BEFORE THE ARIZONA POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

LS-260

IN THE MATTER OF THE APPLICATION OF SIERRA ESTRELLA ENERGY STORAGE, LLC, IN CONFORMANCE WITH THE REQUIREMENTS OF ARIZONA REVISED STATUTES, SECTIONS 40-360, et. seq., FOR TWO CERTIFICATES OF ENVIRONMENTAL COMPATIBILITY AUTHORIZING THE SIERRA ESTRELLA 230-kV GENERATION INTERTIE PROJECT AND ASSOCIATED SUBSTATION WITHIN THE CITY OF AVONDALE, ARIZONA, IN MARICOPA COUNTY, ARIZONA	DOCKET NO. L-21207A-22-0252-00208 LS CASE NO. 208 EVIDENTIARY HEARING

At: Tempe, Arizona

Date: November 7, 2022

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REPORTER'S TRANSCRIPT OF PROCEEDINGS

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BE IT REMEMBERED that the above-entitled and numbered matter came on regularly to be heard before the Arizona Power Plant and Transmission Line Siting Committee at Hilton Garden Inn, 86 South Rockford Drive, Tempe, Arizona, commencing at 1:03 p.m. on the 7th of November, 2022.

BEFORE: PAUL A. KATZ, Chairman

LEONARD DRAGO, Department of Environmental Quality
JACK HAENICHEN, Public Member
DAVID FRENCH, Arizona Department of Water Resources
JAMES PALMER, Agriculture Interests
MARY HAMWAY, Incorporated Cities and Towns
RICK GRINNELL, Counties (via videoconference)
MARGARET "TOBY" LITTLE, PE, General Public (via videoconference)

APPEARANCES:

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For the Arizona Corporation Commission Utilities Division Staff:

ARIZONA CORPORATION COMMISSION
Ms. Kate Kane
1200 West Washington Street
Phoenix, Arizona 85007

CHMN. KATZ: Welcome, everybody. This is the time we have set for Hearing CEC 208, the Sierra Estrella 230-kV Generation Intertie Project.

And I would ask the attorneys who are representing the applicant to please identify themselves for the record, and then I'll take a roll call after that of our Committee Members.

MR. THOMAS: Good afternoon, Mr. Chairman, Members. My name is Chris Thomas. I'm from the Perkins Coie law firm. And with me to my right is Andrea Driggs, also from Perkins.

CHMN. KATZ: Thank you.

And I believe we have one of the legal counsel from the Corporation Commission present; she can also identify herself. And I don't know whether you'll be participating or just observing.

MS. KANE: I believe I'm just observing since we're not intervening, the ACC. And my name is Kate Kane with -- one of the Staff attorneys. Thank you.

CHMN. KATZ: Thank you.

And what I will do is, starting on my left we'll take a roll call of those who are present here in the hotel hearing room. And go ahead.

MEMBER DRAGO: Yeah. Len Drago. I'm

designee for the Arizona Department of Environmental Quality.

MEMBER HAENICHEN: Jack Haenichen representing the -- or, yeah, the general public.

MEMBER FRENCH: David French, designee from the Arizona Department of Water Resources.

MEMBER PALMER: Jim Palmer representing agriculture.

MEMBER HAMWAY: Mary Hamway representing cities and towns.

CHMN. KATZ: And I believe we maybe have two of our Members -- I see Mr. Grinnell. I don't know whether Toby Little is also here. I know she won't be able to sit with us tomorrow because she's working the elections. But Mr. Grinnell, I see you. Can you hear us okay?

MEMBER GRINNELL: Yes, sir.

CHMN. KATZ: And Member Little, are you also present virtually?

MEMBER LITTLE: I am, Mr. Chairman. Toby Little representing the public. But as you said, I am a poll worker, so I will not be available tomorrow.

CHMN. KATZ: That's fine. And will you be able to be -- will both of you be able to be with us for the Wednesday and Thursday -- the second hearing?

And both of these should be fairly focused. We're not talking about power lines that run miles. We're talking about power lines that run feet or yards. But that all being said, will you both be available tomorrow?

MEMBER GRINNELL: I will.

MEMBER LITTLE: I will, Mr. Chairman. Thank you.

CHMN. KATZ: You won't. Will you be Wednesday and Thursday, Member Little?

MEMBER LITTLE: Yes, I will.

CHMN. KATZ: And Mr. Grinnell, are you also available?

MEMBER LITTLE: Yes, I am.

MEMBER GRINNELL: Yes, sir.

CHMN. KATZ: Thank you very much.

And we are almost ready to begin. We'll probably take a break about every 90 minutes to save the hands of our court reporter and the rest of us from going crazy from sitting too long.

And if you want any daily transcripts, you need to coordinate that with the reporter.

And we don't have any -- we don't have anybody intervening, is that correct, Counsel?

MR. THOMAS: That's correct.

CHMN. KATZ: Okay. And what I want to ask you for this hearing, and it will probably be the same for the next, I don't believe, in light of the short length of the line and the fact that it doesn't appear to be disturbing any ongoing businesses or residential communities -- that we not take a tour. That has to be up to the Committee. But what is Counsel's recommendation with respect to a tour?

MR. THOMAS: We don't recommend a tour. It's a 700-foot Gen-Tie line from one parcel to the adjacent parcel with no public property or third-party property involved.

CHMN. KATZ: Thank you.

And do we have a motion from the Committee?

MEMBER PALMER: Mr. Chairman, I would move we forego the tour for this hearing.

CHMN. KATZ: Do we have a second?

MEMBER HAENICHEN: Second.

CHMN. KATZ: Any discussion?

(No response.)

CHMN. KATZ: All in favor.

(A chorus of ayes.)

CHMN. KATZ: And we won't be taking a tour and there are no requests for intervention.

Are there any -- I'm assuming we don't have

any issues regarding the disclosure of witness testimony and exhibits. There isn't any opposition that I'm aware of, so I think we're about ready to go. Any thoughts on that matter, Counsel?

MR. THOMAS: I think that's correct, Mr. Chairman.

CHMN. KATZ: And what we'll do is about every hour and a half we'll take a break. And then whether or not anybody appears -- we'll be done about 4:30 or 5:00 today, and then we have to hang around until 5:30 to see if there's any public comment either in person or virtually. I'm not expecting much, but you never know who might show up.

And one of the things I would want, if you haven't already marked it as an exhibit, is there's the ACC or Corporation Commission letter in support of the project. That should also be marked as an exhibit if it hasn't already been.

MR. THOMAS: Mr. Chairman, I believe that's been marked as Exhibit SE-9.

CHMN. KATZ: Thank you very much.

And I'm assuming that -- what local governments have been -- regarding this particular project, what local governments have been notified of the hearing?

MR. THOMAS: The SWCA witnesses will talk about this, but this project is entirely within the city of Avondale, which has provided zoning approval.

MS. DRIGGS: Although, Maricopa County was also notified.

CHMN. KATZ: Okay. And the only other thing that I want to ask at this point in time is -- I do see Ms. Molly Emerson. I believe she's your first witness, is that correct?

MR. THOMAS: That's correct.

CHMN. KATZ: And are you going to be doing one witness at a time, as opposed to a panel?

MR. THOMAS: We are going to do the SWCA witnesses, Mr. Petry and Mr. Stoddard, who are going second as a panel; otherwise, individual witnesses.

CHMN. KATZ: That's fine. And we're going to begin, though, with Ms. Emerson, correct?

MR. THOMAS: That's correct.

CHMN. KATZ: Do you prefer an oath or an affirmation? We can do either.

MS. EMERSON: An affirmation.

CHMN. KATZ: Just raise your right hand. I don't need you to stand up.

(Molly Emerson was duly affirmed by the Chairman.)

CHMN. KATZ: And whenever you're ready, Counsel, you may begin.

MR. THOMAS: Thank you, Mr. Chairman.

MOLLY EMERSON,

called as a witness on behalf of Applicant, having been previously affirmed by the Chairman to speak the truth and nothing but the truth, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. THOMAS:

Q. Tell us your name, please.

A. My name is Molly Emerson.

Q. Where do you work?

A. I work at Plus Power, LLC. Business address, 1780 Hughes Landing Boulevard, Suite 675, The Woodlands, Texas.

Q. Who is Plus Power?

A. Plus Power is the corporate parent of the applicant in this matter, Sierra Estrella Energy Storage, LLC.

Q. Now, I believe that we have -- you had prefiled testimony filed on October 28th, 2022, is that correct?

A. Yes, that's correct.
Q. And we're going to try to keep things short today in light of the Committee's busy schedule. So fair to say if anybody has any further questions, they could consult your prefiled testimony?
A. Correct.
Q. And I believe that we discovered one thing that needs to be corrected in that testimony because of your idiot lawyer, and that is the correct acronym for SPP. And what does SPP stand for?
A. So SPP stands for Southwest Power Pool, not Small Power Producers.
Q. Okay. Subject to that correction of the acronym, is there anything in your direct testimony that you believe to be inaccurate?
A. There is not.
Q. Thank you. And I believe that your -- on the right-hand side we've got one of your slides. And you've got seven or eight for the Committee today, is that correct?
A. Yes.
Q. What are we seeing there on the -- well, before we get there, can you tell us a little bit more about what Plus Power has done in the development area?
A. Yes. So Plus Power -- do you want me to

go --

Q. Sure, if you've got a slide.

A. Sure. So Plus Power is a leading developer of transmission-connected, standalone energy storage in the United States. We are -- we were formed in 2018 from some of the principals at leading energy companies such as Tesla, NextEra, and other renewable energy developers. So we've been very busy across the United States in the last four years. We have projects in over 20 states, a portfolio of over 7 gigawatts of these energy storage projects. We're currently at 92 employees and are active in every major ISO, or independent system operator, in the country.

Q. What other projects has Plus Power developed in the battery energy storage space?

A. Our employees collectively have decades of experience in the utility and power industry. I would say collectively we've developed, built, and operated over 5 gigawatts of assets. Specifically under Plus Power's portfolio, we have -- have a lot of projects facilitating some critical power supply transitions in many markets.

On the right-hand of this slide you see is a couple of our publicly announced projects of -- projects at the utility scale. The first three that

you see on the right are projects I personally developed in Texas. The Gambit, North Fork, and Bat Cave projects are all hundred-megawatt, roughly two-hour systems, so roughly 200-megawatt-hour standalone energy storage projects, that Plus Power developed and are now operational on the Texas grid. They were operational since summer of 2021 and are helping keep the lights on and avoid some of the same power disruptions that we saw after Hurricane Uri.

So those are the three I'm most familiar with. We also have several others that have been announced publicly, including a 185-megawatt battery energy storage project on the island of Oahu replacing the last coal plant on Hawaii. So that one is under construction and will be operating next year. We have two others in the northeast that have been awarded capacity contracts out of the Forward Capacity Market in ISO New England. The Cross Town and Cranberry Point storage projects are under also under development at Plus Power right now.

Q. How many battery energy storage facilities have been developed in Arizona?

A. So in Arizona specifically there are currently seven publicly announced and operating battery projects, and that's according to the Energy

Information Administration's latest numbers as of August of this year. So seven operational projects in Arizona that I know of.

Q. Totaling how many megawatts, do you know?

A. Totaling 97 megawatts.

Q. And the Sierra Estrella project would be 250, is that correct?

A. Correct.

Q. How about in the United States as a whole, any idea how many BESS facilities there are in the U.S.?

A. The number, exact number, I do not know. I know it's in the hundreds, if not thousands, of projects. But there are about 6.9 gigawatts of operating energy storage -- battery energy storage projects in the U.S. today.

Q. As director of project development at Plus Power, did you have some involvement in the facilities that are up on the slide?

A. Yes, I did. I was personally involved in the development of the top three and involved in the siting efforts and RFP response that we underwent for the Kapolei Energy Storage project.

Q. What else have you worked on as project development officer at Plus Power?

A. So as the director of project development at Plus Power, right now I lead a team of project development managers developing projects in the southwestern WECC region, ERCOT, or Texas, and the Southwest Power Pool, or SPP, markets. And our main role is to oversee general project management of those projects, maintain schedules and budgets, obtain the necessary real estate and permits for those projects, and assist with the design and engineering in the initial phases.

Q. Before Plus Power, what did you do?

A. So prior to working at Plus Power, I was a sales engineer working on the energy storage -- energy products team at Tesla, assisting developers with technical analysis of these types of projects.

Q. And before that?

A. Before that, I was a project development associate at Solar City developing energy storage and solar projects.

Q. And how about before that?

A. Before that, I was a business analyst at the New York Stock Exchange. And before that, I got my bachelor of science in environmental engineering from Yale University in 2013.

Q. I think the next slide shows us the Sierra

Estrella energy project. First off, to make life simpler, is it okay if we use Sierra Estrella Energy Storage, LLC and Plus Power interchangeably today?

A. Yes.

Q. So what are we looking at here? On the right-hand side screen we've got two photos. What's on the left?

A. On the left-hand side you're seeing a rendering of the Sierra Estrella Energy Storage project. I believe that view is taken from the northwest, so kind of an aerial view. That is showing somewhere around 276 Tesla Megapack 2XL battery containers, which is comprising the battery facility portion of this project.

Q. And we'll hear more about this later, but Tesla Megapack 2XL is the most recent Tesla technology, is that right?

A. Yes. It is the technology that we've selected to use with this battery project. It is the most up-to-date product.

Q. Can you see the left-hand slide, the screen from over there, with the aerial photo?

A. Yes, I can.

Q. And this shows the project location, right?

A. Yes, that is showing the general project

location. And we'll go into this a little more later, but the yellow box that you're seeing is -- yes -- is highlighting the Rudd Substation, a 500-kV/230-kV substation currently in existence and jointly operated by the Salt River Project, or SRP, and Arizona Public Service Company, or APS. That is the proposed point of interconnection for the battery storage project and the terminus of the Gen-Tie line.

