stack, people are</p> <p>4 experts at, and not everybody is an expert across the</p> <p>5 entire stack.</p> <p>6 So, I stand -- I stand by that. I'm sorry.</p> <p>7 You were asking a question about my expertise. Please</p> <p>8 go ahead.</p> <p>9 BY MR. STEIN:</p> <p>10 Q. No, no, I was more just trying to -- because I</p> <p>11 know you have all sorts of caveats that you want to</p> <p>12 have, but I'm trying to reorient you to just ask you</p> <p>13 about a person of skill in the art. I'm not asking</p> <p>14 about experts. I'm not asking about web programmers.</p> <p>15 I'm just asking you about a person of ordinary</p> <p>16 skill in the art and whether you're able to answer the</p> <p>17 question as to when the patent says update the XML files</p> <p>18 using standard RSS notations, can you or can you not</p> <p>19 give me an estimate for how long that would take the</p> <p>20 person of ordinary skill in the art, who you are here</p> <p>21 talking about, through their lens today.</p> <p>22 MR. SHAPIRO: Objection, form, relevance,</p> <p>23 scope.</p> <p>24 THE WITNESS: I thought you asked how long it</p> <p>25 would take me, if I remember. Let's see.</p>
<p>419</p> <p>1 great example. I'm a part of this part of computer</p> <p>2 science that uses C and C++ and doesn't develop web apps</p> <p>3 very often, and then there's a whole set of people that</p> <p>4 all they do is web apps, right? So, those people, it's</p> <p>5 fast. Me or my -- you know, my group of people, very</p> <p>6 slow.</p> <p>7 BY MR. STEIN:</p> <p>8 Q. Okay. So, for the people that would do it</p> <p>9 fast, how long would it take them to update XML files</p> <p>10 using standard RSS notations?</p> <p>11 MR. SHAPIRO: Objection, form, relevance,</p> <p>12 scope.</p> <p>13 THE WITNESS: I have to say again, I don't</p> <p>14 know if I can answer that, because, again, I don't have</p> <p>15 that experience that they have, so I don't know how long</p> <p>16 it would take them to do it.</p> <p>17 BY MR. STEIN:</p> <p>18 Q. But you're here testifying --</p> <p>19 A. Well, and if they're an expert at it, it would</p> <p>20 be, you know, relatively fast, but if they're not an</p> <p>21 expert about it -- there's even variations of expertise</p> <p>22 at the people who do web application development, right?</p> <p>23 Some people develop apps for iPhones, and some</p> <p>24 people develop apps for the web, and some people develop</p> <p>25 apps for businesses, you know, that never see the light</p>	<p>421</p> <p>1 You know, I know you're going to hate me for</p> <p>2 this, but there's another caveat here, Alex. What's the</p> <p>3 level of sophistication of the software? You know, I</p> <p>4 think that that -- in fact, wasn't that -- that article</p> <p>5 that you cited, wasn't that a tutorial on how to get RSS</p> <p>6 feed, right? So if a person is following that, it would</p> <p>7 take them as long as it would take for all of those</p> <p>8 steps.</p> <p>9 But if a person is designing an RSS feed, you</p> <p>10 know, system, like a system that has their own system</p> <p>11 and they want to integrate RSS feeds to them, then it</p> <p>12 takes as long as it takes for that particular system.</p> <p>13 Yeah, I'm sorry. I know it's frustrating.</p> <p>14 I'm trying to get you an answer, but, it's just --</p> <p>15 again, it's my opinion.</p> <p>16 BY MR. STEIN:</p> <p>17 Q. What about HTTP, Hypertext Transfer Protocol,</p> <p>18 was that known to a person of skill in the art before</p> <p>19 the '243 patent?</p> <p>20 MR. SHAPIRO: Objection, relevance, scope.</p> <p>21 THE WITNESS: Yeah, so, HTTP, you know,</p> <p>22 hypertext markup, has been around for a very long time,</p> <p>23 like the -- I probably first used it to build my own</p> <p>24 first website back in the mid '90s, so, yeah.</p> <p>25 Anybody who had a website -- back then, that's</p>

