BEFORE THE ARIZONA POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE — LS-355

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 MIDTOWN RELIABILITY PROJECT, WHICH INCLUDES THE CONSTRUCTION OF A NEW 138 KV TRANSMISSION LINE ORIGINATING AT THE EXISTING DEMOSS-PETRIE SUBSTATION (SECTION 35, TOWNSHIP 13 SOUTH, RANGE 13 EAST), WITH AN INTERCONNECTION AT THE PLANNED VINE SUBSTATION (SECTION 06, TOWNSHIP 14 SOUTH, RANGE 14 EAST), AND TERMINATING AT THE EXISTING KINO SUBSTATION (SECTION 30, TOWNSHIP 14 SOUTH, RANGE 14 EAST), EACH LOCATED WITHIN THE CITY OF TUCSON, PIMA COUNTY, ARIZONA.	DOCKET NO. L-00000C-24-0118-00232 LS CASE NO. 232 EVIDENTIARY HEARING

At: Tucson, Arizona

Date: July 9, 2024

Filed: July 23, 2024

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME II
(Pages 247 through 525)

GLENNIE REPORTING SERVICES, LLC
Court Reporting, Video & Videoconferencing
1555 East Orangewood Avenue, Phoenix, AZ 85020
602.266.6535 admin@glennie-reporting.com

By: Jennifer Honn, RPR
Arizona CR No. 50558

VOLUME I July 8, 2024 Pages 1 to 246
VOLUME II July 9, 2024 Pages 247 to 525

INDEX TO PROCEEDINGS

INDEX TO EXAMINATIONS

INDEX TO EXHIBITS

//

INDEX TO EXHIBITS (Continued)

NO.	DESCRIPTION	IDENTIFIED	ADMITTED
TEP-9B	Excerpt from TEP Ten-Year Plan for 2023 (Jan. 31, 2023)	58	--
TEP-9C	Excerpt from TEP Ten-Year Plan for 2022 (Jan. 31, 2022)	58	--
TEP-9D	Excerpt from TEP Ten-Year Plan for 2021 (Jan. 29, 2021)	58	--
TEP-9E	Excerpt from TEP Ten-Year Plan for 2020 (Jan. 31, 2020)	58	--
TEP-9F	Excerpt from TEP Ten-Year Plan for 2019 (Jan. 31, 2019)	58	--
TEP-9G	Excerpt from TEP Ten-Year Plan for 2018 (Jan. 31, 2018)	58	--
TEP-9H	Excerpt from TEP Ten-Year Plan for 2017 (Jan. 30, 2017)	58	--
TEP-10	Exhibits Regarding Notice Requirements	58	--
TEP-10A	Notice of Hearing	58	--
TEP-10B	Affidavits of Publication and Tear Sheets for Arizona Daily Star	58	--
TEP-10C	Affidavit of Publication and Tear Sheet for Arizona Bilingual News	58	--
TEP-10D	Letters to Public Facilities re Copies of Application for Public Viewing	58	--
TEP-10E	Map of Notice of Hearing Sign Locations	58	--

//

INDEX TO EXHIBITS (Continued)

NO.	DESCRIPTION	IDENTIFIED	ADMITTED
TEP-10F	Photographs of Sign Placement	58	--
TEP-10G	Example of Sign Contents	58	--
TEP-10H	Notice of Service to Affected Jurisdictions	58	--
TEP-10I	Notice of Service to Pascua Yaqui Tribe	58	--
TEP-11	Receipt of Filing Fee	58	--
TEP-13	Tour Itinerary/Script/Protocol	254	--
TEP-21	Letter of Support from University of Arizona	368	--
TEP-24	Email from State Historic Preservation Office re Project Coordination	433	--
TEP-25	Commission Staff Letter re Midtown Reliability Project	171	--
BUMCT-1	Testimony Summary of Mark Barkenbush	37	--
BUMCT-2	Witness Presentation	37	--

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 Tucson Reid Park Doubletree, 445 South Alvernon Way, Tucson, Arizona, commencing at 9:05 a.m. on July 9, 2024.

BEFORE: ADAM STAFFORD, Chairman

GABRIELA S. MERCER, Arizona Corporation Commission
LEONARD DRAGO, Department of Environmental Quality
DAVID FRENCH, Arizona Department of Water Resources
NICOLE HILL, Governor's Office of Energy Policy
R. DAVID KRYDER, Agricultural Interests
SCOTT SOMERS, Incorporated Cities and Towns
(via videoconference)
MARGARET "TOBY" LITTLE, PE, General Public
DAVE RICHINS, General Public
JOHN GOLD, General Public

APPEARANCES:

For the Applicant:

Meghan H. Grabel, Esq.
Elias Ancharski, Esq.
OSBORN MALEDON
2929 North Central Avenue
21st Floor
Phoenix, Arizona 85012

and

Megan Hill
Tucson Electric Power Company
88 East Broadway, MS HQE910
P.O. Box 711
Tucson, Arizona 85702

//

APPEARANCES: (continued)

For Banner University Medical Center and Banner Health:

Michelle De Blasi, Esq.
LAW OFFICE OF MICHELLE DE BLASI, PLLC
7702 East Doubletree Ranch Road
Suite 300
Scottsdale, Arizona 85258

For City of Tucson:

Roi L. Lusk, Esq.
Principal Assistant City Attorney
Jennifer J. Stash, Esq.
Senior Assistant City Attorney
P.O. Box 27210
Tucson, Arizona 85726

For Underground Arizona:

Daniel Dempsey, Director
737 East 9th Street
Tucson, Arizona 85719

CHMN STAFFORD: Let's go back on the record and resume the hearing for line siting case No. 232.

All right. A couple things. We're going to do the tour on Thursday, right, Ms. Grabel?

MS. GRABEL: Yes. That's correct, Mr. Chairman.

CHMN STAFFORD: Okay. So have the members seen the itinerary? It's exhibit --

MS. GRABEL: Is it TEP-15? 13.

CHMN STAFFORD: 13. That's the tour route and itinerary. So make sure members plan accordingly for Thursday. You probably want to dress extra casual for that outing.

And then I understand that the superior court issued its decision yesterday?

MS. GRABEL: Yes, Mr. Chairman, it did.

CHMN STAFFORD: All right. Is a party going to enter that as an exhibit? I'm looking at you, City of Tucson.

MR. LUSK: Thank you, Mr. Chair. Roi Lusk for the City of Tucson. Yes. We prepared an exhibit to be filed this morning with docket control. And I have physical copies being prepared right now. We'll provide them at a break.

CHMN STAFFORD: Okay. And the Proposition

412 and the abstract. That was the word I was trying to recall yesterday was "abstract."

MR. LUSK: Correct. We have that included in the physical exhibit as well, and we'll e-mail them to the Chair and the parties as well.

CHMN STAFFORD: Excellent. Thank you.

All right. Ms. Grabel.

MS. GRABEL: All right. Thank you.

CHRIS LINDSEY, CLARK BRYNER, AND ERIK BAKKEN, (cont.) called as witnesses as a panel on behalf of Applicant, having been previously affirmed or sworn by the Chairman to speak the truth and nothing but the truth, were examined and testified as follows:

DIRECT EXAMINATION

BY MS. GRABEL:

Q. I believe we left off on Slide 41, Mr. Bryner.

A. (Mr. Bryner) That's my recollection, yes.

Q. Okay. Let's go ahead and pick up.

A. (Mr. Bryner) Okay. So we were describing the various components of the Midtown Reliability Project. So we just kind of went over the substations. And I was just about to start talking about our transmission line.

So we talked about the DeMoss Petrie Substation,

the Vine Substation, and the Kino Substation, and we needed a transmission line loop that connects those substations for reliability purposes, to add additional capacity, all the reasons we discussed yesterday.

So for this transmission line TEP proposes to use our standard 138kV steel monopole structures. So the photo on the -- on the left-hand screen on Slide 41 shows one of those typical structures. If you want to see all of the designs of the various structures that might be used in the project, I'll refer you to Exhibit G-1 of our application, which is TEP Exhibit 1.

We do plan to use a single circuit design except in any areas where we might be colocated with a 46kV line or there are some areas where depending on the routes that are selected, we might have a route into and out of a substation, and they would share the same pole lines. In those cases it would be a double-circuit structure.

But the reason why we plan to elsewhere use the single-circuit structure is because, as you heard from some of the public comments last night, there was concern about the size of these structures and, you know, maybe it not being in character with going through some of the residential areas.

And so by using a single-circuit structure that was one of the ways that TEP looked at to try to really

minimize and bring the size of these structures down. By using that design we're able to use a pole that's a little bit -- a little smaller diameter pole construction, so just a little bit less obtrusive.

CHMN STAFFORD: What is the diameter of poles?

MR. BRYNER: So that varies. And I'll share you my understanding. And when we get to our next panel, Mr. Robinson may want to correct me.

CHMN STAFFORD: Okay.

MR. BRYNER: But the typical tangent, so in a straight line structure, they're going to be around 30 inches in diameter at the base.

You get to some of the turning structures that are probably the ones that people focus on the most because they're located usually at intersections where we're making a turn, and so you're stopped there with your vehicle, and you're looking at this pole and you're saying to yourself, I could drive my car through this, those structures are larger. They're not really big enough to drive your car through, but they are larger.

CHMN STAFFORD: So, like, 60 inches as opposed to 30 inches in diameter you're talking about?

UNIDENTIFIED SPEAKER: Yeah, that's close. Between five and --

CHMN STAFFORD: You need to give the answer.

UNIDENTIFIED SPEAKER: Yeah. Sorry.

CHMN STAFFORD: The man behind you isn't sworn or identified.

MR. BRYNER: So that's correct, around 60 inches, five feet in diameter.

CHMN STAFFORD: Just trying to get a ballpark of what we're looking at. Thank you.

Please proceed, Ms. Grabel.

MS. GRABEL: Thank you.

BY MS. GRABEL:

Q. Go ahead, Mr. Bryner.

A. (Mr. Bryner) And so the typical structure height, again, is around 75 feet high. So if you look in our application, we do say that we can have structures up a to 130-foot in height. Those are atypical.

Again, I know that listening to the public comment last night there's a lot of folks that tend to gravitate towards the taller structures. Those are needed in certain circumstances where we're crossing over -- and you'll see on the field tour we're crossing over the Aviation Highway, which is a limited access highway, crossing over the railroad tracks, crossing over bridges. Things like that just require you to use some

taller infrastructure for a couple of spans to get up and over that so we can maintain our clearances. But typically they're much lower and around that 75-foot in height.

Q. Mr. Bryner, how many of those taller poles would be needed on the preferred route?

A. (Mr. Bryner) Let me visualize here. I really can only think of one spot where we'll have those taller structures, so that would be where we cross the Aviation Highway because we cross the railroad and Aviation Highway in the same location.

Q. Thank you. Please continue.

A. (Mr. Bryner) Yeah. So, again, on to the span length of these poles or this line, we would typically have one pole about every 600 feet, which is a little bit shorter than what we would have on a line that's going through a more rural area where we're able to really maximize those spans.

But it would be much longer spans than your typical lower voltage distribution spans that are two to three hundred feet, so we're talking about 600 feet on these.

So, again, that lends to the argument that we were making yesterday that as a result of this we will remove a lot of distribution lines and add these lines.

So you'll take down a lot of poles and you'll add far fewer poles, while they will be taller.

So another thing I wanted to just talk about is your standard poles are weathering steel. We talked about that a little bit yesterday. But we do recognize that weathering steel, it does -- it doesn't blend in as well in some surroundings as others. And so we do want to ask the Committee to grant us the flexibility to use galvanized poles and/or painted poles if needed in certain areas to try to minimize the disturbance that these poles might cause to the area.

So one of the commitments that we've made with the public is that depending on the route selected, if it goes through a residential neighborhood, that we will work with that neighborhood specifically to determine what is the right pole finish for them.

And so it doesn't have to be a one-size-fits-all solution for the whole route, but our standard is the weathering steel, but we want to try to blend in with the community to the extent that we can.

I do want to put on the record, if I haven't already, that TEP doesn't really like painted poles. So they look great up front. I know there was a comment last night about some poles that we have on a 138kV line up I think it was near Snyder. And they look great

initially, but they fade quickly to just a really nasty color. And then they start to peel. And they're just a real nightmare from a maintenance standpoint. So we can do them. We will build them. It's not our preference.

MEMBER GOLD: Mr. Chairman.

CHMN STAFFORD: Yes, Member Gold.

MEMBER GOLD: A question for Mr. Bryner.

I know you're trying to be less obtrusive in neighborhoods. The cellular companies have some up with a solution where they camouflage some of the things to look like cactus, to look like pine trees. Have you ever thought of anything like that in a neighborhood to make it look like a tree up to the point you get close to the wires?

MR. BRYNER: Thank you, Member Gold. There were some comments that we received early on in the project about what can you do to make this blend in, especially, you know, there is a lot of historic areas that this project goes through and are there things that you can do to make this, you know, kind of fit in with the surrounding better.

As a result of that, we did reach out to a Public Service Company of New Mexico, PNM, because they have lines, like, in Santa Fe and some of those areas. We reached out to one of the utilities in Texas to try to

see what they were doing because we'd heard that they were doing some creative things. In the end, we learned that they were using weathering steel poles.

MEMBER GOLD: Using what?

MR. BRYNER: Weathering steel poles, which is our standard pole.

MEMBER GOLD: So your weathered steel pole is COR-TEN?

MR. BRYNER: COR-TEN, yes.

MEMBER GOLD: Which the rust protects it.

But did you touch base with a company like Comcast to see what they're doing?

Because they have more towers in residential neighborhoods, and they've masked them pretty well.

MR. BRYNER: We did not.

MEMBER GOLD: Okay. Maybe you should.

MR. BRYNER: I did see a Mickey Mouse pole that was shared with me near Disney World. There are creative things happening.

So there are creative things happening. There were a few other creative comments as well since it goes past the university disguising poles as a basketball player or some different things. However, we've not run with those ideas, though.

The last thing I want to mention on this -- Chair, are we good to continue? Sorry.

CHMN STAFFORD: Yes, please.