Q. And this is located approximately 121st Avenue/West Broadway in Avondale?

A. Correct, and South Avondale Boulevard.

Q. So back to the right-hand screen. Strike that.

First off, the left-hand side, where you've got the battery storage container units, is that property controlled by Plus Power?

A. Yes. That property is controlled by Plus Power now through a valid option to purchase agreement we have with the current landowner, it's for 11.5 acres in total, and we would strike on that option and purchase the land should a CEC permit be granted.

Q. And that's immediately adjacent to the Rudd Substation parcel, is that correct?

A. Yes, the parcels are immediately adjacent to one another.

Q. So back to the right-hand screen. The other aerial photo, that's depicting the Rudd Substation?

A. Yes. So it's a slightly different orientation; here I believe we're looking from the northeast. In the foreground we can see the existing Rudd Substation and then, yes, one dead-end structure bringing a Gen-Tie line up into one to two monopoles. And those will support the 230-kV conductor and bring it over into the Sierra Estrella project substation, where it will terminate at another dead-end structure.

Q. And then, I don't know if you've got your testimony handy or Committee Members do, but Page 4 has a description of what sort of approval we're seeking from the Committee. Can you explain to us what you're seeking approval for?

A. Yeah. So we are seeking a CEC from the Committee for that short Gen-Tie line that will connect the battery facility to Rudd. It's approximately a 700-foot-long line and will entail those structures that I mentioned previously.

Q. And the -- is the battery energy storage facility a thermal generating facility?

A. It is not.

MEMBER GRINNELL: Mr. Chairman.

CHMN. KATZ: Yes, Member Grinnell.

MEMBER GRINNELL: I'm looking at this CEC, 208, and then I'm looking at 210, and I'm just wondering why these couldn't be put into one application. I realize they're two separate entities, but it just seems almost like we're having a duplication with the same information except for one is connecting here and one is connecting there. Is there a reason for that, Molly or Counsel?

CHMN. KATZ: Well, I think that we have to have separate CECs for each of the two projects that are located in different parts of town, one on the east side and one on the west side. And they're both short lines, and I sometimes wish that the statute would be amended so that we didn't have to go through this expense of -- lengthy process to approve relatively short lines, but I think we have to do it. But I don't know that the second hearing will be -- I mean, the CECs will be very similar, so --

MR. THOMAS: Mr. Chairman.

CHMN. KATZ: And I'll let counsel comment why we're doing this.

MR. THOMAS: Yeah. If the -- obviously, the Superstition project scheduled for Wednesday and Thursday is a different project on the other side of town.

If the question was why we split the CEC for the Sierra Estrella project into two, that was after a lot of discussion with SRP and a little bit of discussion with the Chairman and reflects SRP's presence, in part, because of the timing of the conferral of the CECs for the two separate parts of this project. But we are absolutely open to further suggestion on that.

CHMN. KATZ: Well, again, Member Grinnell, they are requesting two CECs for this project, one for the substation, I believe, so that that can be assigned to APS, SRP, or whomever, and the other one. But I believe that the two CECs, except for project description, will have the same terms and conditions.

MR. THOMAS: That's our expectation, Mr. Chairman.

CHMN. KATZ: But we couldn't consolidate this with 210. It's a separate location, a separate project, and the Corporation Commission wouldn't permit us to have one -- or, two CECs that cover the same -- I mean, two different projects.

MEMBER GRINNELL: Thank you.

MEMBER HAMWAY: I have a quick question, Mr. Chairman.

CHMN. KATZ: Yes, Member Hamway.

MEMBER HAMWAY: Is this a lithium-ion configuration, the Tesla Megapack?

MS. EMERSON: Yes, this is a -- the Tesla Megapack 2XL is a lithium-ion battery, LFP chemistry. And I think we'll talk a little bit more about that in depth later on.

MEMBER HAMWAY: I'm interested in the safety and security. I mean, I think everybody is pretty aware of Tesla batteries --

MS. EMERSON: Okay. Yeah.

MEMBER HAMWAY: -- burning up.

MR. THOMAS: Yeah. Member Hamway, my apologies for not giving you a bit more of a road map. But just so everyone knows, after Molly's testimony we'll have two environmental and natural resource consultants from SWCA who will also talk about public outreach both for this proceeding and zoning approval. We will then have Devraj Banerjee, who's an engineer with Plus Power who can talk about some of the engineering details. And then finally, we will have Paul Rogers from Energy Safety Response Group, a former 25-year New York City firefighter who co-founded that firm which specializes in battery storage safety issues, including thermal safety. So all of our witnesses obviously will do their best to answer the

questions they are asked, but Paul Rogers is really the one to ask about detailed safety issues.

MEMBER HAMWAY: Okay. Thank you.

BY MR. THOMAS:

Q. Molly, I think we have -- the next slide has a good depiction of the potential Gen-Tie, if you can flip to that. And so what's the orange square on the right-hand side of that aerial?

A. So the orange square is the 11.5 acres that will comprise the Sierra Estrella facility, the entire battery energy storage facility.

Q. And that's the one that you will purchase subject to this option if the CEC is granted?

A. Yes, that's correct.

Q. What's that yellow triangle depict?

A. The triangle depicts the location of the Sierra Estrella project substation, so the eastern terminus of the Gen-Tie line.

Q. So that looks like it's in the northwest corner of your parcel, correct?

A. That is correct.

Q. And then below that would be those -- the battery storage container units that were depicted in the first photo we looked at?

A. Yes.

Q. And then the horizontal -- or, vertical rectangle that's in kind of true yellow, that's the Rudd Substation parcel?

A. Correct.

Q. What are the -- there's some blue and red lines that are traversing through the Rudd Substation parcel. What are those?

A. So Rudd Substation is a major import hub for the Phoenix metropolitan area for both SRP and APS. What you can see there are depictions of existing transmission that goes into the substation, the red lines being 500-kV lines and the light blue lines being 230-kV lines along existing transmission corridors.

Q. So the red lines are 500-kV?

A. Yes.

Q. Is that true of the horizontal red lines at the top of the parcel as well?

A. Yes. That is a WAPA transmission corridor, I believe.

Q. And then the kind of light blue, baby blue are 230-kV?

A. Yes, sir.

Q. And then finally, from the yellow triangle on the Plus Power parcel there's a blue -- royal blue line, kind of fish-hooky looking. What's that depict?

A. That is depicting the Sierra Estrella Gen-Tie line.

Q. Okay. That would be the Gen-Tie line you add if approved?

A. Yes.

Q. And that's the length of that, approximately?

A. Approximately 700 feet, or .13 miles.

Q. Okay. Is there any --

CHMN. KATZ: And if I might ask, the slides we're projecting are from your SE Exhibit 7?

MR. THOMAS: I believe these are SE-2, Mr. Chairman.

CHMN. KATZ: Okay. I gotcha.

BY MR. THOMAS:

Q. Are the -- and again, the Rudd Substation parcel and the Plus Power parcel are immediately adjacent?

A. Yes, they are.

Q. You won't need to cross any other third-party property?

A. No, we won't need to cross any public property.

Q. No federal property?

A. No.

Q. No state or other public body property?

A. We will not.
Q. Is there additional engineering to be done to finally locate the Gen-Tie piece from your parcel to the SRP parcel?
A. Yes. So the line itself, the Gen-Tie line, will be designed, constructed, and owned by SRP, actually, so they're in the design phase now. We do know the general path of the line. I believe they're still determining if one or two monopole structures would be needed to support the tension of the Gen-Tie line as it comes into our substation.
Q. And I think, if we can advance one more slide, we have another depiction of that. And so it appears that you're requesting a corridor, to facilitate that additional engineering, of 190 by 340 feet, is that correct?
A. Yes, that's correct.
Q. So it's possible that the blue Gen-Tie line depicted here may be adjusted a bit during the engineering phase, but it will be definitely within the requested corridor, is that correct?
A. Yes, that's correct.
Q. Now, I take it that the options you evaluated for the Gen-Tie focus primarily on proximity to the Rudd Substation?

A. Yes, that's correct. When we were looking at siting this energy storage project, we were looking at previously disturbed areas that were near existing infrastructure, existing transmission infrastructure, and so the proximity to the Rudd Substation was a large consideration of siting here.

Q. It doesn't look like you could get any closer, to me, is that correct?

A. That's correct. We are directly adjacent from an open bay at the Rudd Substation.

Q. What used to be on this parcel that you have the option to acquire?

A. So this parcel was previously used for a dairy production facility, a dairy farm. There are no livestock or milking operations happening today, though. The dairy is effectively retiring and being slated for future development.

Q. Okay. If we can flip one more slide, then we've got a little preview of coming attractions. So I gather you did not put together all of this work all by your lonesome?

A. I did not.

Q. And so who else is on the Plus Power team, starting with Mr. Banerjee?

A. So myself and Mr. Banerjee will be

representing Plus Power and testifying on behalf of Sierra Estrella Energy Storage. Myself, as the director of project development, can speak to the project need and general description and the local permitting that we underwent in the AHJ of Avondale. And Mr. Banerjee will be speaking more to the design and engineering of either the BESS or the Gen-Tie line and speak to the noise and interference studies that were conducted.

Q. Okay. And what do the SWCA people do?

A. So Plus Power retained SWCA Environmental Consultants earlier this year to assist with those environmental studies establishing the conducivety of the project on the chosen site and public outreach associated with the CEC permitting process and then drafting and submitting the CEC application. So Mr. Stoddard and Mr. Petry will be commenting on those exhibits and studies and the overall compatibility of the project.

Q. And we'll be hearing from them next, is that correct?

A. That's correct.

Q. And then Devraj will be after those two?

A. Yes.

Q. And then finally, what's Paul Rogers' role?

A. Mr. Rogers is the co-founder and representative here from ESRG, the Energy Safety Response Group. Plus Power contracted with ESRG to evaluate and ensure public safety and compliance of the project with all local, state, and federal safety compliance standards.

Q. Okay. And then further down the chart there's some other people that worked on the project that are not here today and aren't really doing Gen-Tie-related work, but can you tell us who they are briefly?

A. Yes. So we've worked with several different parties, local parties, to do the initial design and engineering of the Sierra Estrella project. Asset Engineer was the original electrical engineer and owner's engineer for the project. Norris Design is a landscaping and site design firm that we're working with their local office to build up the site plan and submit the now approved conditional use permit for the project. And then CVL Consultants is a civil engineering firm that we've used to do the surveying and initial civil design of the site. And Burns and McDonnell is our general contractor who will be building the actual facility.

Q. Thank you. Next slide, please.

So how did this project come about and why does SRP think it's necessary?

A. So the power utility, as you -- most of you probably know, serving the bulk of the Phoenix metropolitan area is either the Salt River Project, SRP, or Arizona Public Service Co, APS. SRP, specifically their resource plan indicates a need for incremental summer peak capacity on the system to meet the projected increases in customer load and also help integrate the intermittent renewable energies that are coming onto the system from other generators.

So we were aware of this critical near-term need for energy capacity in the area and started developing this project in 2018. SRP released an all-source RFP in the summer of 2021 outlining their need for peaking capacity, specifically requesting proposals for 400 megawatts of peaking capacity to come online before the summer of 2024 and an additional 600 megawatts to come online before the summer of 2026. So those projects are meant to help SRP fill that local capacity need on their system, support their sustainability goals for non-emitting capacity resources, and help bring more of that renewable generation onto the system and balance it out.

So Plus Power bid into those -- into that

RFP, and was ultimately selected to build 340 megawatts of lithium-ion battery projects for SRP this summer. We were selected this summer and signed a contract with them earlier -- I guess October 26th of this year.

Q. So you have a signed agreement with SRP to deliver this facility?

A. We do.

Q. And the project operations date is what under that contract?

A. Under that contract the project would have to be operational by the -- in time for the summer peak, so June 1st, 2024.

Q. And how long would construction take?

A. Approximately 12 to 18 months. We anticipate breaking ground sometime in Q2 next year should a CEC be granted.

Q. So 250 megawatts of peaking storage, can you give us some idea what that translates to in a bigger-than-a-bread-box sense?

A. Yeah. So using conservative estimates, that 250 megawatts is at least enough energy to power 60,000 homes at the peak demand during a summer peak demand.

Q. Okay. And next slide, please.

Now, this project is entirely within the city limits of Avondale, is that correct?

A. Yes. The city of Avondale is our authority with jurisdiction.

Q. Do you have final zoning approval from Avondale?

A. Yes. We have an approved CUP, or Conditional Use Permit, that was awarded to the project last November.

Q. And can you tell us a bit about that process?

A. Yeah, I can. So the current zoning of the site for the battery energy storage project is zoned a Planned Area Development, or PAD, and Avondale's zoning code permits the use of private battery energy storage facilities on the PAD subject to approval of a CUP by the Planning Commission.

So we underwent that -- we underwent that process last year. It allows -- it's a process that allows for public review and comment of the project at multiple steps along the way. So Plus Power conducted a notice to the surrounding residences and businesses within the required notification radius and then held a virtual open house meeting where we informed the public about what we were planning on developing in the area. We then presented the case to the Planning Commission and again opened up for public comment in September of last year. And then went in front of the City Council

and presented the project and again opened up for any public comment on November 1st of 2021. Not a ton of public engagement or feedback about the project that was negative, and the merits for the project were seen by the public and our CUP was approved.

Q. What's the initial contract term with SRP for this facility?

A. 20 years is the initial term of the contract with SRP.

Q. What do you anticipate the lifespan of the facility itself to be?

A. So due to the augmentation that we will do on the system throughout its life to maintain that nameplate capacity that we are contracted to provide SRP, at the end of the 20-year term the battery will still be entirely functional and at its full nameplate capacity. So we anticipate that at the end of 20 years we would either extend our contract with SRP, go market the battery services to another offtaker, or play directly into the wholesale energy markets and sell that energy and storage capacity into the wholesale market ourselves. So we don't anticipate that the battery will end its life after 20 years; we anticipate it will keep providing services to the grid.