<p style="text-align: right;">422</p> <p>1 the only way you could do it, with HTML. Now you have 2 all kinds of tools. Interestingly, it would be harder 3 to find somebody that knows a lot about HTML right now 4 because they use all of these tools to interface with 5 it. But back then, you know, it would've been more 6 likely for people to know about HTML. 7 BY MR. STEIN: 8 Q. So, just looking for an answer to my question. 9 So, I said: What about HTTP, Hypertext Transfer 10 Protocol, was that known to a person of skill in the art 11 before the '243 patent? Yes or no? 12 A. Yes. I thought I answered that. Yes, yes. 13 Q. Thank you. 14 Let's look at paragraph 102 in your 15 declaration. 16 A. 102. 17 Yep. I mean, I'm on page 30, yes, 102. 18 Q. You said, "In my opinion, tariffs are not 19 always indicative of demand." 20 So, can tariffs sometimes be indicative of 21 demand? 22 A. Tariffs, if you remember the discussion from 23 earlier, we talked about tariffs and pricing being 24 similar in that nature, and so because they can be 25 affected by geopolitical things and stuff, they</p>	<p style="text-align: right;">424</p> <p>1 Q. Do you have any idea of what business Graphite 2 Charging LLC is in? 3 A. No. I think I'll remind you that last time, I 4 worked with a third-party expert witness firm, and then 5 they engage me with the attorneys. 6 Q. Are you being paid on an hourly rate, or are 7 you being paid on a contingency fee? 8 A. Hourly rate. 9 Q. And if we go back to the patent again, I 10 believe we talked about this last time, but you'll see 11 the assignee is International Business Machines 12 Corporation. 13 A. Uh-huh. 14 Q. Do you have any relationship with IBM? 15 A. Yeah, as I mentioned last time, I've worked 16 with them over the years in a lot of different 17 capacities. I've never worked at IBM, but I've worked 18 with people that worked there. Some of my students have 19 gone there. I've written some papers with them. 20 Yeah, I mean, a lot of that is in my CV, if 21 you care to view. I have gotten at least one faculty 22 award from them, years ago, and I think that's -- that's 23 all I can remember, but my CV would remember more than I 24 would remember. But those are the general kinds of -- 25 as a professor, it's pretty common to have those kinds</p>
<p style="text-align: right;">423</p> <p>1 sometimes don't -- aren't indicative of demand. 2 They're only indicative -- or not "only," but 3 they can be indicative of demand when, you know, it's 4 like market pressure, like scarcity of resources or 5 something. So, there are times when tariffs or pricing 6 can reflect demand, right? We've all experienced that 7 with gasoline, for example, right? 8 So, prices go up and down, right, depending on 9 demand, but also for other reasons too. 10 Q. Yeah. Let's go back to the patent, the first 11 page of the patent. 12 Do you see where it lists the inventors in the 13 upper left corner? 14 A. Yeah. 15 Q. Do you know any of those inventors? 16 A. No. No, I do not. 17 Q. And do you remember at our last deposition, I 18 asked you if you knew Graphite Charging Company LLC? 19 A. Yes, you did ask me that. 20 Q. Have you had any other conversations with 21 anyone from Graphite Charging, LLC? 22 A. No. 23 Q. So, do you know anyone that works at Graphite 24 Charging Company LLC? 25 A. No.</p>	<p style="text-align: right;">425</p> <p>1 of interactions. 2 Q. Thank you. Let's go back to the end of your 3 declaration, page 53, paragraph 205. 4 You mentioned that your analysis may continue. 5 Have you done any further analysis that's not disclosed 6 in your declaration? 