MR. BRYNER: Yeah. So the last thing that I wanted to discuss on this slide was just our wire that we plan to use. So our typical wire is a non-specular aluminum conductor.

However -- and this, again, is one of the comments that we heard last night -- we're looking into using an advanced conductor that allows the line to when it's operating at -- when it's fully loaded operating at high temperatures that it will sag less, which if we're able to use that, it would allow us to bring the height of the structures down even more.

CHMN STAFFORD: What's the minimum ground clearance for the line? 30 feet? 32? What is it?

MR. BRYNER: Again, I'm not the expert on that. 25 feet is my recollection. But when we have Mr. Robinson up on the panel, he can answer that question.

CHMN STAFFORD: And that's maximum sag we're talking; right?

MR. BRYNER: That's correct.

CHMN STAFFORD: Okay. Please continue.

MR. BRYNER: I believe that actually

concludes my remarks on this.

MEMBER MERCER: Mr. Chairman.

CHMN STAFFORD: Yes, Member Mercer.

MEMBER MERCER: I have a question for Mr. Bryner.

One of the comments was about the use of gas in your testimony you talked about that because of the size of the substation. So the gentlemen that spoke about it made it sound like you were going to poison everybody.

Can you elaborate on that?

MR. BRYNER: I'll share some thoughts, and Mr. Bakken might have some thoughts as well.

So the gas that they're talking about is SF6 or sulfur hexafluoride. So it's a nontoxic, nonflammable gas that we use in any of our gas-insulated equipment. So we have breakers that use that gas today, the GIS substation, so that would be the breakers and the bus are all insulated with that gas.

It is a greenhouse gas, and that's where some of the concerns come around.

Mr. Bakken, do you want to add any more?

MR. BAKKEN: Sure. I can add just a little bit, Clark. That was a great explanation.

But SF6 does have more potency, I guess I

would call it, in terms of its carbon emissions. And if it is released it is more potent than, say, you know, just CO2 that's released through some of our other operations.

That said, we track that very closely. And in terms of any releases we have with SF6, which, again, as Clark mentioned is nontoxic, it's in the pounds. So very minimal amounts, de minimis amounts in terms of the releases that we have for SF6. It's tracked and contained very closely.

MEMBER MERCER: Okay. Thank you.

CHMN STAFFORD: Now, is that -- you said it's more potent than CO2.

What about compared to methane?

MR. BAKKEN: I believe it's more potent than methane, but I don't know the order of magnitude in terms of kind of, you know, kind of what that CO2 equivalent is for -- between methane and SF6.

CHMN STAFFORD: But I'm assuming the system's designed to leak zero; correct?

MR. BAKKEN: That's correct.

CHMN STAFFORD: Okay. So if something does leak, then there's some kind of problem, there's a malfunction or a crack in the system or something?

MR. BAKKEN: Typically a seal.

CHMN STAFFORD: A seal?

MR. BAKKEN: Yeah.

CHMN STAFFORD: Okay.

MR. BAKKEN: That has a malfunction.

CHMN STAFFORD: And how many of these type of substations do you currently operate?

MR. BRYNER: I can answer.

So currently we have one GIS substation. That's our Tucson Substation. I showed you a photo of that yesterday. And to date that went in service somewhere around the 2010 time line. And to date we haven't had any leaks at that substation. And we do have hundreds of breakers that have the SF6 gas insulation.

CHMN STAFFORD: And so you just said you've had zero leaks with that. You haven't had any leaks or any discharges of that chemical from that substation in the approximately 14 years it's been operating?

MR. BRYNER: Correct.

CHMN STAFFORD: Excellent. Thank you.

MEMBER DRAGO: Mr. Chairman.

CHMN STAFFORD: Yes, Member Drago.

MEMBER DRAGO: Yeah, just to help support the discussion on SF6, my prior employment was with the semiconductor industry. And SF6 was one of the highest global warming potential compounds on the list.

And with the semiconductor industry trying to move towards reducing their greenhouse gases over a period of time, it was one of the first things they looked at to find alternative chemistry in the semiconductor manufacturing process.

CHMN STAFFORD: Do you know what they ended up replacing it with?

MEMBER DRAGO: I do not.

CHMN STAFFORD: They're still looking?

MEMBER DRAGO: Yeah. No, I do not.

CHMN STAFFORD: Okay. But they did, or they're still looking.

MEMBER DRAGO: No, no. They did -- they were able to remove it from the process and then go to something else that had a lower global warming potential.

CHMN STAFFORD: Okay. Thanks.

MEMBER HILL: Mr. Chair.

CHMN STAFFORD: Yes, Member Hill.

MEMBER HILL: So thank you for walking us through the poles and the heights. Pardon me.

Yesterday we had a citizen ask -- she works for Department of Energy. She asked a couple questions about the nature of the conductor that you're using.

She asked a thoughtful question about whether 138kV was enough to support this community

long-term and would we be back at the table having a conversation in ten years was kind of her time line that she identified.

You talked about the saturation study yesterday, so we kind of understand how you came to the 138kV.

Can you talk about the life of this system and how long TEP projects that the 138kV is adequate for the City?

MR. BRYNER: Okay. Great question, Member Hill.

If you're okay, I'd like defer that one over to Mr. Lindsey.

MEMBER HILL: That's great.

MR. LINDSEY: So, Member Hill, that's a great question. And being a planner --

MEMBER HILL: Me too.

MR. LINDSEY: -- that's a really hard question in most cases to answer, especially when you're on the record.

But in this specific case, fortunately for us, we did conduct that saturation study. And that's brought a lot of confidence to this solution for us for a couple reasons.

One, Midtown, I know we're talking about

all the modernization and growth that we've experienced, but that saturation study also extrapolates out what that would look like at full buildout. And so there is a limit for what can get built within Midtown.

And so we modelled that in the saturation study. And so just to kind of give a bounds to what that looks like, our saturation study when complete anticipated load growth over twice of what our load is today. And so it was an extreme I'll call it case.

Now, we didn't include electric vehicles in the study back in 2018. It was still I'll call it a little bit of a fringe idea. We also did not include any of the large load that we're starting to experience requests for data centers and things of that nature.

So while there are some pieces that may be missing if you fast forward to today, from a Midtown perspective we feel very confident that this solution won't just help us improve reliability, help support all the retirements that we're talking about on the 46, but support well into the future.

I mean, this is going to take us the life of the system we're talking about building another 70 years plus. We wouldn't anticipate a need for another transmission line in Midtown.

Now, in addition to the line, the way we're

designing the substations has the capacity needed to support the distribution system. So Vine Substation is going to have three transformers. A typical sub only has two. So we are building some extra capacity in there for the long-term.

There is also other -- when we touched base on it just real high level about access to DeMoss Petrie and some of the advantages of moving this line from Tucson to DMP, we have several other projects that are getting developed now and actually moving into construction near term where we're going to be building a 230 line -- a 230kV line in conjunction with WAPA that will connect to DeMoss Petrie.

And so while that line will not run through Midtown or Downtown, it does bring a higher voltage into the area. And that's one of the critical points of this project is we're going to get access to that transmission, that higher voltage with this project.

And so we don't anticipate well into the future because of that saturation study, like I said, brings us a lot of confidence with this solution. But it's also key that we connect it correctly.

We can't just take the line any which way to close the loop. Bringing it to DMP is critical for answering that question with confidence. So access to

the 230kV system really adds stability to our system, but also supports this project.

MEMBER HILL: Okay.

MEMBER KRYDER: Mr. Chairman.

CHMN STAFFORD: Yes, Member Kryder.

MEMBER KRYDER: I guess I should ask, Member Hill, were you finished, Natalie [sic]?

MEMBER HILL: I just wanted to do a little bit of follow-up, if you don't mind.

MEMBER KRYDER: Okay. Let her go ahead.

MEMBER HILL: Being a planner myself, land use has changed a lot in the city. A lot of density has been added, more demand is associated with that.

Was the saturation study in 2018?

MR. LINDSEY: Yes.

MEMBER HILL: Okay. Can you talk a little bit about how you worked with the City to determine that demand and how you use land use, or can you talk a little bit about the cooperation that you guys have around that?

Because I really do want to feel confident and everyone else to feel confident this 138kV is good for a long time. So --

MR. LINDSEY: Do you have -- Clark, do you have some information on that?

MR. BRYNER: I can --

MR. LINDSEY: I mean, so I can talk about --

MEMBER HILL: Or we can save it for another panel if it's more appropriate for another panel.

MR. LINDSEY: So I can step back into the process from our 2018 saturation study. And when we went through that process we did have several meetings with the City and the County and the surrounding jurisdictions to get that study started to ensure that their plans and future plans and all that information was updated at the time.

MEMBER HILL: Okay.

MR. LINDSEY: And then we took that and we extrapolated it out; right? So we have really good data on what the system looks like today, what the loading looks like by land use today. And so we use that information -- well, I'm going back to 2018, but we used that information to extrapolate out what it would look like in the future.

And then once we got done with the study -- and it's several steps because it's not just looking at land use and loading within our service area, but it's also looking at how many substations need to be built to support that future state and what the transmission system also needs to look like to support twice the load,

and that's a big undertaking.

And so once we get to that point, then we -- then we -- I called it the road show -- we went around and met with all of the jurisdictions once again and all of their planning teams to at least have some conversation about does this seem to work? Does this make sense?

And it is a little hard to talk through the future with everybody and understand the needs, but those were very good conversations with those teams. And I think everybody left those meetings with an understanding that what our analysis looked like at the time was reasonable.

MEMBER HILL: Okay.

MR. LINDSEY: Now, I will say that's a type of study that you -- we've done it twice, so we did it in 2006 or '07. Once again in 2018. We're talking about is it time to do it again.

But back to how we designed or how we looked at this study in particular, we did feed in all of the 46kV retirements into the study, so we did not assume any 46kV infrastructure would remain at that buildout point in time.

There are some other substations that were identified in that study to the north of Midtown that

would need to be constructed in the future.

And so I think to hopefully bring some confidence to the solution here, this project as well as other future substations that would hopefully be located within close proximity to a 46kV retirement, so more of an upgrade or an existing 138kV line, would be the solution to support the system outside of Midtown.

So we do have some optionality of kind of cascading those upgrades, but from a Midtown perspective, I feel very confident that the solution will outlast the life of the facilities.

MEMBER HILL: Okay.

MR. LINDSEY: So we're talking 70-plus years.

MEMBER HILL: And then just one last question. She also mentioned advanced conductors and the technology evolving in that and the ability to push more through lines.

Can you talk about the lines a little bit that you're going to use and what you see on the horizon potentially and supporting that?

MR. LINDSEY: Sure. You bet, Member Hill.

So it is -- it has been an ongoing conversation related specifically to this project because, as Mr. Bryner mentioned, some of the advanced

conductors -- and it's more about the support structure within the conductor -- allow us to design lines with less sag for the high contingency operating temperature we need for these transmission lines. And so it's very high on our list for evaluation for this project.

But also in my new job we're looking out at the transmission system into the future to support all of the renewable integration. And it's not a reasonable solution to just go build a whole bunch more transmission.

So making use of existing is a big piece of our thought and strategy moving forward, and those conductors fit right into that conversation as well. So repurposing structures that we have on our existing EHV, our 345, our 500 possibly one day is very much part of the conversation from an advanced conductor perspective.

But really, I mean, we do have to factor in the cost of that conductor, the cost of a new standard for TEP, the cost of training our new -- our crews to install, operate, maintain. And so it's a big conversation. But we're kind of on the cusp of making that addition to our standards.

MEMBER HILL: Okay. Thank you, Mr. Lindsey.

Mr. Kryder. Member Kryder. Sorry.

CHMN STAFFORD: Member Kryder, you had a question?

MEMBER KRYDER: Yes. A follow-up, I think.

Let's say that the recommended pathway is the one that finally gets set in place, and, lo and behold, in spite of all of your planning we all know the old axiom, you know, planning is difficult, especially if it's about the future.

And so suddenly you've got 15 more high-rises that go up and et cetera, et cetera.

Can additional lines be applied to the poles and the undergrounding that is on this pathway? Speak about that, if you would, please.

MR. BRYNER: I'll start off. And then I'm sure Mr. Lindsey has something else he'd want to add.

So I just want to -- I want to point out -- let's see if this comes up --

So on this existing pole structure on Slide 41, so you see the -- these are insulators sticking out on this side that are supporting the conductor. So what you may not see in the photo here but there's brackets there that will accommodate another set of insulators, so this is actually a double-circuit capable structure.

I testified that we plan to use

single-circuit structures, so they wouldn't have this capability with what we're currently planning.

Now this particular pole is located just outside of our Kino Substation on our preferred route, which I know we haven't gone over those just yet, but Route 4, it would actually take advantage of these existing poles and place our new circuit on that other side of the poles, so you wouldn't have a second circuit.

Now, the disadvantage of us trying to minimize the size of these poles to better fit in with the neighborhood is we wouldn't have that flexibility in the future to add another circuit without replacing structures and doing, you know, a lot of other work if the need arose.

MEMBER KRYDER: Thank you very much.

On the aboveground poles, I think I conceptualized pretty well what you're talking about.

What happens where you are underground? Is that -- I mean, this looks expensive but feasible.

Does the underground sections of the preferred route lend itself to adding additional circuitry?

MR. BRYNER: So, I guess, let me clarify one point there, Member Kryder. We don't have any underground sections of our preferred route. We're

proposing an entirely overhead route.

MEMBER KRYDER: Thank you. I was wrong in my assumption on that. Thank you.

MR. BRYNER: No. And I think that was -- again, from the public comment last night I think there is some misconceptions not just from you but even from the public that we do plan to put some of this line underground. 100 percent of this transmission line is proposed to be overhead.

What we do plan to do is put some of the lower voltage distribution lines underground, which will result in eliminating a lot of overhead infrastructure in the area.

MEMBER KRYDER: Thank you very much. That is very clarifying.

Back on this, you pointed out on the structure that we see on the screen that you could put something on the left-hand side of that pole because it is currently existing.

Do I have that right?

MR. BRYNER: That's correct.