Q. What did you mean by augmentation of the

BESS?

A. So throughout the life of the battery, the batteries naturally degrade. And so we will be adding additional batteries to the facility. They're wired in series so you can add in additional capacity onto your existing infrastructure and maintain the rating of the system, but that won't entail any additional foundations. We're going to pour all the foundations that we anticipate needing right off the bat and will all be contained within original 11.5-acre site.

Q. So the augmentation, whenever that occurs, will not expand the footprint of the facility?

A. That's correct.

Q. And it won't require any further approval by the Committee or the Commission, is that right?

A. That's correct.

MEMBER GRINNELL: Chairman.

CHMN. KATZ: Yes, Member Grinnell.

MEMBER GRINNELL: On your battery, is that a series set up for recharging, a parallel setup? And also, in the event of failure of any of these batteries, which it's going to probably have some, what is the disposal process for these batteries in the event of failure?

MS. EMERSON: So I will defer to the engineer

on the parallel and series question. I believe that all the batteries are wired in series up until they get to their medium voltage transformer, but I'll have Devraj confirm.

But, yes, they're all -- all of the containers, the 276 containers, can be isolated from one another. And so in the event of any abnormal operation, we can isolate any of the battery packs. And when they -- should they need to be removed, they can be taken off site and recycled at an appropriate facility.

MEMBER GRINNELL: Are there enough -- are there facilities actually available doing this? Because there's -- and again, rumors aren't anything to be substantiated, but people are saying they're winding up in dumps. How true is that and what is the reality on the disposal -- safety part of the disposal of all these batteries, whether it's your project or anybody else's?

MS. EMERSON: So right now today, Tesla, the manufacturer, will accept and receive any of their products and they will recycle them. So since we are using a Tesla product for this project, we can basically send that battery back to the factory and have it recycled by the manufacturer. So there is a

path forward for that. I can't really speak to other projects using different providers.

But as a whole, I think the energy storage recycling industry is going to grow dramatically over the next several decades. There have been lots of government incentive programs to try and stimulate that industry to catch up with the use of lithium-ion batteries in the EV industry, as well as the stationary storage use that we're talking about today. So the industry is definitely still in its infancy, there's no sugarcoating that, but we do expect it to grow significantly in the coming decades.

MEMBER GRINNELL: And since these are probably running series, so if you have failure at one battery, you're going to have failure throughout the series of batteries within that container or within that portfolio of storage, wouldn't that be true?

MS. EMERSON: I think that there are a very high degree of internal protections and firewalls that are built within the containers themselves and isolate each cell or module or rack, and so we kind of build up to a highly redundant and controllable system within the Megapack container itself. And there will be a little more detail of the engineering and the breakdown of that later on in the presentation. But safe to say

that the internal BMS, or battery management system, can tell when an anomalous behavior is happening in one of the cells and kind of isolate that module or cell down to prevent the cascading failure.

MEMBER GRINNELL: Thank you.

MEMBER HAENICHEN: Mr. Chairman.

BY MR. THOMAS:

Q. On that topic, Molly, when you spoke with the City of Avondale about this project --

CHMN. KATZ: Hold on just a second. I think Member Haenichen had a question for the witness.

MEMBER HAENICHEN: Yeah. My question is about reclamation of lithium that is from batteries that have dropped off in capacity or whatever. Is that a far-along developed art at this time or what? And if so, what percentage of the material can be used in a new set of batteries?

MS. EMERSON: That's a really good question. I am not sure I have exact numbers for you on that, about what percentage can be reclaimed from batteries. Like I tried to address, I think that the recycling industry is still in its nascency, to be completely honest, and I think that that growth in the next couple years will begin to establish best practices and those types of facts about what can be reused. We know that

the batteries themselves have precious metals and that they can be recovered and they will be recovered, because it's much more expensive to continue to make these with new lithium than to recover recyclable lithium.

MEMBER HAENICHEN: Not only that, we're not exactly lithium rich in this country as a basic asset, and so I'm very curious about the sustainability of this over time.

CHMN. KATZ: Again, I think battery safety and sustainability all go to reliability, but we also don't regulate battery storage facilities, so we need to be --

MEMBER HAENICHEN: No, I understand, but --

CHMN. KATZ: I understand.

MEMBER HAENICHEN: -- it's incumbent upon our Committee to --

CHMN. KATZ: I understand.

MEMBER HAENICHEN: -- understand these issues.

CHMN. KATZ: Counsel, go ahead.

MEMBER HAENICHEN: So you...

CHMN. KATZ: Go ahead, if you had another follow-up.

MEMBER HAENICHEN: On this type of system

that we're talking about here at this hearing, does your company basically try to solicit customers for this, generally big utilities or something, or do they come to you?

MS. EMERSON: We generally respond to solicitations that the utilities put out for capacity resources. And so they have identified a need on their system for new resources, and we offer this as an option.

MEMBER HAENICHEN: Would you say that this is on the upswing now, more and more of it?

MS. EMERSON: Yes. We would say that this is definitely on the upswing as utilities look for cleaner, non-emitting sources of capacity.

MEMBER HAENICHEN: Yeah. Because we -- "we," this Committee -- have noticed on just our projects menu that more and more solar in particular and wind generation facilities are being built and they need Gen-Ties. And that's the kind of thing that your company will be working in, that field, to fill the needs?

MS. EMERSON: Yes. We specifically work on standalone energy storage, not generation like the wind and solar generation that's happening generally outside of the load pocket. We are trying to site capacity

that can use those resources and charge from those resources when they're abundant and then store for later use, when the sun goes down or the wind stops blowing, so that the utility can actually manage and use that capacity when it needs to. And we find that siting closer to existing infrastructure in the load pocket limits the need for longer transmission lines to connect that power to where it's actually needed.

MEMBER HAENICHEN: So you envision little clusters of these around an energy use area?

MS. EMERSON: Ideally near existing infrastructure. But in the future, perhaps a more distributed pattern, yes.

MEMBER HAENICHEN: Now, of the projects that you're aware of that you're working on -- your company is working on, roughly what percentages are solar or wind?

MS. EMERSON: So we do not develop any wind or solar. We develop only standalone battery storage projects.

MEMBER HAENICHEN: No, I understand that. But in connection with, that's what I meant. Are your systems that you're manufacturing, installing, mostly for solar or for wind?

MS. EMERSON: Oh, now I think I understand

your question. We're agnostic on how these systems charge. So because we're just hooking into the existing electrical grid, we will charge from whatever is available at the time, and that's most -- more and more commonly the renewable sources of generation that are supplying the grid itself.

MEMBER HAENICHEN: Okay. Let me try to change the way I ask my question. In your purview, in your company's work, the systems that you're installing at the request of a client like SRP, the energy source that's going to be charging your batteries, is it mainly solar or 50/50 solar and wind?

MS. EMERSON: I don't -- I don't know how much solar or wind SRP has on their system right now, but I know that they have goals to increase that -- increase that penetration. But an electron is fungible, a kilowatt hour is fungible, so we don't know where the electrons or the charging power specifically will come from. We do know that Rudd is a major import zone for a lot of solar and nuclear power from Palo Verde, and so it is technically a cheaper form of electricity that's probably arriving at our -- at our spot on the grid, and we're charging from that and being able to spread that.

MEMBER HAENICHEN: So you might do some solar

projects for the nuclear plant?

MS. EMERSON: No, we --

CHMN. KATZ: Storage.

MS. EMERSON: We don't think -- we're not developing any solar or wind projects.

MEMBER HAENICHEN: No. I mean the storage projects are -- are any of them coupled to Palo Verde?

MS. EMERSON: No, none of them are coupled with any generation.

MEMBER HAENICHEN: Thank you.

MEMBER HAMWAY: I have a quick question.

CHMN. KATZ: Yes, Member Hamway.

MEMBER HAMWAY: So the Sierra Estrella is going to be 250 megawatts with 276 battery containers. Do you have a project that's larger than that anywhere else in the United States, or will that be your largest single BESS system?

MS. EMERSON: We are currently developing larger projects in Texas right now in the ERCOT market, larger by megawatts, not by megawatt hours. So we tend to develop the larger -- longer-duration projects in regulated utilities for utilities such as SRP. So it needs to be a minimum duration, so we have more batteries. So it's a longer duration, higher energy, but we have larger projects by megawatts currently

being developed in the United States.

MEMBER HAMWAY: But nothing operational?

MS. EMERSON: Nothing operational today, no.

MEMBER HAMWAY: Thank you.

CHMN. KATZ: Counsel.

BY MR. THOMAS:

Q. Molly, when you discussed this project with the City of Avondale, did you also meet with the Avondale Fire Department?

A. Yes. So the Avondale Fire Department reviewed our site plan for the Sierra Estrella project as part of our Conditional Use Permit application. They gave us some suggestions on the design and some recommendations that we incorporated into our design, such as a paved access road with vehicle turnouts every 300 feet, hydrants around the site perimeter, two entries -- or, two access points, and a dedicated Knox box for emergency response access to the site.

So we had some great conversations initially with the Fire Department, we also met with the Fire Marshal Napier in Avondale to review that updated site plan and to brief them on the new Tesla Megapack 2XL technology that we plan on using last year, and we will continue to engage with the Avondale Fire Department throughout the design and engineering process.

We've contracted with ESRG -- you'll hear from Paul Rogers later -- to draft a site-specific emergency response plan and conduct a hazard mitigation analysis to inform that. So the Avondale Fire Department will be trained on that ERP and best practices from the industry as we go through design, engineering, and then after we become operational.

Q. Do you think this project will enhance the reliability of the grid in Arizona?

A. Yes, I do.

MR. THOMAS: Stay put, Molly, because there may be more questions from the Committee, but that's all I have at the moment.

MEMBER HAENICHEN: I just have one more. To your knowledge, are any of the projects that your company has been involved in in this state, and then in the nation, answer it both ways, storing electrical energy from conventional power plants, thermal plants, for example?

MS. EMERSON: So we are not directly coupled with any generator, thermal or renewable. So no, unless --

MEMBER HAENICHEN: But you must know, if you have a customer, what their generation is going to be.

MS. EMERSON: We do -- no, we do not have any

idea where the kilowatt hours technically come from. They are coming from the point of interconnection on the grid where we are interconnected, and hopefully that comes from more and more renewable energy.

MEMBER HAENICHEN: Thank you.

MR. THOMAS: Okay. Thank you, Molly.

MS. EMERSON: Thank you.

Thank you, Committee.

CHMN. KATZ: And you may call your next witnesses, if they're here and available.

MS. DRIGGS: And our next witness is a panel. We have Mr. Stephen Stoddard from SWCA, S-T-O-D-D-A-R-D, and Stephen is S-T-E-P-H-E-N. And then we also have Mr. Devin Petry, and that's D-E-V-I-N, P-E-T-R-Y, also from SWCA. Mr. Stoddard will be speaking first.

MEMBER HAMWAY: Do you know what number of this their presentation will be?

MS. DRIGGS: Which premarked exhibit?

MEMBER HAMWAY: Correct.

MS. DRIGGS: Yes. The SWCA presentation was previously filed, and it's marked SE-7.

MEMBER HAMWAY: Thank you.

MS. DRIGGS: And do we need to swear the witnesses in?

CHMN. KATZ: Yes. Just give me a second. Do you gentlemen prefer an oath or an affirmation? You don't have to agree, but we can do it any way you feel comfortable.

MR. PETRY: Affirmation, please.

CHMN. KATZ: Raise your right hands.

(Stephen Stoddard and Devin Petry were duly affirmed, en masse, by the Chairman.)

CHMN. KATZ: Thank you very much.

And you may begin your questioning whenever -- are we going to go between witnesses or just take them one at time?

MS. DRIGGS: No. Just for the sake of logical order, we're going to start with Mr. Stoddard, Mr. Petry will step in for a site tour, we'll return to Mr. Stoddard, and then Mr. Petry will finish it off.

CHMN. KATZ: That's fine. Thank you.

MS. DRIGGS: But we want to keep it as organized as possible.

CHMN. KATZ: Whenever you're ready.

STEPHEN STODDARD, DEVIN PETRY,

called as witnesses as a panel on behalf of Applicant, having been previously affirmed by the Chairman to speak the truth and nothing but the truth, were

examined and testified as follows:

DIRECT EXAMINATION

BY MS. DRIGGS:

Q. Mr. Stoddard, please provide your name just for the record.

A. (MR. STODDARD) My name is Stephen Stoddard.

Q. And your office address?

A. (MR. STODDARD) My office address is located at 20 East Thomas Road, it's Suite 1700, in Phoenix, Arizona.

Q. And you're employed by SWCA Environmental Consultants?

A. (MR. STODDARD) Yes, that's correct.

Q. What's your job title?

A. (MR. STODDARD) I'm a project environmental planner.

Q. Please briefly explain your professional background.

A. (MR. STODDARD) Sure. I have my bachelor of arts in environmental policy and economics from Moravian University in Bethlehem, Pennsylvania, and I have my master's in urban and environmental planning from Arizona State University here in Tempe, Arizona.

And I've worked in both the public and

private sector in planning positions for over two years now. And I have been employed by SWCA for one and a half of those years, where I've served as a planner and a project manager primarily for renewable energy and transmission-related developments. And we prepared this CEC application and the accompanying exhibits under the applicant's supervision and review.

Q. And through your testimony you're going to be referring to the Certificate of Environmental Compatibility application that was previously marked SE-1, is that right?

A. (MR. STODDARD) Yes, that's correct.

Q. Let's turn to that application overview. Please briefly describe SWCA's expertise in CEC matters.

A. (MR. STODDARD) Yes. SWCA, we're an environmental consulting firm based here in Phoenix, Arizona, and we commonly work with federal, state, and local agencies to provide comprehensive environmental planning, permitting, regulatory compliance, natural and cultural resource management, and other environmental services here in Arizona and across the United States.