7 A. No. 8 Q. You also say, "I may acquire additional 9 information." Have you acquired any additional 10 information that's not disclosed in your declaration? 11 A. Well, with the caveat that I mentioned all of 12 those different documents, right? So, did you say new 13 information, or did you say not disclosed? I think you 14 said not disclosed, right? 15 Q. Just using your words, Dr. Cameron, yeah. "I 16 may acquire additional information," so, I asked you if 17 you've acquired any additional information that's not 18 disclosed in your declaration. 19 A. Oh, okay. 20 No, I have not acquired any new information, 21 but if you remember from the beginning of our call, I 22 did cite a bunch of things that I had read also. 23 Q. And then you say in paragraph 205, "and/or 24 attained supplemental insights." 25 Have you attained any supplemental insights</p>

<p>426</p> <p>1 that are not included in your declaration?</p> <p>2 A. No, I don't think so.</p> <p>3 Q. And then you conclude with, you know, those</p> <p>4 supplemental insights may result in added observation.</p> <p>5 So, since you're saying that you don't have any</p> <p>6 supplemental insights, does it also mean that you have</p> <p>7 no added observations?</p> <p>8 A. Yes, it also means I don't have any added</p> <p>9 observations.</p> <p>10 Q. Okay. And then paragraph 203, you say, "I</p> <p>11 expect to continue to develop my opinions discussed in</p> <p>12 this report."</p> <p>13 Have you continued developing your opinions</p> <p>14 discussed in this report?</p> <p>15 A. I would just say that developed -- I mean,</p> <p>16 does that imply that they've changed? Because my</p> <p>17 opinions haven't changed, but I'm always open to, you</p> <p>18 know, thinking about and rethinking about what I said or</p> <p>19 what I think. So, I haven't changed my opinions.</p> <p>20 Q. And thinking through our discussion today and</p> <p>21 the testimony you've given, are there any answers that</p> <p>22 you wish to change?</p> <p>23 A. I think I changed a few things along the way,</p> <p>24 so I can't think of anything.</p> <p>25 Q. Okay. We'll break for about ten minutes, so</p>	<p>428</p> <p>1 EXAMINATION</p> <p>2 BY MR. SHAPIRO:</p> <p>3 Q. Dr. Cameron, earlier, you were asked about the</p> <p>4 meaning of certain terms in the '243 patent, and you</p> <p>5 used the phrase "subjective."</p> <p>6 Could you explain to me what you meant by</p> <p>7 subjective?</p> <p>8 MR. STEIN: Objection --</p> <p>9 THE WITNESS: Yeah.</p> <p>10 MR. STEIN: Objection, form. Objection,</p> <p>11 leading. Objection, foundation.</p> <p>12 THE WITNESS: Okay. Yeah, when I was saying</p> <p>13 "subjective" earlier, I meant subjective to the context.</p> <p>14 So, a POSITA would look at the patent and would read the</p> <p>15 term in the patent, and they would basically know what</p> <p>16 it means from the context of the patent. That's what I</p> <p>17 meant by "subjective."</p> <p>18 BY MR. SHAPIRO:</p> <p>19 Q. So, in the term "a relatively environmentally</p> <p>20 friendly energy producer" in the '243 patent, how would</p> <p>21 a POSITA understand the term "relatively"?</p> <p>22 MR. STEIN: Objection, form. Objection,</p> <p>23 leading. Objection, foundation.</p> <p>24 THE WITNESS: I'm trying to figure out where</p> <p>25 you're referring to, Jason. Any particular place or --</p>
