BEFORE THE ARIZONA POWER PLANT
AND TRANSMISSION LINE SITING COMMITTEE

IN THE MATTER OF THE APPLICATION OF TUCSON ELECTRIC POWER COMPANY, IN CONFORMANCE WITH THE REQUIREMENTS of A.R.S. § 40-360, ET SEQ., FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AUTHORIZING THE IRVINGTON TO EAST LOOP 138 KILOVOLT (kV) TRANSMISSION LINE PROJECT, WHICH INCLUDES THE CONSTRUCTION OF NEW 138 kV TRANSMISSION LINES ORIGINATING AT THE IRVINGTON SUBSTATION (SECTION 03, TOWNSHIP 15 SOUTH, RANGE 14 EAST), WITH AN INTERCONNECTION AT THE PORT SUBSTATION (SECTION 18, TOWNSHIP 15 SOUTH, RANGE 15 EAST) AND THE PATRIOT SUBSTATION (SECTION 31, TOWNSHIP 14 SOUTH, RANGE 15 EAST), AND TERMINATING AT THE EAST LOOP SUBSTATION (SECTION 08, TOWNSHIP 14 SOUTH, RANGE 15 EAST), EACH LOCATED WITHIN PIMA COUNTY, ARIZONA.	) DOCKET NO. L-00000C-20-0007-00186) LS CASE NO. 186

At: Tucson, Arizona

Date: February 24, 2020

Filed: March 2, 2020

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME I
(Pages 1 through 141)

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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 the DoubleTree Inn Hotel 455 South Alvernon Way, Tucson, Arizona, commencing at 1:18 p.m. on the 24th day of February, 2020.

BEFORE: THOMAS K. CHENAL, Chairman

LAURIE WOODALL, Arizona Corporation Commission
LEONARD DRAGO, Department of Environmental Quality
JOHN RIGGINS, Arizona Department of Water Resources
MARY HAMWAY, Cities and Towns
JAMES PALMER, Agriculture
JACK HAENICHEN, Public Member

APPEARANCES:

For the Applicant:

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and

TUCSON ELECTRIC POWER COMPANY
Ms. Megan J. DeCorse
88 East Broadway Boulevard
MS HQE910
Tucson, Arizona 85702

CHMN. CHENAL: Good morning, everyone. This is the time set to begin the hearing on the TEP Irvington to East Loop Project. My name is Tom Chenal. I chair the Line Siting Committee.

Let's have a roll call of the Committee, and then we'll turn it over to the applicant.

Member Palmer.

MEMBER PALMER: Jim Palmer representing agriculture.

MEMBER RIGGINS: John Riggins representing Arizona Department of Water Resources.

MEMBER DRAGO: Leo Drago representing the Arizona Department of Environmental Quality.

MEMBER HAENICHEN: Jack Haenichen representing the public.

MEMBER HAMWAY: Mary Hamway, cities and towns.

MEMBER WOODALL: Laurie Woodall representing Commissioner Chairman Bob Burns of the Arizona Corporation Commission.

CHMN. CHENAL: All right. So I see there are some people in the audience. And for the applicant, who's heard this admonition before, and the members of the panel, now that the hearing has started, the Committee is not allowed to talk to anyone about the merits or the substance of the application. So we can

talk to you about the weather, sports, whatever, but we can't talk about the application.

So I just ask everyone not to put us in the uncomfortable position of saying we can't talk to you. We're a friendly group, but we can't talk about the application now that the hearing has started.

We'll take a break every 90 minutes for the benefit of the court reporter and others.

Can we have the appearance for the applicant, please.

MS. DECORSE: Yes. Megan DeCorse and Matt Derstine on behalf of Tucson Electric Power.

CHMN. CHENAL: Good morning. Good afternoon, I guess, now.

We have just preliminary matters. The hearing is obviously set for this afternoon. We'll talk about a tour. We have a tour tomorrow morning.

This evening at 5:30 is the public comment session here at the same location. It may be this hearing will go through Wednesday. It may roll over into Thursday, but it's probably unlikely that it will go into Friday. It starts at 9 a.m. in the mornings and will finish approximately 5 p.m. in the afternoon.

We don't have any notices or requests for intervention, and I don't have any written statements

that would be put into the record.

We will take public comment, like I said, this evening at 5:30, but we'll take public comment when we know there's people that have come and are willing to provide or want to provide public comment. We'll do that when it's convenient. So after we start the hearing and we listen to the opening statement of the applicant, we'll ask if anyone in the audience that would like to provide any public comment. And when there is public comment, we can listen to it, but we can't engage in it and in back and forth questions and answers. We'll just be able to hear what your comments are. And we would appreciate if you have any.

We had a prehearing conference last week. I believe that all the matters that we normally go into in those prehearing conferences, we went into. And the applicant has complied with the Procedural Order that was entered, including the filing of witness statements, providing of exhibits, signs posting, and publishing of notice.

We don't have any legal issues to resolve before we begin.

As part of the testimony, I know the applicant will get into the tour. We oftentimes talk about that. We'll have a tour tomorrow starting at 9 a.m., which is

usually the case for those of the Committee that wish to take it.

So with that, does the Committee have any questions?

(No response.)

CHMN. CHENAL: If not, I'd like to turn it over to the applicant or counsel for the applicant for your opening statements. And then after that, there may be some questions from the Committee. But apart from that, we'll listen to see if there's any public comment. So, Ms. DeCorse.

MS. DECORSE: Good afternoon, Chairman and Committee Members. I'll get into the logistics and some housekeeping items about iPads after my opening statement.

So I'm not sure I can believe it. Time flies when you're having fun. But it's been almost a year and a half since our last line siting case was before you. And as always, we want to thank everyone for making the trip down to Tucson and to hear our case. We think it's going to be a good one.

So this is a transitional case for TEP, and we're mixing it up a little bit. This is in part because we're always striving to improve and make the presentation of our line siting cases better. But also

because our beloved Mr. Beck will be retiring, as some of you may have heard, from TEP after 40 years here in April. This is his 15th line siting case. And I'm not going to say this is his last, and it's selfishness on my part because I'm hopeful we will see him again, and I also hope it's on our side. However, we're excited for his next chapter.

So as bittersweet as that is, we're also excited to announce that Mr. Raatz will be stepping into Mr. Beck's role. Because of this, you will be hearing more from Mr. Raatz in this case, who will be taking you through, among other things, the Google Flyover and the route tour.

So one other change from the last case is that Ms. Darling will be our sole environmental and land witness.

The other change you will see in our hearing is the change in hearing presentation format. So we're still going to present testimony through a witness panel. But instead of having each witness present their hearing presentation in full and move witness by witness, we have combined all three witness presentations into a combined hearing PowerPoint presentation marked in front of you part as TEP 5. We think this will provide for a better overall presentation and discussion of the project and

allow for you to hear from all three witnesses throughout the case.

But two things do remain the same: Breaks every 90 minutes, as the Chairman had mentioned, and lots and lots of cookies.

So that brings me to the actual introduction.

The reason we're here, Tucson Electric Power Company is seeking approval to build a new 138kV transmission line in Tucson in order to connect the existing Irvington and East Loop Substations within a 300-foot corridor with one exception.

So for a small portion of the project, about a half mile long, we are seeking a 900-foot-wide corridor to allow flexibility to build adjacent to a scenic corridor. This will be discussed later today in more detail by Mr. Raatz.

The line will also interconnect at the proposed Port and Patriot 138kV substations. The line, using our preferred route B2, if selected, will be 12.78 miles in length and will cross private Department of Defense, City of Tucson, and Pima County-owned land as well as City of Tucson and Pima County-owned rights-of-way. The total cost to build the project, again, referring to our preferred route, will be approximately 19 million.

So we have brought forth three alternatives to

get from the existing East Loop Substation located near Kolb Road and the Speedway to a new substation called Patriot, which is adjacent to the Davis-Monthan Air Force Base. You will see only one proposed route for the portion of the line from Patriot Substation to the existing Irvington Substation located near Alvernon and I-10, referred to in the application and testimony as the common route. You will hear more about the specifics as to how we narrowed down to these three alternatives later today.

But that leads me to the major benefit the project is bringing to the area and why we are so excited to bring this project forward. So, as Mr. Beck has talked about in the last few cases, there has been and continues to be what we've been referring to as the donut hole in TEP's system. So one of these is the base.

Historically, the base has been an impediment to bringing TEP's facilities from our power plant at Irvington up across into the general area just north of the Davis-Monthan Air Force Base and the base itself. Because of the runway and federal ownership of the land, we have not been able to upgrade the voltage of our system from 46 to 138kV necessary to serve the ever-increasing load demand and improve reliability.

So this posed a unique opportunity when

Davis-Monthan approached us to help improve their resiliency. We were able to meet their Department of Defense directive to improve resiliency and, at the same time, start to fill in that donut hole. By having the 138kV lines serving Davis-Monthan from two different directions, something that would have been very difficult to do but for and without the support of Davis-Monthan, we were able to meet their resiliency goals as well as meet our own system needs.

Now, the other need that TEP is meeting with this project is future growth in the area known as the Port of Tucson. This is a commercial and industrial area in southeast Tucson that is home to now Amazon warehouses and other high potential demand use power customers.

Currently, this area is being served on our 46kV system and not sufficient to meet the needs of additional large industrial customers. Now, with this project, having a 138kV line in this proximity, TEP will be able to provide service to new large customers. We see that as a potential economic development driver in the area.

So what the evidence will show is that the company has performed and met all statutory and regulatory requirements for the issuance of a Certificate of Environmental Compatibility. The evidence will also

show that this project is the best option to meet the company's needs and assist in improving electric reliability for its customers in the area, as well as support Davis-Monthan Air Force Base's efforts to meet energy resiliency requirements and allow for future load growth in the area.

So, in conclusion, we are confident that we will provide sufficient background and evidence for you to approve the requested CEC with B2 as our preferred. And we hope that you enjoy the presentation the next few days.

CHMN. CHENAL: All right. Ms. DeCorse, I've got to remember I don't have to go up to the mic.

Can you show us -- I mean, I know where it is, but just for the benefit of the audience, can you, with a laser pointer or something, show where Davis-Monthan's base is in relation to this screen on the left.

MS. DECORSE: So it's going to be right around there.

CHMN. CHENAL: Does the Committee have any follow-up questions?

(No response.)

CHMN. CHENAL: Okay. It doesn't look like it.

MS. DECORSE: All right. So I can get into my housekeeping?

CHMN. CHENAL: Yes, let's go to housekeeping, and then we'll open it up to see if there's any public comment.

MS. DECORSE: All right. So in front of you, you should have a placemat that, again, is very similar to our other cases, and it has the map of the project and the alternative route cost as well as typical structures. So we may be referring to that throughout the case.

And on the back of that is our key observation points with the simulations of the project.

And then you also have iPads in front of you, which, if you like, we can do a little demonstration on the screen.

So if you go to the home button, circle button, and then you click on the Adobe icon. So you'll see that we have the Notice of Filing Testimony and Exhibits and the actual application.

Patrick, if you could go to the Notice of Filing Testimony and Exhibits.

All right. And the icon that looks like, I'd say, a little ribbon on the top, if you click that, so you don't have to scroll through, that will actually take you to any one of the numbered exhibits.

We can show you the application. And then we have also uploaded two additional exhibits that I believe

Mr. Derstine will get into later today.

Does anyone have any questions on the iPads or...

(No response.)

MS. DECORSE: Okay. And we have -- just sitting up here for your reference -- go ahead.

CHMN. CHENAL: Ms. DeCorse, what are the documents that we have on the iPad?

MS. DECORSE: So the two documents that you have is the actual application, titled Irvington to East Loop Application; Notice of Filing Testimony and Exhibits, which is the direct testimony and exhibits we filed on the 19th, I believe; and then two additional exhibits that we will be discussing today. You should also have hard copies in front of you. Which is TEP-17 and 16.

CHMN. CHENAL: Where's TEP-15?

MS. DECORSE: TEP-15 should be part of --

Patrick, if you can go into the Notice of Filing Testimony and Exhibits. It should be there.

MR. DUBBERLY: It only goes to 14.

MS. DECORSE: Uh-oh. We'll fix that. You should have 15 in there. So I bet you're just going to have to scroll from 14, is my guess, to 15. We'll try and fix that on the break for everyone. Good catch.

I didn't scroll far enough. I checked them, but...

CHMN. CHENAL: Is Exhibit 15, Ms. DeCorse, actually -- if we click on Tab 14 --

MS. DECORSE: It's below there. Yes. It was filed as part of that.

CHMN. CHENAL: Okay. Very good.

MS. DECORSE: And then just a couple introductions. We have Claudia Paulsen sitting up front, and she is from Snell & Wilmer, working with Matt. And then we have Patrick Dubberly, which you all know.

CHMN. CHENAL: He's a regular.

MS. DECORSE: Yes. And then working our audiovisual is Chris Babbie with TAVS company.

And that's all I had in terms of housekeeping.

CHMN. CHENAL: Very good. Any questions from the Committee before we -- before we take public comment?

(No response.)

CHMN. CHENAL: All right. So I'm going to ask the public if there's anyone that would like to provide public comment. If you would, we'd be delighted to hear what you have to say. If you would come up to the microphone and provide your name and contact information, we'd love to hear from you.

Now, not everyone at once. I don't want to see

a mad storm for the microphone.

I see a lot of people in the room, and no one's walking up to the microphone.

Well, you're free to do it now. Again, if you wanted to give some comment later, if anyone would like to give some public comment later, say, after our break, we're happy to do that. And, again, we'll have public comment tonight at 5:30. So at any time if you feel the need and you want to come up, give some public comment, come up, and we'll hear from you.

All right. With that, Ms. DeCorse or Mr. Derstine, if you want to proceed with the panel, we can swear them in and proceed with your case.

MR. DERSTINE: Yes. We'd like to have you swear the panel, Mr. Chairman.

CHMN. CHENAL: All right. Two options to the panel: An oath or an affirmation. Let's start with oath. Who's willing to do an oath?

Okay. All three.

(Edmond Beck, Eric Raatz, and Renee Darling were duly sworn, en masse, by Chairman Chenal.)

MR. DERSTINE: All right. Mr. Chairman, Members of the Committee, we're going to start with an introduction of our witness panel.

EDMOND BECK, ERIC RAATZ, and RENEE DARLING, called as witnesses on behalf of Applicant, having been previously duly sworn, en masse, by the Chairman, were examined and testified as follows:

DIRECT EXAMINATION

BY MR. DERSTINE:

Q. And, Mr. Beck, we'll start with you.

You're the director of transmission development. What was your role for this project?

A. (BY MR. BECK) I participated in the development of the application itself as well as the public process leading up to our application and overseeing the development of the application.

Q. And can you summarize your professional experience and education for the Committee.

A. (BY MR. BECK) I have over 40 years of experience in the utility industry. I have a Bachelor of Science in civil engineering from the University of Arizona as well as an MBA. I'm a registered professional engineer in Arizona and a member of the American Society of Civil Engineers.

MR. DERSTINE: We're going to hold a minute while Mr. Dubberly is getting our slides.

CHMN. CHENAL: Mr. Derstine, can you tell us

what exhibit the slide --

MR. DERSTINE: TEP-5 will be the hearing presentation which we'll be projecting on the left screen. And then there will be a series of maps and materials from the application. Largely, that will be on the right screen. And we will print a deck of the right screen materials and mark that separately. That's in process.

Q. BY MR. DERSTINE: So, Mr. Beck, we covered your role and some of your professional and educational experience.

That takes us to slide No. 4. Give the Committee an overview of the testimony that you'll be providing in this hearing. This isn't everything that you're going to touch on, but this would be some of the many topics; right?

A. (BY MR. BECK) That is correct. So I'm going to provide an overview of the project at a high level, the purpose and need for the project, some background on the project, and then I will get into the issue of substation versus switchyard and TEP's position relative to that.

Q. And, Mr. Beck, you prepared a direct testimony that's marked as TEP-2, and the Committee members will find it under the notice of the filing marked as TEP-2.