In total, SWCA has been involved in 13 CEC cases before the Arizona Corporation Commission Line

Siting Committee, and that's been over the last 10 years.

Q. And you were engaged by Plus Power to assist with the preparation for the CEC, is that right?

A. (MR. STODDARD) Yes, that's correct. We were engaged by Plus Power to assist in early January 2022.

Q. Please briefly describe SWCA's role.

A. (MR. STODDARD) Our role in the preparation of the CEC application for this 230-kilovolt generation intertie transmission line, which is associated with Plus Power's adjacent battery energy storage system, and then regarding the CEC application itself, SWCA's main role was to perform the environmental resource studies that support the application and to assist with the public involvement program.

We collected data and completed resource studies, including Exhibits A through F, Exhibit H, and the public involvement program in Exhibit J.

Mr. Petry, which I'm sure you guys have seen before, I'm a new face, he personally coordinated -- we both coordinated these efforts and oversaw the compilation of the information contained here in these exhibits.

Q. And provide the Committee an overview of the topics you plan to cover.

A. (MR. STODDARD) Sure. I will be providing

the Committee with information on the environmental studies completed for the project, which include existing and planned land use, recreation purposes and aspects, existing plans, and special factors covering the public involvement program.

Mr. Petry will then provide the Committee with information on biological resource and scenic areas, historic sites and structures, and archaeological sites. And he will also provide our opinion, based on these findings, regarding the overall compatibility of the project.

Q. Okay. Please identify the study area that was used by SWCA in preparing its evaluation. I think that's on the left up here, is that correct?

A. (MR. STODDARD) Yes, that's the map that you guys see on the left screen over there. And we reviewed and studied areas within a 1-mile radius of the project. This is identified as a study area. And we included that in Exhibits A-1, A-2, and A-3 of the application. And in general, the study area serves as the geographic boundary for our resource studies and the outreach activities related to public involvement.

Q. Why did you choose a 1-mile radius?

A. It's been typical standard practice within the CEC applications SWCA has been involved with in the

last 10 years to choose that 1-mile radius around a project site.

Q. Let's move to the public notice outreach. And I understand, in addition to the exhibits that you described, you also have a specifically developed stakeholder involvement summary in SE-6, previously filed, is that right?

A. (MR. STODDARD) Yes, that's correct.

Q. Great. Please describe those public involvement activities.

A. (MR. STODDARD) Sure. So the applicant, with our assistance, we undertook a robust public involvement program to provide the public and stakeholders with opportunities to ask questions and provide input on the project through a variety of methods, all of which included project mailings, a virtual open house, a dedicated project website, and telephone information line. We also had newspaper ads and social media advertisements, as well as a dedicated project e-mail.

Q. Please describe the project mailing.

A. (MR. STODDARD) Sure. A project mailing was sent out to all identified property owners, renters, and tenants, interested parties, and relevant agencies within the 1-mile study area for the project, and that

included 3,312 entities in total. The mailing was sent on June 7th and July 1st of 2022, and it provided notice of the project, it requested comments or questions about the project, and it invited attendance at the virtual open house.

We also had a second mailing, which is the letter you see on the right side there on the left screen, which was sent out on October 14th of this year, and that provided the opportunity for further questions and comments and it provided notice about the Line Siting Committee hearings that are happening today and tomorrow.

Q. And you also hosted a virtual open house, is that correct?

A. (MR. STODDARD) Yes, that's correct. The applicant hosted a virtual open house. It provided an online resource for interested parties to review display boards presenting the project information, maps, visual simulations, and exhibits describing the project and the related battery facility. The virtual open house also informed viewers of how to provide input and ask questions, as well as how to contact project team members for specific questions, including the opportunity to submit an online comment form.

In total, the virtual open house received

1,284 views, with 13 total sign-ins, at the end of the one-month prescribed comment period on July 31st. The virtual open house still remains open and accessible, and to date has received a total of 1,374 views. And then images from that virtual open house are on the left screen that is in front of you here.

Q. And they can also be found in Exhibits J-4a through J-4f of the application, is that correct?

A. (MR. STODDARD) Yes, that's correct.

Q. You hosted a project website. Tell us about that.

A. (MR. STODDARD) Yes. The applicant hosted a project website which had information about the project, the local outreach activities, the link to the virtual open house, some FAQs, and opportunities for providing input and asking questions and how to directly contact project team members.

Q. You also had a telephone information line?

A. (MR. STODDARD) Yes. The applicant hosted a telephone information line, which was updated throughout the process of the project. And the telephone information line was created to inform the public about the project and provide the opportunity for questions and comments to be made, and it was as a means of requesting to speak to a team member directly

to ask questions.

Q. And tell us about the project e-mail address.

A. (MR. STODDARD) Yes. The e-mail address was made available to allow for e-mailed correspondence from interested parties. And this e-mail address was posted within the informational mailings, within the virtual open house, and the project website, as well as within the telephone information line itself.

Q. And you also purchased ads on Facebook and Instagram?

A. (MR. STODDARD) Yes. The applicant made project information available through social media by purchasing paid Facebook and Instagram ads, and those ads are depicted on the left-hand screen there. And it focused on a 2-mile radius around the project site and the project social media ads ran throughout the comment period, and in total it received 326 link clicks and reached 7,574 people on Facebook and Instagram.

Q. You purchased display advertisements in the West Valley View?

A. (MR. STODDARD) Yes. During the initial comment period, the applicant purchased display advertisements in the West Valley View twice in July, and those newspaper ads promoted the virtual open house and provided contact information for the project team

and requested comments.

Q. Describe the public comments received regarding the project. Did you have much interest?

A. (MR. STODDARD) In total, we received 11 comments or questions about the project pertaining to project location and appearance, the project need, as well as health and safety. No specific comments in opposition to the Gen-Tie project were received. But a summary of those comments received, along with the applicant's responses, are included in the application.

Q. And that's identified in Table J-2 of the application, is that correct?

A. (MR. STODDARD) Yes, that's correct.

Q. Describe the outreach activities leading up to these hearings.

A. (MR. STODDARD) We filed the application on September 23rd, 2022, and prior to the hearings we carried out additional outreach activities. And what we did was in early October we published the notice of hearing twice in the Arizona Republic and then once in the West Valley View again. We also had broadcast signs posted around the project site in three different locations, and those broadcast signs listed the notice of hearing. And then we also sent out a second newsletter, which was on the previous screen, on

October 14th also identifying and announcing the Line Siting Committee hearings today and tomorrow.

Q. Thank you. Absent questions from the Committee, we can turn to Exhibit H, letters, future plans for development. Go ahead and -- did you contact public and private entities to determine whether the project would impact plans for other development in the project area?

A. (MR. STODDARD) yes. On July 25th SWCA sent out letters, which is the image on the left-hand screen there, to 15 agencies and known developers. They're listed here on the right-hand screen and they're also listed in Table H-1 of the application. And yes, they were mailed out in July to request their input on the project.

Q. And did you receive any responses?

A. (MR. STODDARD) We received responses from Arizona Department of Transportation. They noted that the project would not conflict with the future State Route 30, also known as the Tres Rios Freeway.

And we also received comments from Arizona Game and Fish, and they provided the standard environmental online review tool report.

And we also heard from the SHPO, the State Historic Preservation Office, requesting information on

the Class I literature review that was conducted for the project.

Q. And you did not receive any other written responses?

A. (MR. STODDARD) That is correct.

Q. Okay. I think next we have the route tour, which Mr. Petry will handle, is that right?

A. (MR. PETRY) Yes.

(Virtual tour plays.)

MR. PETRY: If we could pause right here for a moment, I'd like to orient the Committee with this video.

This is a virtual tour you've seen many times in the past. This has been developed so that you can get a nice overview of the project area, project vicinity, and see where the proposed project facilities are located relative to that existing environment. We'll stop at a couple points within this virtual tour and we can show simulated images that you'll see a little bit later in our presentation. These are the virtual simulations, photo simulations that we've developed from two locations near the project where the potential for views are the greatest, and we can see what some of these proposed facilities look like from those locations.

MEMBER HAMWAY: I just have a quick question.

MR. PETRY: Yes, please.

MEMBER HAMWAY: Is the flyover going to show actual land as it exists today, or are we using old Google images again?

MR. PETRY: So these images are -- as you can see in this aerial imagery, it is slightly dated, very slightly, and I'll explain a little bit more of where we're seeing some of those changes occur in the project vicinity. Primarily in the location south of the Rudd Substation, this location down here. You can see the Rudd Substation indicated in yellow, the proposed Sierra Estrella BESS is this orange box located here to the east of the Rudd Substation, the proposed project corridor indicated in purple, just to orient you with the map here now.

If we look south of that, you can see this existing and developing residential area to the south. That's the proposed -- or, excuse me -- the Alamar development. And you can see this is slightly out of date in that this location on the western portion of the Alamar development is continuing to develop now. But that area is largely built up at this point, but it's been occurring very fast over the last couple of years.

So to answer your question, Member Hamway, this is as fresh aerial data as we could obtain for this overview.

So, again, just to orient the Committee, as we've noted previously, we have the approximately 50-acre Rudd Substation located here in the center of the image, the proposed project facilities entering into that Rudd substation, the Gen-Tie corridor indicated in purple. To the north of the project you can see the existing 230- and 500-kV infrastructure, as well as to the south and west of the project you can see some of that existing 230-kV transmission infrastructure.

From here we can go ahead and start the video. And we're going to pan around the area a little bit. You can see some views of that existing infrastructure, as well as what the project would look like in this context.

I would please invite the Committee to stop us at any point if there are any questions along the way.

So we'll zoom in a little closer here to the Rudd Substation. You can see much of that existing infrastructure, as well as where the existing 230-kV and 500-kV transmission infrastructure interconnects

within the Rudd Substation.

We're looking from the west side now across a newly installed park located on the west side of Rudd Substation.

We're panning around with a view to the east. And at this point, on the north side of the Rudd Substation you can see some of the existing infrastructure.

And we're zooming into Key Observation Point 1. Let's pause here for just a moment, please. This is KOP, or Key Observation Point, 1. This is the location from where we completed one of our two visual simulations for the project. And in this image what you can see, again, is much of the existing Rudd Substation infrastructure, as well as the existing 230- and 500-kV infrastructure north of the Rudd Substation. And in this image you can make out a couple of the structures that would be installed as part of the Sierra Estrella Gen-Tie right in this location here sort of above the orange left arrow sign you can see here. We'll see more of this image, as well as this image as compared to the existing condition today, in a little bit in the rest of my presentation.

We can go ahead and move forward.

We will now zoom out of this photo and take

that aerial perspective again. We're panning to the east and we are looking south at this location. And it gives you a good view of where that proposed corridor, as well as the proposed Gen-Tie in the dark blue, would be located. Again, that corridor is represented in purple, with much of it occurring actually within the existing Rudd Substation and a small portion extending outside of the Rudd Substation into the proposed battery storage facility substation.

We have a look to the west now. You can see the existing agricultural fields at and around the proposed BESS facility and, again, a good view of the existing Rudd Substation.

We're going to zoom down into what we call a pocket park, or a small park, located south of the Rudd Substation. This is affiliated with that Alamar residential development there. And if we can pause here for just a moment as well, please. Again, this is a view to the north. You can see, in the foreground of this image, some of the existing grass and you know, infrastructure within that park, as well as much of the Rudd Substation or portions of the Rudd Substation that peek out above the stop of that berm located north of the park. In this image you can see just the tops of a portion of the proposed Gen-Tie facilities as well in

the center of the image.

Let's go ahead and move forward. Thank you.

From here, we will zoom back out and you can have, again, a view of the overall region, the Rudd Substation in the center of your image, the proposed battery facility, and --

MEMBER HAMWAY: Where was the park, now that we're --

MR. PETRY: Yeah. If we go ahead and zoom all the way out, I can point out --

MEMBER HAMWAY: Okay.

MR. PETRY: -- exactly where that park is located.

There are actually two parks located in the study area relatively close to the Rudd Substation. The first -- and if we could pause right here, that would be perfect -- is going to be this park located to the west of the Rudd Substation. And the second would be the park where that KOP 2, Key Observation Point 2, is located right here south of the substation. And that's affiliated with this residential development here to the south.

And that concludes our virtual tour. I'd be happy to answer any other questions with the tour at this point.

(No response.)

MR. PETRY: Thank you.

BY MS. DRIGGS:

Q. Let's continue on with the topic of land use in Exhibits A and B of prefiled Exhibit SE-1 with Mr. Stoddard.

Mr. Stoddard, please explain your analysis of the land use, ownership, and jurisdiction as described in the application.

A. (MR. STODDARD) Land use within the study and the project area is privately owned. And since the Gen-Tie line is entirely located in the city of Avondale, the City is the primary entity with land entitlement jurisdiction. The Gen-Tie line itself would be entirely on privately owned land.

Q. And please summarize SWCA's findings, if any, regarding that existing land use and jurisdiction.

A. (MR. STODDARD) We completed a desktop review and a field visit to identify land uses within the study area. And overall, the project site is located in a moderately developed, but developing, urban and suburban area with several single-family residential developments and a notable amount of utility infrastructure interspersed with agriculture lands.

The nearest residential home is approximately

.35 miles northeast. And that, if you'll look on the left-hand side of your screen there, is the neighborhood here within the Cantada Ranch subdivision. And the Alamar subdivision, which we saw on the virtual flyover, which is still continuing to be developed to the south, southeast of the project, the nearest home in that community is approximately .4 miles from the project.

But other land uses within the study area include a small amount of vacant land, as well as commercial, park and open space, some public and quasi-public, and transportation uses.