MEMBER KRYDER: Okay. If the pole was whatever your next incremental size is, 15 feet higher or 50 feet higher, or whatever it is, can you put another section lower than the existing lines?

Or the new line, if it went on the left-hand side of this pole, can you add another layer like they do on some of the wooden distribution lines that I see?

MR. BRYNER: So I think I'm following what you're saying, Member Kryder.

And so that would be kind of a stacked configuration is what we would call that. I know you'll see some of the older wooden poles that they'll be retrofitted with we what call a bayonet where you kind of make them a little bit taller.

I've never seen that with a steel pole. I think we'd be pretty uncomfortable with that. Mr. Robinson, again, would be more the expert on that. But we can design these poles to accommodate that in a vertical configuration where you have a taller pole.

Our typical double-circuit design, it wouldn't be any taller. It would just be a little more robust.

MEMBER KRYDER: Okay. Thank you.

Then the follow-up corollary question would be since you've got the pole, you've got the right-of-way, you've already made enemies of friends as the case would be of having the pole there, can you -- could you arguably put in one that's -- replace the pole

and make it the next size bigger and add circuitry that way?

MR. BRYNER: So depending on the right-of-way, the space that's available, yes, we could do that. But that would be dependent on other factors that we'd need in order to maintain our safety clearances.

MEMBER KRYDER: Okay. I'm trying to avoid anybody ever in the future having to sit through all of this joy.

CHMN STAFFORD: Thank you, Member Kryder.

Please continue, Mr. Bryner.

MEMBER SOMERS: Mr. Chair.

CHMN STAFFORD: Yes, Member Somers.

MEMBER SOMERS: Let me get on camera for you. Can you see me?

CHMN STAFFORD: Not yet.

MEMBER SOMERS: Okay. Somebody can see me. Excellent.

CHMN STAFFORD: There you are.

MEMBER SOMERS: I just wanted to close -- thank you as long as everybody can hear me as well.

I just wanted to close out some questions on FS6 before we get too far ahead.

Mr. Chairman, you had asked and received an

answer on any releases in normal operation of SF6 in the environment, and the answer, as I understood it was, no, there has not been a release of that chemical.

But that's only one -- you know, accidental release is one way. There are other ways that this could be released. Faults in the system, for example, arcs between equipment as well as fire, external fire, could be a release.

Are any of the witnesses aware of any release of SF6 within their system that resulted from either of these nonnormal operational incidents?

CHMN STAFFORD: I think we're looking at you, Mr. Bryner.

MR. BRYNER: I think Mr. Bakken is going to take that.

MR. BAKKEN: This is Erik Bakken.

So to try to clarify, we do have releases of SF6 typically from a malfunction like Mr. Bryner was mentioning of breakers, and we track that very closely. They're designed, right, to be zero release or to not have that type of malfunction, but they happen.

We have had zero releases from the gas-insulated substation, Tucson Substation, since we -- since the inception of that GIS substation.

So hopefully that answers your question,

Member Somers. We have had releases. We track it very closely. It's part of our sustainability program because of the CO2 implications. But it's not a zero release system, right, because there are malfunctions with the equipment that do result in a minimal release.

MEMBER SOMERS: So extraordinary circumstances outside of normal operations that can cause those releases, fires, arcs, that type of thing, but very infrequently?

MR. BAKKEN: I wouldn't say that it's necessarily always caused by a fire or an arc. It could be a seal that's faulty. I think we talked a little bit about that that where that results in a release.

MEMBER SOMERS: Okay. All right. Thank you. I just wanted to close the loop on that. I appreciate it, Mr. Chair.

CHMN STAFFORD: Thank you, Member Somers.

So you said you have not had any releases from that substation of a GS6?

MR. BRYNER: The SF6?

CHMN STAFFORD: The SF6.

MR. BRYNER: Correct. Yeah, the Tucson Substation has not had releases.

CHMN STAFFORD: Okay. If they had, you tracked them as part of your carbon tracking system?

MR. BRYNER: So as part of our maintenance program that we have on those breakers, we check those. We have an annual inspection that we do on all of those breakers. And we weigh extensively. When we put new gas in, we weigh that gas. And we -- it's a lot of work, a lot of effort that we put into that, and we report those numbers up to the EPA on an annual basis.

CHMN STAFFORD: Okay. So, like, is that for -- do you have to extract the gas and then put it back in to extract it, do servicing, and then put it back in there?

MR. BRYNER: You would only do that if it was -- if there was some contaminant in it. Typically you're just adding pounds.

CHMN STAFFORD: Okay. So I guess if you're adding it, it's replacing it somewhere?

MR. BRYNER: That's correct.

CHMN STAFFORD: Is that some from a chemical breakdown or is that from a release?

MR. BRYNER: That would be from a release. When we add gas, that means some gas left --

CHMN STAFFORD: Okay.

MR. BRYNER: -- through one means or another.

CHMN STAFFORD: Right. And it has to be --

if it's full, it has -- to add more it's got to take the place of something else.

MR. BRYNER: Correct. So our releases are tracked by what we add.

CHMN STAFFORD: Okay. And so how much have you -- so what's the capacity of the gas when it's full, and then how much have you added over the years, I guess?

MR. BRYNER: You're talking throughout our system?

CHMN STAFFORD: I thought it was only this one substation that has it.

MR. BRYNER: So that one substation it would just be what we added to begin with. And we could get those numbers. I'm not -- I don't know -- I don't have the number right now.

MEMBER LITTLE: Mr. Chairman.

CHMN STAFFORD: Yes, Member Little.

MEMBER LITTLE: I would be interested in the whole system, the breakers and your other components that use the gas.

MR. BRYNER: We can get that information and share it with you after a break.

MEMBER LITTLE: Great.

CHMN STAFFORD: Excellent. Thank you.

Any other questions from members?

Ms. Grabel.

MS. GRABEL: I do have a couple of redirects. It's not really redirect, just some follow-up before we close out this panel.

BY MS. GRABEL:

Q. Mr. Lindsey, so yesterday you were asked a question by one of the members about whether if this project was not approved it would jeopardize the reliability of the Midtown system.

And I believe your answer said, you know, we have the obligation to serve the area safely and reliably, and we'll do everything we can to keep it hopping along or whatever your phrase was.

Can you please elaborate a little more on why continuing to band-aid the existing system and rebuilding that 46kV system is not ideal from a reliability and cost perspective?

A. (Mr. Lindsey) Yeah. I'd be happy to. I think I referred to it as limping along.

Q. Okay. So hopping along?

A. (Mr. Lindsey) So hopping is a little more positive, so we'll go with that.

So, Mr. Bryner, I guess I can run the slides, or do you mind jumping over to Slide 13?

MR. BRYNER: Grace, could you help us out

there.

MR. LINDSEY: Okay. Thank you, Grace.

So I spent a little time this morning making some notes as to what our next steps would look like if we didn't gain approval for this line. And -- and so I'm going to walk through just a few high-level thoughts here, but please note we have not done any power flow analysis, we haven't done any transmission planning-type studies, and so this is really a conceptual conversation, but I think it will get the point across that without this project we're only looking at additional infrastructure that would have to be built, whether it's 138kV or 46kV.

BY MS. GRABEL:

Q. And just to clarify, you haven't done any power flow studies on rebuilding the 46kV system, you have done them on the MRP project; correct?

A. (Mr. Lindsey) Well, yes, we have done them specific to the MRP, but some of these what-ifs I'm going to talk about on the 138kV side have not been studied, and so they very well may not be available.

But with that said, so if we were to leave the hearing here without a route between Kino to Vine to DeMoss Petrie like we've been talking about the past few days, you can see on the screen on the left focusing on

the 138kV system that's -- is that fuchsia, purple?

So the first step we would be at least from my perspective we would be prioritizing a new line from Kino to somewhere; right? We made a lot of promises to the community down there that the construction of Irvington to Kino is the first step of our improvements in the area. And we've made promises that we plan to keep to put that community on the looped transmission system.

So Kino Substation was designed to be sourced from a looped 138kV system, and our intention would be to complete that loop. The transformers at the substation are redundant, and so we really would want to complete that project and get the full benefit out of that investment.

And so in all likelihood, we would be looking at connecting a new line between Kino to this one -- so between Kino and 22nd Street. So that would be the easiest 138kV connection to make from a distance perspective.

The configuration at 22nd is set up to accept another transmission line. And I believe we have a CEC to build from Irvington to 22nd at some point in time. So that could in some cases replace that project. That could cause other issues downstream.

So my big disclaimer at the beginning of this is

this is conceptual, we'd have to look at it, but that would be an obvious step.

We do have another substation that we're constructing in this vicinity now to support the distribution in the area. And maybe I'll make a plug to what we were talking about earlier, Member Hill. That's another other investment we're making in and around the Midtown area that makes us feel very confident about this solution for the long-term.

That could be an option to build a line from Kino to what we're calling Cottonwood Substation. But we have made promises to that community that we would limit the transmission line in the area or the transmission lines in the area, and the need for that substation was simply to support the distribution.

So a lot of this builds on itself. So from a 138kV perspective step one connect Kino. That would be in our very near term priorities. And we'd be kicking off a process for outreach and bringing that back to this Committee as quickly as possible. So it would probably bump everything else you got, Mr. Bryner, so we could get this done.

The other implication of not connecting Kino here up to DeMoss Petrie is that, as we've talked about and we talked a little bit about it with your question,

Member Hill, bringing a 230kV line into DeMoss Petrie that's planned that's been developed that will start construction shortly, designs are done, procurement is midway, I mean, this project is moving forward. If we had a zoomed out map of our system, I could explain it a little more.

But essentially that line will connect our Tortolita Substation to our Vail Substation. And today those are two of our three major import points to our system from remote generation sources.

By connecting Tortolita on the north side of our system to Vail on the south side with a stop at DeMoss Petrie, it essentially turns DMP into an import point.

So today, envision DeMoss Petrie is somewhat the center of our grid and the bottom of the load pocket, so it's kind of a sink. It's just the bottom of where the system sits. I'm trying to explain it clearly.

But once we complete that project, it really turns it into a source. So it's going to move it to the top from a support perspective.

What that means is we're going to run into upgrades that would need to happen outside of DeMoss Petrie. So, again, some comments we talked about yesterday, this project really brings a lot of value from almost every level of our system from a performance

perspective.

So without this line connecting to DeMoss Petrie, we would also need to make upgrades outside of DMP at the 138kV level in short order. So it's hard for me to say when we would be back talking about that. We would need to scope it. We would need to do all of our outreach. We would need to determine the optimal solution. But it wouldn't compare in any fashion to what we're talking about today with Midtown. It would just be additional investment in lieu of really this optimal solution.

So that's -- that's the 138kV picture we would be looking at, again, to recap briefly additional line from Kino. So five-plus miles of transmission going through to 22nd or a big question mark and additional upgrades outside of DeMoss Petrie over time.

Q. And that -- Mr. Lindsey, so all of these new transmission facilities that you've just described to the Committee, would be in addition to the $50 million we need to spend to replace the existing 46kV system in the Midtown area; correct?

A. (Mr. Lindsey) So that's correct. And I've got some notes on -- we're brainstorming this morning, which is dangerous -- but on 46kV just thoughts if we wanted to look at a map and talk about the implications of that.

Q. I don't think the Committee needs to hear that. We just wanted to elaborate on the additional expense that would be required if this project were, in fact, rejected and the reliability issues that would be associated. Correct?

A. (Mr. Lindsey) That's correct.

MS. GRABEL: Go ahead. I think Ms. Hill has a question.

MS. HILL: I'm sorry.

BY MS. HILL:

Q. Mr. Lindsey, could you just clarify. So what you're talking about, though, in terms of the 138 system and the additional lines, multiple additional lines that you might have to build, that does not solve the ultimate reliability issue that you have in Midtown with the 46kV radial system; is that correct?

A. (Mr. Lindsey) That's correct, Ms. Hill.

So this would simply allow us to loop in the Kino Substation and improve the reliability up to today's standards, modernize essentially you can imagine I'll say south of Aviation Highway, which is the somewhat freeway that's marked as 210 on the map there. So south of that area, we would consider that modernized with our 138kV solution and our distribution upgrades and our 46kV retirements. And so that area of town would benefit from

the reliability we're talking about today.

So the Midtown area north of Aviation Highway generally and outside of the downtown area would still be sourced from the radial 46kV system, would still be utilizing older substations which have a limited footprint for especially at Winnie and Olsen, some of the substations you've heard us talk about. There's only so much we can do within those substations, and we would not be able to add enough infrastructure to bring redundant transformers and switchgear, everything we need to support this reliability need we see here in Midtown.

So there's only so much we can do with the 46, and we'd max that out from a footprint perspective on the substation side.

It would allow us to upgrade the distribution to the limit of the transformers. So we're talking about over 200 megawatts of capacity at Vine. We might end up with 40 or 50 at Winnie and Olsen and then some additional capacity at our existing UA med station. And so we just don't have a chance to get up to what we're talking about with Vine Station.

The other --

Q. Mr. Lindsey, may I interrupt you for just a quick moment?

A. (Mr. Lindsey) Yeah.

Q. Okay. So for those of us that are lawyers that went to law school to avoid math, engineering, and circuits despite our current employment, I'd like to kind of bring this down to the customer level for just a couple of minutes.

So if we have, for instance, widespread electrical vehicle adoption and distributed generation in the Midtown area as is projected, will the existing 46kV system, if we do not have this line, this 138 line, be able to support it and for how long?

A. (Mr. Lindsey) Sorry, Ms. Hill. I get excited about this stuff, so thank you for redirecting me.

Q. And I do too. I understand it from my perspective.

A. (Mr. Lindsey) This is what happens.

So generally, no. So we have, again, a high level of confidence with our solution as proposed with the 138kV loop with the Vine Station with the distribution upgrades, a very high level of confidence that we can support all of the technology integration that we expect into the future.

So as we touched briefly on yesterday the 4kV, the low voltage distribution just doesn't like technology. The intermittency of solar is very hard for us to manage. Any sort of load growth beyond what we

have today, which is limited, is just very challenging for us to upgrade that system to support.