<p>427</p> <p>1 4 -- 6:22 -- sorry, 6:32.</p> <p>2 A. 6:32, ten minutes.</p> <p>3 Q. And then I'll see if I have anything else.</p> <p>4 A. Okay. Thanks, Alex.</p> <p>5 (Whereupon, a recess was taken.)</p> <p>6 BY MR. STEIN:</p> <p>7 Q. Okay. All right. Well, thank you for your</p> <p>8 testimony today, Dr. Cameron. I have no further</p> <p>9 questions, and I can only hope that Jason doesn't keep</p> <p>10 us here too long since he made me get out of bed so</p> <p>11 early.</p> <p>12 A. Well, thank you, Alex, for getting out of bed,</p> <p>13 and sorry for the three-hour difference and all of that,</p> <p>14 but thank you guys. I've enjoyed it.</p> <p>15 MR. STEIN: Yeah, yeah, okay.</p> <p>16 MR. SHAPIRO: Okay. So, I would like to take</p> <p>17 another break just to get something, a quick snack, and</p> <p>18 think about kind of questions we might want to ask on</p> <p>19 redirect. Let's -- let's -- let's come back at 6:55, if</p> <p>20 that's okay with everyone.</p> <p>21 (Whereupon, a recess was taken.)</p> <p>22 MR. SHAPIRO: Okay. I'm going to ask a couple</p> <p>23 of questions on redirect.</p> <p>24 ///</p> <p>25 ///</p>	<p>429</p> <p>1 oh, here we go, I see it. It's in claim 7. Okay.</p> <p>2 Yeah, I did kind of say this earlier, too, is</p> <p>3 that a person of ordinary skill in the art would look at</p> <p>4 the selection or the options open to the, you know, in</p> <p>5 terms of the power availability, the power production,</p> <p>6 right, the collective.</p> <p>7 And is this the one? Yeah, plurality. I</p> <p>8 mean, it says in the claim, like, "plurality of</p> <p>9 potential energy producers." They would look at them,</p> <p>10 and they would say, well, in my opinion, this one, to</p> <p>11 me, is more energy efficient than this other one and</p> <p>12 this other one and so on.</p> <p>13 And they -- they have any kind of metric that</p> <p>14 they care about that is environmentally friendly. Is</p> <p>15 it, you know, carbon neutral, or the least amount of</p> <p>16 carbon that gets to the atmosphere? There's a variety</p> <p>17 of ways to think about environmentally friendly. So,</p> <p>18 they would come up with a quantitative way of doing</p> <p>19 that, and they would apply it in the system.</p> <p>20 BY MR. SHAPIRO:</p> <p>21 Q. And earlier, you said one person's feed is</p> <p>22 another person's data. What did you mean by that?</p> <p>23 MR. STEIN: Objection, form. Objection,</p> <p>24 leading. Objection, foundation.</p> <p>25 THE WITNESS: Yeah, let me think through that.</p>

Transcript of Dr. Kirk W. Cameron
Conducted on February 11, 2025

60 (430 to 433)

<p>430</p> <p>1 Yeah. So, all feeds contain data, but not all 2 data is a feed, right? A feed has a certain connotation 3 to it that it's being fed to you, literally. So, data 4 is just data. That's what I meant. I just was 5 thinking -- thinking about that, that feeds are feeds, 6 feeds contain data, but a data is not a feed. 7 Well, yeah, it can be a feed, right? Feeds 8 contain data. 9 BY MR. SHAPIRO: 10 Q. And you were also asked by Mr. Stein if you 11 could give any examples of obviousness. Did you -- did 12 you provide any examples in your declaration? 13 MR. STEIN: Objection, foundation. Objection, 14 leading. Objection, form. 15 THE WITNESS: Yeah, I have a tendency to -- to 16 think about these things. Like, when Alex asked for an 17 example, I'm trying to think of, like, a technical 18 example, like, you know, a technical device that -- 19 compared to another device or an upgrade to a device or 20 something that is somehow obvious, and that's why I 21 answered the question like I did, because I couldn't 22 think of anything that complicated on the spot. 23 And so, but when I look back at my description 24 of "obviousness," I have several, right? 49 in my 25 declaration -- I'm sorry, paragraph 49 in my</p>	<p>432</p> <p>1 through it. So, just say it again, Jason. Sorry. 2 BY MR. SHAPIRO: 3 Q. Let me rephrase the question. 4 A. Uh-huh. 5 Q. You were asked about your opinion regarding 6 ground 2. 7 A. Uh-huh. 8 Q. And in particular, you were asked whether in 9 the declaration, you state whether Wang provides 10 motivation to combine with AESO. 11 A. Correct. 