The Littleton Elementary School District is constructing a school, which is on the opposite end of the Rudd Substation there in blue, and it's approximately .3 miles south of the project, like I said, directly adjacent to the Rudd Substation on the opposite side from the project.

Q. And just one small correction. You said that the nearest residential home was approximately .35 miles northeast of the project. I think you meant northwest, is that right?

A. (MR. STODDARD) Northwest, that's correct, yes. Directionals, sorry.

Q. Yeah, no worries. I know it's hard when

you're seeing it up on the screen.

Let's go to planned land use, also in Exhibits A and B. Did you study the impact of the project on future land use plans?

A. (MR. STODDARD) Yes. SWCA completed a review of future planned land uses identified in the Maricopa County Comprehensive Plan, as well as the City of Avondale's General Plan. The project is located in an area with land use designations identified in the City of Avondale's General Plan as public/civic, medium density residential, and medium/high density residential. It is zoned as a Planned Area Development, as you heard earlier, and the City of Avondale zoning code permits private battery storage facilities as a conditional use requiring a Conditional Use Permit.

And the applicant applied for and received that Conditional Use Permit for their BESS facility in November of 2021; and therefore, the project is consistent with these City of Avondale land use and zoning prescriptions.

Q. And is your -- in your opinion, is the project compatible with existing and planned land uses?

A. (MR. STODDARD) Yes. Since the project would be located directly adjacent to the existing SRP Rudd

Substation and include an approximately .13-mile, 230-kilovolt transmission line and its associated substation, the applicant sought to minimize their environmental impacts and the expenses by selecting a direct route, while taking into account the existing land use and infrastructure.

Operation of the project would be compatible with the existing land uses and consistent with the zoning code. In addition, based on my review of the planned use of the study area, the project is compatible with future land uses at and surrounding the project site.

Q. Let's move on to the topic of recreation in Exhibit F of premarked Exhibit SE-1. Describe SWCA's inventory and findings regarding those recreational resources.

A. (MR. STODDARD) Recreational sites or opportunities do exist within the study area and are primarily associated with privately owned neighborhood parks, which we saw on the virtual flyover a little bit, as well as the City of Avondale's Alamar Park, which we saw in the virtual flyover, but is directly to the west of the Rudd Substation there. At the time of application filing, it was still under construction, but it actually opened the beginning of October,

October 8th of this year.

And the nearest neighborhood park is the park located in the Alamar subdivision that's under construction. That's approximately .35 miles south, southeast, and was the location of our Key Observation Point 2 from which we developed that visual simulation for the project.

The Maricopa County Parks and Recreation Strategic Master Plan shows a portion of a planned trail which runs adjacent to South Avondale Boulevard, which intersects the study area, and is approximately .40 miles to the east of the project. And this trail would be built among existing urban -- or, suburban infrastructure, including existing roads, residential neighborhoods, and utility and other associated suburban land uses. But no other planned recreation uses were identified as part of the recreation inventory.

Q. So what is your conclusion, if any, regarding the project's compatibility with recreational resources?

A. (MR. STODDARD) The Gen-Tie project would not interfere with the ongoing use of any of the public or private recreational facilities identified in Exhibit F of the application, and the applicant does not have

plans to develop public recreational aspects along this route.

Q. Okay. Let's turn to Mr. Petry. And Mr. Petry, I know we've heard a bit from you, but please -- if you could state your name for the record and your business address.

A. (MR. PETRY) Yes. My name is Devin Petry, and my business address is 20 East Thomas Road, Suite 1700, Phoenix, Arizona.

Q. And you're employed by SWCA Environmental Consultants?

A. (MR. PETRY) Yes.

Q. And what's your -- in what capacity are you employed?

A. (MR. PETRY) I'm a client services director and senior environmental project manager.

Q. And you have testified previously before the Arizona Power Plant and Transmission Line Siting Committee, correct?

A. (MR. PETRY) Yes, I have, in six prior cases.

Q. And could you identify those cases?

A. (MR. PETRY) Sure. Those include the Sonoran Solar Generation Intertie Project, the Pinal Central Energy Center Project, the Wildcat and Cyclone Generation Intertie Project, the Westwing 230-kV

Interconnection Project, Storey Solar Project Generation Tie Line, and the Coolidge Expansion Project.

Q. Provide a brief overview of your educational and professional background.

A. (MR. PETRY) Certainly. I earned a bachelor's of arts in geography from the University of Arizona, and I have approximately 14 years in environmental planning, facility siting, and permitting.

Q. And I understand you've managed or participated in over 50 impact assessment studies, is that correct?

A. (MR. PETRY) I have, yes.

Q. Let's turn to the biological resources, Exhibits C and D of SE-1. And please explain what analysis SWCA completed for those biological resources and the impact, if any, on areas of biological wealth and fish, wildlife, and plant life.

A. (MR. PETRY) Yes. As part of our inventory for biological resources, an SWCA biologist conducted a reconnaissance-level survey to document the existing conditions on the site and to note whether any habitat features important to any special status, threatened, or endangered species were present. Information was

also provided by the Arizona Game and Fish Department and collected from the United States Fish and Wildlife Service in order to identify any protected species, their critical habitat, and any protected areas that may be present in the study area.

Our inventory found that no species listed under the Endangered Species Act were present within the project area and none are anticipated to be impacted by the proposed project. There are no protected areas within the project area. A small portion of the Lower Salt and Gila Rivers Important Bird Area, or IBA, does extend within the project area and is limited to a small portion of previously disturbed, low-quality habitat with minimal vegetation present. This IBA, or Important Bird Area, is affiliated with essentially wet habitat, riparian habitat, and the nearest riparian area from the project is approximately 1.8 miles away.

Q. Given that, are any biological mitigation measures required to reduce the impact of the project?

A. (MR. PETRY) Yeah. We've, in both Exhibit C and D, recommended standard biological mitigation measures. And, you know, those are intended really just to further minimize any potential impacts to biological resources. And those include

preconstruction surveys for nesting birds, washing equipment prior to construction to minimize the introduction of invasive species, and also just constructing the Gen-Tie line in compliance with Avian Power Line Interaction Committee, or APLIC, standards to minimize the potential for electrocution to large birds.

Q. What did you conclude, if anything, regarding whether the project is compatible with wildlife and plant species and any affected habitats?

A. (MR. PETRY) Yeah. Based on our evaluation, the project is unlikely to affect any rare, endangered, special status species or their habitat, and would result in a negligible impact to areas of biological wealth. Because construction of the project would take place in a setting that is already highly altered, within an area of existing utility infrastructure, the project would not contribute significantly to any loss of native vegetation that provides wildlife habitat or any declines in any native plant or wildlife species.

Q. Let's turn to the topic of visual resources, Exhibits E and G of SE-1. Please explain what SWCA did to study the impact of the project on scenic areas.

A. (MR. PETRY) Certainly. SWCA completed a visual resource study, which involved characterizing

the existing scenery, scenic quality, and sensitive viewers within the study area, and then went on to describe those projects -- the project's potential for modifying that landscape.

The existing scenery near the project area is consistent with the developed and developing nature of the study area. The area immediately around the project, as you've seen, includes views typically -- you know, typical of a variety of urban and suburban land uses, but nearest the project is dominated by the existing industrial and utility infrastructure associated with the Rudd Substation. We also, in the near proximity to the study area, see existing agriculture, residential, and some of those parks or open space uses.

The scenic quality within the study area is considered relatively low based on the general lack of visually interesting features, land forms, and vegetation, and the prominence of those existing built features.

For the purpose of our visual impact analysis, we considered three categories of sensitive viewers; those include residential, recreational, and travel route viewers. The nearest residential areas, as you've seen in some of the imagery already, include

-- or, excuse me -- consist of, you know, largely single-family homes in the still-developing Alamar subdivision to the south and the Cantada Ranch subdivision northwest of the project. Both of those communities are greater than a quarter mile away from the project. And due to the density of the existing buildings and the topography, views from these residential areas primarily include other residential developments, roadway infrastructure, and the existing transmission infrastructure.

The second type of sensitive viewer we look at would be those recreation viewers. And recreation areas within the study area primarily include the Alamar Park and some of those private community pocket parks.

MEMBER HAMWAY: I just have a quick question just for clarification. So when you're saying it's like a third of a mile or a quarter of a mile from the project, you're not including the Rudd Substation, you're just including your BESS system with your line when you say that?

MR. PETRY: Member Hamway, yes. When we refer to the project, we are referring to the Gen-Tie line itself.

CHMN. KATZ: And was the Rudd Substation in

place before most of the newer residential development?

MR. PETRY: Yes.

CHMN. KATZ: And same with existing power lines, transmission lines?

MR. PETRY: Yes. I can't speak to the exact date of when most of those power lines were installed, but many of them extend to and from the Rudd Substation, which was in place prior to most of the residential development proximal to the Rudd Substation.

CHMN. KATZ: Thank you.

MEMBER HAMWAY: And just one other quick question. It's zoned educational. And you said there was going to be a school there?

MR. PETRY: That is correct. There is an area, and I can point it out on the map right now --

MEMBER HAMWAY: Yeah, I looked at it.

MR. PETRY: -- south of Rudd Substation --

MEMBER HAMWAY: Right. It's a pretty big parcel. It's probably at least 15 acres, I would say; wouldn't you?

MR. PETRY: It's a parcel that is affiliated with that Alamar residential development to the south. And as part of that residential development, which was proposed and is being constructed well after the Rudd

Substation, they included a school facility as part of that development.

MEMBER HAMWAY: But there's no school there now?

MR. PETRY: Correct.

MEMBER HAMWAY: And who owns that land?

MR. PETRY: That's privately owned. It's a private developer that owns and is developing the Alamar subdivision, and I think much of it has been sold. Much of those -- many of those parcels have been sold at this point.

MEMBER HAMWAY: Okay. So it's owned by the developer of the Alamar subdivision?

MR. PETRY: Yes. Well, I don't know, at this point in time, if the school is, in fact, owned by that developer at this point. I can't --

MEMBER HAMWAY: It doesn't matter.

MR. PETRY: -- speak to the ownership. But that's where it was originally proposed.

MEMBER HAMWAY: Okay. Thanks.

BY MS. DRIGGS:

Q. And you have visual simulations to allow the Committee to understand the visual impact of the project, right?

A. (MR. PETRY) I do, yes. Let's go ahead and

show those. So we, in order to illustrate the project's visual characteristics, created two visual simulations from two KOPs, you saw both of those KOPs, as well as those simulations earlier as part of our flyover. These simulations are based on the project's design and the existing site data and were developed using 3D modeling software. These can be found in Exhibit G of your CEC application.

And we developed these simulations really in order to, you know, identify locations from where the sensitive viewers, again, residential and recreational viewers, closest to the project or where they have the greatest potential views of the project would be located. And you can see both of those locations in the map to the left -- on the left screen. These are two maps that represent the key observation points.

The first one on the left represents a simulation developed from northwest of the project site, in the residential area there, looking to the southeast. And you can see that blue cone shape represents your field of view from that location. And this will make a little more sense in a moment when we see the actual simulation.

The map on the right of the left screen is very similar, and it represents Key Observation Point,

or KOP, 2. And that was developed from the small pocket park located south, southeast of the project near the Alamar residential development there.

I'll go ahead and show you those simulations now. This is the first simulation developed from KOP 1, again, northwest of the project area, looking to the southeast. And to orient the Committee with what you see here, in the upper left image -- there are two photos you see. In the upper left photo, that represents the existing condition. This is what it looks like from near that residential area today.

You can see much of the, in the middle ground, infrastructure associated with the Rudd Substation, as well as some of the existing 230-, 500-kV transmission infrastructure extending east to west in this location north of the Rudd Substation. In the foreground you can see some of the road development and some roadway signs, as well as some vegetation.

In the lower image you can see those same facilities, but with a small portion of the project included. From this image you can see two, almost three of the transmission structures that would be visible. Hard to make out, but visible from this location.

We can now step forward to KOP 2. This was the visual simulation that we developed from KOP 2. And again, this is located south of the project, southeast of the project from the recreation area or park affiliated with the Alamar residential development and we're looking to the north. And in the upper image represents the existing condition.

You can see some of the park facilities in the foreground, as well as some of the Rudd Substation infrastructure in the middle ground extending above the berm at the park. And in the lower image you see those same facilities, oops, but with a small portion of the proposed project Gen-Tie extending up above that berm as well slightly visible from this location.

The KOP identified -- excuse me. The simulation developed from KOP 1, shown previously from that residential area, again, represents residential viewers and would represent visual impacts to be low from those residential views.

The visual simulation you see here from KOP 2, again, is representative of one of those sensitive viewer types, the recreational viewers, and we would expect the impacts -- the visual impacts from this location and to recreational viewers, again, to be low.

MS. DRIGGS: I think we're heading up on 90

minutes. But before we take a break, I think -- do you mind if I ask one more question?

CHMN. KATZ: Oh, you can go ahead, yeah. But you are correct, we should be taking a break.

MS. DRIGGS: Yeah. Last one before -- it just seems like a natural stopping point.

BY MS. DRIGGS:

Q. What's your conclusion regarding the visual impacts of the project, if any?

A. (MR. PETRY) Yeah. Overall, the project would have minimal visual impacts because it would appear similar to the existing transmission infrastructure and, you know, that infrastructure is already prominent within the landscape. As such, we would consider it compatible with the visual setting.

MS. DRIGGS: Thank you.

CHMN. KATZ: It's almost 20 minutes to 3:00. We'll take about a 15-minute break. I want to get started right before 3:00 or no later than 3:00. So I guess that's a little bit longer than 15 minutes, but let's be back here within 15 and get ready to go.

(Off the record from 2:38 p.m. to 3:02 p.m.)

CHMN. KATZ: We can go back on the record.

BY MS. DRIGGS:

Q. Let's move on to the topic of cultural

resources, and that's Exhibit E of SE-1. Please describe SWCA's inventory and finding regarding cultural resources in the project area.