So without the distribution upgrades the answer is no.

Q. Okay. Thank you.

MS. HILL: And, Mr. Chairman, thank you for your permission for letting me ask a couple of questions.

MS. GRABEL: And I have one final question for Mr. Bakken, and then we'll turn this panel over for cross.

CHMN STAFFORD: Thank you, Ms. Grabel.

BY MS. GRABEL:

Q. Mr. Bakken, we heard a lot of public comment yesterday about why Fortis with its dividends can't just fund this project.

Will you talk a little bit more about the reinvestments into the system that Fortis does make and elaborate more a bit more on why it's not appropriate for shareholders to participate in this funding of undergrounding?

A. (Mr. Bakken) Sure. Yes. I agree there was a lot of commentary around that last night. Just so we've got some of the numbers straight, our earnings last year were approximately 250 million. We reinvested last year in our capital program approximately 550 million into the

system. And over the last 10 years, Fortis has reinvested in the Tucson system approximately 800 million. So they are very supportive of what we're trying to do in terms of our clean energy transition.

So in terms of implications, if we pay for this reliability project, that would, you know, potentially reduce or actually would reduce the return to our investors. And that potentially limits access to capital, would require us to, you know, possibly borrow more money putting pressure on our credit metrics, making it harder to attract that capital we need at a reasonable price.

Even if we could bear that credit pressure, really where do we draw the line? And I think we talked a little bit about this yesterday. It would be a benefit for really one group of customers. And at that point other customers obviously, I think, could demand that similar benefit.

And we talked again a little bit about this yesterday. If we were to underground all of the projects that we have in the Ten-Year Plan, we're looking about -- looking at approximately $2.5 billion in costs, and that would be a significant cost that would reduce the investment or the dividend to Fortis which allows us to then attract the capital we need to be able to move

forward with this clean energy transition.

And when I talk about that, just to be a little more clear, like I mentioned, there are a lot of competing interests for that investment. We're looking to move forward with more clean energy investments, looking to move forward with transmission upgrades so that we can move that power and integrate to more renewables, both the utility scale renewables that we're building as well as rooftop solar and battery energy storage.

We're also looking to modernize our distribution system. Mr. Lindsey just talked about that. All of these are a part of the capital that we need to invest that Fortis needs to invest to ensure that we're able to meet the net zero target that we have in 2050 for carbon reduction.

So we're looking at a lot of competing interests trying to ensure that we have the capital that we need to be able to move forward with this transition.

CHMN STAFFORD: Mr. Bakken, I have a quick question.

MR. BAKKEN: Yeah.

CHMN STAFFORD: What's the number you said about for the additional cost to underground everything in your Ten-Year Plan? You said that was 2.5 billion?

MR. BAKKEN: That's correct.
CHMN STAFFORD: Does that include the cost of -- is that additional? Is that the only additional cost of undergrounding or is that what -- or is that the total amount you'd have to spend with undergrounding but also including the actual costs of the additional projects?
MR. BAKKEN: That would be the total cost of undergrounding, so it does not --
CHMN STAFFORD: Just undergrounding?
MR. BAKKEN: Right.
CHMN STAFFORD: Not the infrastructure itself, just the additional -- the marginal cost of undergrounding is $2.5 billion for the next ten years of projects?
MR. BAKKEN: No. It would be the total cost --
CHMN STAFFORD: Okay. That's --
MR. BAKKEN: -- of the project. Yeah.
CHMN STAFFORD: Okay. Can you parse out what the marginal cost of the undergrounding is of that 2.5 billion you're talking about?
MR. BAKKEN: I don't have those numbers in front of me, but just based on, you know, kind of the multiplier that we've been talking about 10 to 20 times.

I think from that you could probably extrapolate -- or extrapolate or kind of reverse engineer what that cost is, but I don't have that in front of me. I think we can probably get that for you.

CHMN STAFFORD: So how does that math shake out?

MR. BAKKEN: As far as what?

CHMN STAFFORD: Your extrapolation from the 2.5 billion, was that if it's -- was it 10 percent, is that what would be the additional costs, or is it 50 percent of that?

MR. BAKKEN: Yeah. So the overhead cost is about 2 million per mile versus that underground cost, so what would that be, about 10 percent?

MS. GRABEL: Mr. Chairman, we can get that number for you --

CHMN STAFFORD: Yeah.

MS. GRABEL: -- and bring it back on a different panel.

CHMN STAFFORD: Yeah, that would be -- I mean, just to -- because like -- and that was one of the arguments you said about why you don't want to underground this project because once you do it for this then you have to do it for everything else.

MR. BAKKEN: Right.

CHMN STAFFORD: And you've got quite a significant amount of transmission coming in the next ten years.

And what I want to know is what is the anticipated cost of all those improvements for that Ten-Year Plan and what's the marginal cost --

MR. BAKKEN: Yeah.

CHMN STAFFORD: -- undergrounding it. So we have an apples to apples comparison.

MR. BAKKEN: I'm just not able to do that in my head.

CHMN STAFFORD: Right.

MR. BAKKEN: But certainly we could get you that number. And you're right. I mean, there would be a cost to build out overhead for that plan. The 2.5, though, would be taking that plan and applying undergrounding costs to everything that we plan to do over the next ten years.

CHMN STAFFORD: Now, more follow-up questions to that. The Ten-Year Plan is only transmission. That's 110kV and higher; right? Or is it do you include, you know, lower I guess is it called sub transmission if it's below 110 like the 69kV or something like that?

MR. BAKKEN: 69, 46 for us.

CHMN STAFFORD: 46, yeah.

Okay. And then so those are included in that Ten-Year Plan, or is that just 110 and above?

MR. BAKKEN: I believe it's just EHV or 110 and above.

CHMN STAFFORD: Okay, okay. So you'd have additional distribution system improvements you'll have to make and the sub transmission that are excluded from that $2.5 billion?

MR. BAKKEN: That's correct. That's the 3.5 billion or part of the 3.5 billion that we've been talking about over the next five years.

CHMN STAFFORD: But the distribution stuff is more commonly undergrounded than the highway voltage lines; correct?

MR. BAKKEN: That's correct.

CHMN STAFFORD: Okay. And I assume the marginal cost of undergrounding a distribution line is significantly less than a highway voltage line?

MR. BAKKEN: Yes. That's correct. And we do have programs to underground distribution. However, when we're talking about new distribution, in a lot of cases that's paid for by third parties by the developer.

CHMN STAFFORD: By the developer. Right. Right.

Okay. Or and, I guess, sometimes it's -- it can be residential or commercial, right, for those distribution lines to be undergrounded?

MR. BAKKEN: Yes. That's correct.

CHMN STAFFORD: Okay. I believe Member Little had a question, and then Member French had a question.

MEMBER LITTLE: My question has to do with the fact that technical considerations aside, if we're just looking at cost, it sounds to me like the cost of the alternatives that we've been talking about as possibilities is a great deal more than the cost of this project as proposed. And as I'm hearing 50 million to upgrade and reinforce the 46kV system, another 50 million to do an alternative 138kV line versus, you know, significantly less than that to do this project.

And those costs would be passed on to the customer. And I'm, therefore, wondering if there's been any discussion about comparing the alternative cost to the cost of undergrounding some of the proposed project and having that also pass through to the customer. Their alternative is very much more expensive.

MR. BAKKEN: So the question, Member Little, is whether or not we have considered undergrounding portions of the line and passing that

through to the customer?

MEMBER LITTLE: Correct. With the recognition that if this project is not approved, the cost to the customer is going to be a great deal more.

MR. BAKKEN: Again, as we've looked at that, the concern would be based on the Corporation Commission guidelines that we would make that investment and that the possibility is there, the risk is there that would be disallowed.

And, again, that would put us into the same situation, I believe, that I was just talking about with a payment from the shareholder basically for that undergrounding that they're not recovering on.

CHMN STAFFORD: Is that it, Member Little?

MEMBER LITTLE: Yes. Yes, thank you.

CHMN STAFFORD: Member French, you had a question.

MEMBER FRENCH: Yes. I'll address this to the whole panel, so whoever's best to answer it is -- with respect to the NERC requirements that you've talked about earlier -- and if I am understanding this incorrectly please just let me know.

You mentioned that the NERC requirements to tie the Kino Substation with a 138kV line to DeMoss Petrie, would that requirement be satisfied with the

alternative substations that you just talked about a moment ago?

And then also my second question is, is there a time line associated with this NERC requirement? Are there any compliance considerations like possible penalties with not satisfying that requirement within a certain time frame or anything like that?

MR. LINDSEY: Member French, so I'll address both of those.

So the upgrades I believe you were talking about on the 46kV side, those would be -- would not be subjected to any sort of NERC compliance requirements. I believe the standard starts at is it 100kV?

And so those sub transmission voltage upgrades are separate and fall more into our distribution planning standards that we have just internally to TEP.

But from a Kino to somewhere perspective, yes, we intend to loop that in for reliability. And once we loop that in, it would be come part of -- it would fall under NERC standards from a reliability perspective. So, yes.

And I think the second question falls into our concern of not connecting Kino directly to DeMoss Petrie. So, really, just -- just our continuation of stacking the benefits of this project is how I'd try to

best explain that.

Connecting ultimately Irvington to DeMoss Petrie alleviates any future upgrades that we see in the foreseeable future on the 138kV system by DeMoss.

So that's where the NERC piece fits into the consideration is without this connection to DeMoss Petrie we would be looking at other upgrades on the 138kV system around DeMoss Petrie to meet those reliability standards.

That's the -- that's stepping us back into the development of the solution. That was one of the big advantages we saw with the overall project. So this not only -- this project not only allowed us to loop Kino in, allowed us -- setting us up to modernize Midtown with the Vine Station connecting us to DeMoss Petrie to alleviate those future reliability concerns we have.

So from a timing perspective and in a fine perspective, we wouldn't put ourselves in that situation. We're -- another advantage of those Ten-Year Plans and our planning process, including all of this analysis, is we want to stay in front of that.

We probably -- I'm stepping out a little bit. We probably would be in a little bit of a pinch because we're planning this project to solve all of these issues for us. So if we leave here, the planning group

is going to be scrambling to get the studies done and to identify specifically when we would have these overloads outside of DeMoss Petrie and specifically when we'd need to resolve them so we would not be fined. We would not -- we'd make the upgrades necessary and prioritize that work so that would not happen.

MEMBER LITTLE: Mr. Chairman.

MEMBER FRENCH: Thank you.

CHMN STAFFORD: All right. Member Little, do you have a follow-up?

MEMBER LITTLE: Yes. Perhaps I just didn't understand the answer to the question. But you implied that to satisfy NERC you have to have the reliability of two sources of power into the 138kV substations. And Kino is built. It's on a radial line.

So how long does NERC give you guys to provide the second source of power to get that reliability?

And if you don't do it within that time frame, what are the penalties?

MR. LINDSEY: So, Member Little, my concern from a NERC reliability perspective is more associated with the upgrades at DeMoss Petrie that would be required if we do not make the connection as proposed.

We do have some other -- again, some other

138kV radial lines in our system that if it's a radial -- I'm trying to think how best to answer.

We can operate a radial 138kV line and still be -- meet NERC requirements. When you walk through all the stringent studies and operational criteria from a NERC perspective, it's less on a radial line.

The implication, though, is reduced reliability for those customers at Kino. And, in addition, the situation we're sitting in right now with Kino is we've delayed retirements of the 46kV stations around Kino, specifically Pueblo Gardens, 35th and 21st Street, simply to meet our own internal reliability standards for those distribution customers.

So all of those -- all of that infrastructure from a 46kV side around Kino is still in service. And we plan to maintain it enough to get us through this project.

So that's the bigger implication for the Kino folks is that they're not -- we don't have the reliability today with the loop, and we're spending additional capital to maintain that equipment in the area.

MEMBER LITTLE: Well, I certainly understand that the technical design implications of this

and the necessity for that.

I guess I misunderstood the statements that have been made here about meeting -- being in compliance with NERC. It's not a specific design criteria as much as it is just the reliability that NERC requires.

MR. LINDSEY: That's correct, Member Little.

From a radial perspective, that line rating and the substation rating are more than enough to meet NERC standards. Once you loop it into the system, that's when things get a little more complicated and you start checking through additional requirements.

It's still subjected to NERC requirements but not a NERC reliability concern today. More of a distribution, ACC outage perspective reliability concern.

If we step back through our outage examples yesterday, if we were to lose that radial line, we had an outage, we are going to have outages in the area, we're going to be reporting them to the ACC. That's just a situation that's avoidable once we get this done.

MEMBER LITTLE: Thank you.

CHMN STAFFORD: Member Hill, you had some questions?

MEMBER HILL: Yeah. I'm just working through a lot of things in my head. This is going to

feel unrelated.

But I was curious if you can tell me how many customers does TEP -- not UniSource TEP, not the whole shebang, but TEP have in its service area, how many of those are in the City of Tucson, and then of all of your demand relative proportionally how much is the City of Tucson?

Because I'm really trying to understand when we talk about ratepayers proportionally how many of those -- you may not have that off the top of your head, but I am kind of curious of the number of customers TEP has, those that are in the City, and then the relative, like, of all your production, like, or your generation how much of that is going to the City of Tucson?

I'm trying to understand who the ratepayers are.

MR. BRYNER: So let me just clarify.

Okay. Total customers, total customers in the City of Tucson, and then usage within the City of Tucson?

MEMBER HILL: Yeah, relative to --

MR. BRYNER: Not relative to just our project area, just the whole City of Tucson?

MEMBER HILL: Yeah. Yeah. I'm just trying to -- when we -- when we talk about the burden to

ratepayers, I'm trying to understand are we talking about -- or when we talk about creating benefits for certain ratepayers or certain neighborhoods or certain customers and not others, I'm trying to understand proportionally what Tucson is. Because I don't know enough about your service area and your customer base. So that would just be helpful.

CHMN STAFFORD: Member Hill, when you're talking about usage, are you asking in terms of energy or capacity?

Like megawatts or megawatt hours.

MEMBER HILL: I'm a planner. I still don't like math.