Did you review your direct testimony before the hearing?

A. (BY MR. BECK) Yes, I did.

Q. Do you have any changes to your direct testimony?

A. (BY MR. BECK) No, I do not.

Q. So if I asked you the same questions in your direct testimony, TEP-2, today, your answers would be the same; is that right?

A. (BY MR. BECK) Yes, they would.

Q. Mr. Beck, you also participated in and helped with the preparation of the hearing slides, which is marked as TEP-5, that we're showing on the left screen.

Do you have any changes to TEP-5?

A. (BY MR. BECK) No, I do not.

Q. So, to the best of your knowledge -- the information that we've presented in TEP-5, some of it will be PowerPoint slides like this, some of it will contain maps and other materials. To the best of your knowledge, all of that information is correct?

A. (BY MR. BECK) Yes, it is.

Q. Mr. Raatz, let's turn to you. You're the manager of operations planning. Do I have the title right?

A. (BY MR. RAATZ) Yes, that's correct.

Q. What was your role in this project?

A. My role in this project, I was responsible for the technical oversight for the preliminary design of the project. I attended public and stakeholder meetings as part of the project. I assisted with the preferred and alternative route, and I put together the tour and associated schedule, the Google Flyover. And, lastly, the legal -- I was responsible for the coordination of the legal description and associated map.

Q. All right. As Mr. Beck, can you summarize your professional experience and education for the Committee.

A. (BY MR. RAATZ) Yes. I'm a graduate from the University of Arizona with a Bachelor of Science in civil engineering, a registered professional engineer in the state of Arizona as of 2006.

Currently, as Mr. Derstine said, the manager of operations planning. Received a promotion in July of 2019. Prior to that, I was a transmission planning engineer with Tucson Electric Power from 2013 to 2019. And prior to that, I was a civil transmission engineer with Tucson Electric Power from 2008 to 2013. And prior to that, I was a civil consulting engineer in the consulting world from 2001 to 2008.

Q. All right. Can you give a high-level overview of the topics that you're going to cover in your

testimony.

A. (BY MR. RAATZ) Yes, I can.

I am going to be touching on -- or describing the project overview, the purpose and need, technical components involved in the preliminary design of the project, design considerations. I'll be covering the EMF study that was prepared on behalf of the project, the associated costs, the Google Earth Flyover, and, finally, a conclusion.

Q. Mr. Raatz, you prepared direct testimony that's marked as TEP-3. Have you had an opportunity to review your direct testimony before the hearing today?

A. (BY MR. RAATZ) Yes, I have.

Q. Do you have any changes to your direct testimony?

A. (BY MR. RAATZ) Yes, I do.

In TEP Exhibit 3, on page 4, I speak to changes in the application, three specifically. My testimony today and throughout the case will provide one additional change required to that testimony.

Q. Other than changes -- other than the addition of one change to the three changes that are identified on page 4 of your direct testimony, is your direct testimony true and correct?

A. (BY MR. RAATZ) Yes, it is.

Q. And we're going to get into those changes to the application a bit later in your testimony; is that correct?

A. (BY MR. RAATZ) That is correct.

Q. Mr. Raatz, you also participated in the preparation of the PowerPoint slides shown on the left screen, TEP-5. Do you have any changes to TEP-5?

A. (BY MR. RAATZ) No, I do not.

Q. So the information presented in the slides on the left screen is true and correct to the best of your knowledge and information?

A. (BY MR. RAATZ) Yes, it is.

Q. Ms. Darling, last but not least.

You're environmental and land use supervisor for Tucson Electric Power Company. What was your role with this project?

A. (BY MS. DARLING) My role was overseeing the alternative route analysis, the resource studies, the public and stakeholder engagement, and pulling the application together for the CEC. And I will be responsible for the permitting of the project.

Q. All right. Can you summarize your education and experience.

A. (BY MS. DARLING) Yes. I have a Bachelor of Science degree in botany as well as post-degree education

in project management, transmission line siting, and public involvement.

I have worked in environmental consulting since 1994 until I joined TEP in 2014. And I've worked on almost exclusively electricity projects since 2001.

Q. Can you give us an overview of your testimony before the Committee in this hearing.

A. (BY MS. DARLING) Yes. I will be covering TEP's design philosophy; our planning process; the studies that were conducted for the project, including the biological and nonbiological studies; the public and stakeholder involvement; alternatives development; and proof of posting, TEP Exhibit 8.

Q. Ms. Darling, you also prepared direct testimony that's marked as TEP Exhibit 4. Did you review your testimony before the hearing today?

A. (BY MS. DARLING) I did.

Q. And any corrections to your direct testimony?

A. (BY MS. DARLING) I do have a correction on page 2013 of TEP Exhibit 4, Table 1, which is the percentage of land ownership in the project area. There is an error in the percentage calculations, and I'll go into that more later in my testimony. It's also in the application on Table 3 of page 13 of the application.

Q. So you are going to address and, I assume,

refer to and will present a corrected table in place of what's set forth on page 13 of your direct testimony and the table that's set forth in the application?

A. (BY MS. DARLING) Yes.

Q. Other than that, are there any corrections or changes to your direct testimony?

A. (BY MS. DARLING) No, there are not.

Q. So if I asked you the questions in your direct testimony today, your answers would be the same; right?

A. (BY MS. DARLING) Yes, they would.

Q. And, Ms. Darling, you also had a hand in preparing the slide presentation shown on the left screen, TEP-5. Do you have any changes or corrections to TEP-5?

A. (BY MS. DARLING) No, I don't.

Q. And the information that we're going to present to the Committee on the left screen through TEP-5 is true and correct to the best of your knowledge; is that correct?

A. (BY MS. DARLING) Yes.

MR. DERSTINE: I think that concludes the introduction of our star witness panel.

Q. BY MR. DERSTINE: Mr. Beck, the next section involves an overview of Tucson Electric Power Company, its service territory, and where this project sits within

the service territory.

Can we move forward with that next section.

A. (BY MR. BECK) Sure. If you look on the screen, this is related to slide 14 in TEP-5. But because there's a couple of animations in that particular slide, you don't see all the layers.

So, as a starting point, this is the TEP set of resources and transmission that provide power into Tucson.

You see we have a transmission line that extends from what was the Navajo Power Plant down through Phoenix into Tucson. We have lines that come from Four Corners and San Juan, which are both right there, down through Springerville, where we have another power plant, and down the eastern side of the system into Tucson.

And we have some transmission rights that come from Four Corners across the APS system into the northern part of Tucson. We also have some transmission rights that extend through New Mexico. That's that blue line that is off the edge in the white, which is New Mexico. And they attach to the Luna Power Plant and Macho Springs Wind Plant that are down in the Las Cruces area.

Now, TEP serves basically all of Tucson and a little bit of Cochise County for Fort Huachuca. It's kind of hard to see on this map, but that yellow outline

is the TEP service territory down there.

So if we zoom in to that, this is TEP's service territory, basically, the city of Tucson. And those light green lines, again, I apologize, they're a little bit hard to see on the screen, but those are the existing 138kV lines throughout our system.

Our service territory is 1,155 square miles. It has a population of somewhat over a million people. We serve 125,000-plus customers. Our peak retail demand is 2,413 megawatts, and we employee 1,528 employees. Those employees are split between -- majority in Tucson. We do have some up in Springerville running the Springerville plant.

Our employees donate -- or 25 percent of our employees volunteer and donate volunteer time to efforts around the Tucson area, and we accumulate about 22,000 hours a year of volunteerism in the City.

The project we're speaking to in this hearing is outlined on this screen with that purple outline. That's our study area. You'll see it similarly throughout our maps and on the placemat.

And you may or may not have seen, there's a little yellow triangle popped up right in the center of that. That is the Patriot Substation, which will serve Davis-Monthan.

Maybe before we leave this slide, I'll just comment, Ms. DeCorse mentioned donut holes in our system. And it's a term that I've kind of coined for representing parts of our system. And the intent is that we have areas that are voids, that do not have 138kV service today. Those are what I would consider the holes in our donut. We have lines that go around and circle around that are the actual donut itself, but we have those voids internally.

And as we progress through this hearing, you're going to hear about DM being one of those holes that we need to fill.

Just a little bit of historical contrast or background. This is a map that came out of a saturation study that the company did approximately 20 years ago -- or no, 15 years ago, I'm sorry. And I realize it's hard to see, but, again, the point of this is each of those little colored blocks that appear on that map represent the need for a substation, a 138kV substation.

You can see that down in the far southeast part of the service territory, there's no density whatsoever, and so we have a very big block. We only need one 138 sub to serve a very big area. And as you get into the central part of the city, these blocks all become much smaller just because of load density. And back in that

study, we identified the need for additional 138 subs north of Davis-Monthan.

And we go on to the project study area, which is slide 16. Again, we're showing the blackout line is our study area for this project. The orange lines represent our 138kV lines. And then it's hard to see, but there are pink lines underlying that that are the 46kV system.

So, for the most part, this area is served by 46kV to the north of DM. In particular, Davis-Monthan itself, that substation right there, is a 46kV substation serving the base today.

You'll note that that substation is embedded or buried within the boundaries or the fenceline of Davis-Monthan Air Base. It presents us problems and the base problems should there be outages, especially if it's at the substation location and there's a lockdown of the base, which occurs occasionally. We have to jump through many hoops to be able to get on base under those lockdowns, and it's not a fast response.

So you're going to hear a little bit about moving that substation. When we put our 138 in, it will be off the edge of the base or right on the edge of the base. So it will be fenced by TEP and controlled by TEP. It will have a common fence with Davis-Monthan on two

sides of it so that they'll take service right across their fenceline onto the base, but our activity at the substation itself will be controlled by TEP. And should there be a lockdown, it won't affect our ability to get into the substation, a very important point for us.

Additionally, over time, as we've been looking to try and get 138 to the north of Davis-Monthan, we didn't see an ability to go across what is all of this crosshatched area. You're going to hear that there are kind of two parts to the base: There's the Air Force base itself, and then there's what a lot of people refer to as the Boneyard, which it's actually the maintenance facility for the Air Force that actually handles what we call the Boneyard.

And so there are some differences between how the base proper, the Air Force, handles things versus that Boneyard group.

CHMN. CHENAL: Where's the Boneyard, Mr. Beck, again?

MR. BECK: For the most part, it's this hatched area down in the southeastern part of what's shown as Davis-Monthan. It actually goes across -- this line is Kolb Road. It does cross over Kolb. You'll see some pictures that show a little bit more of that. One of the issues for us is that crossing of Kolb, which we'll be

dealing with later on.

So the Department of Defense came out with a requirement for resiliency. That gave us an opportunity to work with the base in their best interest to be able to get a line across the base; whereas, historically, we didn't think we could approach them and get approval. Because this was so important to them, they had a real interest in actually allowing us to cross the base, and you'll hear testimony in that regard.

Q. BY MR. DERSTINE: All right. Thank you for that, Mr. Beck.

This next topic or section is also yours. Before we get into more details about the project, the project overview and the need for the project, you wanted to address what we've headed as this issue of switchyard versus substation.

And the Committee's familiar with TEP's prior cases in which TEP will describe substations that are associated with the project, but we specifically do not request that the CEC cover the substations. We don't ask for CEC approval of the substations.

We've touched on that issue before. It's come out in describing the project description and the costs, indicating that the costs don't include the substation costs.

But you felt it was important to maybe provide a more detailed explanation of TEP's approach to its siting applications that may differ from other applicants. May or may not.

Can you tell us why you wanted to dig into this topic a little further?

A. (BY MR. BECK) Yes. As I am retiring in April, this is an issue that I've had a very strong position on in previous siting cases relative to the requirement to bring forward a substation versus a switchyard. And my understanding and process has evolved over time as I've been involved in the siting process.

Very early on, in siting cases, the company did bring both substations and switchyards to the Committee for approval. We didn't differentiate between one and the other.

And as I got more deeply involved and began to look very closely at the statutes and the rules as they were written, very specifically, the definition of a transmission line versus a plant, but a transmission line, which we're typically siting, is very specific.

And on slide 18, you'll see that A.R.S. 40-360.10 defines a "transmission line" as a series of new structures erected above ground and supporting one or more conductors designed for the transmission of electric

energy at nominal voltages of 115,000 volts or more and of all new switchyards to be used therewith.

And I know this has become an issue in some recent cases with other companies as to whether is a switchyard a substation or a substation a switchyard. Are they one and the same. Are they interchangeable.

And my position as I've been working with this was that I think the drafters of the statute probably had something strongly in mind when they used the term "switchyard."

A switchyard typically serves two purposes: One is to interconnect a transmission line to a generator, and the other is to interconnect transmission lines and to save voltage. So when you're developing a line, at least historically in the timeframe when the drafters were drafting these documents, for the most part, it was new generation going in. Especially here in Arizona, we have long transmission lines going from remote generation. So you always had a generation plant. You built a switchyard. You connected a transmission line to it. That transmission line ran to load areas. And then you put substations down at the end to serve distribution and/or commercial load.

So I felt that they probably really did have that concept in mind. And in one of the cases just prior

to me kind of taking on the siting process, we got bogged down in a lot of discussion with the Siting Committee over the equipment within a substation because that was an instance where we had actually brought forward a substation as part of our application. So the Committee felt it necessary to get into, well, what will the ultimate substation look like there. We want to have everything covered.

The problem is that our planning process is a long-term process. We identify the needs for lines in an area. The substations usually come, to a large degree, later. It's as the growth develops and you see what you need, you'll identify the need for a substation, and you put it in. If you put a substation in with the line early on when you're just siting that line, you know you need a substation there, but you really don't know the ultimate configuration.

So I would question whether it's worth the Committee's time and effort and the applicant's time and effort to try to determine that ultimate on something that, at least in my mind, is pretty clear that the drafters didn't intend to be considered in a siting case, that they were going for a switchyard.

Q. Mr. Beck, from what you've said, it's my understanding you were involved with the drafting of the

line siting statute. Have you had occasion to speak with anyone who was involved with the drafting of statute?

(BY MR. BECK) Yes, I have. So in approximately the early 2000s, 2003, slightly before, TEP was doing a project jointly with AEPCO, Arizona Electric Power Co-op, called the Winchester Substation. And that involved interconnection to our 345kV system.

But we were having a -- I was having a conversation with Mr. Gary Grimm, who was the engineering manager of AEPCO at the time, regarding the need for siting, what should be considered a transmission line, how many structures, substations, switchyards.

And Mr. Grimm said that they had a letter produced by their outside attorney that gave an opinion on substations, switchyards, number of structures, need for transmission lines to go through siting.

So he agreed to provide me a copy of that letter, which is slide 19 up on the screen. And of particular interest, I think, is the third paragraph, which is highlighted on the right-hand side of the screen.

This letter is from Mr. Michael Grant. He was the outside attorney of Arizona Electric Power. He was writing in response to our question about -- it was specifically a mining project that they were asking

whether they needed to go through siting for.

But, interestingly enough, there's this statement that Mr. Grant put in his letter, and I'll read it. He said: "I discussed this conclusion recently with Tom Parish of Arizona Public Service. Mr. Parish was involved in the drafting and passage of the Committee statutes some 20 years ago. Mr. Parish agreed with this conclusion and stated the term 'switchyard' was specifically chosen at that time so as not to include substation construction in Committee jurisdiction."

So this, in my mind, served to support the position that TEP had started to take that we were not required by law to bring switchyards -- or substations forward in an application for approval, only switchyards. But that didn't mean that we wouldn't bring all of the information and pictures and so on of what a substation might look like in our case. It was just that we were not asking for approval of the substation specifically.

Q. Mr. Beck, the letter that you're referring to that's on the left screen, that's the same letter that's been marked as TEP-15 that we were able to locate on the iPads as the last exhibit in our exhibit filing; is that right?

A. (BY MR. BECK) That is correct. And just for the record, Mr. Parish was, at the time this was written,

an attorney for Arizona Public Service, and Mr. Grant was reaching out to him for his discussion.