A. (MR. PETRY) Certainly. SWCA archaeologists completed an inventory of previously identified historic sites, structures, or archaeological sites within the project study area. And the inventory was completed by consulting the Arizona State Museum, the National Register of Historic Places, the General Land Office plat maps, and historical topographic maps. The inventory revealed that there are no known historic sites, structures, or archaeological sites within the project area.

We also completed a pedestrian, or Class III, survey of the project corridor, the portion outside of the Rudd Substation, and found no cultural resources. While the desktop inventory identified the project as intersecting an historical reservoir that was removed during the construction of the Rudd Substation, this historic resource is no longer present and no direct effects to it are anticipated from the project. As such, no direct effects to cultural resources are anticipated from the project.

Our desktop inventory also identified a few historic-era sites, structures, and archaeological

sites within that study area, again, that 1-mile distance from the project. None of those sites are expected to be impacted by the project. The historic-era structures mainly include single-family residences, in addition to canals, farms, roads, transmission line, the reservoir, and other farming-related structures, all of which are located approximately a tenth of a mile or further from the project. Given the distance between these structures and the project and the project's minimal visual impacts, the project is not expected to diminish the characteristics of these features.

Because the existing built environment, again, includes numerous modern structures, including large transmission lines and associated infrastructure, visual introductions from the project would not represent a significant change to the visual landscape, and as a result, the project would have no indirect effects on historic sites, structures, or archaeological sites.

Q. So what was your ultimate conclusion regarding the project's impact on cultural resources, if any?

A. (MR. PETRY) The project would not directly or indirectly affect historic sites, structures, or

archaeological sites, and would therefore be compatible with known cultural resources.

Q. Moving on to overall compatibility, have you formed an opinion regarding the environmental compatibility of the project as described in the application?

A. (MR. PETRY) Yes. When looking at the total environment, the project would have minimal effects on existing and planned land uses; recreation; visual, cultural, and biological resources. The project is consistent with local zoning and land use planning documents, and would be constructed in an area adjacent to existing electrical infrastructure. Given the developed nature of the project area, and the relatively short distance of the Gen-Tie itself, there is a very low potential for it to affect biological, cultural, or visual resources.

In my professional opinion, based on our analysis, the project is environmentally compatible with the factors set forth in ARS 40-360.06 and consistent with previous projects approved by this siting Committee.

Q. Does this conclude your testimony?

A. (MR. PETRY) Yes.

MS. DRIGGS: Thank you.

Are there any questions from the Committee?

CHMN. KATZ: Any follow-up questions?

(No response.)

CHMN. KATZ: I think we're set for the moment.

MS. DRIGGS: Okay. Then we'll move on to our next witness, and that's Mr. Devraj Banerjee. And I'll spell that name for you. D-E-V-R-A-J, B-A-N-E-R-J-E-E.

CHMN. KATZ: And that will help us out too. Thank you.

Whenever you're ready.

MR. BANERJEE: I'm ready. Sorry, the name?

MS. DRIGGS: Would you prefer an oath or affirmation?

MR. BANERJEE: Affirmation.

CHMN. KATZ: Would you raise your right hand.

(Devraj Banerjee was duly affirmed by the Chairman.)

CHMN. KATZ: Thank you very much, and you may begin. And sorry for being slow to the draw.

MS. DRIGGS: Oh, no, not at all.

DEVRAJ BANERJEE,

called as a witness on behalf of Applicant, having been previously affirmed by the Chairman to speak the truth

and nothing but the truth, was examined and testified as follows:

DIRECT EXAMINATION

BY MS. DRIGGS:

Q. Please provide your name for the record.

A. My name is Devraj Banerjee.

Q. And you are located at 1780 Hughes Landing Boulevard, Suite 675, The Woodlands, Texas. Is that your business address?

A. Yes, that is.

Q. Thank you. You work for Plus Power?

A. Yes.

Q. Tell me your job title with Plus Power and a bit about your job responsibilities.

A. I work as a project engineer for Plus Power. My job responsibilities include providing technical subject matter expertise for engineering and construction of battery energy storage systems.

Q. And you are the lead engineer for the standalone battery energy storage system that's being developed by Sierra Estrella, that is correct?

A. That is correct.

Q. Describe your educational background.

A. I received my bachelor of science in

electrical engineering from the University of Illinois at Urbana-Champaign in 2013, and my full resume is attached to my prefiled testimony.

Q. Describe your experience working in clean energy, utility, or related industries.

A. I began working in the electric utility field in 2014 as a substation engineer. I was focused on transmission substation projects. In 2019 I began working on battery energy storage systems.

Q. Let's move on to the Gen-Tie design.

MEMBER HAMWAY: Excuse me. Can I ask what presentation we're in?

MS. DRIGGS: Yes, of course. The presentation that we -- he only has a couple of slides, but you can refer to the Sierra Estrella ACC hearing presentation by Plus Power, and that was previously filed as Exhibit SE-2, and specifically you want to refer to Slides 10 and 11.

MEMBER HAMWAY: Thank you.

MS. DRIGGS: And he will also be referring to SE-1.

BY MS. DRIGGS:

Q. And I understand that the Gen-Tie design is described in more detail in 1.1, the introduction of SE-1, so please just briefly describe that design.

A. Yeah. The Gen-Tie design is being designed and constructed by SRP. It is a three-phase transmission line at 230 kV that will connect the project substation to the existing Rudd Substation.

Q. And describe the proposed project substation.

A. The proposed project substation is a 230-kV to 34.5-kV substation. It will be comprised of one main power transformer, one high-voltage breaker, several 34.5-kV feeder breakers, switches, as well as a control enclosure.

CHMN. KATZ: And just so I understood you, did they submit the design, SRP, for the transmission lines or for the substation or both?

MR. BANERJEE: The substation is being designed by Plus Power. SRP is just designing the transmission line.

CHMN. KATZ: Thank you.

BY MS. DRIGGS:

Q. But I understand conceptual drawings of the project are found in Exhibit G of the application, is that right?

A. Yes, that's correct.

Q. And the project construction schedule. The project construction start date for the BESS is April 20th of 2023, that's the scheduled date, is that

correct?

A. Yes. Yes, that's correct.

Q. And Gen-Tie energization would be March 1st of 2024, is that right?

A. Yes.

Q. And finally, commercial operation would be June 1st of 2024, correct?

A. Yes, that's correct.

Q. Let's move on to the BESS design. Briefly describe the BESS system and the general design.

A. Yeah. So as previously described, the BESS system will be made up of Tesla Megapack 2XL units. There will be about 276 of these units arranged in a grid-like fashion. About four of these units will be strung together and connected to a medium-voltage transformer. These medium-voltage transformers will be connected in a loop fashion and tied together to the project substation, where it will be stepped up to 230 kV and the energy will be transferred there to the Rudd Substation.

Q. And if we're looking at the slides, it would be Slide 10 of prefiled Exhibit SE-2, is that right? Could you describe what's on that picture?

A. Yeah. So what we're seeing here is the exterior view of the Tesla Megapack 2. This shows the

outside -- the exterior of the container, which essentially looks like a shipping container.

Q. And move to the next slide. Actually, I can do that for you.

A. Yeah.

Q. There we go. Describe that slide, please.

A. So this is an interior view of the Megapack 2. This would be the view if all the doors were removed. What we're seeing here are the battery modules. Each module contains the battery cells within them. And these modules are connected in a combination of series and parallel to make up the power for the Megapack.

Q. And how does the BESS interconnect into the existing electrical grid?

A. So the BESS connects to the existing electrical grid through the project substation. The battery modules are all DC connected, where the inverters are built into the Tesla Megapack itself. The Megapack outputs at 40 volts AC to the medium-voltage transformers, and from there through 34.5-kV feeder cables to the project substation.

Q. And how will be the BESS be operated?

MEMBER HAMWAY: Could you move your microphone closer?

MR. BANERJEE: Sorry. Yes.

Okay. Is that better?

MEMBER HAMWAY: A little bit.

BY MS. DRIGGS:

Q. How will the BESS be operated?

A. The BESS will be operated remotely. For the 20-year length of SRP's contract, they will control the BESS directly. They will send signals remotely, which will be accepted by the plant controller at the Sierra Estrella facility. That plant controller will communicate to the Tesla controller and to the battery management system, which will control dispatching of the system.

Q. And the battery manufacturer you expect to contract with is Tesla, is that correct?

A. Yes, that is correct.

Q. And what were the considerations that went into your evaluation of Tesla?

A. Safety and reliability were the most -- were the key considerations. Tesla and the newest Tesla Megapack 2XL product were found to meet all of the latest codes and standards applicable to battery energy storage systems.

Q. And that includes NFPA 855, UL 1973, UL 1741, UL 9540, and UL 9540A, is that right?

A. That's correct.

Q. Will the project -- we heard a little bit about this earlier. And my understanding is that the project will not require augmentation as defined by changes to generation output of the system or transmission line or the project's footprint; there will be no future changes, is that right?

A. Correct. The augmentation required will not expand the project substation and they will not impact the electrical output as far as the Gen-Tie is concerned.

Q. Great. And confirm how the BESS will be secured.

A. The BESS facility will be secured using an 8-foot-tall perimeter wall. There will be a security system comprised of cameras and alarms. And any incident would be immediately reported and available for scrutiny from our security system.

Q. And we talked about this a bit earlier as well. But the access routes for ingress/egress, just briefly touch on those.

A. Yeah. The primary ingress for this facility will be off Avondale Road. It will be a 20-foot-wide paved road with sufficient spacing and turning radius for fire trucks and vehicles to access.

Q. And discuss whether leaks could be a possibility and what would be done in the event of a leak.

A. There's a very low probability of a leak from a battery cell. There's several levels of redundancy. The battery cells are within modules, as you can see, and those modules are within the container, so any spills would be contained within one of those levels.

CHMN. KATZ: Just so I ask, when we look at one of those, are there -- does the module consist of those nine separate batteries or is it --

MR. BANERJEE: Yeah. Sort of the nomenclature gets a little confusing. I think what you and I would describe as a module is one of those kind of individual units. Tesla actually calls a module three of those. So if you see there's groupings of three, that's --

CHMN. KATZ: So that would be the nine batteries?

MR. BANERJEE: Yeah. So that's what Tesla considers a module, and within those modules are the battery cells.

MEMBER HAMWAY: If there was a cascading event in one of those nine individual modules, could you isolate it to -- how quickly and how accurately can

you isolate a cascading event?

MR. BANERJEE: So I will let Mr. Rogers speak more on the UL 9540A results, which describe those. But if there was any event within the battery cell, it would deenergize the entire Megapack.

MEMBER HAMWAY: I'm sorry. Say that again.

MR. BANERJEE: So if there's any event within any individual module, the whole Megapack would be deenergized to help prevent any spread, but I'll let Paul describe it in a little more detail.

MEMBER HAMWAY: So when you're talking about a Megapack, you're --

MR. BANERJEE: I'm talking about the entire unit, yes.

BY MS. DRIGGS:

Q. Let's move on to Gen-Tie noise and the interference evaluation. Describe anticipated noise levels from the Gen-Tie, if any.

A. The expected noise levels from the Gen-Tie are evaluated to be negligible and not above background levels already existing on the site.

Q. And describe the results of the EMF study that was prepared for the project.

A. The EMF study found that the levels caused by the Gen-Tie would be much lower than what is already

observed on the site.

Q. So it would be indistinguishable from background levels, is that right?

A. That's correct.

Q. And any anticipated radio or television interference?

A. There are no expected impacts to radio or television interference from the Gen-Tie.

Q. Does that conclude your testimony?

A. Yes.

MS. DRIGGS: Thank you.

Any questions from the Committee?

CHMN. KATZ: Doesn't look like it.

MS. DRIGGS: Okay. And next up we have Mr. Rogers.

MR. THOMAS: Tell us your name for the record, please.

MR. ROGERS: I couldn't hear you, Chris.

MR. THOMAS: Tell us your name for the record, please.

MR. ROGERS: Yeah. My name is Paul Rogers.

THE COURT REPORTER: Do we want to swear in the witness first before we start?

CHMN. KATZ: Of course. Do you want to be sworn or affirmed?

MR. ROGERS: I'll be sworn in.

(Paul Rogers was duly sworn by the Chairman.)

CHMN. KATZ: You may proceed, and I'm sorry for being slow to the draw again.

MR. THOMAS: Sorry about that, Mr. Chairman.

PAUL ROGERS,

called as a witness on behalf of Applicant, having been previously sworn by the Chairman to speak the truth and nothing but the truth, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. THOMAS:

Q. Paul, where do you work?

A. I work at Energy Safety Response Group.

Q. What is Energy Safety Response Group?

A. We're a consulting company that was put together by a group of firefighters and engineers. We do consulting on energy storage systems and other energy sources to look at safety based on the codes that are available for that particular industry.

Q. Were you a co-founder?

A. I was a co-founder, yes.

Q. You're a former firefighter?

A. Yes, I was a firefighter.
Q. For whom?
A. I worked for the New York City Fire Department for 25 years working in our hazardous material unit as a lieutenant and also working in our Bureau of Fire Prevention.
Q. You retired as a lieutenant?
A. I did retire as a lieutenant, yes.
Q. What years were you with the New York City Fire Department?
A. I worked from 1993 to 2018.
Q. So you were there during 9-11?
A. I was there during 9-11, yes.
Q. Did you spend time at Ground Zero?
A. Yeah, I spent a lot of time at Ground Zero.
Q. And then after you retired as a lieutenant, you co-founded ESRG?
A. That is correct.
Q. What sorts of clients and work does ESRG do?
A. So we do work with battery developers, people like Plus Power. We also do with people like Tesla and other groups that actually make batteries. We do destructive testing in our laboratory out in Ohio. We do permitting work like this. We do response, we actually respond to certain incidents that may take

place where they need assistance.