CHMN STAFFORD: Well, it's, I mean --

MEMBER HILL: I actually am thinking about, you know, of all your demands --

MR. BRYNER: 40 percent, 60 percent.

MEMBER HILL: A percentage of your demand; right?

MR. BRYNER: Yeah.

MEMBER HILL: A percentage of your customers. I'm just trying to understand when we talk about ratepayers and we talk about customers and we talk about equity, you know, how much of it is the City of Tucson? So --

MR. BAKKEN: I think we might able to parse -- this is Erik Bakken -- parse that out in terms of potentially peak demand.

MEMBER HILL: Yeah.

MR. BAKKEN: I think that might be helpful.

CHMN STAFFORD: Right. Yeah, yeah. So it's the capacity as --

MR. BAKKEN: Yeah.

MEMBER HILL: Yeah.

CHMN STAFFORD: -- opposed to kilowatt hours sold.

MEMBER HILL: Yeah.

CHMN STAFFORD: Okay. So, I mean, I think that probably would give a better picture, because that's -- that's what creates -- it's the peak demand that creates the most strain for the system, so that's probably the most relevant to --

MEMBER HILL: Yeah.

CHMN STAFFORD: -- everything we have to consider here.

MEMBER HILL: Thank you, Mr. Chair.

CHMN STAFFORD: Thank you.

MR. BRYNER: So, Member Hill, just to follow up, we'll gather that information --

MEMBER HILL: Okay.

MR. BRYNER: -- and share it with you as soon as we can get it.

MEMBER HILL: Okay. Thank you.

MEMBER GOLD: Mr. Chairman.

CHMN STAFFORD: Yes, Member Gold.

MEMBER GOLD: Number one, Member Hill's question I think is very relevant. What percentage of your peak usage users overall and what percentage of the peak users are just Tucson as an incorporated separate city? I would like to know that answer also.

Second question, I'm looking on page 28 of your exhibit.

CHMN STAFFORD: Exhibit 8?

MEMBER GOLD: Exhibit 8, page 28. I've expanded it, and I've just got some questions here if we can put that up. Page 28.

MR. BRYNER: Can you give us a description of the slide?

MEMBER GOLD: Page 28 of 263 is what I have on my screen.

MS. GRABEL: Member Gold, what is depicted on the slide? We can probably find it that way.

MR. LUSK: I believe it's page 27. This is Roi Lusk with the City of Tucson.

MEMBER GOLD: Okay. That's the one. What

page is that?

CHMN STAFFORD: 27.

MEMBER GOLD: Oh, okay. I'm looking at this diagram. And I see you have a station at Irvington. You have a station at Tucson. And you have DMP in the north. Are those the correct stations that are already existing with the 138?

MR. BRYNER: Those are correct with the addition of the Kino Substation.

MEMBER GOLD: And if you add in -- is the Kino Substation 138 or is it 46?

MR. BRYNER: It's 138.

MEMBER GOLD: Okay. So you have one, two, three, four 138kV substations; is that correct?

MR. BRYNER: In -- on -- depicted on the screen. We do have many more than that.

MEMBER GOLD: Well, in this area?

MR. BRYNER: Correct.

MEMBER GOLD: So that's all that exists. And you do not have a loop connecting all of them?

MR. BRYNER: Can I clarify, Member Gold?

We do have another 138kV substation that's -- I don't know why we didn't show it on the screen, but it's located right here. It's our Santa Cruz Substation. And they're all looped with the exception of

the Kino Substation.

MEMBER GOLD: So the focus of this hearing is to include the Kino Substation into that loop?

MR. BRYNER: That is one of the objectives of this hearing.

MEMBER GOLD: Okay. But if you do that, then everything is looped and has a backup?

MR. BRYNER: Correct.

MEMBER GOLD: Assuming that negates the necessity of the 46kV substations, correct, or many of them?

MR. BRYNER: So, no, that would -- that would negate the necessity for a few of the 46kV substations in the vicinity of Kino Substation. It would not solve any of the problem with the 46kV substations serving the Midtown area that Vine Substation would solve.

MEMBER GOLD: Okay. So if we added in the Vine Substation and that would be part of that loop and you only have -- you have -- so I'm talking six 138kV substations?

MR. BRYNER: There's eight 138kV substations that would be affected by this project. I'm sorry. Eight 46kV substations.

MEMBER GOLD: So why aren't they on your

map is my first question?

MR. BRYNER: The 46kV substations are on the map. They're depicted with those --

MEMBER GOLD: No. I see that.

Why aren't the eight 138kV substations depicted?

MR. BRYNER: Did I -- that was me misspeaking. I apologize for that.

The 138kV substations with the exception of that Santa Cruz Substation are all depicted with the purple triangles, and the eight 46kV substations that would be retired as a result of this project are depicted with the blue triangles.

MEMBER GOLD: Okay. So the solid purple substations are 138kV, and the Vine is proposed?

MR. BRYNER: Correct.

MEMBER GOLD: How many is that in total of the 138kV stations?

MR. BRYNER: Of the total substations that TEP operates?

MEMBER GOLD: Yes.

MR. LINDSEY: So I think you're, Member Gold, referring to this diagram here. So with the addition of Vine, and if we were to represent Santa Cruz Substation, as Mr. Bryner mentioned, we'd be at a total

of six on this diagram.

MEMBER GOLD: Okay. I'm trying to find that. Could you just point them out to me?

MR. LINDSEY: You bet. So just note there's a big world outside of this map, and so that's where we're getting a little tripped up that we've got more.

But Irvington Station here.

MEMBER GOLD: Okay.

MR. LINDSEY: Existing Kino today here.

Then we have not depicted our Santa Cruz Station, but it is located right in this vicinity here.

Tucson Station is existing near the downtown area.

DeMoss Petrie, which is Grant and I-10, that -- that we'll see on the tour. That's the end point of what we're talking about.

And then Vine I left it for last. That's the proposed station that we've been talking about.

MEMBER GOLD: Okay. Now my question. If we connect Vine with Kino, then everything is now looped at the 138kV?

MR. LINDSEY: Member Gold, that's correct.

If we connect Kino to Vine and then Vine to DeMoss Petrie, we've completed the loop.

MEMBER GOLD: All right. Is any of that undergrounded in your current alternative plans?

Do you have anything going underground there?

MR. LINDSEY: Member Gold, we've not proposed to underground any of this project, no.

MEMBER GOLD: So all of this is aboveground 138kV, it will modernize the system; correct?

MR. LINDSEY: Yes.

MEMBER GOLD: What if the court says no?

MS. GRABEL: Member Gold, that's probably a legal question.

MEMBER GOLD: Well, then let me ask you, Ms. Grabel.

MS. GRABEL: Sure. So it's possible the court -- first of all, the Superior Court has said that the city ordinance currently requires undergrounding.

That -- it could be the subject of an appeal, which as I mentioned yesterday, it could play out for some time. It does not mention the University Area Plan, which also implicated undergrounding.

And so if this Committee selects a route that is required by city law or plans to be undergrounded, that is where we're going to ask this Committee to make a finding of fact that it's

unreasonably -- the ordinance or plan is unreasonably restrictive, and compliance with it is not feasible in light of the available technology.

I would note that the preferred alternative does not require to be undergrounded for most of the project, and we think we can get a special exception for parts of it. And we'll talk about that later on a later panel.

MEMBER GOLD: Well, the reason I'm asking the question, and I go back to a very old fight between Thomas Edison and what's that --

CHMN STAFFORD: Tesla?

MEMBER GOLD: No, not Tesla. The other company who Tesla joined. Motorola.

UNIDENTIFIED SPEAKER: Westinghouse?

MEMBER GOLD: Westinghouse. Thank you.

So the reason Westinghouse could not continue and let the system go to Thomas Edison is they said Edison is in cahoots with Chase Manhattan Bank, we don't have enough money to fight with them, and they will keep us in court forever.

We have a deadline of doing this project, if I understand it correctly, of 2027. If we don't meet that deadline, a lot of people are going to have brownouts and electrical problems, which is what the

situation looks like, and it will be a lot of fix-it work for Tucson Electric Power, which doesn't really modernize the system, just throws good money after bad.

My question is if they proceed with this -- so let's assume the Line Siting Committee says, Yep, we're going with your Route A, we give it to you and now they take it to court, in your estimation as a lawyer, will this get out of court before 2027?

MS. GRABEL: Mr. Chairman, Member Gold, I think that's a good question. We do think that we could potentially work with the City with our preferred route in order to get a special exception to the Gateway Corridor ordinance.

But these are conversations -- we just got the court order yesterday, and so I think there's a lot of internal conversations that need to happen before we figure out how we would move going forward.

MEMBER GOLD: But we knew this was going to court before this?

MS. GRABEL: Correct. Which is why we've asked the Committee to make the finding that we've asked you to make.

MEMBER GOLD: So a possible solution would be we approve the route, some of the areas you're going to have to underground anyway just to get it out of

court, and then the thing gets completed by 2027.

Is that a possibility?

MS. GRABEL: Well, we really don't believe that we'd have to underground any of the preferred route except for a very small sliver that we think that we can probably get a special exception for, but that's something we're going to talk about on the alternative routes panel.

MEMBER GOLD: And the special exception means you would underground it, or would you be allowed not to underground it?

MS. GRABEL: Correct. We'd apply to the City of Tucson's zoning administrator for an exception to the ordinance's requirement to underground so that we can continue to build it aboveground.

And those are only where the line would cross perpendicularly a street that's covered by the Gateway Corridor.

There's a map that points this out beautifully in the next panel, I promise you.

CHMN STAFFORD: Yeah. I was going to say I think a bunch of this is going to be addressed by the next panel --

MEMBER GOLD: Gotcha. I'll wait.

CHMN STAFFORD: -- in detail.

MEMBER GOLD: Thank you.

MS. GRABEL: Okay. Thank you.

CHMN STAFFORD: But while we're on the subject, Ms. Grabel, I had a quick question.

So the subject of the superior court lawsuit is only the Gateway Corridor? So it doesn't address whether or not the area or neighborhood plans also required undergrounding; is that correct?

MS. GRABEL: Yes, Mr. Chairman, that is correct.

CHMN STAFFORD: Okay. All right. So I guess, Mr. Lusk, you'll be entering that superior court decision as an exhibit soon? I look forward to reading it.

MR. LUSK: That's correct, Mr. Chair. Actually, it should be in your e-mail right now.

CHMN STAFFORD: Excellent. Thank you.

All right. Any other questions from members?

Member Hill, did you have a follow-up question?

MEMBER HILL: No. I'm good.

CHMN STAFFORD: No. Okay. Anyone else?

All right. Ms. Grabel, back to you.

MS. GRABEL: I think we're ready to turn

this panel over to cross-examination.

CHMN STAFFORD: All right. We've been going for about 90 minutes, so I think this is, like, a perfect time for a break.

Before we take a recess, I think we'll take probably about a 20-minute recess. And then let's plan to do lunch from 12:30 to 1:30. We have members who have prior commitments. They'll need to step away. I think if we take the lunch from 12:30 to 1:30 that will minimize the time that those members will have to miss. So let's plan on doing that.

With that, we stand in recess.

(Recess from 10:29 a.m. to 11:04 a.m.)

CHMN STAFFORD: Let's go back on the record.

I believe, Ms. Grabel, you had finished your direct for this panel and we're open to cross-examination.

MS. GRABEL: Yes, that's true. Thank you, Mr. Chairman.

CHMN STAFFORD: All right. Let's go to Banner Health, Ms. De Blasi.

MS. DE BLASI: Yes, Chairman, Banner does not have any cross for this panel.

CHMN STAFFORD: Okay. City of Tucson,

Mr. Lusk.

MR. LUSK: Thank you, Chairman. Just a few questions.

CROSS-EXAMINATION

BY MR. LUSK:

Q. So Mr. Bakken, I'm going to start with you. And I know you've had many conversations with the City of Tucson over the last few years about this particular route. Is that correct?

A. (Mr. Bakken) That is correct.

Q. And those conversations started at the prior -- after the prior line siting proceeding was suspended; is that right? Or was that -- is that the right time line?

A. (Mr. Bakken) Correct. Approximately a few days or maybe a week after the withdrawal of the previous application.

Q. And was that in '21 or '22? I -- I don't recall, to be honest.

A. (Mr. Bakken) I believe it was early '22.

Q. Early '22. Okay. And the substance of those conversations, I personally didn't participate, but if you could summarize for the Committee related to funding mechanisms, you said?

A. (Mr. Bakken) Yes. We discussed a number of

different funding mechanisms for the potential of undergrounding a portion of the line, in particular along Campbell.

Q. And that was -- at that time that was the preferred route; correct?

A. (Mr. Bakken) Yes.

Q. Okay. There -- but you did apply to -- as you did here in this proceeding -- you applied for several other routes; correct?

A. (Mr. Bakken) That is correct.

Q. Okay. And not all of them being within what we've discussed here as the Gateway Corridor Zone?

A. (Mr. Bakken) That's correct.

Q. Okay. You had a conversation earlier, I think it was yesterday, about those funding mechanisms. And you listed I think four or five. And please correct me if I'm wrong. And one being -- the first being customer rates. Also shareholder funding. Franchise fee. I'm going to say slash public utility tax because I think those were related.

Is that correct, in your conversations?

A. (Mr. Bakken) They were looked at as two separate potential --

Q. Okay.

A. (Mr. Bakken) -- funding mechanisms.

Q. Okay. And then undergrounding districts and the last being third-party contributions. Do I have that right?

A. (Mr. Bakken) That's correct.

Q. Okay. I want to take those sort of in turn. We'll start with the customer rates and you did discuss sort of your reasoning behind not pursuing seeking rate -- seeking return through customer rates for undergrounding.

And you referred to the policy statement that the ACC put out. I believe that was in Decision 7914, I think Ms. Grabel provided that in her opening. Is that what you referred to earlier?

A. (Mr. Bakken) Yes, that is correct. The policy guidelines issued by the Arizona Corporation Commission.

Q. Okay. And just to be clear the policy guidelines do not prohibit you from undergrounding a line; is that correct?

A. (Mr. Bakken) There are certain circumstances, if I remember correctly, where undergrounding would be potentially considered.