Q. I just want to make sure. I think my question was, had you spoken with anyone? My understanding is you did -- you haven't spoken to anyone directly, but this letter recounts a conversation between Mr. Grant and Mr. Parish on the issue of the inclusion of switchyards and, as it's stated here, the exclusion of substations from the statute language?

A. (BY MR. BECK) Yes, that is correct. I happened to come across this letter as I was working through some old files.

MEMBER WOODALL: Mr. Chairman.

CHMN. CHENAL: Yes, Member Woodall.

MEMBER WOODALL: I did have a question. Mr. Beck was just talking about a letter. Is this a good time or should I wait? My faint recollection is that there is a rule of statutory construction that we read the words and that the expressed intentions or memories of the people who wrote the words are really not relevant in interpreting the statute.

Am I -- does that sound familiar to you at all?

MR. DERSTINE: I think that's probably a fair statement of the rule of statutory construction.

MEMBER WOODALL: What I will say is I accept

Mr. Beck's expert opinion regarding switchyards and what they are. But I'm not being influenced so much regarding what somebody else 20 years ago thought was the case. And I'm particularly appreciative of Mr. Beck as giving us his technical last will and testament on the topic.

So, thank you.

Q. BY MR. DERSTINE: And I guess, to that point, Mr. Beck, your view -- and you view this letter as supporting what -- your interpretation and reading of the statute, which you came to independently of this letter. This letter came to you after the fact, after you had already made your -- reached your conclusions about how you thought TEP should approach its siting applications under the language of the statute. Is that a fair statement?

A. (BY MR. BECK) Yes, that's correct.

Q. BY MR. DERSTINE: And we simply offer it for whatever evidentiary value it is in terms of -- for this Committee. But it's more a matter of this was, I guess, memorialized as a conversation you had with Mr. Grimm at AEPCO, and he provided this letter to you as part of your discussions over this issue, and it's in line with your independent thoughts on it?

A. (BY MR. BECK) Correct.

Q. Now, Mr. Beck, you're also aware, however, that

other applicants who file applications for projects like the one we're here for today do include substations in their siting applications. Are they wrong in doing that?

A. (BY MR. BECK) No, they're not wrong. That's a choice they can make.

And, again, it's not TEP's position that we do not bring forward the information on substations in our cases. It's that we choose not to ask for specific approval of substations, only of switchyards. But should others choose to request approval, I don't see a problem with that.

CHMN. CHENAL: Mr. Haenichen.

MEMBER HAENICHEN: Thank you.

Mr. Beck, correct me if I'm wrong, but I've been at a lot of these hearings. It seems to me there are cases when a physical piece of property on which a switchyard is constructed also has on it either one or more substations. Is that a correct conclusion?

MR. BECK: Yes, there are situations like that.

MEMBER HAENICHEN: Well, now, a question to the legal people here: Does it make those come under the jurisdiction of the Committee just by connection or some other phrase?

MR. BECK: Well, this is not a legal opinion, but my personal opinion would be that to the extent there

is a switchyard associated with the substation on the same sized property, at least from TEP's perspective, we would ask for approval of that switchyard, provide all the information related to the substation, but not ask for approval of the substation itself. They can be shown specifically on the drawings as to which part is the switchyard and which part is the substation.

MEMBER HAENICHEN: But feeling that, wouldn't the substations be tacitly on the definition of meeting approval from the Committee?

MR. BECK: That truly is a legal opinion.

CHMN. CHENAL: We don't need to answer all these questions today, Mr. Beck. I appreciate it. I know this came up at our prehearing conference -- prefiling or prehearing conference. I know you raised it.

I wouldn't be doing my job if I didn't at least note that there is another argument, which is that a substation that -- from what I've learned from other hearings is composed of switchyards and -- a switchyard and transformers; correct?

MR. BECK: Arguably. The layout typically for the switchyard portion to connect the transmission lines can be separate and apart from the part that has the transformation. And so if you're looking at what the

functionality is, functionality of the switchyard is to protect the lines and the generators. The substations are more for load-serving purposes.

CHMN. CHENAL: So there are situations where there are substations with no switchyards?

MR. BECK: Yes.

CHMN. CHENAL: Okay. So let's just confine our discussion to substations that include switchyards. So in those cases, you have a substation with a switchyard and something else?

MR. BECK: Yes.

CHMN. CHENAL: So this is statutory construction. If it's a series of transmission lines and switchyards -- what's the word -- I lost my page now with the statute. It's the -- it's connected -- what's the statutory definition again?

Okay. So if we're dealing with transmission lines, a series of structures and new switchyards to be used therewith and related thereto, I mean, one could argue that even if there are also some transformers in addition to that, at least that would still meet the definition of something that would come within the jurisdiction of the Line Siting Committee?

MR. BECK: Possibly. Again, not having been there when these were drafted, another interpretation

could be that switchyards at that time were really considered the connections to the generating plants, and they were only looking for the upstream end and not the downstream end.

CHMN. CHENAL: So we just had a data center case in Mesa where we had a 240kV line that was going to drop down into the data center area, and there was a substation there. Well, it was a switchyard, actually. It really didn't have transformers. It was simply a switchyard that would then connect the transmission line to the project site, connect with the switchyard, and then go on to provide power to the different areas within the project site.

So that, you would agree, would be something within the jurisdiction of the Committee?

MR. BECK: There, again, the switchyard portion, definitely.

One other issue relative to substations is, typically, sub -- if you have to add a substation to a project, to an existing line, and you put it right under the line, it has not been TEP's practice to come forward and request a CEC for just the substation unless it's associated with three or more structures at that location.

So if you're not going to be siting substations

like that, should you -- or getting approval, should you be getting approval of substations that are just associated with the end of a line?

CHMN. CHENAL: Well, in fact, the letter that you put up in Exhibit 15 was that case. It was simply a substation. It was not any lines associated with it. And I think that was one of the reasons the attorney gave in his opinion as to why, even if switchyards -- even if substations were deemed to be switchyards, it still has to be associated with a series of structures, and that was absent in that case.

MR. BECK: Right. Correct.

CHMN. CHENAL: So we're still back to if a substation includes switchyards and transformers and the switchyards themselves are associated with or connected with the series of lines, does that meet the statutory definition? And that's something I don't think we're going to answer today, Mr. Beck. But your opinion -- and it's appreciated, because you bring experience and knowledge to it. And, certainly, it's a very reasonable interpretation.

You'll notice that this Committee and maybe me, but historically, has not really gone -- tried to make a final decision on that issue. So we have heard applications where substations were included, and we

certainly are hearing this case where this will involve a couple substations, and they're not technically part of your application.

Maybe we should. Maybe we should have that issue finally determined. But I think this Committee has just historically not wanted to decide that issue and allow the applicants to make that decision.

Mr. Haenichen.

MEMBER HAENICHEN: I think we all agree that this is a complicated question that's not easy to answer in this room today, but maybe it requires a revisitation to the statute by some entity within the seat of government to clarify it.

Q. BY MR. DERSTINE: Mr. Beck, do you want to move to slide 21 and kind of recap what TEP's approach is to its siting applications and summarize that for the Committee?

A. (BY MR. BECK) Yes. On slide 20, you'll see that I'm recapping our position.

If one of our CEC applications includes a switchyard, we would bring the switchyard itself forward for approval by the Committee.

If the CEC application includes only a substation, we will not ask approval of the substation, but we will provide all of the information related to

that substation for the knowledge of the Committee.

Again, I felt Mr. Grant's letter at least lends support to our position, while it's not definitive, and our position is consistent at least with our local requirements within Pima County and the city of Tucson where the bulk of our service territory is located.

Q. Can you expand on that last point a little bit? What do you mean by the -- it's consistent with local requirements?

A. (BY MR. BECK) Sure.

Within Pima County, TEP is required to obtain a power substation permit per our Pima County Zoning Code. It's specific to substations and doesn't mention switchyards.

And there, my understanding is the thought when that was drafted was that switchyards were covered by the Commission and Committee. And, therefore, the local zoning ordinance didn't apply, so they wrote it specifically for substations.

And we have had that tested in a previous case, where a project would not have been permitted by Pima County if it had had a substation in it. And because it only had a switchyard, the project went -- the CEC went forward, and they understood that the ACC had the power to make that happen.

Likewise, in the City of Tucson, depending on the underlying zoning and requirements, we many times have to obtain a special exception land use permit for substations. Specifically, again, substations and not switchyards.

So both of our jurisdictions require permitting for substations, not switchyards, which is at least consistent with the concept that the ACC has jurisdiction over switchyards, while the local authorities have jurisdiction over substations.

Q. And, Mr. Beck, just getting into the definitional language just a little bit -- and the Chairman touched on it -- I guess it's as much for my education and having you put an answer on the record: If you have a switch and a bus and transformers, is that a switchyard or a substation?

A. (BY MR. BECK) If it has transformation, we would consider it a substation.

Q. And is that really the bright-line distinction between a switchyard and a substation, that a substation includes transformers of some size and capacity?

A. (BY MR. BECK) Generally, that is the definition of a substation that is used by most people within the industry.

Q. And are you aware of -- to your knowledge, does

Pima County or any of the other jurisdictions where Tucson Electric Power serves, are there any other land use regulations that govern switchyards?

A. (BY MR. BECK) Yes. In Santa Cruz County specifically, we serve Nogales, and they have a conditional use permit process that we have to go through for substations.

Q. My question was, specifically, are you aware of any local land use or zoning regulations that pertain to switchyards as opposed to substations?

A. (BY MR. BECK) No, I am not.

Q. Ms. Darling, this is one of your areas of expertise in terms of land use and zoning regulations.

Are you familiar with or aware of any Arizona state regulation -- local regulations that govern switchyards as opposed to substations?

A. (BY MS. DARLING) No. I've had the occasion to review all of the counties in Arizona, their zoning codes and land use codes, and there are none that mention switchyards.

Q. And is it a true statement that there are a number of land use or zoning regulations that do specifically call out substations and impose some sort of permitting requirement on -- specifically on substations?

A. (BY MS. DARLING) That is correct. Generally

speaking, and dependent upon zoning, they do have special use permits within all the counties of Arizona.

Q. So, Mr. Beck, I guess to wrap up this topic, and hopefully, we haven't belabored it, TEP isn't asking this Committee to do anything different than what it's done in the past. You simply wanted to make a record on your thinking and what has become TEP's approach to its siting applications when they involve substations?

A. (BY MR. BECK) That is correct. Just to put on the record what TEP's current position is.

CHMN. CHENAL: Thank you for that, Mr. Beck.

Mr. Haenichen.

MEMBER HAENICHEN: One of the things we try to do in this Committee is to enhance our own knowledge base on questions like the one we're doing here today.

So I'm going to take the privilege of taking the existing conversation we've just had and propose a theoretical situation.

We have a piece of land on which we're going to put facilities, and we'll call it a switchyard. This switchyard does not generate electricity but, rather, takes electricity that's been generated elsewhere on a large transmission voltage transmission line and then divvies it up, so to speak, and splits it into a number of output lines that go to various needs within the

service area of the facility.

My question is this: Does the definition of a switchyard demand that if the voltage of the incoming supply line to the switchyard is some number, let's say 150kV, then all the output lines from that have to be 150kV; or might there be transformers in there to drop it down to lower voltages which may or may not be transmission and then serve the needs?

MR. BECK: My response to that, Mr. Haenichen, would be that if it's the same voltage, it's a switchyard. But if it's going to go out at a different voltage, there has to be a transformer in there. And then we would call it a substation.

MEMBER HAENICHEN: So now the facility is a combination switchyards and substation or multiple substations?

MR. BECK: It very specifically depends on how the equipment is configured.

MEMBER HAENICHEN: Does that frequently happen in your experience, where the voltage goes out lower than it came in?

MR. BECK: It does happen, yes.

MEMBER HAENICHEN: Thank you.

MR. BECK: So one other nuance I'll just add relative to the issue of substations is that if the

Committee is approving a substation as part of a project and you want to approve kind of an ultimate design for that substation or what's considered the ultimate design where it puts the company in a position where, if five years down the road, conditions change and that substation equipment changes, for one thing, different technology comes in, then we would have to go back, theoretically, and amend that CEC to adjust that language that talked about the ultimate configuration.

And that's where I saw a real problem in the first case I was exposed to where a substation was part of the process, and it actually dictated what that future substation would look like. So one of the things that we've got in the back of our mind is that particular substation, if things change over time, do we have to come back and amend that CEC?

Which goes to a previous question I've raised, which we don't have an answer to, but is there a life to a CEC or not? If something is approved, say, for five years and we build at year four and a half, the facilities are in, what does it mean for that substation approval if it's kind of a future ultimate phase? It's a complicated issue.

MEMBER HAENICHEN: It is.

Thank you.

CHMN. CHENAL: Yes, Member Riggins.

MEMBER RIGGINS: And just -- and to that point, too, Mr. Beck, I think you and Ms. Darling had mentioned that because substations aren't technically defined in statute, that they're local ordinances and zoning. So would there be conflict in that fact as well if the Committee did take into account and impose certain conditions for substations, but you have to meet certain conditions for the county zoning as well?

MR. BECK: It could definitely raise concerns and issues between jurisdictions.

We've had experience with cases where federal versus state. And this would be state versus local. Who has control and what trumps would be a major issue to be dealt with.

MEMBER RIGGINS: Thanks.

CHMN. CHENAL: I guess we leave it at that. There are some applicants that believe the substations that contain switchyards and a series of structures do meet the statutory requirement for this Committee and others that don't.

But I think, Mr. Beck, it's especially important to have your perspective on it. I know I appreciate it. I don't necessarily agree with it, but I appreciate it.

MR. BECK: I understand.

Q. BY MR. DERSTINE: All right. Mr. Raatz, we're going to move on from --

CHMN. CHENAL: Let's do this. If we're going to get to a different area, let's take a ten-minute break.

(A recess was taken from 2:25 p.m. to 3:05 p.m.)

CHMN. CHENAL: This is the time to go back on the record and resume the hearing. The witnesses are sworn in.

So, Mr. Derstine, Ms. DeCorse.

MR. DERSTINE: Thank you, Mr. Chairman. We'll bring everyone back slowly from the ice cream sugar coma.

MEMBER HAENICHEN: I can't hear you.

MR. DERSTINE: I turned it off. How about that? Got it? Thank you.

Q. BY MR. DERSTINE: Mr. Raatz, this is going to be the next several sections of your areas of testimony.

Before we jump into the project overview, however, you and I are going to cover the application and one additional topic.

So let's start with that. The application is marked as TEP Exhibit 1. And you assisted in the preparation of the application; is that right?

A. (BY MR. RAATZ) Yes, that's correct.

Q. And when I introduced you as a part of the witness panel, you mentioned that there were certain corrections that needed to be made to the application that you had covered in your direct testimony. Do I have that right?

A. (BY MR. RAATZ) Yes, that's correct.

Q. So let's do that now. Let's have you cover those changes and corrections to the application, TEP-1, if we can do that.

A. (BY MR. RAATZ) Okay. The first change is in respect to Exhibit G-5 in the application. It's on page 179 of the application.

And what it replaces is their Key Observation Point No. 1. And it's kind of hard to see on the right screen here, but this is what is in the application on the left-hand side of the screen.

And you can see the attachment points for that conductor here are a little lower. And so we went back and modified it to what it should be. So we will be providing that as TEP Exhibit 12.

Q. Okay. So what we have on the right screen is a comparison of the simulation that was filed in connection in the application as KOP No. 1. And you're substituting in a new simulation of KOP No. 1. And that will replace

the original KOP, and it will go on Exhibit page 179.

Do I have all those right?

A. (BY MR. RAATZ) Yes, that's correct.

Q. And that substituted simulation for KOP 1 is what was contained in our original exhibit filing as TEP-12; is that right?

A. (BY MR. RAATZ) No.

Q. No. TEP -- it is TEP Exhibit 12?

A. (BY MR. RAATZ) That is the replacement. Yes, that's correct.

Q. Okay. All right. So that's change No. 1.

What's the next change that needs to be made to the application?