12 Q. And my question to you is, in your 13 declaration, do you address whether Wang provides 14 motivation to combine with AESO? 15 MR. STEIN: Objection, form. Objection, 16 scope. Objection, leading. 17 THE WITNESS: I'm checking my declaration, 18 because I think I pointed this out to Alex earlier, so 19 let me just check for a minute. 20 Yeah, I believe it's paragraphs 138 and -- 21 definitely 138 and 139. I'll start there, but there 22 might be more. So, I'll read from 138. "In my opinion, 23 even if it were possible to use the AESO information to 24 determine whether a relatively environmentally friendly 25 energy producer is near its output capacity, there's no</p>
<p>431</p> <p>1 declaration, "I understand that if a technique has been 2 used to improve one device and a person of ordinary 3 skill in the art would recognize that it would improve 4 similar devices in the same way, using the technique is 5 obvious, unless its actual application is beyond his or 6 her skill." 7 And so, there are several more in there, but, 8 you know, I tend to think less in the abstract when I 9 get asked that question, but that is an example that's 10 from my declaration. 11 BY MR. SHAPIRO: 12 Q. And you were also asked in your opinion 13 regarding ground 2 whether Wang provides motivation to 14 combine with AESO. And did you -- what was your -- 15 strike that. 16 So, you were asked in regards to your opinion 17 on ground 2 whether Wang provides motivation to combine 18 with AESO. 19 Does Wang provide motivation to combine with 20 AESO? 21 MR. STEIN: Objection, scope. Objection, 22 form. Objection, leading. That question was not open 23 on direct. 24 THE WITNESS: Wait, ask that again? I was 25 thinking about Wang while you were -- just thinking</p>	<p>433</p> <p>1 teaching or suggestion in Wang of using such information 2 to determine an indication of high demand for electric 3 power from the power grid system, much less 4 automatically reducing the -- a current amount of power 5 consumed by a computational device from the power grid 6 system." 7 And in 139, I say, "In my opinion, Wang merely 8 discloses that the AESO information can be published to 9 the user display 200 so that the user can, quote, 'make 10 informed decisions on when to use power.'" 11 So, that is what I say, and I thought I tried 12 to make that clear to Alex, but I think he said that, 13 you know, I couldn't refer to that section for some 14 reason or another. 15 BY MR. SHAPIRO: 16 Q. Okay. And Dr. Cameron, you were asked 17 about -- 18 MR. STEIN: Just a second, Jason. I'll object 19 to the end of that answer as being nonresponsive. 20 BY MR. SHAPIRO: 21 Q. Okay. Dr. Cameron, you were asked about 22 column 8, lines 47 through 67 of the '243 patent. 23 Can you go to that part of the '243 patent, 24 please? 25 A. Yes. Column 8, 47 through something?</p>

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<p style="text-align: right;">434</p> <p>1 Q. 47 through 67.</p> <p>2 A. Got it.</p> <p>3 I'm there. I'm sorry. I wasn't clear, yeah.</p> <p>4 Q. So, at column 8, lines 47 to 67 of the '243</p> <p>5 patent, does the patent describe any energy reduction</p> <p>6 actions that are taken by the user?</p> <p>7 A. I'll need a minute to look at this.</p> <p>8 MR. STEIN: Let me just get my objections in,</p> <p>9 Dr. Cameron.</p> <p>10 Objection, form. Objection, scope.</p> <p>11 Objection, leading.</p> <p>12 BY MR. SHAPIRO:</p> <p>13 Q. Actually, let me restate that.</p> <p>14 A. Okay.</p> <p>15 Q. Let me restate the question.</p> <p>16 Does the '243 patent at column 8, lines 47</p> <p>17 through 67, describe any power reduction actions that</p> <p>18 are taken by the user?