Q. I guess I -- just to be clear, they don't prohibit undergrounding, though; correct?

A. (Mr. Bakken) Do we have a copy of the -- which exhibit?

Q. I apologize. I think it was in the actual opening statement of Ms. Grabel.

CHMN STAFFORD: The Committee can take administrative official notice of Decision 79140.

MR. LUSK: Thank you, Mr. Chair.

CHMN STAFFORD: I have a copy in front of me, so I can --

MR. LUSK: Sure. If you want to proceed, Mr. Chair.

CHMN STAFFORD: Do you want me to read what the undergrounding policy from the Commission was?

MR. LUSK: Sure, Mr. Chair, please.

CHMN STAFFORD: It states, "The Commission does not have jurisdiction over the undergrounding of electrical transmission lines. ARS 40-360 subsection 10. Installing electrical transmission lines underground is much more expensive than building them aboveground. Underground transmission lines also can be more costly and challenging to maintain and repair.

"As a general matter, utilities under the Commission's jurisdiction should avoid incurring these higher costs unless underground installation of a transmission line is necessary for reliability or safety purposes, or to satisfy other prudent operational needs.

"Installing a transmission line underground

for other reasons, such as stakeholders' preferences, would add unnecessarily to costs recovered through rates.

"Third parties, including cities, customers and neighborhood groups, seeking to fund the underground construction of a transmission line may do so, among other ways, by forming an improvement district for underground utilities as provided in ARS Section 48-620, et sequitur."

MR. LUSK: Thank you, Mr. Chair.

BY MR. LUSK:

Q. And I assume that's your recollection as well, Mr. Bakken?

A. (Mr. Bakken) That's correct.

Q. Thank you.

A. (Mr. Bakken) So it does require -- or not require -- but to direct us to avoid undergrounding except for safety and reliability purposes.

Q. Right. So, again, not prohibitive, but if there's an additional cost related to undergrounding you're to avoid it; correct?

A. (Mr. Bakken) Correct.

Q. Okay. The discussion that you were having with this -- and just to -- for the Committee's benefit, I believe that discussion with the city manager and the city attorney as well as yourself and others from TEP; is

that correct?

A. (Mr. Bakken) Those that participated in the conversation?

Q. Yes. Yeah. Sorry.

A. (Mr. Bakken) Was primarily myself, our general counsel, as well as the city attorney and city manager.

Q. Okay. Thank you. And during those conversations the discussion, again, was on the preferred route at that time, which was Campbell, and how to fund undergrounding on that route; correct?

A. (Mr. Bakken) That was part of the conversation. As I testified or mentioned yesterday, the other piece of it was talking about discussing areas where undergrounding would be infeasible, and that resulted in the special exceptions process.

Q. Okay. And that special exception process you discussed earlier came into being in the middle of the year last year; correct?

A. (Mr. Bakken) That is correct.

Q. Okay. Prior to that special exception process had you attempted to at any time get an exception to that requirement for an overhead line in either Gateway Corridor or any other area in the city?

A. (Mr. Bakken) I don't believe, one, there wasn't a mechanism that I'm aware of for that type of exception.

And so I believe the answer is no, we haven't applied for -- an exception.

Q. Sure. And if you don't recall that's fine, too. I wanted to make sure I asked the question. We have other witnesses that can testify to it as well.

A. (Mr. Bakken) Right.

Q. Going back to the conversations you were having with the City, the other funding mechanisms that you discussed were franchise -- increase in the franchise fee; correct?

A. (Mr. Bakken) Yes.

Q. And how did the -- can you briefly for the Committee discuss how that would work in terms of being able to fund those undergrounding activities? Was it to underground the entire line or portions or some combination, or --

A. (Mr. Bakken) It was designed as an increase to the franchise fee. Those funds could be utilized, or a portion of those funds could be utilized for any portion of the line that was required to go underground, to fund those costs or reimburse us for those costs.

And then also had some flexibility for other undergrounding of infrastructure, and I believe flexibility that the Committee would have to identify additional projects, whether it's distribution or

transmission for undergrounding or other improvements.

Q. So there was some flexibility to the -- were you able to determine -- were you looking for a certain amount from that fee in order to make the project viable in terms of funding?

A. (Mr. Bakken) Certainly we wanted to ensure that whatever the incremental amounts were under the franchise increase would be able to reimburse or pay the costs of the undergrounding within a reasonable time. I believe that was ten years.

But the franchise is a 25-year agreement, so understood that there would be additional funding likely that could be used for other projects going forward.

Q. So if I understand correctly, the incremental costs would be spread out over a ten-year period being paid back at least in part by that increase in the franchise fee?

A. (Mr. Bakken) I believe that's correct in terms of the payback period.

Q. Do you have any sense of sort of what the amounts you were talking about at the time were? Obviously being different than they might be today.

A. (Mr. Bakken) It was that -- I believe 40 to 50 million, 50 to $60 million increase that we were seeing, the differential between the cost of the line overhead

versus the cost of the line underground.

Q. And again that would be over -- and that would be paid back, theoretically that would have been paid back over the ten-year period with the increase of the franchise fee?

A. (Mr. Bakken) That's correct.

Q. Okay. Thank you. I have to ask because, you know, I'm asking an attorney, I'm an attorney, it's math. I apologize.

But is that -- is that -- does that mean it would be four to six million dollars per year that would be paid back? Is that the way it works?

A. (Mr. Bakken) Yes. There's, you know, obviously a number of factors that go into that depreciation, so if I remember correctly, it was a decreasing amount over time.

Q. Okay.

A. (Mr. Bakken) But we'd look for the full recovery of the cost of undergrounding that line.

Q. Okay. And so then in the actual practicality of how that works, would TEP -- would TEP have advanced the funds for the project and then get paid back? Or how does this --

A. (Mr. Bakken) Right, so the franchise fee would have gone into effect so there would have been a period

of time as we're starting to move forward with construction where that fund would have been building. That would have been applied to the costs of undergrounding.

But as we move forward with construction, our costs would have exceeded what was in the fund, so it would have been paid back over time.

Q. So you would -- so just to clarify for my question, you would have advanced those funds initially to complete the work?

A. (Mr. Bakken) Initially there would have been surplus funds in the franchise fee bank, so to speak. But then as we started construction, our construction costs would have exceeded what the franchise fee is gathering. So at that point, we would have been advancing the funds.

Q. Advancing the funds with the idea that you would get paid back?

A. (Mr. Bakken) That's correct.

Q. I actually have a larger question that ties into that. Which is this is a multi-million-dollar project. Is it -- are there funds available from TEP to fund -- you mentioned yesterday something like $800 million that were -- that had been invested in the last five years. Is that a correct statement? By Fortis in the Tucson

area?

A. (Mr. Bakken) Last ten years.

Q. Ten years. Sorry.

That is a large amount of funds which actually might exceed what the return is to the investors. How does that funding occur? Is there financing involved or how does that work?

A. (Mr. Bakken) How does equity contribution from Fortis work?

Q. Well, where does the $800 million come from? Is it just Fortis providing cash for infrastructure improvements or do they finance those amounts or how does that work?

A. (Mr. Bakken) It's an equity contribution from Fortis for investments that we're making over time. Like I said, allocating those investments to generation, transmission, and distribution infrastructure.

Q. And what -- I think you said the amount that was invested last year but I don't -- I want to make sure I got it correct. I wrote down 550 million, but that doesn't seem right. Could you --

A. (Mr. Bakken) Yeah, so it was actually, I said approximately 550. Probably closer to 570 in terms of what TEP contributed or invested in capital expenditures which, again, includes generation, transmission

distribution.

Q. And that's last year?

A. (Mr. Bakken) That's correct.

Q. And that -- that would come from the revenue that we discussed yesterday; right?

A. (Mr. Bakken) Yes.

Q. And then so for a project of this size, does that just come out of revenue, or is there a portion of this -- just speaking as proposed -- the line that you're proposing today, that would come out of revenue or is there any portion of that that's financed as well?

A. (Mr. Bakken) It would be revenue that we'd reinvest in capital projects.

Q. And that's sort of how your budgeting works --

A. (Mr. Bakken) Correct.

Q. -- right? You plan on investing additional funds?

A. (Mr. Bakken) Yep.

Q. In the case of -- going back to the initial question I had, the customer rates piece of that. How does -- obviously if for whatever reason you were to build an underground line and fund it with customer rates, you wouldn't receive those funds until that rate was increased; is that -- am I right in that?

A. (Mr. Bakken) Till the inclusion of those

costs --

Q. Right.

A. (Mr. Bakken) -- were approved by the Corporation Commission in a what we call a rate case.

Q. Right. How do you -- if that were the case, if you were going to do that, how would that work in terms of actually doing the project? Would you have to finance and then seek reimbursement out of that increase?

A. (Mr. Bakken) Again, it's kind of the business model structure, right. We have the revenue. We reinvest and then we seek recovery of that investment with a return on that investment.

So up until that period of time where it's used and useful and included in rates, there is what we call regulatory lag, where we're not necessarily receiving a return on that investment.

Q. Right. And so you're, again, if I'm using the correct word, you're advancing funds --

A. (Mr. Bakken) Yes.

Q. -- with the idea that you're going to be paid back?

A. (Mr. Bakken) Right.

Q. And in terms of how that -- obviously you're not going to seek a hundred-million-dollar increase in rates in one rate -- or one year.

How do the rates get reset for a period of time? Is it over a period of ten years, 20 years? What's the expectation in that return for an advance?

A. (Mr. Bakken) Right. The expectation would be that we recover the costs of that investment over a period of time, over whatever the depreciable life of that asset is.

Q. Would we know what that would be offhand in this case, I guess?

A. (Mr. Bakken) Transmission infrastructure, I believe it's over a 30, 40 period of time -- it's 64 depreciable life is what's usually used for transmission, overhead transmission infrastructure.

Q. Well, I guess for this case, just for this, the hypothetical that we're talking about, if it were underground would it be similar or --

A. (Mr. Bakken) Don't know.

Q. Okay.

A. (Mr. Bakken) We don't have an estimate on that.

Q. Okay. Suffice it to say it's superior to the relatively long period of time?

A. (Mr. Bakken) Yes.

Q. Okay. So if I understand correctly, recovery in rates of a large investment such as undergrounding some portion of a transmission line would be handled over time

through rates spread across the -- would it be the entire rate base or is it just I guess the -- we had that question, yeah.

A. (Mr. Bakken) That's correct.

Q. So it would be the entire rate base of TEP over some period of time?

A. (Mr. Bakken) That's correct.

Q. Like 20 years. And then we talked about so the shareholder funding is the case where you advance the funds and that then just sort of comes off the top of revenue or how does that work?

A. (Mr. Bakken) It would come off the top of net income.

Q. Okay. And that's that 250 million last year that you talked about?

A. (Mr. Bakken) Correct.

Q. Okay. Now, would you -- would -- hypothetically would it be that you would invest that entire amount all at once or would you finance -- in terms of your business model, would it make sense for TEP to finance that amount over time?

A. (Mr. Bakken) Typically as we look at capital investments --

Q. Yes?

A. (Mr. Bakken) -- that -- that funding is done as

the capital investment is made. Which if the length of the project is over a period of time we're investing as that project requires capital to -- to move forward and to complete the project.

Q. So you wouldn't necessarily finance any portion of it?

A. (Mr. Bakken) I can't say absolutely we wouldn't, but typically we -- we don't.

Q. Well, I guess let's -- for the Committee's sake let's be very sort of specific.

In this case in the event that you decided in the hypothetical that you decided to underground a portion or some portion of this line in a specific area, given the amounts that you've discussed in your application that's a significant amount of investment; correct?

A. (Mr. Bakken) Correct.

Q. So would the sense be if it were totally financed by Fortis or TEP or the combination, would it -- would the sense be that you would finance some portion of that given the size of the investment?

A. (Mr. Bakken) I think we would have to look at it, and there is I think a possibility that we would finance a portion of the cost.

Q. Okay. Thank you. So we've discussed customer

rates, shareholder funding, franchise.

Undergrounding districts I think you discussed a little bit. But nobody has sort of -- that's sort of a -- somebody coming to you and saying we want to do that, not you reaching out to anybody?

A. (Mr. Bakken) That's correct, somebody would have to initiate that. We offered to assist in that process and nobody's taken advantage of that that I'm aware of.

Q. And in essence that's a fund on property owners who wish to participate in the district --

A. (Mr. Bakken) That's correct.

Q. -- tax?

A. (Mr. Bakken) Yep.

Q. And then you also mentioned that third party contributions weren't forthcoming for this particular line?

A. (Mr. Bakken) That's correct.

Q. Now, those -- all those funding sources, those were all predicated on the idea that you were either going to underground portions of or the entirety of the line and the preferred route in 2021, which was the Campbell route; correct? Those conversations that you had with --

A. (Mr. Bakken) Just so I understand the question.

Q. Sure.

A. (Mr. Bakken) The funding options were looked at for the undergrounding costs of a portion of the preferred route.

Q. And the preferred route we're discussing, again, is the preferred route from 2021 which was the Campbell route?

A. (Mr. Bakken) That's correct.

Q. Okay.

CHMN STAFFORD: Quick question. So is the preferred route in this application the same as the preferred route in the prior application or are they different?

MR. BAKKEN: They are different.

CHMN STAFFORD: Okay. Is the prior preferred route reflected as any of these proposed as A -- the preferred route here is B-4. Is the prior preferred route is it like C5 or what -- is it represented or is it something totally different?

MR. BRYNER: So, Mr. Chairman, this is Clark Bryner just jumping in. The preferred route before was kind of a combination of some of the existing routes, but different.

If you look at our Route 3 it's got elements of Route 3 in it. It's also got elements of

route -- of Route 1 in it. It's different. And I'd be happy to point out that when we'll get some maps up here on the next panel, I'd be happy to point out and show you what that preferred route looked like to see, just so you know.

CHMN STAFFORD: Okay. I just need a frame of reference here, because I realize there's a prior application. I didn't -- I didn't know how that route in the prior application compared to this one. So it's different. That's what I wanted to make clear.