A. (BY MR. RAATZ) The next change is with respect to Exhibit I on page 232 of the application, section 1.5. It's a summary of references. And within the original document, the reference for the EMF study conducted was incorrect.

And so we'll be replacing this with TEP Exhibit 13, and it has the correct reference for the EMF study conducted.

Q. All right. So TEP-13 is the corrected Exhibit Page 232 to the application. And the change that was made on that page is simply a correction to the reference to the EMF study that was performed for this project?

A. (BY MR. RAATZ) That's correct.
Q. What else do you have?
A. One more is Exhibit I-2 on Exhibit Page 235 of the application. It is the cover page to the EMF study conducted on behalf of the project. Just in the upper right-hand corner, it states Exhibit I-22. So it needs to be replaced with Exhibit TEP-14, and it has the correct reference of Exhibit I-2.
Q. So the change here was simply an error in referencing the exhibit, and TEP-14 makes that correction; is that right?
A. (BY MR. RAATZ) That is correct.
Q. And I think that you mentioned that there is now also a fourth change.
A. (BY MR. RAATZ) Yes, I do.
Q. And what is that?
A. (BY MR. RAATZ) In my direct testimony, I state on page -- or, excuse me, in the application on page 1, section A.2, we discuss a corridor width. It's not incorrect. We asked for a 300-foot corridor. However, throughout the CEC application process, we've determined we need a wider corridor for a smaller portion of the line.
So, as Ms. DeCorse spoke to, we will be requesting a 900-foot corridor for a portion of the line

that is approximately half a mile long along the Kolb Road on the southern end of the project.

Q. And are we going to get into greater detail about that half-mile segment where we're asking for an expanded corridor later in your testimony?

A. (BY MR. RAATZ) Yes, sir.

Q. But that's the last, fourth, and final change to the application that you noted at the outset needed to be made to the application and also needed to be made to your direct testimony?

A. (BY MR. RAATZ) That's correct.

Q. One of the requirements in filing the application is that the project be included in the applicant's ten-year plan. Was that done?

A. (BY MR. RAATZ) Yes, that was.

Q. And this project, then, was included in the ten-year plan filing that was made January of this year?

A. (BY MR. RAATZ) That is correct.

Q. So let's now go to the project overview.

Maybe the place to start is to finally walk us through the route alternatives that are presented in the application. Is that a good place to start?

A. (BY MR. RAATZ) Yes, absolutely.

So on the upper right-hand screen here, we have the existing system. You can see the orangish lines that

represent the 138kV system existing, and the pinkish lines represent the existing 46kV system. And this area here is the Davis-Monthan Air Force Base.

And so the purple line here represents the study area that was developed as part of this project. And that study area is determined based on the beginning and end points of the project. And what that study area represents is the area of notification required for the project Ms. Darling will speak to later in her testimony.

And so, for this project, we will be interconnecting into the existing Irvington Substation and terminating at the existing East Loop Substation with interconnections into the Port and Patriot Substation.

One thing to keep in mind here is the portion between Irvington and Patriot is common to all routes -- or, excuse me, common to all alternatives. And we'll be speaking to this later on in our testimony.

So the common portion goes from Irvington and down, up through Patriot Substation. And then from Patriot, it continues north to the East Loop Substation.

There are portions of this alternative that have double-circuit 46 on one side and 138 on the other side. Those are represented in the yellow line here. And what this is for is to support the Raptor Ridge solar facility. And I'll be speaking to that later in my

testimony. We took this as an opportunity, rather than build another line to accommodate that 46, to collocate the 46 on the same structure with the 138. And that is --

Q. I'm sorry. I just want to make sure I understand.

So leaving the Irvington Substation, along the common route, Alternative 1, there is a segment shown in kind of this yellow overlay on Alternative 1 that will not only have the new 138kV circuit, but it will also carry a 46kV circuit. And that 46kV circuit is going to interconnect this new solar project; is that right?

A. (BY MR. RAATZ) That is correct.

Another location where we have a double-circuit 46-138 for Alternative A is right along here. We've got an existing 46kV substation. And the existing line needed to be relocated in order to accommodate Alternative A. So we took this opportunity to collocate the 46 circuit on the same structures as the 138 in this area. And that's only for about three spans. It leaves the South Kolb Substation and continues north to Golf Links, and the 46-138 double-circuit terminates there.

Q. So as to the three alternatives that extend from the Patriot Substation to East Loop, Alternative A -- and my eyes aren't great on these colors -- but

Alternative A carries for that short segment shown in that overlay of yellow a 46kV circuit; is that right?

A. (BY MR. RAATZ) That is correct.

There's also a portion on Alternative A where we have double-circuit 138kV structures. And that portion picks up an existing 22nd to East Loop Substation's circuit. And it will be collocated on the new structures. And it extends from 22nd north to the East Loop Substation.

In this area, we'll be wrecking out the existing -- we'll be de-energizing and then wrecking out the existing 138kV line and collocating the existing circuit on the new structures within the new transmission corridor. That is the plan as we move forward.

Q. And that's one of the important, I think, aspects of this project that the Committee should understand, is that, whenever possible, TEP has attempted to follow an existing line and to consolidate an existing line onto the new line, the structures for the new line, wherever we could do that in order to minimize the number of poles or the number of lines that are running on, say, Pantano Road or Kolb Road; is that correct?

A. (BY MR. RAATZ) That is correct.

Q. And what you're showing us there is a segment of Alternative A, which will carry an existing 138kV line

that you're going to put on the other side the new structures that we're going to build for this project?

A. (BY MR. RAATZ) That is correct.

Q. But that's if the Committee were to select Alternative A, it would have those features; right?

A. (BY MR. RAATZ) That's correct.

So here, we have Alternative B2. Once again, Alternative 1 is common to this alternative. It goes from our existing Irvington Substation up to Patriot and then continues east on Escalante and north along Pantano Road. There is an area in here where we do have a little jog in here I'll speak to a little later.

So, once again, in Alternative A, we do have double-circuit 138-46 coming from our Irvington Substation, extending up about a mile southeast to support the planned Raptor Ridge solar facility.

And this area right here represents what would be double-circuit 138kV structures. There is an existing circuit from our Los Reales Substation up to Pantano. This circuit would be de-energized, the structures wrecked out, and new structures erected and both circuits placed on those structures and reenergized.

And then from Pantano to East Loop, the same thing would occur. We would de-energize those structures, wreck out the old structures, place new

structures, and then place both circuits on the new structures.

Q. So the alternative you're describing here, the first one you covered was C --

A. (BY MR. RAATZ) No. The first one was A.

Q. A. Okay.

And then this one you're describing now is the Alternative B2, right?

A. (BY MR. RAATZ) Correct.

Q. And if the Committee were -- and B2 happens to be your preferred route?

A. (BY MR. RAATZ) Yes, that is correct.

Q. And if the Committee were to select B2, one of the key features that you've shown there -- and, Patrick, and you could lay it out -- is that you would be following the route and the corridor on an existing 138kV line and placing both 138kV lines on the same structures so you have a double-circuit 138kV line running from -- is that 22nd Street?

A. (BY MR. RAATZ) This is Escalante here.

Q. Escalante, okay. All the way to East Loop?

A. (BY MR. RAATZ) Yes, that's correct.

And one of the benefits of this, there is an existing Tucson Meadows neighborhood with this area. And currently, the line goes right through the neighborhood,

and properties have kind of encroached upon the right-of-way within the neighborhood. So this Alternative B2 jogs both that circuit and the preferred circuit around that neighborhood and out of it, and it allows easier access for our crews for maintenance as well.

MR. DERSTINE: Mr. Dubberly, can you take off the yellow overlay?

Q. BY MR. DERSTINE: So is that -- the jog that you were just describing where we're going to move the existing line around a neighborhood subdivision, that's that little triangle portion there?

A. (BY MR. RAATZ) Yes, that is.

Q. Okay. And can you describe in terms of when the route that B2 follows into East Loop, at some point, you place them on some existing lattice structures. Am I right about that?

A. (BY MR. RAATZ) That is correct. That's -- the preliminary design shows that. And I'll speak to that more in the Google Earth Flyover.

Q. Okay. All right. Continue on.

A. (BY MR. RAATZ) Okay. And, finally, what we have represented here is Alternative C1. And this is very similar to Alternative A in respect that it departs Patriot Substation and continues north on Kolb Road.

This is -- just as Alternative A had the double-circuit 46-138, this also has double-circuit 46-138 out of the existing Irvington Substation to support the Raptor Ridge planned solar facility. And then about three spans right here of double-circuit 46-138 to accommodate the existing 46 circuit.

And then, lastly, up here, the difference between Alternative C1 and Alternative A, the main difference, rather than continuing north on Kolb, Alternative C1 heads east on 22nd, where it eventually crosses the Pantano Wash, and it will be just outside on the top of the bank of the Pantano Wash and eventually crosses back to the west side of Pantano Wash and stays along the west side of the Pantano Wash, where it gets into the existing transmission corridor and terminates at the existing East Loop Substation.

One thing to note, common to all three alternatives, they'll be constructed with double-circuit-capable weathering steel monopoles.

And the distance between all three alternatives will range between approximately 11 and 13 miles. And the number of structures in the preliminary design is approximately between 110 and 123 used on this -- these alternatives.

It's TEP's practice to utilize the existing

franchise agreement we had with the City and County where possible and stay within the road right-of-way.

Q. So the last bullet, if I'm looking at your PowerPoint slide on the left screen, slide No. 23, it notes that the length of routes that you just described ranges between 11 and 13 miles. Do I have that right?

A. (BY MR. RAATZ) That's correct.

Q. And the last bullet on slide 23 also indicates that the application is requesting a 300-foot corridor.

You mentioned, however, that there is a section in which we're asking for more than a 300-foot corridor. I think you mentioned a 900-foot corridor for a half-mile segment. Do I have that right?

A. (BY MR. RAATZ) Yes, that is correct.

Q. Is this a good time to talk about that?

A. (BY MR. RAATZ) Yes.

So what we have represented here is the section where we are asking for the 900-foot corridor as we traveled east along Littletown Road and we head north along Kolb Road, which is approximately 2,400 feet where we're requesting the 900-foot corridor.

This is due in part to this section of Kolb Road being designated as a Pima County major scenic route. And so with that designation, there's an additional buffer required that extends beyond the

right-of-way. So you can't build within that major scenic route buffer.

So having the 900-foot corridor allows us the flexibility to build on either the east side or west side of Kolb Road and outside of the buffer.

Q. So this scenic road designation is not along Kolb, but it intersects with where Valencia intersects with Kolb Road, and that creates this area in which we have to have and are requesting this larger, wider corridor to accommodate for the scenic corridor and the restrictions that are placed on our ability to put structures close to the roadway. Do I have that right?

A. (BY MR. RAATZ) Yes, that's correct.

Q. So the 900 feet is a big distance. Again, why are we requesting so much? Is it because the -- well, let me phrase it this way: What does the designation mean in terms of how close we can put our structures to the road?

(BY MR. RAATZ) I believe, and I may defer to Ms. Darling on this, but the buffer required is half of the right-of-way. So if the right-of-way were 300 feet, an additional buffer of 150 feet would be required beyond the edge of right-of-way.

Q. And so the impact of that buffer means that we need to put the structures for our common route,

Alternative 1, outside of the buffer, and that will require that we place them either within -- further within private land -- and I think Ms. Darling is going to address the land ownership in that area -- on either side of Kolb Road at that section as shown on your project overview map on the right screen; right?

A. (BY MR. RAATZ) That is correct.

One thing to note about the 900 feet, the corridor in this location is centered on the alignment of the alternative. And so the corridor width is -- it would be requesting 150 foot to the east and 750 foot to the west as the preliminary design just had it on the east side of the roadway.

CHMN. CHENAL: Excuse me. How wide is the right-of-way at that point?

MR. RAATZ: I believe it's 300 feet.

CHMN. CHENAL: Either side? Each side or 150 each side?

MR. RAATZ: 150.

Q. BY MR. DERSTINE: Now, we're going to give the Committee more information through your flyover and I think through the testimony of Ms. Darling about this section and what the scenic designation means for this project and why we need more room to build the project in this area; right?

A. (BY MR. RAATZ) Yeah, that is correct.

Q. Is there anything more that's important to note about the corridor width along this half-mile section of Kolb Road, at least for the time being?

A. (BY MR. RAATZ) Not that I'm aware of.

Q. Okay. So let's move to the structures that TEP plans to use to construct this project.

A. (BY MR. RAATZ) Okay. On the screen on the left-hand side and also seen on your placemats are the representations of the structures that will be used in the project.

Starting from the left-hand side, we have what's called a direct-embedded pole. And it's a single-circuit, so it has three insulators, one insulator for each phase making up a circuit.

Adjacent to that is a double-circuit direct-embedded pole.

And then moving on, we have a single-circuit foundation pole and a double-circuit foundation pole.

Now, the difference between the direct-embedded and the foundation poles, these direct-embedded poles could be used along on the right here, along straight segments of the route. And, typically, the conductor just kind of runs through. It doesn't terminate on the pole itself.

And for the foundation poles, these are stronger poles. And they are typically used at angle points, and the conductor terminates on those poles. So it would have an angle pole here and here and in unique situations where we have, perhaps, a clearance requirement where we want a stronger structure.

Q. So the poles and the pole configurations that you're showing, the two-pole configurations that are shown on the right side of slide 24, would those commonly be referred to as dead-end or turning structures?

A. (BY MR. RAATZ) Yes, they would.

Q. And that's the difference in terms of the way those poles look, is because you're saying the conductor will actually terminate on each of those arms?

A. (BY MR. RAATZ) That is correct.

And another thing to note here is the phase facing is a little different on these dead-ends to allow for clearance for the jumpers for insulators.

One final thing to note, the overall height of the structures is going to range between 75 feet and 110 feet above grade; except where we do have some design considerations, they do go a little higher.

Q. Okay. Let's talk about cost.

A. (BY MR. RAATZ) Okay. Up on the screen, you can see the costs that were put together for this

application.

Each alternative cost shown includes the common portion between Irvington and Patriot. The costs shown include removal of existing transmission structures, relocation of existing distribution as would be required, and also construction of the new transmission line.

CHMN. CHENAL: Member Woodall.

MEMBER WOODALL: Do these costs include the cost of the switchyard?

MR. RAATZ: No, they do not. It's a substation.

MEMBER WOODALL: So they do not include that?

MR. RAATZ: No, they do not.

MEMBER WOODALL: So you're not putting in a switchyard?

MR. RAATZ: No, we're not. We're putting in a substation.

MEMBER WOODALL: Okay. But the substation costs are not included here?

MR. RAATZ: That's correct.

MEMBER WOODALL: Okay. Any idea how much, maybe a ballpark, before we're done?

MR. RAATZ: Ballpark, before we're done, estimate?

MEMBER WOODALL: Yes.

MR. RAATZ: So, as I was saying, the variation in costs are dependent upon the length of construction, the amount of removal, and acquisition of land rights acquired and an overall cost range between 17.85 million and 19.88 million. The cost for the preferred route is 18.98 million.

And we will touch on why this is our preferred route even though it's not the least expensive. We'll discuss why it's our preferred route later on in testimony.

Q. BY MR. DERSTINE: And all of those cost estimates include the common route?

A. (BY MR. RAATZ) Yes, that's correct.

And one last thing that these costs include is any mitigation that would be required for cathodic protection for railroad or gas lines or water lines.

CHMN. CHENAL: Would you expand on that, please, on cathodic studies and gas lines, please.

MR. RAATZ: Yeah. So if we parallel a gas line or railroad, we have to conduct a cathodic study to see if we're going to have any impact on the lines itself. And if it's found that we do, we go in and put mitigation. And it's basically a sacrificial element that would be placed in proximity of the gas line, and so it would kind of corrode rather than the gas line itself.

CHMN. CHENAL: What is a cathodic study, and why do you do it?