</p> <p>19 MR. STEIN: Same objections.</p> <p>20 THE WITNESS: And I'll take a moment to just</p> <p>21 refresh my memory for this paragraph.</p> <p>22 No. The first sentence says "examples of</p> <p>23 power reduction actions taken by the power analyzer," so</p> <p>24 I think that's pretty clear. And I thought I said that</p> <p>25 in my remarks earlier, but if I didn't, I want to</p>	<p style="text-align: right;">436</p> <p>1 THE REPORTER: Okay.</p> <p>2 (Thereupon, the deposition concluded at</p> <p>3 3:13 p.m. [PST])</p> <p>4</p> <p>5 Signed under penalty of perjury:</p> <p>6</p> <p>7 _____</p> <p>8 DR. KIRK CAMERON, Ph.D.</p> <p>9</p> <p>10 _____</p> <p>11 Date</p> <p>12 --oOo--</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>
<p style="text-align: right;">435</p> <p>1 clarify that now.</p> <p>2 MR. SHAPIRO: Okay. Thank you, Dr. Cameron.</p> <p>3 I'm going to reserve the rest of my time for</p> <p>4 re-redirect, if necessary.</p> <p>5 THE WITNESS: Okay.</p> <p>6 MR. STEIN: Okay. Give me five, ten</p> <p>7 minutes -- five minutes. Give me five minutes, and</p> <p>8 we'll jump back on. So, that's 7:12 for you guys. See</p> <p>9 you in five minutes.</p> <p>10 THE WITNESS: Okay.</p> <p>11 MR. SHAPIRO: Thanks.</p> <p>12 (Whereupon, a recess was taken.)</p> <p>13 MR. STEIN: Okay. All right. Well, thank</p> <p>14 you, again, Dr. Cameron for your testimony. I enjoyed</p> <p>15 the conversation. I know it's not always fun, but thank</p> <p>16 you for your time and your testimony, and I have no</p> <p>17 further questions.</p> <p>18 THE WITNESS: Thanks, Alex. The repartee is</p> <p>19 fun. I know it doesn't seem like it, but in my world,</p> <p>20 it's fun. So thank you.</p> <p>21 MR. SHAPIRO: Before we sign off, I would like</p> <p>22 to request that Dr. Cameron have an opportunity to</p> <p>23 review and sign the transcript.</p> <p>24 THE REPORTER: You wanted that on the record?</p> <p>25 MR. SHAPIRO: Yes.</p>	<p style="text-align: right;">437</p> <p>1 I, MICHAEL C. ROWELL, a Certified Shorthand</p> <p>2 Reporter of the State of California, duly authorized to</p> <p>3 administer oaths, do hereby certify:</p> <p>4 That the foregoing proceedings were taken</p> <p>5 before me at the time and place herein set forth; that</p> <p>6 any witnesses in the foregoing proceedings, prior to</p> <p>7 testifying, were duly sworn; that a record of the</p> <p>8 proceedings was made by me using machine shorthand which</p> <p>9 was thereafter transcribed under my direction; that the</p> <p>10 foregoing transcript is a true record of the testimony</p> <p>11 given.</p> <p>12 Further, that if the foregoing pertains to the</p> <p>13 original transcript of a deposition in a Federal Case,</p> <p>14 before completion of the proceedings, review of the</p> <p>15 transcript was requested.</p> <p>16 I further certify I am neither financially</p> <p>17 interested in the action nor a relative or employee of</p> <p>18 any attorney or party to this action.</p> <p>19 WITNESS WHEREOF, I have this date subscribed</p> <p>20 my name.</p> <p>21 Dated: February 14, 2025</p> <p>22</p> <p>23 </p> <p>24</p> <p>25 MICHAEL ROWELL, RDR, CRR, CA-CSR NO. 13494</p>

Transcript of Dr. Kirk W. Cameron
Conducted on February 11, 2025

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2	I, DR. KIRK CAMERON, Ph.D., make the		
3	following changes to my deposition taken in the matter		
4	of, TESLA, INC., Petitioner, vs. GRAPHITE CHARGING		
5	COMPANY, LLC, Patent Owner, Case No. IPR2024-00388		
6			
7	Date	DR. KIRK CAMERON, Ph.D.	
8			
9	Page	Line	Change
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11	---	---	---
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25	---	---	---

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