MR. BRYNER: Correct.

CHMN STAFFORD: And the Campbell route I guess, Mr. Lusk, it went on down Campbell Street?

MR. LUSK: Sure. Actually if I may I think it's a good idea to have Mr. Bryner clear it up right now if I could.

CHMN STAFFORD: By all means.

BY MR. LUSK:

Q. Mr. Bryner, I'm going direct you to your slides, and, in fact, it's Slide 43, I believe. Is that familiar to you?

A. (Mr. Bryner) Yes.

Q. So if I'm recalling correctly, the routes that travel near and/or through the preferred route prior are Routes 1 and 2. Is that right?

A. (Mr. Bryner) Almost.
Q. Almost. Please clarify.
A. (Mr. Bryner) If I could trace the route, I -- I will.
Q. Sure.
A. (Mr. Bryner) Okay. So just a second here. So beginning at the Kino Substation, so at 36th Street and, well, and Kino Parkway, the preferred route traveled down Kino Parkway just prior to the crossing of Aviation Highway, which is turning sort of northwesterly, southeasterly direction right here.

It jumped off of Kino Parkway to get across the railroad tracks and the highway, and then came back over to Kino Parkway and then traveled down Campbell Avenue, up to Ring Road into the substation, and then more or less traveled our Route B of this application, which is our preferred route on this one.

So between DeMoss, Petrie and Vine, it was more or less the same route but from Vine to Kino it differed from anything we have in this application.

Q. Okay. Thank you, Mr. Bryner.

And just to clarify, Mr. Bryner, during the preparation of the application, you familiarized yourself, you and your team, with various land uses and plans and that sort of thing; is that correct?

A. (Mr. Bryner) Certainly. That was one of the -- a part of our due diligence.

Q. Sure. And your application makes reference to the Gateway Corridor Zone; is that right?

A. (Mr. Bryner) That's correct.

Q. And can you describe for the Committee what the Gateway -- the relevant area of the Gateway Corridor Zone is for these routes?

A. (Mr. Bryner) Sure. So the Gateway Corridor Zones within our project area include, so Kino Parkway, which then turns into Campbell Avenue and the Gateway continues on Campbell Avenue north.

Broadway Boulevard. And then we don't have it labeled here, but Oracle Road.

Q. Okay. So the -- so for this particular proceeding the Gateway Corridor impacts routes 1, 2, 6, and D? Is that correct?

A. (Mr. Bryner) Well, where we parallel with a Gateway Corridor would be those routes. We do have perpendicular crossings of Gateway Corridors for all of the routes.

Q. Thank you. In terms of where you parallel, thank you.

And I'm going to direct the conversation back to you, Mr. Bakken.

The conversations that you had with the city manager and the city attorney, those related to possibly undergrounding within that Gateway Corridor Zone; correct?

A. (Mr. Bakken) Within the Campbell Gateway Corridor Zone.

Q. Right. Right. Not the perpendicular crossings that we're not discussing right now. That was the substance of the conversation during that time?

A. (Mr. Bakken) Yes.

Q. No other discussions of undergrounding anywhere else in the system other than for that route or for that preferred route?

A. (Mr. Bakken) I mean we did talk about the potential, as I mentioned before, to use any excess funds generated by the franchise increase for undergrounding in other areas.

Q. Preferentially, not necessarily required?

A. (Mr. Bakken) I think it could have been either.

Q. Okay. The other routes that you were -- did you discuss the other routes during those conversations?

A. (Mr. Bakken) Yes, we did.

Q. And what was the nature of those discussions?

A. (Mr. Bakken) That there were concerns from neighborhoods related to those other routes.

Q. Okay. The -- other than the perpendicular crossings, no other implications for the Gateway Corridor Zone other than the routes we just discussed?

A. (Mr. Bakken) I believe that's correct. But I'd have to overlay a map to verify that.

Q. Yeah, it's hard for me to look at it, too.

So let me just make sure I'm under -- get the questions that I'm looking at.

This is just a real quick one. You mentioned wildfire mitigation yesterday?

A. (Mr. Bakken) Yes.

Q. What does that entail for TEP? Does it impact this project, actually?

A. (Mr. Bakken) It does not, but it is something that we're focused on at this point in looking to ensure that we're doing all the wildfire mitigation we can within our system, which includes our distribution system.

So likely we would do some analysis to ensure that any wildfire mitigation that we need to do isn't required in this area or isn't necessary, really, in this area.

Q. Are there just really -- is it -- are there techniques involved or --

A. (Mr. Bakken) Really just looking at an

additional expense; right, as we talk about that allocation of resources or of capital. Wildfire certainly has some demands that we're going to need to consider as we look at allocating capital to various operations.

Q. But not necessarily for this project itself?

A. (Mr. Bakken) That's correct.

Q. Okay. Thank you.

You mentioned yesterday about investing $3.5 billion over the next five years?

A. (Mr. Bakken) That's correct.

Q. And what is that? Is that just completely -- are those all reliability improvements? Or are they upgrades, combination of both?

A. (Mr. Bakken) All of the above.

Q. Okay. And that's all financed through revenue, or do we know -- what --

A. (Mr. Bakken) A combination of revenue, potentially equity injection and financing, or debt.

Q. Okay. And this might be a personal question, but the financial situation of TEP is relatively strong in terms of financing, debt, that sort of thing, the credit rating?

A. (Mr. Bakken) Yes, our credit rating is strong. I don't have that off the top of my head, but it's a

strong credit rating at this point.

Q. Suffice it say you can go out and borrow funds if you need to?

A. (Mr. Bakken) Yes, that is correct.

Q. Can I have just a moment, Mr. Chair?

You also mentioned yesterday about being competitive in seeking new customers. I assume that's within the city of Tucson. How does TEP accomplish that? Are there various programs or --

A. (Mr. Bakken) Well, I mentioned that in the context of affordability as we look to or as customers come to us looking to potentially locate in the Tucson region or even within the city of Tucson, certainly energy cost is something that they consider.

Q. I see. So they're looking -- so for an example, a data center may inquire as to what the rates are on TEP here in Tucson, comparing to another city. Is that an example?

A. (Mr. Bakken) Manufacturing, data center, other commercial customers.

Q. Okay. And going back to those conversations, those conversations started after, and we're all aware there was some litigation between the City of Tucson and TEP related to that Gateway Corridor. Is that right? Those negotiations started after that?

A. (Mr. Bakken) The conversations with the city manager and city attorney?

Q. Yes.

A. (Mr. Bakken) Started prior to the challenge to the Gateway Corridor or to the litigation.

Q. So when did those conversations -- I believe you said they started in 2022?

A. (Mr. Bakken) Yeah, I believe it would have been early 2022.

Q. And, again, if you don't know these answers we can get them from somebody else, but I believe the litigation started prior to that, taking it to the board of adjustment, those sorts of thing? But we can --

A. (Mr. Bakken) Yeah, I apologize.

Q. Sure.

A. (Mr. Bakken) I don't recall it that way. I'm fairly certain I may have the timing off on when we initiated conversations with the City.

Q. Sure.

A. (Mr. Bakken) But I believe we initiated those conversations, and then subsequent to that looked for clarification on the application of the Gateway Corridor.

Q. Okay. Suffice it to say you did -- there were several proceedings in which both TEP and the City were involved. They were sort of -- I don't want to say, I

guess the word suspended during those conversations voluntarily by both sides?

A. (Mr. Bakken) Sorry. I don't understand.

Q. The -- both the litigation and the prior Line Siting Committee were voluntarily suspended for a period of time while we had those negotiations; that a fair assessment?

A. (Mr. Bakken) I don't believe the litigation was suspended. There were a number of steps that we needed to take prior to the court taking up the clarification question.

And during some of the conversations we were having with the City, there was a time when we asked for a step in that process to be continued as we continued the conversations.

Q. And if I remember correctly that was the board of adjustment proceeding that was continued?

A. (Mr. Bakken) I believe that's correct.

Q. And you asked for that to be continued for a period of time?

A. (Mr. Bakken) Yes.

Q. Would it be accurate to say approximately a year or two?

A. (Mr. Bakken) I remember it more like six to eight months, but --

Q. And we can verify.
A. (Mr. Bakken) Yeah.
Q. I appreciate it. But it was for some period of time, that proceeding was continued to allow for these negotiations?
A. (Mr. Bakken) That's correct. So allow for us to continue conversations, see whether or not there was a solution.
Q. And, in fact, they did continue. You met, you said weekly?
A. (Mr. Bakken) Yes.
Q. You mentioned a number earlier today, I believe of $2.5 million. And I think we have a clarification for that number. But something not too much far from -- too far from that?
A. (Mr. Bakken) That is correct.
Q. For undergrounding all the projects in your Ten-Year Plan?
A. (Mr. Bakken) That is correct.
Q. You're not asking for permission to do that today; correct?
A. (Mr. Bakken) No.
Q. You're asking for an overhead line in a specific configuration?
A. (Mr. Bakken) That is correct.

Q. And there is some discussion as we've all been a party to that the preferred -- at least some portion of the routes that you're asking the Committee to approve would be in a Gateway Corridor Zone which under our current state of the law would be required to be underground?

A. (Mr. Bakken) Or would require us to seek a special exception.

Q. Correct. And, again, that special exception process is available to you?

A. (Mr. Bakken) Yes.

Q. And did you participate in the crafting of that special exception process or --

A. (Mr. Bakken) I participated in moving that through the city council process. But it was primarily city attorney and our general counsel that crafted the language for the special exception process.

Q. And nothing about that language that's within the special exception process you dis -- TEP would disagree with, it's appropriate you agreed to push it forward as you did?

A. (Mr. Bakken) Yes. We agreed to support the language and the process.

Q. And it was codified as you were --

A. (Mr. Bakken) That is correct.

Q. The special exception process allows you to -- and please correct me if I'm mischaracterizing it -- the special exception process allows you to seek relief from undergrounding within a Gateway Corridor Zone for specific reasons and specific factors. Is that a fair assessment of it?

A. (Mr. Bakken) Yes.

Q. Does it does not necessarily only apply to perpendicular crossings?

A. (Mr. Bakken) No, that is one of the circumstances for which you can seek a special exception.

Q. And there are other circumstances where you could seek special exception for a longer portion. Am I correct?

A. (Mr. Bakken) Yes. Correct.

Q. Okay. There is, as far as you're aware, there are no requirements under either state or federal law as it relates to these routes that prohibit you from undergrounding them; correct?

A. (Mr. Bakken) That's correct.

Q. I think I'm going to finish with you, Mr. Bakken. Thank you. I appreciate it.

A. (Mr. Bakken) Okay.

Q. Mr. Bryner, I want to go back to the slides here, to slide I believe it's 22. Slide 22.

There you go. So these are the needs -- need and benefits of the various routes; correct?

A. (Mr. Bryner) Correct.

Q. The meeting, the need and the benefits that you have listed here, those apply to every route in the -- of the alternatives, including the preferred route; correct?

A. (Mr. Bryner) Correct. All of our routes, if we have one selected between DeMoss, Petrie and Vine, and one between Vine and Kino would result in meeting the project need and benefits.

Q. So as it just relates to the need and benefit every route would meet -- would -- would be fine as far as TEP is concerned?

A. (Mr. Bryner) That's correct.

MR. LUSK: I don't think I have anything further for this panel. Thank you, Chair.

CHMN STAFFORD: Thank you. Underground Arizona, Mr. Dempsey, you've been waiting very patiently.

MR. DEMPSEY: Yeah. Can you hear me? Okay.

CHMN STAFFORD: Just make sure you're close to the mic so we can all hear you.

MR. DEMPSEY: Sorry, I'm not nearly as good as Roy is at this, and I don't have as much experience, so bear with me.

CROSS-EXAMINATION

BY MR. DEMPSEY:

Q. I guess I could, it doesn't matter which one of you answers this, I guess I can start with Erik.

Is the City of Tucson asking you to underground all the projects in your Ten-Year Plan?

A. (Mr. Bakken) They are not.

Q. Okay. According to the City, it has had the power to require undergrounding for at least 40 years and it has not abused this power. Why do you assume it will start doing so now?

A. (Mr. Bakken) One, I'm not sure that I would agree that the City has the ability or the power to underground, and that we're still kind of talking about that, that dispute, or challenging that.

And nor would I assume that they would require us to underground going forward.

Simply making the point that if there was a determination that we needed to underground all of our lines going forward that there would be a significant cost to that -- that outcome.

Q. Okay. And I'm sorry, I'm going to jump around here. I have notes from the whole thing. I tried to organize them as best as I can, but it's -- there's a lot of topics here.

So are you familiar with the ACC ever denying recovery for the extra cost of undergrounding, whether it was a transmission or distribution line?

A. (Mr. Bakken) No, I am not aware of any time where they disallowed the recovery of transmission, overhead transmission or distribution costs.

Q. Underground. I'm asking about underground.

A. (Mr. Bakken) Or underground.

Q. Okay. What about where required by law? I mean, it's got to be the same answer, I guess I can skip that.

A. (Mr. Bakken) Well, I am aware of a situation or an instance where the ACC did disallow capital infrastructure for a emission control in an APS rate case related to what's -- to retrofit environmental equipment that was added to one of their plants and that was disallowed.

CHMN STAFFORD: Just to interject, that was overturned by the court of appeals.

MR. BAKKEN: That is correct. But I think the question was whether or not there had ever been anything that's disallowed required by law, and that's the only situation where I'm aware of something like that.

CHMN STAFFORD: It was attempted to be

disallowed, and it ended up being I think they'd recover the cost through an additional surcharge to make up for that. The court of appeals found that was not justified to deny that cost.

MR. BAKKEN: Yep, that's correct.

BY MR. DEMPSEY:

Q. So in TEP's view, is following the law not a just and reasonable expense?

A. (Mr. Bakken) That is a determination for the ACC. And as we bring our investments to the Commission to make that determination, we do everything we can to try to ensure that they are prudent, reasonable investments, and that they will be allowed -- we will be allowed to recover on those investments.

Q. Okay. I'm changing topics here again.

So are you familiar with the risks to your business as disclosed in your SEC filings?