MR. RAATZ: A cathodic study is done to try to determine if the transmission line will have any negative impact on the existing infrastructure, such as a gas line or the railroad or a water line. And it's done for, you know, steel gas lines or water lines.

And so the results of the study will indicate whether or not this transmission line would have any negative impact to the existing gas line or water line.

CHMN. CHENAL: What's a negative impact?

MR. RAATZ: A negative impact would be corrosion, so degradation of the existing gas line or water line.

So in the past, for instance, I believe a case Mr. Beck had worked on, DMP to Tucson, we had to do a cathodic study for the railroad. And the results of the study indicated that we had to put in a sacrificial copper wire adjacent to the railroad. So the thought is that that will corrode rather than the railroad.

No?

MR. BECK: Mr. Chairman, just to clarify for the record, on our DMP project, we did do a study, and it was for interference of the communication signals on the railroad. And we had to bury a parallel ground wire in

that instance to overcome those issues.

But a cathodic protection study has similarities in that you study any interaction between power flowing on the transmission line and any flows it may create that go back through a buried pipeline underground and cause catholosis, I believe it is, on the pipe that wears the pipe away. And if it goes on long enough, potentially, you could have a leak, whether it be gas or water. So you put in preventive measures to prevent that wear on the pipe if you see an interaction.

CHMN. CHENAL: Thank you.

And since we're on the topic, I've actually gone online in this case, and I know that there are gas lines and hazardous gas lines in proximity to where this line is going to be placed.

Tell us how you go about determining whether or not there's gas lines within a mile of where the lines are going to be.

MR. RAATZ: Well, I'm going to maybe defer to Renee a little bit. But the original -- for the initial design consideration, we would work with the existing utility companies to obtain maps of where those gas lines would be located or they'd have shapefiles, GIS shapefiles. Same thing with the water or communications.

And we do that to the best of our ability in

the initial stage, and we put them on our GIS -- incorporate them into our GIS data, and that is used by engineering to determine pole placement so there's no conflicts.

But as we move further out through the design and get an actual completed design, we would get the Blue Stake done. And so we would call Blue Stake to confirm that there's no conflicts where we have our proposed structures.

CHMN. CHENAL: So, normally, you determine the existence of gas lines when you're in the planning and engineering phase after the CEC is granted; is that correct?

MR. RAATZ: Well, we actually -- when we are in the CEC phase, we start that process, but it's not as accurate as a Blue Stake process. They're shapefiles, and so they may fall somewhere within the proximity of the right-of-way that we have in our GIS database, but they won't necessarily line up the exact location. Blue Stake would give you a better -- really tie it down.

CHMN. CHENAL: Member Haenichen.

MEMBER HAENICHEN: Once a line like this is completed and it's built and energized, is there a way to make an instantaneous measurement as to whether or not this phenomenon is taking place?

MR. RAATZ: I'm going to defer to Mr. Beck.

MR. BECK: Mr. Chairman, Member Haenichen, I believe that, particularly in gas lines, they do have measurement capabilities on those lines to see what's happening. That's their business, and they do it versus us typically doing it.

We can, through our study processes, kind of estimate what that might look like and what the impacts could be. But, again, after the fact, it's really on them to let us know if there are issues.

MEMBER HAENICHEN: Okay. Let's say the line is energized and they do make such a detection, what do you do then? Do have to mitigate that, "you" being the electrical part of the system?

MR. BECK: Between the two entities, we would have to, in some way, mitigate that. Typically, there would be a lot of discussion in the design phase that they would raise the issue, We have a gas line, we're concerned about it, we need to do a study. If those study results put any question in their mind, then we would probably prenegotiate who's going to do what to resolve the issues.

MEMBER HAENICHEN: Just for the peace of mind of the Committee members, I'm going to make a statement, and you can tell me whether it's true or false.

These effects are not instantaneous. They're gradual things. There's gradual erosion of the situation. So you've got plenty of time to figure it out.

MR. BECK: That's correct, Mr. Haenichen, that it's a long-term process of catholosis that isn't immediate.

CHMN. CHENAL: Thank you.

Q. BY MR. DERSTINE: And I think, just for now, to close the loop on the cathodic protection issue, I believe both the CEC for this case as well as the other cases that I've been involved with all included a condition regarding cathodic protection. Am I right about that, Mr. Beck?

A. (BY MR. BECK) That is correct. There is a condition. The condition states the specifics of when such a study has to be done.

So your typical lines that are crossing -- a gas line that's crossing our alignment typically wouldn't have a study done because there's really very little to no impact.

Just for the record, the requirement for that study and that condition actually dates back to one of our early cases, and there was a lot of concern about a gas line associated with the project. And the Commission

brought in their gas site personnel to talk through the issues. I think they helped draft the condition. And that condition has been refined over many cases to where I think it's in pretty good shape now. But the original version of that condition was a little bit questionable.

CHMN. CHENAL: And that's in the -- that's one of the conditions that's in the proposed CEC from the applicant; is that correct?

MR. DERSTINE: That's correct. I believe it's Condition 17 in the proposed CEC that we've filed with our exhibits.

CHMN. CHENAL: Member Woodall.

MEMBER WOODALL: Mr. Chairman, did we get a letter from Staff?

CHMN. CHENAL: No, I have not gotten a letter from Staff.

MEMBER WOODALL: I didn't think so.

Mr. Beck, based upon your long experience in these matters, do you believe that Staff may be supportive of Condition 17, which talks about hazardous gas pipelines, etc.?

MR. BECK: Member Woodall, I do believe they would be supportive. And relative to getting a position from them, we have been dealing with some data requests from them up until even as late as Friday.

MEMBER WOODALL: Okay. Thank you.

Q. BY MR. DERSTINE: Mr. Raatz, I think that concludes the project overview section.

We're going to move on to purpose and need unless I've missed something. Is there anything you wanted to add on the overview piece?

A. (BY MR. RAATZ) No, sir.

CHMN. CHENAL: Member Haenichen has a question.

MEMBER HAENICHEN: Mr. Raatz or Mr. Beck, either one or both, I've written down a number of not concerns but questions that I have. So with your permission, I'll do them one at a time, and you can answer them.

First of all, the first one that I just need to be made to understand, in parts of this proposed project, you are going to de-energize and then I think you said wreck portions of the existing transmission system in this area. My question is, isn't that going to cause a lot of trouble with people that are buying energy in this area? And how do you deal with that?

MR. BECK: Mr. Chairman, Member Haenichen, it may not be the best language to use that we would wreck out to de-energize. We will strive to keep the line energized throughout construction as much as possible. There will be periods where portions of the line will

have to be taken out of service. And, if needed, we'll run temporary jumpers around areas that we're constructing. So it's not a simple process, but it's also not as simple as saying, we're just going to tear it out and then rebuild it. There will be a lot of coordination on outage issues.

MEMBER HAENICHEN: Because it occurs to me, at least in first reaction, when you remove an existing pole and embed a new one in concrete, there's got to be at least a week or so that you have to let that sit. Otherwise, it would fall down when you put lines on it; right?

MR. BECK: We do have some pretty fast setting concrete, some things we can do to make that happen quicker. But to a large degree, we'll try and inset poles where possible and then attach the existing line to the new poles and then take out the old. Again, it's going to be a very delicate process throughout for coordination.

MEMBER HAENICHEN: Okay. Next question. I have four.

How did you select the voltages for these things? I think they are probably based on existing voltages in that part of the system; is that correct? You may have wanted to have a higher voltage, but that

would be problematic; is that correct?

MR. BECK: So the TEP system consists of 46, jumping up to 138, and then 345kV. And we have some thoughts for some future design or some future construction of 230 on our system because of the higher capacities. But for this area, 138 is sufficient.

MEMBER HAENICHEN: Okay. Just two more questions. This is a subjective question, so answer it as you see fit.

How much of this project has to do with satisfying problems with Davis-Monthan?

MR. BECK: In the near term, probably 70 percent to resolve their needs for resiliency. But in the little bit longer term, a couple more years, it probably drops to 50/50 and then reduces over time as we have other load growth, residential/commercial, in the area.

MEMBER HAENICHEN: Now, the next question is a complementary question to that one.

Who is ultimately going to pay for this $18 million project? Is it going to be ratepayers or some other combination?

MR. BECK: For the most part, it will be our customers. And this is a transmission project which goes into our FERC transmission rates. And those, of course,

flow through to our commercial and retail customers. So there will be allocations to all customers.

MEMBER HAENICHEN: Okay. But if there is a benefit to the Davis-Monthan, as you stated, wouldn't it be implied that they should pay for part of this? "They" being the federal government.

MR. BECK: Well, one of the benefits to TEP and its customers is the land for the substation itself. We've got an agreement in place to get a substation site that is workable for us on property that they now control that, otherwise, we would have to acquire through private means off the base, which likely would cost a considerable amount of money. So there's some in-kind contributions towards the project from the base and from the federal government.

MEMBER HAENICHEN: That's a good answer. Thank you very much.

CHMN. CHENAL: A follow-up question: Will the applicant be leasing the land for the substation from Department of Defense?

MR. BECK: No. I believe we will be leasing, but it will be from the City of Tucson. So the base currently leases, I believe, for a dollar a year, their land. And they are going to release the corner piece of property back to the City. And then we're dealing with

the City.

And, Ms. Darling, I'm not sure. Do you know, is it lease, or is it purchase?

MS. DARLING: It hasn't been wholly determined, but it will likely be purchased.

MR. BECK: Our preference would be purchased, but we're dealing with the City on that.

CHMN. CHENAL: Next question: Isn't Davis-Monthan a customer, a ratepayer, for electricity?

MR. BECK: Yes, they are. They're one of our largest. So they will pay the share -- a considerable share of the cost from that standpoint.

CHMN. CHENAL: Thank you.

Member Haenichen.

MEMBER HAENICHEN: That shows the power of the federal government. If they earn a buck, then you have to pay a million dollars.

Just a joke. Thank you.

Q. BY MR. DERSTINE: All right. We were just about to move on to purpose and need, Mr. Raatz.

Why don't we go ahead and move to the next slide, if we could.

Mr. Raatz, you have educated me on this project and already walked the Committee through it, but my general understanding is that this project meets or

addresses four key needs. Can you walk us through those four elements using your slides.

MR. RAATZ: sure.

From a high level, this project addresses the needs of the transmission line.

It is required to improve service to the TEP service area north of Davis-Monthan Air Force Base. It addresses the need to replace the current 46kV system serving the base.

And, also, in addition to that, this system operates as a radial system. Also, within the area, there's existing 46kV infrastructure that will be eventually retired as a result of this.

This also assists Davis-Monthan Air Force Base in helping complete the United States Department of Defense energy resiliency directive.

And that will be accomplished one way by providing a looped-in system from Davis-Monthan, so Davis-Monthan will be served from two directions.

And, finally, it provides end capability to serve future load growth in the area southeast of Tucson.

So, as I had mentioned, the existing 46kV system, what we have shown up here on the screen, these are four substations that we will eventually be able to retire with this project. These are all in approximate

location to the study area.

And this area right here, this is the Davis-Monthan 46kV substation. As you can see, it's currently served by a radial line. So one of the things here, if we lose this line, Davis-Monthan loses all power.

By placing the Patriot Substation -- I believe it's somewhere up around in this area -- we'll be able to eventually retire these other three 46kV substations, and we'll be off-loading those and serving them with the new Patriot Substation.

There will be some distribution work required as well to provide service to Davis-Monthan Air Force Base.

So, as I spoke to, one of the drivers for this was the Department of Defense energy resiliency initiative -- directive. And that directive states that -- to ensure that the Department of Defense has the ability to prepare for and recover from energy disruptions that impact mission assurance on military installations.

So we've attended some meetings at high level, and the military has identified one of the key components is to partner with energy providers to help them meet this mandate. And so what we see here is correspondence

between Mr. David Hutchens of TEP and Colonel Scott Campbell, United States Air Force Commander, and Colonel Michael Drowly, United States Air Force Commander, indicating the willingness of both TEP and Davis-Monthan Air Force Base to work together to help Davis-Monthan Air Force Base fulfill the energy resiliency directive.

And off to the left is the Air Force's Energy Flight Plan. And this is the document produced to help them meet that directive.

And, lastly, within this Energy Flight Plan, the Air Force's energy vision is to enhance mission assurance through energy assurance, which kind of ties into everything as far as the directive.

CHMN. CHENAL: Member Drago.

MEMBER DRAGO: I have a question. When you mentioned you would retire three substations by having the Patriot, I would imagine there are benefits retiring three substations. Could you explain some of those benefits, including cost of ownership, something like that.

MR. RAATZ: So could you repeat the question, please.

MEMBER DRAGO: So you said you would surrender three substations and just have the one substation, the Patriot. By surrendering three substations, I would

imagine there's some benefit to you all in that regard. And I was just asking if you could explain those benefits.

MR. RAATZ: Sure. Some of the benefits will come from the retirement of the 46kV substations. We'll have less maintenance to consider. Rather than four substations, we'll have to maintain the one substation. Also, we'll have less poles to maintain as well. There will be a cost savings there.

And the load will be served from a higher voltage class rather than the 46, so it's a more reliable system. And, as I've said, the 46 system is kind of a radial system. And our thought process on the 138 system is a loop system. So it's served from two directions. So if you lose one of the lines serving that substation, the other line can pick up the load.

MEMBER DRAGO: Thank you.

Q. BY MR. DERSTINE: Mr. Raatz, on that point, I thought you had mentioned also that some of the equipment that's used in the substations is, to use your term, aging and will need to be replaced in the near term. So is one of the benefits the fact that TEP does not have to spend money on any transformers and other equipment to update and upgrade those existing 46kV substations. You're going to replace them with a new 138kV substation.

Do I have that right?

A. (BY MR. RAATZ) That's correct.

MR. DERSTINE: I'm sorry, Mr. Chairman, I think I cut you off.

CHMN. CHENAL: Yes. On the screen on the right, slide 29, the -- now it's on the left as well.

But the letter that's in the upper right corner, if you will, the most raised letter, has some interesting language in it.

It says, among other things: We understand the proposed project could include a TEP-owned reciprocating internal combustion engine and/or storage batteries on the Davis-Monthan Air Force Base property.

Could you give us a little background on that aspect of the project, one of the members of the panel.

MR. RAATZ: Well, I can attempt and then let Mr. Beck interject.

For the first portion of this project, the resiliency effort is being met by creating a loop system and a stronger voltage source.

But, ultimately, as seen on the next slide here, Fiscal Year '25: Eliminate 20 percent of single points of failure. And Fiscal Year '35: Eliminate 100 percent of energy shortfalls to improve contingency operations.

CHMN. CHENAL: I'll tell you right now, I don't understand what those mean. I can guess, but I'd like to hear from an expert what those mean.

MR. RAATZ: Yes, sir. So by 2025, all the military installations identified in the Department of Defense directive should eliminate 25 percent of single point of failure.

So, for example, this Patriot Substation, currently, the 46kV substation has a single point of failure. If you lose the line, you've lost the ability to serve load within that substation. In addition to that, there's only one 46kV transformer. So if the transformer goes out, you've lost the ability to serve the load within that substation.

The new Patriot Substation will eliminate those single points of failure by providing transmission from either direction, from East Loop or from Irvington. In addition to that, it will have two transformers with what's called automatic throwover. And so if there's one transformer and you lost it, the load is automatically switched over and served by the other transformer.

CHMN. CHENAL: Okay. So there's redundancy there at the transformers.

MR. RAATZ: Yes, sir.

CHMN. CHENAL: And then on the first point --

if you can put the map up again.

MR. RAATZ: This one?

CHMN. CHENAL: Well, all right.

The Irvington-East Loop, it's all going to be 135kV line?

MR. RAATZ: 138, yes, sir.

CHMN. CHENAL: I'm sorry. 138kV line. Whereas, presently, it's 46kV?

MR. RAATZ: That's correct, yes, sir.

CHMN. CHENAL: So your point of eliminating one of the points of failure is that now you can provide power to any point along the line from either direction, from either source, Irvington or East Loop?