Q. Do you also do any training?

A. We do, yes. And we do training based on the energy storage system that we're actually working on.

Q. Did you also work on battery safety issues during the time that you were with the New York City Fire Department?

A. Yeah. When I was with the New York City Fire Department, working down in our Bureau of Fire Prevention back in 2013, these energy storage systems started to show up in New York City. At that time, there were no codes available to really address it properly. So we created our own code or regulation -- it was called a rule, Rule 608 -- from the FDNY that was used as a basis for the national codes that are currently available today.

Q. What national codes are there today?

A. So right now we have the NFPA 855, which is a national code, it's known as a model standard where people can adopt it to make it for their code, and we also have the International Fire Code, which are the two that most people will adopt for their local jurisdiction. The International Fire Code 2021 and the NFPA 855 code are aligned, almost identical, because the people that worked on the 855 committee, that

worked on that committee, also worked on the International Fire Code 2021 regulation.

Q. What's NFPA stand for?

A. Yeah. The NFPA is the National Fire Protection Association. It's a standard development organization that looks at industries and tries to give best codes or standards that can be used for industries for safe installations or safety moving forward on that industry.

Q. Did you help come up with the NFPA Standard 855?

A. Yes, I worked on that committee representing firefighters. I represent firefighters through International Association of Firefighters, and they represent 330,000 firefighters throughout the United States. But I represent ESRG today, not representing the International Association of Firefighters, I want to be clear on that.

Q. So when that work began, you represented the New York City Fire Department?

A. Originally, when I first -- when it was first put together, the committee, I was still with the New York City Fire Department, and I was part of NFPA 855 through the New York City Fire Department. And when I retired, the International Association of Firefighters

asked me to be their representative when I retired from the New York City Fire Department, to stay on the committee itself and represent the fire service.

Q. Okay. When was 855 released?

A. It was released in, I think it was -- technically it was in September of 2019. It was called the 2020 version. There's a new version coming out in 2023; January it will be out.

Q. Is that the standard that's relied upon most in this industry?

A. That would be the standard that most people are looking at today, safe installation in a built environment for energy storage systems.

MEMBER HAMWAY: I just have a quick question. Are there competing standards?

MR. ROGERS: Yeah, there is a competing standard, and that would be the International Fire Code, which is very similar to NFPA 855, if you're using the current 2021 version. They're almost aligned, exactly alike, even the language itself. You think you're reading 855 if you're reading the International Fire Code.

MEMBER HAMWAY: So what happens in 2023?

MR. ROGERS: So in 2020 -- so in the next -- the next cycle that comes out, they will update the

code and move into other things that they feel may have been gaps that they want to cover moving forward. For instance, if they felt that an emergency response plan was needed and they wanted more criteria, they'll add more criteria into that particular section.

MEMBER HAMWAY: Okay. So since they're aligned, there really isn't a competing standard, is there?

MR. ROGERS: Well, it all depends on whether the jurisdiction wants to adopt the 855 or whether they want to -- the NFPA 855 standard or if they want to adopt the International Fire Code itself.

MEMBER HAMWAY: Right. But depending on which one they adopt, the information and the technology and the codes are all going to be the same?

MR. ROGERS: They are very much aligned, yes. Yes.

MEMBER HAMWAY: So is there an advantage of one over the other?

MR. ROGERS: Well, some people -- some people use what they call the "I codes," the International Building Code, the International Plumbing Code, the International Electric Code, and some people use NFPA for their standards. So people that use the I codes, they generally will adopt the International Fire Code

just to keep consistent with the other codes that they have within their jurisdiction, so they may not adopt the 855.

MEMBER HAMWAY: Okay. So then we can expect a fire company to adopt one or the other, correct?

MR. ROGERS: Correct.

MEMBER HAMWAY: Okay. And they're both adequate?

MR. ROGERS: They're both very adequate, yes. Yes.

MEMBER HAMWAY: I guess that's where I was going.

MR. ROGERS: Okay. Sorry about that.

MEMBER GRINNELL: Mr. Chairman.

CHMN. KATZ: Yes. Go ahead, Member Grinnell.

MEMBER GRINNELL: Mr. Rogers, the state of Arizona, which code does it adopt, the state of Arizona?

MR. ROGERS: The state of Arizona right now, I believe -- I believe they're on the 2018 code. I believe that they're looking to go to the 2021 code. So if they went to the -- if they're on the 2018 code, the 2021, or the NFPA 855 code, is going to be above and beyond. It's a better code. It has more safety parameters in there, and we can explain that further if

you're interested.

MEMBER HAMWAY: So the 855 has better codes?

MR. ROGERS: It has -- it has -- it has more safety parameters addressing in the new code. For instance, large-scale fire testing is addressed in the new code, where the 2018 was not.

MEMBER HAMWAY: Okay. But in the 855 and the International Fire Code both --

MR. ROGERS: Yes.

MEMBER HAMWAY: That safety testing will be in both of those?

MR. ROGERS: That's correct, yes.

MEMBER HAMWAY: In 2023?

MR. ROGERS: No. That's in the 2021 International Fire Code and it's also in the 2020 NFPA 855.

MEMBER HAMWAY: Okay.

MR. ROGERS: And we'll explain a little further on, I'm sure you've been hearing throughout the testimony, this thing called UL 9540A. And both of those codes call that out, and we'll address that later on if you're interested.

MEMBER HAMWAY: Thanks.

BY MR. THOMAS:

Q. So, Paul, just to be clear, with respect to

the Sierra Estrella BESS project, is there any material difference between the NFPA 855 and the IFC 2021 code?

A. Very minimal.

Q. Okay. And does the Sierra Estrella BESS project comply with both of those codes?

A. Yes, it does.

Q. And I assume, since those codes are more advanced than Arizona's soon-to-be-updated code, it would also comply with that one as well?

A. That is correct, yes.

And just to give you a little education on the codes, when a local jurisdiction adopts a code, it's a big, big process for them to do it. It's a very, very big process. That's why we see some of the codes are lagging behind, where some people may be on the 2012 International Fire Code and so on. It's just they don't have the time to actually update the code, so it takes a -- it's a long process to do it, a lot of work.

MEMBER HAMWAY: Let me ask another question. So when Avondale, you know, they're getting this BESS system, if they had not adopted the most recent, would this battery system be able to be installed prior to them adopting the most recent and up-to-date codes?

MR. ROGERS: Yeah. The code that we're

following, NFPA 855, is going to be above and beyond what is required for whatever code they may have that is not -- whatever code that they may have that is currently on the books. So, in other words, this is above and beyond. Remember, whenever you -- whenever you do a different version of the code, you're enhancing the code from where it was before, so you're making it even better than what it was before.

MEMBER HAMWAY: Correct.

MEMBER GRINNELL: Mr. Rogers.

MR. ROGERS: Yes.

MEMBER GRINNELL: Am I to assume -- or, am I to understand here the state of Arizona really does not have a unified code which all jurisdictions observe?

MR. ROGERS: No, I believe -- I believe there's a home rule in the state of Arizona.

MEMBER HAMWAY: It's jurisdictional.

MR. ROGERS: Yeah, thank you. Thank you, Ms. Hamway.

It is jurisdictional, so there's a home rule.

MEMBER GRINNELL: But this is a matter of public safety as a whole. Wouldn't that -- well, I guess you're not in charge of that, so...

MR. ROGERS: Not yet. And that's one of the reasons why we're using 855, because it is the most

updated code and the safest code that we have currently to date to address NFPA -- to address the energy storage systems that are coming into the state of Arizona. So it is my opinion that this code is by far the best code that's out there, because we learned a lot -- since the other codes were in place, we learned a lot about what we need to protect against for these energy storage systems because of all the testing that was done to actually keep these codes and make them more robust than what they were at the time.

MEMBER HAMWAY: So when you're training Avondale police, firefighters -- I'm sorry, not police -- firefighters, are you explaining the difference between 855 and maybe the International Code that they have adopted and they're familiar with?

MR. ROGERS: That's a really good question. So it depends on the audience that I'm teaching. Because there's a lot of firefighters that don't want to know anything about the code, and I could lose them. My main thing is safety during an operation. If I'm having a different group of people in there that are very code conscious, I am a hundred percent going to go over the code with them to make sure they understand it. So, again, that question, depending on the audience that I am teaching.

MEMBER HAMWAY: Okay. Thank you. And by the way, I'm really glad you exist, because this hasn't been the case in the past. So I'm glad your company exists, I'm glad you're up to date on the codes, and I'm glad Sierra Estrella Energy Storage is working with you.

MR. ROGERS: Thank you for that compliment.

BY MR. THOMAS:

Q. Well, it's almost a shame that I have to ask more questions after that.

So Sierra Estrella is going to use the Tesla Megapack XL system, is that correct?

A. 2XL system.

Q. Yeah, 2XL. And that's the latest and greatest from Tesla?

A. That is their newest version, yes.

Q. Okay. Can you tell us a bit about the safety features in the Megapack 2 system?

A. So the Megapack 2, as far as safety is concerned, they have a thermal management, which is constantly on to make sure that we don't have any overheated batteries. They also have the BMS, which you heard mentioned before, but I really want to explain what that is.

The BMS itself is the battery management

system. That is constantly monitoring the battery for the state of health. If it recognizes that something is wrong or out of the parameters, it can isolate that battery to stop any type of charging and discharging. And we've seen, as a result of stopping the charging and discharging, we can really prevent any type of incident that may have taken place if it continues to charge and discharge. So the battery management system is basically the eyes and ears of the actual system itself.

MEMBER HAMWAY: So does each one of these physical containers have a battery management system?

MR. ROGERS: Yes, they do. Great question.

CHMN. KATZ: And is that in all three of the modules within the module?

MR. ROGERS: Yeah, so -- yeah, we just want to make sure we get our terminology right. And I don't mean to be --

CHMN. KATZ: No, I need to be corrected, so go ahead.

MEMBER HAMWAY: We all need to be corrected.

MR. ROGERS: So as we go through this -- the industry, unfortunately, doesn't have standardization of the modules, what is a module, some people call it a pod, and some people, you know, have different names

for it. For the sake of this Committee, we're going to recognize this as a module. We're just going to recognize this as a module, because I'm going to explain things further on about this particular area right here, all right?

So a module is made up of a group of cells that exist inside of it, okay? Everyone follow me so far? All right. Because we're going to be talking a little bit about testing, and testing of the module to show the resiliency of a failed test later on.

Sorry, Counselor. Can you go back to your question?

BY MR. THOMAS:

Q. I've forgotten what my question was, but can you tell us who Fisher Engineering is?

A. Yes. So Fisher Engineering is a third-party company that was -- that was hired by Tesla to put together a report that is a narrative that explains testing data that was collected during a destructive test that is required as per NFPA 855 or International Fire Code 2021.

Q. And the Fisher report is this document here, right? It's the one we've marked as Exhibit SE-8, is that correct?

A. That's correct.

Q. Okay. And so Fisher wrote a report, but an independent third party collected the data described in the report?

A. Yes, so -- yeah. So let me explain to the Committee, if they're interested. This large-scale testing -- large-scale testing, fire testing that needs to be performed, is done by a national recognized testing laboratory, so -- known as a NRTL. So it's not just any laboratory can do it. It has to be nationally recognized testing. So they have their own standards and codes within themselves that they have to abide by in order to get that recognition as a national testing laboratory.

So they did destructive testing, and during that testing what they --

Q. Before you go, who is "they"? Who was the lab that did the testing?

A. The lab in this case was called TUV. They are a national recognized testing laboratory. That means they have that recognition through OSHA to be a national recognized testing laboratory. And again, they have their own standards within their -- within their own little national recognized testing that they have to meet in order to get that NRTL type of recognition.

Q. And what's NRTL?

A. NRTL is a -- NRTL is short for national recognized testing laboratory. I'm sorry about that.

Q. Okay. And before we dive into exactly what the testing involved, what generally were the conclusions of the independent lab as reflected in the Fisher report?

A. Yeah. So the conclusions were that -- they perform what they consider a worst-case scenario, right? You can design things to withhold and see what happens during a worst-case scenario event. And they -- during this event that took place, there was no explosion that took place observed. That's the word they use in there, observed. And this was all within this container here, right, all within this container. There was no explosion, there was no fire that was observed during this worst-case scenario, and there was no fire that took place at all during the worst-case scenario event.

There was a little bit of smoke that came out of it, but they looked at that as -- they had to put instrumentation into the actual -- into the container itself. So as a result of putting that instrumentation in there, you have to crack the doors a little bit. So there was a little bit of smoke that came out as a

result of that, but not a lot. I don't have the exact measurements on how much smoke did come out.

Q. Okay. We've got -- on the left side of the screen here we've got, I believe it's Page 10 from the Fisher report, which is Exhibit SE-8. Do you recognize that?

A. I do. I do.

Q. Okay. And then this, I think, depicts the test that the independent testing lab folks developed to evaluate risk of propagation?

A. So this -- this is the final stage of the UL 9540A. There's a couple of different stages; this is the final stage, right. This is where they -- what they do is they take a module, right -- so this module here is depicted up here. I'm just using -- I forgot which one they actually took. I believe it was -- it was definitely one in the middle. But this here is a representation here. So all those little boxes that you see there, they're individual cells.

So what they did is -- you can see the ones in red right there, right? There's three there and three below and there's one in the middle that's still gray. They put them into a thermal event, so they heated them up, simulating an overcharge.

And as a result of heating them up, what they

did is they tried to -- the test says that you have to have what they call propagation, or spread. So it has to be able to spread from one cell to the next cell. And they had to put six cells into failure in order to get spread to another cell. So when they first tried to do it with one cell, there was no spread. When they tried to do it with two cells, there was no spread. Three cells, no spread. Finally, they got to six cells, and they finally were able to have another cell go into a thermal runaway event.