MR. RAATZ: Correct, yes, sir.

CHMN. CHENAL: So -- okay.

All right. So that's point of failure. So the Air Force's goal is to reduce by 20 percent the number of possible points of failure?

MR. RAATZ: Correct.

And so for fiscal year '35, they'd like to eliminate 100 percent of energy shortfalls to improve contingency operations.

CHMN. CHENAL: So what does that mean?

MR. RAATZ: So the letter you read identified RICE generation units or battery storage.

And so, in the future, I believe the thought is to serve load.

MR. BECK: Mr. Chairman, to clarify the record, we'll take one step back.

As of the timeframe of these letters being drafted, we were having discussions with the base about their resiliency needs. And one thought that they had is we just want to put a generator on site and be in control of it, effectively cut TEP out of it. It would not be good for us or our customers. And we didn't think it was in the best interest of the base to be in the energy development business.

So those discussions that were in those early letters were along the lines of We're going to look at different avenues. It could be onsite generation.

One of the points that I made to the base was that it's much more cost effective to serve them with 138kV, have a direct tie back to our Irvington location, which has RICE units. Rather than them having their own generation on site and running it, let the energy people run that and have a direct tie.

Through the discussion process back and forth -- and there will be a little bit more in a slide show that comes later -- we were able to convince them that the best first phase of a process was this

transmission project. And it would meet their 2025 goals as soon as we get the line in service, which we're planning for the end of 2022. So it exceeds their goal for at least that 20 percent piece.

One of the things you'll hear about is they wanted the four 9s of reliability. And I've got some information I'll be presenting to show you how we're going to do that through the 138.

So while these letters were intended to show progression of discussions, the timeframe of this was we hadn't quite decided 138kV line was the right answer. So there were other references.

And there will be other future phases to development of projects with the base. Do they want to put some onsite solar, possibly more. They already have some. Maybe they want more. Maybe we work with them and put battery storage on the site that will serve both them and our needs.

So that's what some of those references in that letter were.

CHMN. CHENAL: Thank you.

Thank you.

Q. BY MR. DERSTINE: So, Mr. Raatz, you've covered two of the four key drivers or needs for the project. One was the aging 46kV system. The other was to meet the

energy resiliency needs of the base, Davis-Monthan.

Why don't we move on to that next need component?

A. (BY MR. RAATZ) Another need that will be fulfilled by this project is the ability to respond to service requests within the southeast area of Tucson. There is an existing inland facility. It is called the Port of Tucson. It's a full-service inland port, rail yard, and intermodal facility that currently has 760 acre -- it's currently a 767-acre business park. It's designated as shovel-ready by the City of Tucson and Pima County Development Services. And so that means it's basically ready for development.

It currently has over 1.7 million square feet of manufacturing, warehousing, and distribution buildings with plenty of space to grow. And it's an active foreign trade zone as well as state of Arizona enterprise zone.

And just for some clarification, it is a dry port, and it's sometimes called an inland port, an intermodal terminal directly connected by road or rail to a seaport and operating as a center for trans-shipment of sea cargo to inland destinations.

So having the ability to respond to service requests quickly within this area could be of economic importance to the city of Tucson.

Q. Am I correct in understanding that TEP currently is serving the Port of Tucson area through a 46kV line, and the capacity of the 46kV line is very limited and won't allow for the type of heavy electrical users, industrial users, or the types of businesses that we're trying to attract to the Port of Tucson?

A. (BY MR. RAATZ) That is correct. The current 46kV system would not be able to accommodate the service requests that we've seen historically.

Q. Okay. Speak to that slide.

A. (BY MR. RAATZ) So here, we have up on the screen is -- on the left-hand side, you can see the Port Substation location as well as a blow-up of the Port of Tucson area. And this is the rail -- intermodal rail. This is the UPRR as well, the Union Pacific Railroad. And here is our proposed line just if you're on the outside edge of the Port of Tucson.

And should the need arise, we could build the Port Substation and be able to respond to those service requests.

Q. And the timing for the construction of the Port Substation, following the discussion I had with Mr. Beck, will depend on how quickly the Port of Tucson develops and how many new businesses are there. That will drive when that substation is built?

A. (BY MR. RAATZ) That is correct. The location of the substation was identified through distribution, planning, and engineering at TEP. They look at the load growth, the possible load growth within this area, and then see what can be served with that future load growth. And that's how we identified the location of this Port Substation.

Q. All right. So we've covered three of the needs that this one project addresses. It's the aging 46kV system that serves the area north of the base, including the 46kV system that serves the base itself; allowing Davis-Monthan to meet the energy resiliency needs by giving it a looped 138kV transmission line; and now being able to serve the Port of Tucson and the expansion and development of commerce and business in that area.

What's the final element or the need that this project serves?

A. (BY MR. RAATZ) The inclusion of this project has eliminated some of the uprates that we've seen historically in our capital budget study process. So, historically, before we included this project, which goes from Irvington through Patriot and up to East Loop, historically, we've identified the need for uprates on existing circuits, the Los Reales-Vail, which is right along here -- or excuse me -- here and south, and

Pantano-Los Reales, and then East Loop to Pantano and 22nd to East Loop.

So after we prepared our capital budget study this year and our ten-year plan, these projects were no longer required as a result of the inclusion of this. This line seems to offload flow on the 22nd to East Loop line and the East Loop to Vail circuit.

Q. When you're saying "these lines," these lines were overloaded under what conditions?

A. (BY MR. RAATZ) These were overloaded under contingency conditions. So, for the budget or any study, we have to look at the loss of certain lines and see what resulting lines overload as a -- as result of those lines.

MR. DERSTINE: All right. I think that concludes the overview, Mr. Chairman. I want to check in with you on time. We have our flyover presentation, which I think will be 30 to 40 minutes, depending on how fast Mr. Raatz talks, and he can talk pretty fast.

And I think you want to cover the route tour this afternoon so that the Committee has an understanding of what that would look like tomorrow. So that's probably an hour's worth.

We're at 4:10 by my watch. Did you want to take a break now or -- and I also want to look at -- if

the public comment is 5:30, do you want to run up to 5:30 or do you want to take a break? How do you want to schedule the rest of our day?

CHMN. CHENAL: The Committee knows my preference, that we don't start deliberations later tomorrow, we wait till Wednesday. So I think we have the luxury of time. So I think we can do the flyover, maybe discuss the tour, the flyover, see where we are. But we could break at 5:00 or shortly thereafter and have our public comment at 5:30.

I think we'll comfortably have the tour, finish or get close to finishing tomorrow afternoon, and then go into Wednesday and finish up and then have plenty of time for deliberations.

MR. DERSTINE: With your permission, I think the sequence that we had envisioned was to do the flyover and then give you a preview of the route tour, because we do include some of the tour stops in the flyover, so there would be time to --

CHMN. CHENAL: Let's take a ten-minute break, and then we'll get into that. And then we can go for an hour and look at where we are at 5:00 or a little after 5:00.

MR. DERSTINE: Very good.

CHMN. CHENAL: Let's do that.

(A recess was taken from 4:12 p.m. to 4:34 p.m.)

CHMN. CHENAL: Let's resume the hearing.

So there's two items we probably want to try to cover. One is the description of the tour and the other is the flyover.

So, Mr. Derstine, whatever order you would care is fine with us.

MR. DERSTINE: Thank you, Mr. Chairman. We're going to start with the flyover.

Chris, the gentleman here, had set this up so that the mic is always on, and I won't be able to turn it on and off. Here I am not remembering to turn it on, so I'll remember that Chris is right and I was wrong.

But with that, Mr. Raatz, let's go through the flyover simulation.

And, for the record, you will hear, I think, on occasion, Mr. Raatz say "P-Dub." And I believe that that is a reference to Mr. Dubberly. Please proceed.

MR. RAATZ: Okay. So just for navigation purposes, on the right-hand side, we've got all of the alternatives presented, and I'll try and keep up where we are on the Google Earth Flyover with the pointer here on the right-hand screen.

So here we have the Irvington Substation to

East Loop Substation 138kV Transmission Line Google Earth Flyover.

So here is the project location with respect to the city of Tucson boundary. It's outlined in the purple line here, and city of Tucson is shaded in gray. And then we get to zoom in so you can see it at a better proximity.

Also, you can see how the project bisects Davis-Monthan Air Force Base.

And then here, we have the Irvington Substation, Port, Patriot, and East Loop Substation encompassed by the study area. So we're moving to the study area. These are our final alternatives.

We'll be discussing Alternative 1, which is common to all alternatives, first. And that goes from our existing Irvington Substation to our Patriot Substation.

And then we'll proceed with Alternative A, which will go from Patriot to East Loop.

And Alternative C1, which will go from Patriot along the wash to East Loop.

And, finally, we'll end with our preferred route of Patriot to East Loop along Pantano.

So here, we're covering Alternative 1. And, once again, we'll go from Irvington to Pantano. And this

alternative is common to all alternatives. And this is the alternative that bisects Davis-Monthan Air Force Base.

So we've got some navigation tips as we go along. In the upper left hand corner, you'll see Alternative 1. It's color-coded red just like the centerline of the alignment, and all of the Alternative 1s on all the maps provided are color-coded red.

In the upper right-hand corner, you can barely see it there, is a compass currently pointing down towards -- north is pointing towards the lower left portion of the screen.

Throughout the Google Earth Flyover, key observation points will pop in and out to show you the current condition and the simulated condition. And, also, we've tried to identify tour stops along the way just for frame of reference.

And, lastly, the black shadow is the 300-foot corridor in this location, and it's centered along the centerline of the alignment.

And so here we are starting at our existing RICE generation units. We've recently commissioned units 6 through 10. They were commissioned on 12/22. They were a part of Case 177, if you recall. And just above that is the existing 138kV breaker and a half. And

moving just north of that is our 46kV breaker and a half substation.

So as we proceed north, this is the first connection point into the line. It's a single-circuit 138kV transmission. You can see here, these existing structures are no longer there. They're been wrecked out. Same with the ponds over here.

Also, in the upper right-hand corner here, this is where we will have double-circuit 46 and 138kV transmission. This is to support the Raptor Ridge solar facility that will be seen right in the upper right-hand corner there.

So this portion is double-circuit 138-46. 46 is on the right side of the screen. 138 is on the left side.

Approaching here, we have the planned Raptor Ridge solar facility. When fully built out, it will be about 10 megawatts.

And this is our existing E.ON solar facility.

And here, we're approaching Key Observation Point 1. You can find this is Exhibit G-5 in the application.

Current condition, you can see the new RICE units in the back, the stacks for the RICE units in the back.

And the simulated condition, so this is where the last structure that will have the 46kV and double-circuit, that takes off to the left of your screen.

And then we'll continue on with our 138kV circuit.

So, as you can see, we parallel the existing UPRR. And this spur over here is TEP's spur.

And here we have the crossing of the Valencia Crossing.

And up here on the left is Pima Air & Space Museum. This was one of the considerations when looking at segments for the portion between Irvington and Patriot.

And we continue. So we're still 138 single-circuit with a 300-foot corridor.

And what we've got identified here in the balloon is Tour Stop 6. And so it's just to give you an idea of when we get out, things that you can look at.

And just on the right-hand side in the orange shaded area is the Port of Tucson, the beginning of the Port of Tucson.

And outlined in the yellow polyline right here is where we have planned the Port Substation. And this will help serve load within the Port of Tucson.

CHMN. CHENAL: Mr. Raatz, where, roughly, are we on the right-hand side?

MR. RAATZ: My apologies. We are roughly right about here.

CHMN. CHENAL: Thank you.

MR. RAATZ: So as we continue east -- and this is an area where the corridor width changes that we spoke to earlier in our testimony.

P-Dub, if you could pause it.

So this is the area where we're asking for the 900-foot corridor, and it's not centered on the alignment. Rather, there's 150 foot in this direction and 750 foot in this direction. This is the area that encompasses the major scenic route. It has a setback required in addition to the right-of-way where we cannot build within this area. So having the 900-foot corridor will allow us the flexibility to jump from either side and avoid that setback buffer.

Q. BY MR. DERSTINE: So, Mr. Raatz, on this preliminary design that's now included in the flyover simulation, we're showing the line inset or onto the right side of the screen so that it is away from the buffer zone, as you've described it, for the scenic roadway; is that right?

A. (BY MR. RAATZ) That's correct.

Q. But what we're asking for, although the preliminary design shows it inset there to the west -- no, to the east.

A. (BY MR. RAATZ) The east.

Q. -- the 900-foot corridor would allow us also to consider putting the line on the west side of the road there as we're approaching Valencia. And, again, it's this buffer zone that forces us to be so far off the road right-of-way and that drives our need for greater flexibility and this wider corridor. Is that a correct statement?

A. (BY MR. RAATZ) Yes, that's correct.

Q. All right. Go ahead and continue.

CHMN. CHENAL: Mr. Raatz, one question: There's two properties it looks like on the north side of Valencia. What are those properties? It looks like the line is going to go very close to one of those two properties.

MR. DERSTINE: Can Ms. Darling speak to what those are?

MS. DARLING: The one on the right is a gas station. I'm not sure what the one on the left is. I can't recall. We'll see it tomorrow on the tour.

Do you know, P-Dub, from the -- you do?

MR. DUBBERLY: Yeah, I believe they're both gas

stations.

MS. DARLING: Okay.

Q. BY MR. DERSTINE: So if they are both gas stations, whatever side we place the line is going to have to be outside and away from -- some distance from those gas stations; correct?

A. (BY MR. RAATZ) That's correct.

You can see in the preliminary design, we did try to avoid that property.

Q. Go ahead and continue.

A. (BY MR. RAATZ) So the scenic corridor ends here.

And so we jog and we try to stay within road right-of-way. And right here, we've got a 300-foot corridor centered on the alignment again. It's a single-circuit 138.

And here, we approach the Davis-Monthan Air Force Base property. And we are on Davis-Monthan Air Force Base property in this vicinity. You can see that Kolb Road is depressed in this area. That's why we're on the Davis-Monthan Air Force property. This structure would have to be super tall to accommodate that.

This area I didn't get to in my testimony yet, but this is a crossing that connects Davis-Monthan east and west. And the structures here had to be designed to

accommodate the largest plane on base. And we were provided that information. It's a C-5. So the structures here are 142 feet tall, and they allow for 25 feet of clearance from the tail, which is -- the information provided to us was 65 feet. So the conductor, at full capacity, the clearance is 25 feet.

So we continue north along Kolb, still on Davis-Monthan property. 300-foot corridor centered down the alignment.

And up here towards the top of the screen on the right, you can see we're approaching a residential area. So at this location, we shift to the left side of the road. And we've got Key Observation Point No. 3, the current condition, as found in Exhibit G-5 of the application. In the simulated condition, you can see how we cross the road single-circuit 138.

And here, we're approaching the planned Patriot Substation. As you can see, it's located at the corner of Kolb and Escalante. As Mr. Beck spoke to in his testimony, this location will allow TEP crews access to this substation rather than have to get clearance in emergency situations.

So that concludes Alternative 1. And Alternative 1 is common, again, to all alternatives.

So we'll be moving on to Alternative A, which

is shown on the right-hand side and on the left.

So Alternative A leaves the Patriot Substation. We do have a tour stop planned here. And here, we begin -- the corridor is centered now on the centerline of the road right-of-way. And we did that so as not to go too far into residential properties.

Here, we have KOP current condition, as found in Exhibit G-5. And the simulated condition, you can see we removed the structure, and we've got a new structure placed. This is a single-circuit 138kV.

Q. So, Mr. Raatz, the 300-foot corridor now centered on the centerline of Kolb Road allows us to consider the opposite side of the road. Currently, based on the preliminary design, we're on the east side of the road; but the corridor would give us the opportunity and flexibility to move to the west side if we needed to; is that right?

A. (BY MR. RAATZ) That's correct.

So here, we are approaching our South Kolb 46kV Substation. This is one of the areas that was identified as double-circuit 46kV and 138kV. And we're approximately somewhere right around here. And this will continue on for three spans. And the 46 will drop off here and continue west. And then these -- the remaining 138kV single-circuit will proceed north. You can see

that the line is pushed right up to the edge of the existing right-of-way.

Once again, the corridor --

Q. Can I have you pause there a minute.

When you say the line is pushed up on the existing right-of-way, there was an existing 138kV line in this area; is that right?

A. (BY MR. RAATZ) No.

Q. So this is a new line?

A. (BY MR. RAATZ) Yes.

Q. But we are limited in the right-of-way that's available, presumably on either side of Kolb Road, because the homes in this area or businesses in this area are built right up to the edge of the roadway; is that correct?

A. (BY MR. RAATZ) That is correct. And, in addition, the road and sidewalk and whatnot is built to the edge of the right-of-way as well. So it limits the space we have to move within that right-of-way.

CHMN. CHENAL: Just a follow-up question there: It does look like -- if the black shadowing is supposed to represent the 300-foot corridor, a lot of the shadowing covers existing properties.

So I don't understand. You're obviously not going to -- well, maybe I should hear what you have to

say.

MR. RAATZ: Well, our intention is to stay within the road right-of-way and utilize the existing franchise agreement that we have to the extent possible. But the 300-foot corridor extending over residences will allow for aerial easements, should they be required, over someone's property. We don't have any intention of putting a line over someone's house.

CHMN. CHENAL: Member Noland is not here, but I can hear her voice. I mean, that raises a little concern for me that you're going to be placing a line over here and jump leapfrogging over existing homes because you have the right to based on where we give the corridor.

And I guess the other option for us is to limit -- in this area limit the corridor to the existing right-of-way or something like that that takes a little concern out of it.

MR. DERSTINE: And you should be aware that this was a matter of discussion, and the company is sensitive to and understands your concern. It's our concern as well.

What we've done here is to change the measurement of the 300-foot corridor to the centerline of Kolb Road here for the very reason. In other aspects, you'll see where the corridor is measured from the

conductor from the centerline of the proposed project. Here, we're on centerline of the right-of-way.

But you're right, the 300-foot corridor is shown by the shading. That's why we did it. We wanted you to have an understanding of how far that corridor extends. There would be no intention to put a line over people's homes. But I think Ms. Darling would say that there are areas where -- if you were to select this alternative as the route, there are aspects and portions of this, of Alternative A, in which we would need an aerial easement in order to extend an arm to some extent over someone's private property boundary line. We're not building the project over someone's home, but there are areas where it is that tight.

And so if the Committee were to decide this is the best route but we're not comfortable giving you 300 feet, then we should have that discussion over what's an appropriate corridor width along this route.

But this is not our preferred route. This is not where we think we should be for the very reasons we're just talking about.

MR. RAATZ: One other thing to consider along here: On the west side of the road, there is a double-circuit 46kV that extends the length of Kolb Road from this point on.

Video.

So here, we pick up the existing 22nd to East Loop circuit. And from this point on to East Loop, we're double-circuit 138kV with the 22nd to East Loop circuit occupying the left side of the screen and the Patriot to East Loop occupying the right side of the screen.

MR. DERSTINE: P-Dub, can you pause it there?

I'm a poor environmental witness. And maybe --

Q. BY MR. DERSTINE: Ms. Darling, can you speak to that right here we're double-circuiting the line. So that even creates greater considerations or concerns in terms with how much room we have.

Tell us a bit about what our space limitations and the issues are here.

A. (BY MS. DARLING) Well, it's a 150-foot road right-of-way, but it's also a six-lane road with a median and then, you know, sidewalks on either side. So the right-of-way is pretty well developed, which pushes us to the very edge of right-of-way.

We can place structures, the actual structures, in the road right-of-way. But because it's a double-circuit line, we want to have flexibility if we were to build this alternative, obviously, but we want to have flexibility to have aerial easements with the arms extending onto the private property as well as -- and I

get into it in my testimony later, but the City of Tucson has requested that we maintain all of the sidewalks as ADA or Americans with Disabilities Act accessible. So they have to be 4-foot sidewalks. Or, if they aren't already 4-foot sidewalks, allow for them in the future to have room to become 4-foot sidewalks.

So that means that in a lot of areas, we might have to obtain an easement for the future sidewalk from the landowner because we wouldn't want to place the pole on the property.

So there's a lot of considerations. This is, again, not our preferred option. But those are some of the considerations we would be looking at for this alternative.

Q. And the aerial easement issue is more significant here where we move to a double-circuit 138kV as opposed to when we're in a single-circuit?

A. (BY MS. DARLING) Absolutely, yes.

CHMN. CHENAL: Member Haenichen.

MEMBER HAENICHEN: Can someone describe to be what you mean by "aerial easement."

MS. DARLING: I can.

An aerial easement is when only the arm and the wires are on somebody's property. That the actually footprint where the foot or the base of the pole is on a

different property. So you don't have to obtain a land easement. I mean, it's still an easement. It's just the difference is there's nothing at the bottom other than just -- it's in the air. It's aerial.

MEMBER HAENICHEN: Thank you.

MS. DARLING: Yes.

MR. RAATZ: So, continuing north, we have the double-circuit 138kV, 300-foot corridor centered on the right-of-way. And we pop in to Key Observation Point No. 5, the current condition. You can see the single-circuit structure.

And here, we have the simulated condition. We've got the double-circuit structure right there.

So continuing north. The blue polyline at the top right-hand portion of your screen is the TEP East Loop parcel. So we turn, and we will terminate into the TEP East Loop parcel.

To note, this right here is Tour Stop No. 1 for tomorrow. We'll be able to see the existing transmission corridor and the back side of the East Loop Substation.

So that concludes Alternative A.

Here we have Alternative C1. It extends from Patriot up to 22nd and then through Pantano Wash and back into East Loop.

Q. BY MR. DERSTINE: And A and C1, are they

essentially the same route except when you reach 22nd Street?

A. (BY MR. RAATZ) That is correct. And one thing to remember, Alternative 1 is common to all routes.

So here, we are departing from the Patriot Substation. We've got Tour Stop 5. And the 300-foot corridor, once again, is centered on the road right-of-way. And it's a single-circuit 138 in this area.

And as we proceed north, right here is our south Kolb 46kV Substation. So from this point on, we will be double-circuit 46-138 until we get to the intersection of Golf Links and Kolb. And from that point on, we are single-circuit 138kV.

CHMN. CHENAL: Will you pause it there, please.

We're in the same situation, where the corridor you're asking for encroaches right on property.

MR. RAATZ: It's the same route as Alternative A in this location.

MR. DERSTINE: What you're looking at for A and C1 up until you get to 22nd Street are exactly the same with the same issues.

CHMN. CHENAL: Yep.

Member Haenichen.

MEMBER HAENICHEN: This may be a silly

question, but I'll ask it anyway. It appears as though, in that dark area, there's a median. Is it possible to place the transmission line in the center of the median?

MR. DERSTINE: It's not a silly question. We'll have one of the witnesses answer.

MR. RAATZ: The City of Tucson has not been very open to allowing transmission poles within the median. It poses a safety hazard having the poles in the median.

Q. BY MR. DERSTINE: Is it something the company considered and has raised with the City of Tucson?

A. (BY MR. RAATZ) To my understanding, I believe it has at some point and brought it to the City's attention. The City did not --

Q. Wasn't receptive?

A. (BY MR. RAATZ) Yeah.

Once again, continuing north. 300-foot corridor, 138 single-circuit.

As we approach 22nd Street -- and the difference here of 22nd Street to East Loop would be picked up on Alternative A here. This is going to be single-circuit the entire way on the north side of 22nd Street and the corridor centered along the right-of-way in this area.

Q. So it appears that on this segment of 22nd

Street, there's considerably more room for the construction of the project in this area; is that right, Ms. Darling?

A. (BY MS. DARLING) Yes.

MR. RAATZ: Here we are. Right before we cross over to the wash, we've got Tour Stop No. 2. And from this point on, the corridor is centered on the alignment of the transmission line.

Video.

We have KOP No. 10, the current condition. You can see the existing transmission line there.

And this is the simulated condition.

Q. BY MR. DERSTINE: And can you point on the map where we are.

A. (BY MR. RAATZ) We're right around in this area, right here.

Q. And, Ms. Darling, what are we looking at here?

A. (BY MS. DARLING) This is the Pantano Wash River Park.

Q. And what is --

A. (BY MS. DARLING) It's a trail system that runs along the Pantano Wash.

CHMN. CHENAL: Could you back it up a little to where you go back to Kolb Road for a moment, please.

And we are looking at the line; correct? You

have the line along Kolb --

MR. RAATZ: That's correct.

CHMN. CHENAL: -- as you proceed north.

Okay. Thank you.

MR. RAATZ: So here we are again, KOP, simulated condition. KOP 10, simulated condition.

And we cross over the Pantano Wash and proceed north along the east side of Pantano with the corridor centered on the transmission line alignment. And there were some design constraints in here, so we move over to the west side of the Pantano Wash.

Continue north. This is all single-circuit 138kV.

And here we have key observation point No. 11, the current condition.

And if I'm not mistaken, that is somewhere right around up in here. In the simulated condition, you can see the structure placement very faintly in the background there.

This is where we turn and enter our existing transmission corridor. Once again, the blue polyline is the TEP parcel.

We've got some existing lattice structures in here that have an open position, so we plan to utilize that open position. We're going to reconfigure the

circuits that are on there so there's three circuits on -- or, excuse me, two circuits on there currently, but it can accommodate three circuits. So we'll be reconfiguring the placement of those circuits on the structure to allow for this new circuit, therefore, minimizing the amount of structures and disruption in this area.

One thing to note again is Tour Stop No. 1.

And that concludes Alternative C1.

And we'll be discussing Alternative B2, TEP's preferred alternative.

We will be leaving the Patriot Substation and heading east along Escalante and continuing north along Pantano, terminating at the East Loop Substation.

So, once again, this will be Tour Stop No. 5. As we leave Patriot Substation, we head on the south side of Escalante Road east. This will be single-circuit 138kV. The corridor is centered along the centerline of the right-of-way in this area.

And up here, we have Tour Stop No. 4. And if you want to pause it. Thank you.

There's an existing circuit right here that runs along Pantano, north along Pantano. This will be the area where we'll be collocating that existing circuit on this new transmission line. And that will be from

this structure north. And the 300-foot corridor is centered again on the road right-of-way. And this is double-circuit 138kV.

MR. DERSTINE: Can you pause it there, please.

Q. BY MR. DERSTINE: Ms. Darling, can you speak to -- again, our 300-foot corridor is extending into and covering what you see are houses there on the right side of the simulation screen.

Do we have exactly the same space limitations, or are there considerations here that are different than Kolb Road?

A. (BY MS. DARLING) They're slightly different here. It's only a four-lane road, so less of the right-of-way is built out. So we do have more room to construct in the right-of-way. I think the 300-foot corridor is just a consistency thing, and so it's asked for throughout the application. But there's not the same concerns for aerial easements along here as there were along Kolb.

Q. So we have more space to put our structures along on Pantano Road than we saw what's present on Kolb Road?

A. (BY MS. DARLING) That's correct.

Q. And that's one of the considerations that went into the selection of B2 as the preferred route; is that

right?

A. (BY MS. DARLING) That's correct.

Q. BY MR. DERSTINE: Okay. Continue, Mr. Raatz.

A. (BY MR. RAATZ) Once again, proceeding north, and we are just approaching the Tucson Meadows neighborhood. We've got the double-circuit 138kV.

We've identified Tour Stop No. 3.

Do you want to pause it, P-Dub.

So in this area, the current line goes right through. This is the existing neighborhood. The neighborhood has encroached upon the right-of-way of the line itself. So that's another consideration for preferred Alternative B2, to remove this line from that neighborhood.

And one thing to note in this area as well will be the corridor will be centered along the centerline of the line.

So here, we move into Key Observation Point No. 7 as found in G-5 of the application. You can see the current circuit going through there, and it extends north right through the existing Tucson Meadows neighborhood.

And the simulated condition removes that structure and places a new turning structure and jogs around the bend.

So as we proceed north in this area, this is an industrial area. The corridor is still centered along the centerline of the roadway back in our existing right-of-way.

And to the left here, we have our Tour Stop No. 2.

MR. DERSTINE: Can we make that clear again. Maybe back up a little bit, P-Dub.

Q. BY MR. DERSTINE: At that little jog, that left-hand turn and then the right-hand turn back, we moved out of the Meadows neighborhood. But coming back on Research Loop Drive, that brings us back into the existing alignment where there is already a 138kV line; is that right?

A. (BY MR. RAATZ) That's correct.

Q. All right. Go ahead.

A. (BY MR. RAATZ) So here, we have Tour Stop I believe it's No. 2. This will allow us to look down the wash and see where Alternative C1 would be placed as well as look up north and south on Pantano to see the existing alignment.

And as we continue north here, the corridor is centered on the centerline of the road right-of-way. And we're still double-circuit 138kV and an existing transmission corridor.

Q. Ms. Darling, would we require aerial easements in this area?

A. (BY MS. DARLING) I am not entirely sure. I would have to ask Lisa. I could answer tomorrow.

Q. Okay.

A. (BY MR. RAATZ) Once again, as we approach our existing transmission -- well, we're in our existing transmission corridor. We've got Key Observation Point No. 8, the current condition. You can see the single-circuit structure in the background.

And this is the replacement. We've got double-circuit structure. You can see it's turning here and heading west from this point on.

In this area, the corridor is centered on the centerline of the alignment. Once again, the blue polyline outlines the East Loop parcel.

Do you want to pause it, P-Dub.

In this area, we've got existing lattice structures that have an open position that we can occupy with this new circuit.

Q. Mr. Raatz, when you say the centerline is centered on the alignment, are we simply saying that for describing and measuring the corridor, at least in this area; and there's other aspects of these routes in which we're saying that the corridor is centered on the

alignment, we're putting the center of the 300-foot corridor on the proposed -- where we would propose to put the line?

A. (BY MR. RAATZ) That's correct.

So this concludes Alternative B2, our preferred.

And one thing to note, there was a lot of discussion about Alternative A. And, you know, when we did this route analysis, it just seemed like the most logical way to get from Patriot to East Loop Substation. That's why it was brought forth for consideration.

Q. You covered many of the route stops on the simulation, but just in the interest of time, can we now switch over to your route tour map and just quickly summarize what you propose in terms of the number of stops and where those stops would be located on a map.

A. (BY MR. RAATZ) First, the route tour can be found in the application as Exhibit TEP-6.

There's six stops along the way. We'll be departing here at 9 a.m. tomorrow, and we'll be heading north along Alvernon Way to Speedway to get to that -- almost behind the East Loop Substation. That will be Stop No. 1.

And then we'll proceed out of here and back down Alternative B2 to Stop No. 2. And this will be the

area where we'll be able to look down the wash and see the existing Pantano to East Loop line as well as look down the wash where the proposed Alternative C1 would be.

And Stop 3 here is an area just next to that Tucson Meadows neighborhood. So we'll be able to see how the existing line goes through the Tucson Meadows neighborhood.

And Stop 4 is an area where we'll be able to see where we'll be picking up the existing circuit and it will become double-circuited 138.

Stop 5 is just kitty-corner from the planned Patriot Substation. So we'll have a stop there.

And, lastly, Stop 6 is a stop that will allow us to see the proximity of the line with respect to the railroad and the existing distribution in that area.

And, finally, we'll be departing, and we'll be going by the Irvington facility. So you'll have the opportunity to see the new RICE units and the new substation that's been constructed.

And we'll be ending at the DoubleTree Hotel here.

CHMN. CHENAL: Mr. Raatz, I see from the arrows there, when we go to Stop 5, will we be going north on Kolb and then come down south to Stop 6?

MR. RAATZ: That is correct, yes, sir.

CHMN. CHENAL: Member Haenichen.

MEMBER HAENICHEN: Mr. Raatz, some time ago, this Committee approved what we called the RICE Energy Project.