CHMN. KATZ: And a cell is three modules?

MR. ROGERS: No. A cell is an individual --

MEMBER HAMWAY: It's inside one of those --

MR. ROGERS: It's inside the module. Sorry about that. I know you'd probably like to look -- I like to use my wallet. It's like a prismatic cell. It's like a block. It's like a block. There's a couple of different cell types in this industry, cylindrical, prismatic, and a pouch cell. This is what they call a prismatic cell.

So think of it looking like my wallet here, right. So there's a group of these inside of that module. So they had to put six of these into a heating event, simulating an overcharge, to get a seventh to go in, and there was no spread after that. And that was

the criteria the test needed in order for you to satisfy the final stages of the test itself. So that's all laid out in that Fisher report that's in front of you.

But during this test they take -- what they're doing is they're collecting data, raw data. And they didn't feel that -- giving raw data to the authority having jurisdiction to go through and cipher through this and having no understanding of it, what they did is they hired Fisher Engineering to come in, interpret the data, and throw it into a narrative so people could understand it and understand how the test was administered and the results from the test.

BY MR. THOMAS:

Q. Okay. And the test did not indicate that a BESS container unit would catch fire, correct?

A. No. As a matter of fact, it never went outside of this module. We're using this module as the target module right here. It never left this module here at all. So all of these cells that were inside this module here, they only had one other cell that actually went into what they call a thermal runaway event.

MEMBER HAMWAY: So why would you need to take down the entire structure if you had a thermal

cascading event?

MR. ROGERS: I'm not sure of your question.

MEMBER HAMWAY: I guess I misunderstood. I thought if you had one of these events, thermal events, that the entire physical structure had to be shut down.

MR. ROGERS: If they're not designed properly, you could have a cascading event that can go even further than this.

MEMBER HAMWAY: Yeah, we've had those.

MR. ROGERS: You've had them.

MEMBER HAMWAY: Yeah.

MR. ROGERS: I'm aware of them.

MEMBER HAMWAY: So are we.

MR. ROGERS: Yes, in this situation. And what 9540A was developed for is to really put the people who are -- these integrators that are making these batteries, to put them on notice to start designing these things with further safety so we can stop the spread of these cell-to-cell propagation of -- so it really -- it really pushed them to redesign their energy storage systems, because we were concerned about big fires and spreads, and you know what took place down here in Arizona, and we all know what took place, and we want to make sure that never happens again.

MEMBER HAMWAY: So are other battery storage

manufacturers, like LG and some of the others, are they following this same kind of methodology?

MR. ROGERS: If we're using International Fire Code 2021 version and the NFPA 855, they must follow this. They must follow this.

BY MR. THOMAS:

Q. So, Paul, I think the Fisher report, Exhibit SE-8, the last two pages I think have some comparisons between the new Megapack 2XL technology that Sierra Estrella will be using and the old Tesla Megapack 1 technology. And what, generally, is the difference in approach for thermal safety that we see in the Megapack 2XL as opposed to the Megapack 1?

A. So if you go to the second page of what Counsel is talking about, you will see UL 9540A unit level test, this is destructive testing that I've been talking about, and you'll see it's broken down into two columns. I'm on Page, if we're going to be showing it up on the screen here -- I'd rather have a visual for them to take a look at. It's the last page of the report.

MEMBER HAMWAY: Is it part of Appendix 1?

MR. ROGERS: Yes, Appendix 1. This right here.

MR. THOMAS: Yeah. If you scroll to the very

end of that exhibit, I think you'll get there.

MR. ROGERS: On the Fisher report. Yep, there it is.

I can't read that. Does that say UL 9540A testing results?

BY MR. THOMAS:

Q. It does.

A. Great. So, as you can see, Megapack is on your right-hand side. Let's take a look at the results from this large-scale fire testing that's required in the code. This is a Megapack 1 versus a Megapack 2. The Megapack 1 is no longer being made; everything is going to be the Megapack 2. I'm not -- I don't believe the Megapack 1 is going to be made anymore, but I know the Megapack 2 is now really starting to be used in a lot of different places.

But you can look, if everyone is on that page, you can see where it says, internally heated cells led to a thermal runaway of one additional cell. And we just showed you that visual before. You can also see it says, no fire propagation, no evidence of sustained flaming, no flames observed outside the cabinet itself, no heat fluxes recorded at distances up to -- heat flux is basically heat -- the heat transfer and how far it will actually start to radiate heat, how

far it will go -- 20 to 30 feet from the cabinet itself.

Q. Okay. And in fairness to the Megapack 1, which Sierra Estrella will not be using, it was designed to consume the entire cabinet to eliminate gases, correct?

A. Megapack 1 was designed to totally consume itself. And, you know, there have been a couple of them that you may have been aware of, but it did what it was exactly designed to do. It actually validated 9540A. They tested it that way, and it validated exactly what the test -- what the test showed that would happen, did actually happen. So some people look at it as a bad thing; I actually looked at it as a good thing. It did exactly how it was designed, and that was to consume itself.

Q. But in any event, the Megapack 2XL doesn't have that same feature, correct?

A. No. Megapack 2, they don't have any -- and we saw the results. There is no flaming that takes place, there's no spread, there's no observed -- there was no type of -- any type of explosion or projectiles being thrown out of this thing, and we're all familiar with that before. So that's always a -- that's a good thing, and that's an Achilles heel for the fire

service, as we know.

Q. And this is addressed in your prefiled testimony as well, but generally speaking, the other fires that we've heard about, some of which were in Arizona, involved the older technology that's not being used here, is that correct?

A. Older technology, systems that weren't listed at the time, they did not have any type of explosion control, there was no ventilation, there was no emergency response plans for the fire service, so there was very little training. The fire service didn't even know some of these things existed. So there's been a lot that has been done through the new NFPA 855, the International Fire Code to make sure that the firefighters had a voice and that they're going to be protected when these things go in.

Q. Is part of your engagement for Sierra Estrella to be -- to continue working with the Avondale Fire Department?

A. Oh, absolutely.

Q. And what will that involve?

A. So that will be an emergency response plan that will be built out, and it -- we'll give them a draft on it. And then we are big into having meetings with them to make sure that what we're building out is

actually something that they can agree with. So they're going to have a say in the finalization of it, of the emergency response plan. We're going to lay out a -- we'll lay out the basic procedures for them, and then they're going to have any input.

So it's a dual -- a report that we work with them. It's not just like, here is your report, good luck. It's like, here is your report. Do you guys have any questions? Do you want to add anything? So that will be one thing that we'll do.

We'll also do a hazard mitigation analysis, which is called an HMA. That will be there. But that will be for the -- for the fire department itself that they can take a look and maybe some people in the operations section of the fire department may want to take a look at it.

And then we'll have site-specific training so they know exactly what to expect in the event that something takes place, because not all energy storage systems are the same. So site-specific training is very, very important. And as you move further, make sure that you do that for the fire service, if I'm not around, to other people that come in front of your board.

MEMBER GRINNELL: Mr. Chairman.

CHMN. KATZ: Yes, Member Grinnell.

MEMBER GRINNELL: Mr. Rogers, I don't know how big the Avondale Fire Department is. But in the event of some kind of major fallout for other jurisdictions to join in, is your education and outreach being expanded to the neighboring jurisdictions, including any volunteer firefighters and things of this nature?

MR. ROGERS: That's a great question. As a matter of fact, I would encourage that. I would encourage them to invite other people in the surrounding areas to come to the training.

MEMBER GRINNELL: Is there any kind of -- I think the Arizona case was probably a great example for the lack of jurisdictional training and understanding exactly what the firefighters were dealing with. Is there any kind of emphasis that can be placed on the Avondale Fire Department to please encourage -- you don't want to step on people's territory. But on the flip side, you also have to recognize -- you know, I was on an aircraft carrier where firefighting -- everybody, including officers, had to learn how to firefight, period. And I don't know if there's any kind of mandate that can be implemented or really stressed with the local Avondale Fire Department to get

this understanding of what we're dealing with here because, God forbid, something happened here.

MR. ROGERS: Well, two things. You're a hundred percent right, it is territorial, and I wouldn't overstep my boundary by telling the chief he must do this. I would make that recommendation to them. I don't know -- I hope that everyone gets along with each fire department, as they have -- you know, once in a while there's a battle of the badges and stuff like that; I don't know if it exists down here. But, you know, I would even recommend, if the police department were interested in coming to this, that they would -- they could come too. The training would be open to whoever would be responding or who possibly could be at the scene. I don't think that that's a problem at all. Matter of fact, as I said, I encourage them to bring whoever they need to bring to make sure that we're all on the same page.

MEMBER GRINNELL: And to that end, internally, within the company that's going to be managing or operating the battery storage facility, how many personnel internally will be available to provide direction and immediate response -- emergency response within?

MR. ROGERS: Yeah, great question. So

they're required to have a telephone reachback number in the event that something were to take place on that. As far as -- there would be a subject matter expert that would be available for the actual fire service, and there's going to be more coming. This is still being built out, as far as any type of emergency and what type of help that we can give to the fire service. Great question.

MEMBER GRINNELL: Will all that information be in place -- excuse me -- in place and ready and available to all the local jurisdictions before this facility is actually built?

MR. ROGERS: So it will be available for the authority having jurisdiction, which would be that local Avondale Fire Department. They're the ones who will have that information. It would be up to them to share it. I will make myself available to anyone -- any fire department that needs any information from me. I personally will make myself available to them. I actually talked with the fire service down here already, some of them sit on NFPA 855 with me, so I am familiar with the area here. But yes, anyone who wanted any type of information from me, I will make myself available for that.

MEMBER GRINNELL: Thank you, sir.

MR. ROGERS: Yes.

MR. THOMAS: That's all the questions I have for you, Paul, but there may well be some further questions from the Members of the Committee, so stay put.

MR. ROGERS: Sure.

CHMN. KATZ: Anything else, Committee Members?

(No response.)

CHMN. KATZ: I think we're done, at least for the moment, with this witness.

MR. THOMAS: Thank you, Paul. You can step down.

Paul was our last live witness. So we're happy to bring somebody back if you have further questions that you had for them or address any questions you have with the record. We did submit our direct testimony in the form of a declaration, so it should have independent value if you don't happen to ask about something that's in the prewritten testimony as well.

CHMN. KATZ: Anybody have any follow-up questions?

(No response.)

CHMN. KATZ: How do you want to proceed? Do

we want to recess -- we have to stick around at least until 5:30 for public comment. I don't see any members of the general public present. If you are, stand up and holler. But I don't see anybody, and we might get some virtual attendees or in-person attendees. But where do you think we sit right now? Obviously, you would be given an opportunity to make a closing argument or statement.

And as I explained to you, tomorrow we would be reviewing the two CECs, which will be substantially identical, one for the substation and one for the transmission lines. And we'll do what we did in our last hearing, we'll have a CEC 208-1 and CEC 208-2, and one will be -- and we'll have a PDF version, which will be Chair-1, of the first one, and Chair-2 will be the Word version that will modify and amend and finalize. And then the second CEC will be Chair Number 3, PDF, and Chair Number 4 in a Word version that we will work from tomorrow.

But where are we at? Is there really -- if the Committee doesn't have any further questions, are we ready to hear closing arguments or do we want to do that first thing in the morning before we review the CECs?

MR. THOMAS: I guess, Mr. Chairman, we might

be informed from some of the public comments tonight, if any issues are raised there. But I guess for starters, we'd be happy to entertain any comments or questions by the Committee to make sure that we've addressed all of the issues. I'd like to think that our testimony and our written prefiled testimony have adequately satisfied the Committee's concern; but if I'm mistaken, by all means, let us know.

CHMN. KATZ: Any Members of the Committee in person or virtually that have any follow-up questions or concerns?

(No response.)

CHMN. KATZ: Hearing silence, I feel comfortable with the presentation that has been made. What we can do is we'll have about an hour-and-a-half break. And after we hear those comments, tomorrow morning at 9:00 you can make a succinct and appropriate closing argument or statement, and we then can review the CECs. Any of the edited versions -- I'm assuming you've communicated with Tod, so you know where to send things to him and him back to you?

MR. THOMAS: Yes. And any closing tomorrow will indeed be succinct. I'm smart enough to keep my mouth shut when it appears that I've satisfied the panel.

CHMN. KATZ: You've done a pretty good job today, so don't be overwhelmingly concerned.

We'll recess, then, until 5:30, okay?

MR. THOMAS: Thank you, Mr. Chairman.

(Off the record from 3:58 p.m. to 5:31 p.m.)

CHMN. KATZ: May I have your attention, all, for just a minute. I'm showing right now that it is 5:31 p.m. We're back on the record. And are there any members of the public present in our hearing room?

(No response.)

CHMN. KATZ: Seeing all familiar faces from earlier today, we don't have any members of the public that are commenting. And I just checked with our IT people behind me, and there are no virtual public members that wish to make comments.

So we're going to recess for the day. I hope you enjoyed the last 45 or 50 minutes or whatever it was, maybe an hour and a half. But we'll start at 9:00 tomorrow morning. And if there's a closing argument, so be it; and if not, we're happy either way. We'll get right to the reviewing of the CECs.

MR. THOMAS: I don't see a need for a closing tomorrow, Mr. Chairman, so we'll skip that.

CHMN. KATZ: And I'll have to coordinate with Tod Brewer, our paralegal, to make sure that we get the

final PDF and Word versions of both CECs to you guys so that we can bring them up on the screen.

MS. DRIGGS: Okay. Perfect. And then we can edit them on the computer?

CHMN. KATZ: You got it. Everyone have a good night.

(The hearing recessed at 5:32 p.m.)

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

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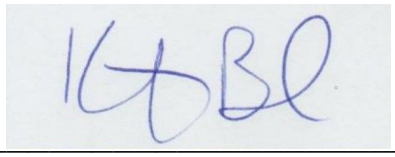

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