Can you tell the Committee, since that approval, how and how often now has that engine complex been utilized. And then would there be any difference if Alternative B2 is approved in the operation of those engines?

MR. RAATZ: We currently have commissioned five of the ten units. They're Units 6 through 10. And they've been in operation since December 22nd. And I will have to get back to you as far as the frequency that they operate.

I do know that they have at least one unit operating daily. As far as the number of stops and starts, I'll definitely have to get back to you on that.

Q. BY MR. DERSTINE: And the estimated time for the tour, do you have an idea of that?

A. (BY MR. RAATZ) Yes. We have an estimated time of three hours for the tour. It could be less or more depending upon the questions.

And we do have the option to depart the bus at all the locations, with the exception of Stop 3. It might be a little difficult pulling to the side of the

road. For safety considerations, we may not want to get out at that location.

Q. And my last question about the route tour: Just conceptually, the way we presented the routes, I thought we'd be starting at Irvington and moving along the common route and then somehow covering the alternatives from the Patriot Substation to the north. But we're not doing that. And I think you told me that Mr. Beck has a strong feeling about left-hand turns across traffic or something.

A. (BY MR. RAATZ) Yeah, that is correct. Originally, we did design the route tour to go from Irvington to the East Loop Substation through the Patriot -- or, excuse me, through the preferred route first. But after driving it with Mr. Beck, it was decided it would be best for time and safety to avoid the left-hand turns.

Q. Okay. Everything in the interest of time and safety.

A. (BY MR. RAATZ) And one last thing to note --

CHMN. CHENAL: Isn't that an idiosyncrasy, Mr. Beck?

MR. BECK: One of our number one priorities is safety, so yes.

MR. RAATZ: One last thing to note, I've got

shown here a U-turn at Kolb and Speedway. We'll have to go a little beyond that. I've spoken to the bus operator, and he will not be able to make a U-turn. So we'll just go beyond that and pull into a parking lot and have to turn around.

CHMN. CHENAL: Well, the timing sounds good. We'll be here at 9. We might put something on the record just saying we're starting the tour.

And then we'll come back and have lunch, and we'll start up around 1:00 for the afternoon session. So that should work out very well.

MR. DERSTINE: Very good.

I think that's all we have for this afternoon until we're ready for public comment.

CHMN. CHENAL: Okay. Does the Committee have any questions before we go off the record?

(No response.)

CHMN. CHENAL: Anything we need to cover at this point from the applicant's attorneys?

MR. DERSTINE: I don't believe so.

CHMN. CHENAL: So let's adjourn for the evening. We'll take a ten-minute break, and we'll start up around 5:30 for our public comment session.

Thank you very much.

(A recess was taken from 5:21 p.m. to

5:41 p.m.)

CHMN. CHENAL: Good evening, everybody.

This is the time set for taking public comment on the Irvington-East Loop Transmission Line Project by TEP.

My name is Tom Chenal. I chair the Line Siting Committee. And we have the Committee here tonight.

We eagerly await the public comment on this project. I see there's eight people who have signed up. And, hopefully, you'll provide public comment so we can hear your concerns that you have or your comments.

We're not allowed under the open meeting laws to engage in a conversation with you and ask questions back, but we are allowed to and we want to hear what you have to say. It helps inform us about your concerns. It helps us ask questions of the applicant when we resume the hearing. It gives us context. It's very important that we hear your comments and helps us shape our questions and how we vote on these matters.

So I'm going to ask anyone who has signed up on the sign-in sheet, and even if you haven't, to come up and give your comments. And I don't want you to be bashful. This always seems to happen. Everyone's a little -- who's going to be first. And as soon as

someone speaks and a second person speaks, then everyone gets up and speaks. So let's do without the waiting and get right up to the microphone.

Go ahead, sir. If I could ask you to state your name and then spell your last name.

MR. ALBERDING: My name is David Alberding, A-l-b-e-r-d-i-n-g.

And I'm a resident and a business owner along the loop across from where the future Patriot Station is going. My concern is the uncontrolled flood coming from the Amazon complex underneath the viaduct there and running down the utility line where the existing poles are.

Some of them are being washed out. One of them is broken now and laying on the ground. But it's a concern because without -- that water coming through there, it's eroding quite a bit. In line with those poles, you could have a washout no matter how deep you go. Because right now, over the last year or so, it's eroded about a foot. So check into that safety issue, future thing down the line.

CHMN. CHENAL: Okay. Thank you, Mr. Alberding. Thank you very much.

Next, please. Thank you, sir. State your name and spell your last name, please.

MR. KORCHMAROS: My name is Mike. Last name is pronounced Korchmaros, K-o-r-c-h-m-a-r-o-s.

I'm a resident at the preferred extension along Golf Links north of Pantano -- I'm sorry, on Pantano north of Golf Links.

CHMN. CHENAL: Sir, can we have a map put up. And maybe we can provide the gentleman with a laser pointer so he can --

MR. KORCHMAROS: I'm actually going to be in the northeast corner of that intersection. There's a CVS store right on the corner there, and I'm right behind there.

So the utility lines at present run probably 50 feet from my swimming pool at present. And those are, you know, the higher poles that are in place here. I counted four lines. Your graphic shows three lines at present. So I don't know if they're going to be adding more lines to those poles.

We didn't have any information as to how much current is going through the existing poles. And my wife's concerned about, you know, EMF. And we use the outdoor space in our home, which puts us well within 50 feet of that pole. And the back of the property line actually puts us probably about 20 feet from the pole.

And so we're concerned about long -- you know,

we just moved into the property. We plan on being there for quite some time. Got a young daughter with us. And we're not too familiar other than just hearsay about EMF and what that does with cancers and things of that nature.

With high-energy lines there now, I don't know if it would be double, triple, or what's in place there. And I did confirm with the other engineer that they're not moving the placement of the poles that are there at my property. So they're going to be adding to that. So we're quite concerned about, again, that type of radiation or magnetic field coming off. And we haven't seen any information provided in reference to them.

CHMN. CHENAL: And where, again, sir, is your property?

MR. KORCHMAROS: It's going to be the northeast corner of that -- I can't see the map from here. I'm sorry. So if you see the intersection of Golf Links and Pantano, literally in the northeast corner. There's a CVS on the corner. I'm the house right behind it. So you can't miss it.

MR. DERSTINE: Do you see that on the left screen?

MR. KORCHMAROS: Let me go up here.

So I'm actually going to be that house right

there.

CHMN. CHENAL: All right. Thank you, sir. We appreciate your comments.

MR. KORCHMAROS: Yep.

CHMN. CHENAL: All right. Who else would like to speak?

Thank you, sir. Your name and if you would spell your last name.

MR. SNITKIN: David Snitkin, S-n-i-t-k-i-n.

I'm a resident and a homeowner at the Pantano Ridge Subdivision, where --

CHMN. CHENAL: Could you point to where that is with the laser pointer.

MR. SNITKIN: If we travel north to the jog, right there.

So this -- is this the Research Loop jog that you're planning taking the high transmission line out of this neighborhood and then crossing the street? Right here.

So this would be my subdivision, I'm guessing, and this is the proposed jog. If I'm wrong, correct me.

So my only concern is aesthetics. As a property homeowner, what's going to happen to my property value, if anything will change?

So if you're planning on putting a pole that

looks significantly larger, like by two, right across the street, then right on our -- "our" meaning my community's -- property line, how should I expect that to impact an already struggling area that's competing with high-density housing, abandoned business sections, gas stations on either end of this Pantano Road? So everything you can imagine to depress this area is happening and is apparently going to happen more.

Thank you.

CHMN. CHENAL: Thank you, sir. Thank you for your comments.

Who else would like to speak?

Thank you, sir. Again, if you could state your name and spell your last name, please.

MR. ADAMS: My name is Ryan Adams. I'm an HOA board member at Butterfield Ranch.

I don't know if you've been talking about where that is, but you've talked about Tucson Meadows. It's where the CVS this gentleman was talking about, that community.

I live on Sundew Drive, which is the first street coming north from Golf Links. I'm the first house coming into Sundew.

So the first -- you can scroll in a bit, I think. Yeah, like first light. So up here more. I'm

right here in this area.

And, really, it's the same as these two other gentlemen before me were saying. Basically, home value is one big issue. Another issue is, okay, the cost. I mean, Kolb, of course, makes it a million dollars cheaper. And if you're going to spend an extra million, why not make it just 2 million and take it all the way to the riverbed. I don't think anyone's complaining about the value of Pantano Wash.

Also, I don't know if you noticed there, there's a huge retention basin right there, and it's eroding. It's only been around for so many years, and it's eroding quite well. I don't know if you noticed that or not.

This is where your picture 7 was or where your Stop 7 was that you're going to be going to. It's just south of that.

So it's really -- of course, the quality of the community, also the cost. If you're going to spend an extra million to get it -- to go through our community here, I say take it all the way to the Pantano Wash, then. I mean, if a million doesn't matter to you, take it straight down Kolb because we all know Kolb is a corridor. It's been a corridor ever since I was born here in St. Joseph's Hospital. Take it straight down

Kolb because it's the cheapest and it's right there.

These ones, it does degrade our value. We've got plenty of power lines, like he's talking about. And I realize there's already ones there and you're going to replace the one, but this one you're talking about is like twice as big too.

So just as a representative of that whole community, the HOA, I'm a board member, we're not looking forward to this. We disvalue it. Just like, hey, when he's talking cancer things, I wasn't even thinking about that part. I think we're dealing with that enough. And I respect the other communities, including Tucson Meadows.

I don't know why you're going to want to take it around it or I even think there's one reference to take it through it. But I say either A or, what was it, C2 or something like that. That's what I request. Just let's not do B. Let's not take it through Pantano Road right there, especially right north of Golf Links.

I appreciate you listening to me, and you have my information.

CHMN. CHENAL: Thank you, sir.

Who else would like to provide comment?

Thank you, sir. Remember to spell your last name as well.

MR. MILLER: I got it. My name is Wayne Miller, M-i-l-l-e-r.

I, like this other gentleman, is a board member of Butterfield Ranch.

CHMN. CHENAL: Can you help us find out where that is?

MR. MILLER: They already showed you, next to the CVS.

MR. SNITKIN: All those houses.

MR. MILLER: Yeah, there's 192 houses in that addition.

I'm a retired industrial electrician. Worked for General Motors. Worked around substations. I don't know if you've ever heard of a machine called an implanter. Works on 80,000 volts of DC. I have mentioned this to a few people. I'm kind of worried about the RF, the EMF, the magnetic lines of force.

There are several families that live right next to where the line is; and they've got young children which would be around that area, very close to it, for, at minimum, eight, nine hours a day.

I'm going to go back to when I worked at General Motors, the implanter machine. As you know, brain cancer is not very common. It's about 1 percent. And two young people in their 20s used to work on the

implanter. Daily, they ate their lunch there. Both of them -- in a seven-year period, both of them came up with brain cancer.

And I watched a program on TV once that was talking about the high-power tension lines. And they said the rate of brain cancer close to those lines was higher than anywhere else.

So me being a board member of that board in that addition, I was concerned about the people that live along there, basically.

And can you tell me how far the magnetic lines of force extend out from 138,000 volts?

CHMN. CHENAL: Sir, we can't really get into a conversation with you; but the applicant is here, and they'll be happy to answer questions and get that information for you.

MR. MILLER: I'm fine with that.

CHMN. CHENAL: They'll assist you in getting that information.

MR. MILLER: Thank you.

CHMN. CHENAL: Thank you, sir.

Thank you, ma'am. Make sure you give your name and spell your last name, please.

MS. VEGA: Kathy Vega, V-e-g-a.

I'm really nervous.

CHMN. CHENAL: Don't be nervous.

MS. VEGA: My daughter lives at the corner of Kolb and Escalante. So she's right by the Pioneer Station.

CHMN. CHENAL: If you could speak a little closer, and if we could pull that area up of Kolb and Escalante. Let's wait until we get it up there.

MS. VEGA: Yeah. Southeast corner, that little subdivision there, Chelsie Kaye. Right there. Okay.

So she lives there, so she's getting it from the side, the Kolb Road side. And then if it goes along the alternate route going down Escalante, then she's going to be getting it on both sides. So I'm worried about the EMFs as well.

I have a son that lives at -- just east of Pantano and Golf Links, and he has significant health issues. And I would hate to see even more EMFs or anything potentially harm my son.

I live off of Kolb Road, and I would prefer it to be there. It's already there. It is a corridor. It's cheaper. And I think that makes the most sense to me. Okay.

CHMN. CHENAL: Thank you, ma'am.

Any other comments?

MR. ALBERDING: Yes. I'd like you to take a

look at the area that I'm trying to point out when you have that opportunity. Kolb and Irvington.

CHMN. CHENAL: State your name again.

MR. ALBERDING: David Alberding, A-l-b-e-r-d-i-n-g.

This is Kolb, and this is Irvington. You need to go over to Kolb and Valencia. I'm sorry.

And it's a little bit more south. That's Valencia and Kolb where the transmission line is going to come up.

Okay. This is the pre-Amazon, if I'm not mistaken, because there's no Amazon building there. Well, now, they have triple flood basins along here with all of this now paved and accepting water coming down this wash, and it goes underneath this culvert. And this is the transmission line right now. And it's supposed to be sheet flooding out across this area.

But because of development on the Port of Tucson's behalf, that water doesn't sheet across there anymore. It goes down this utility road. And that's where it's undermining your telephone poles right now.

And flood control said that when they were making the alternative routes for the Valencia-Kolb intersection, it was going to come through here and put a regulated culvert through this area here. But they

haven't did that. And since then, the water coming from this detention area over here where Amazon is, underneath this culvert is flooding out pretty badly along this area.

And if you can go west just a little bit -- okay. Here's where the new substation is going to be. So the water doesn't come down past this area here. This is my property here. It doesn't come down past here. It turns and goes out here.

But that's a real problem area along there, and you really need to investigate that because with the erosion and the water that's coming through there, I'm telling you, it will wash your poles out because it's already doing it.

MS. VEGA: I'm sorry. Kathy Vega again. I forgot something. Where my son lives off of C2 alternative route, across the street on the south side of Golf Links is a charter school with young kids too. So the EMFs there would be an issue.

Do you want me to find it?

CHMN. CHENAL: I think we'd like to see where the property is you're talking about.

If you can speak into the microphone, Ms. Vega.

MS. VEGA: What street is that? That's Pantano? Okay. Go ahead and go east more.

Okay. My son lives in here. This here is a charter school. Okay. And that's along the C2 alternative route. Okay.

CHMN. CHENAL: Okay. Thank you.

Any further -- does anyone else wish to speak?

MR. ADAMS: Ryan Adams, A-d-a-m-s.

I think she's referring to the B2 corridor, your preferred one. Because the C, isn't that going to the river? The Golf Links and Pantano, you see it, that's your highlighted area right there; right? I just want to make sure that's -- I mean, yeah, our houses are all those houses you see, Butterfield Ranch. So, yeah, right across from Golf Links is that charter school, of course, and there's a lot of others.

But I just want to make sure it's known that that is, I believe, the B2 route that they're referring to right there. I hope that's understood.

CHMN. CHENAL: Yeah, we understand.

Any further comments?

(No response.)

CHMN. CHENAL: Going once, going twice.

Okay. That closes the comments.

So tomorrow we'll meet here at 9 a.m., and we will resume the hearing and begin the tour.

So any further comments from the Committee?

(No response.)

CHMN. CHENAL: I want to speak to the people that made comments. And I know on behalf of the Committee, we very much appreciate the comments you've made. And I can guarantee you that they will generate questions from the Committee of the applicant. So thank you for that.

Unless there's anything else, we will adjourn, and we'll stop the public comment, and we'll see everyone tomorrow.

(The hearing recessed at 6:04 p.m.)

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COUNTY OF MARICOPA)

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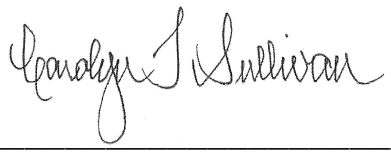

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