A. (Mr. Bakken) Yes, I am.

Q. So are you aware that your usage by customer has declined by 1 percent each of the last five years?

A. (Mr. Bakken) I'd have to verify that. But we are seeing increased usage, in fact, growth at about 1 to potentially even 2 percent going forward.

Q. And that's from population growth or from per customer usage?

A. (Mr. Bakken) Demand growth.
Q. Okay. So are there financial risks for your business with having a bad relationship with the community?
A. (Mr. Bakken) Based on the work that we do in the community involvement that we have with the community, the philanthropic efforts that we participate in with the community, we strive to ensure that we have as best as possible a good relationship with the community and our customers.
Q. Okay. So are there financial risks to -- for your business to having a bad relationship with the community?
A. (Mr. Bakken) Certainly there are reputational risks. I don't know if I could quantify financially if there was a risk to having a bad relationship. I don't feel like we have one. I feel like we have a good relationship with the community. So it would be tough for me to quantify that.
Q. I'm not claiming that you have a bad. I just didn't --
A. (Mr. Bakken) Okay.
Q. Hypothetical.
So I'm going to switch to this testimony yesterday where you guys were talking about this

138-kilovolt line to Kino's radial line.

So you have this radial 138-kilovolt line to Kino on these new steel poles that are much more protected from storms compared to your existing 46 kilovolt infrastructure.

Has that 138-kilovolt line ever gone down?

A. (Mr. Bakken) I'll defer to Mr. Bryner or Lindsey on the operational aspects.

A. (Mr. Bryner) So just to clarify, we're talking about the Irvington to Kino 138kV line?

Q. Correct.

A. (Mr. Bryner) It has not gone down to my knowledge.

Q. So the outage you're referring to yesterday had nothing to do with the new 138-kilovolt line, it was because of the old system?

A. (Mr. Bryner) I'm going to let Mr. Lindsey clarify.

A. (Mr. Lindsey) So a couple things here. We would have to look in to see if we've had any outages on that line. So by go down, in my mind means deenergized.

Q. Sorry. Yes.

A. (Mr. Lindsey) So we could confirm if there's been any outages on that radial line.

And then yesterday's presentation walking

through was a hypothetical of an outage on the Kino to Irvington line.

Q. I apologize. I thought you were talking about an actual situation. Okay.

So is your 138-kilovolt system on steel poles more reliable than the old 46-kilovolt radial system?

A. (Mr. Bryner) Can you -- can you restate? Sorry. One last time.

Q. Is your 138-kilovolt system on steel poles more reliable than the old 46-kilovolt radial system?

A. (Mr. Bryner) I would definitely agree, yes.

Q. So can a 138-volt volt looped system ever have an outage?

A. (Mr. Lindsey) Yes.

Q. So this is a little bit different.

But so you guys are using -- TEP uses 138 kilovolt to connect substations to together; is that right? Or it's where you're moving towards?

A. (Mr. Lindsey) It's one of the systems, yes, that -- from a transmission perspective.

Q. So if you used a 69-kilovolt system like APS or SRP in Phoenix would a CEC be required?

A. (Mr. Lindsey) No, it would not be.

Q. So, again, changing gears here, have you secured the permit to build Vine?

A. (Mr. Bryner) No. Well, I guess when you say permit, it's not a permit we're seeking to build it. It's because of the zoning where the Vine substation is located we have to get a special exception. So it would be similar in nature to the special exceptions for the Gateway Corridor.

Q. But the answer is no?

A. (Mr. Bryner) So we do not have that today, correct.

Q. Why do you not have that?

A. (Mr. Bryner) So we did make application for that. I don't believe we had that on our time line. I want to say that we made application in the '21 time line area. That was heard by the City and the decision was made that it was premature to make a decision on that because a transmission line route had not yet been approved.

Q. Was that the only reason given?

A. (Mr. Bryner) There's a number of reasons listed in that decision. I don't recall them off the top of my head.

Q. Okay. So I'm assuming you guys are familiar with the distribution system?

A. (Mr. Bryner) Yes.

Q. Okay. So do underground distribution lines cost

more to maintain than aboveground distribution lines?

A. (Mr. Bryner) So they're different. So overhead and underground, they both have different requirements. From a maintenance perspective both are fairly maintenance free until something goes wrong.

MS. GRABEL: And Mr. Chairman, I'm actually going to ask Mr. Dempsey to defer that question. We have experts on undergrounding and overhead transmission on panel number 4.

CHMN STAFFORD: Yes, I think it more appropriate to re-ask that question to the fourth panel because they'll have the expert who's -- on the costs of everything.

MS. GRABEL: Costs and operation.

CHMN STAFFORD: Yes.

BY MR. DEMPSEY:

Q. How much of your current distribution system is underground?

A. (Mr. Bryner) It's around -- it's more than 50 percent.

Q. So I'll probably ask this again, then I would like to ask this now, too.

Are you aware of a time where the construction cost of underground distribution or transmission lines was ever less than aboveground lines?

A. (Mr. Bryner) Let me make sure I understand. You're asking if underground costs were ever less than overhead costs? I'm not aware of that.

Q. Thank you. So something your presentation failed to mention is the historic preservation and neighborhood preservation zones.

Are 85 to 115 feet, or whatever the range is, 138-kilovolt high voltage transmission lines compatible with the zoning?

A. (Mr. Bryner) So I actually haven't shared that in my testimony yet. We'll share that on the next panel. So I'll provide some information on that then.

Q. So I'm going to pivot real quickly to Prop 412. Did Prop 412 contain a tax increase?

A. (Mr. Bakken) No. Again, it was an increase in the franchise fee.

Q. But it required ratepayers to pay more?

A. (Mr. Bakken) It required --

Q. It was an increase in the franchise fee?

A. (Mr. Bakken) Yes, that's correct, for the residents of the city of Tucson.

Q. Right?

A. (Mr. Bakken) Yep.

Q. So was TEP asking for a substantial rate increase at the same time as it was advocating for

Prop 412?

A. (Mr. Bakken) We were -- we had made application for a rate increase, yes.

Q. Thank you. So you talked a little bit about SRP yesterday, Erik. Does SRP's spending have to be prudent?

A. (Mr. Bakken) Like any utility, they're held to a reasonable prudency standard.

Q. Okay. So is it possible that SRP in the 1960s or '80s whenever it started this program that you spoke about determined that the cost of extended litigation was higher than the cost of creating this fund?

MS. GRABEL: Mr. Chairman, I'm going to object to this question. SRP is, A, not regulated by the ACC, and Mr. Bakken is not familiar with what SRP did or why.

CHMN STAFFORD: Yes, Mr. Dempsey, that would just be total speculation on his part. She is correct. SRP is not regulated by the Corporation Commission.

MR. DEMPSEY: They are by Line Siting Committee; right?

CHMN STAFFORD: Well, they -- if they want to build a transmission line or a power plant, they have to get a certificate.

MR. DEMPSEY: Right.

CHMN STAFFORD: But their rates, their rates are totally not set by the Commission, they're set by their board.

So the calculus of how the rates are recovered for SRP is completely different than it is --

MR. DEMPSEY: Right.

CHMN STAFFORD: -- for TEP and APS who are both public service corporations regulated by the Corporation Commission.

MR. DEMPSEY: Right.

CHMN STAFFORD: Whereas SRP is not.

MR. DEMPSEY: So I understand that. He was, he brought up SRP and these funding mechanisms yesterday. That's why I'm asking about them.

CHMN STAFFORD: Right. I think, and Mr. Bakken, correct me if I'm wrong, but I think he brought that up in the context of an example of how a utility but not a public service corporation was able to fund that. Because they're not answerable to the Commission for the rates they charge to fund those types of things.

MR. DEMPSEY: Right. Yeah. I under -- yeah. So the question, though. Sorry, I lost my spot here.

CHMN STAFFORD: If you could ask the question a different way as opposed to not asking what

SRP does. You could ask about what TEP does.

MR. DEMPSEY: Well, so where I'm going with this is SRP's spending presumably, as Erik just said, has to be prudent.

CHMN STAFFORD: Well, again, I'm going to stop you there. Because prudent -- prudency is a standard that's used by the Commission in setting, determining whether an asset that the company has is prudent, that the expense was prudently incurred and the assets used and useful. And that's what it goes into the rate base.

SRP doesn't do its calculation the same way. It's not regulated by the Commission.

MR. DEMPSEY: Right.

CHMN STAFFORD: So they're -- they're not judged by the Commission whether an investment was prudent or not.

MR. DEMPSEY: Yeah.

CHMN STAFFORD: They don't even have shareholders, either. So they don't have -- they have a publicly elected board and executive officers, and -- but they do not -- their regulation is very different from what TEP and APS face.

MR. DEMPSEY: Right. And I understand that. My question isn't about whether the ACC regulates

SRP. It's about, as Erik answered, there's generally you have to be prudent if you're a utility.

So I was just building off of his answer. He could have refused to answer that question, I guess.

CHMN STAFFORD: Well, I just --I guess it's the word prudent, because it has a meaning in context of utility of public service corporations being regulated.

And SRP is not a public service corporation. I mean, they're not going to go, you know, build a power line to nowhere or build a plant that's not connected to the grid.

MR. DEMPSEY: Right.

CHMN STAFFORD: Because that's a waste of money, but they don't -- again, prudence, that's the standard of review for the Commission. So I think the implication, it's apples and oranges between how SRP and TEP operate.

MR. DEMPSEY: Okay.

CHMN STAFFORD: Ms. Grabel, did you -- one second, Ms. Grabel, did you --

MR. DEMPSEY: I won't belabor.

CHMN STAFFORD: -- have any legal point to make on that?

MS. GRABEL: No, I concur with what you're saying, Chairman Stafford, and I intended to redirect

Mr. Bakken on that after cross.

CHMN STAFFORD: All right. So I think, Mr. Dempsey, I think what's throwing everybody off is the use of the prudent.

MR. DEMPSEY: Okay. I'll move on.

CHMN STAFFORD: If we can all agree that SRP wants to invest wisely and it invests in ways to minimize cost to its customers. It's not -- it's not going to go out and spend a bunch of money for something that doesn't benefit its system and customers.

MR. DEMPSEY: That's all I wanted to establish. So you did a great job, thank you.

CHMN STAFFORD: I think we can all agree with that statement; right, Mr. Bakken?

MR. BAKKEN: Yes, that's correct. I agree with that.

CHMN STAFFORD: Just the word prudent has connotations that don't apply to SRP.

MEMBER LITTLE: Mr. Chairman.

CHMN STAFFORD: Yes, Member Little.

MEMBER LITTLE: I would like to state for the record that with my -- in my experience in working with utilities that have boards and are not regulated, they also use the word prudent.

CHMN STAFFORD: Thank you, Member Little.

Mr. Dempsey, please proceed.

BY MR. DEMPSEY:

Q. So I'll shift away from SRP.

Again, I'm going to jump around here a little bit and I apologize for that.

So who is the largest land owner in the study area?

A. (Mr. Bryner) I would say this is speculation because I don't know for sure, but I would presume the Arizona Board of Regents.

Q. Okay. Do they pay property taxes?

A. (Mr. Bryner) I don't know the answer to that.

Q. Okay. So did the U of A state -- you may not be familiar with the letter that they've submitted recently -- but did the U of A state that it was opposed to a special property tax district?

CHMN STAFFORD: Mr. Dempsey, is that an exhibit somewhere that's forthcoming?

MR. DEMPSEY: Yeah, they added it I believe yesterday.

MS. GRABEL: So Mr. Dempsey, if you want to cross-examine my witness on a certain document perhaps you could put it in the record --

MR. DEMPSEY: Oh, sorry.

MS. GRABEL: -- and ask him.

CHMN STAFFORD: Yeah, if you could ask A/V team to pull up the exhibit by number and then --

MR. DEMPSEY: We can move on. It's not -- I don't know. It would take me too long to figure out which one.

CHMN STAFFORD: Well, perhaps Ms. Grabel knows. Was it one of your exhibits or is it somebody else's?

MS. GRABEL: It was one out of our exhibits. It's a late-filed exhibit. I believe it's number 21.

CHMN STAFFORD: So it's TEP-21.

Do you have it in front of you, Mr. Bakken, or Mr. Bryner?

MS. GRABEL: We can provide a copy to you.

CHMN STAFFORD: Yeah, I don't know if you'll be able to read it very well off the screen there.

MR. BRYNER: Grace, can you go to that second page?

MR. BAKKEN: Okay. We've reviewed the letter.

BY MR. DEMPSEY:

Q. Do you want me to ask the question again?

A. (Mr. Bryner) Yes, please.

Q. Did the U of A state that it was opposed to a

special property tax district?

A. (Mr. Bryner) So, in this letter, they state, "As a large land owner that may likely be included in any undergrounding district formed to fund the differential in cost, the university cannot support funding the underground option at this time."

Q. Thank you. So switching gears again. I promise I'm almost done.

So do the aesthetics of a community affect its attractiveness to new businesses and residents in your opinion?

A. (Mr. Bryner) Whose opinion do you want?

Q. Let's go to Erik.

A. (Mr. Bakken) It is a factor in attracting new business and customers. Hard to understand exactly what weight various customers would put on that, that particular aspect.

Q. Fair enough. This is slightly different.

Is the University of Arizona important to just the residents of the City of Tucson?

A. (Mr. Bakken) I think if you asked the students from outside the state, they'd probably say it's important to them as well. So I think the answer is it's important to a number of different folks including those within Tucson.

Q. Would you say that it's important to the residents of, say, South Tucson?

A. (Mr. Bakken) Yes. I think it's an important regional kind of asset.

Q. Thank you. So, again, I'm completely changing gears, so I'm on my last little set of questions.

So Clark, we've talked about this before. Do these lines ever make noise?

A. (Mr. Bryner) So if you look at our application, TEP Exhibit 1 under Exhibit I, we have some information on that. And so, yes, transmission lines have what's called a corona discharge that they can make. It can sound like a humming, different things like that that happen under different conditions.

Q. And another question about sort of the physical properties of these lines. Do they swing?

A. (Mr. Bryner) So, again, the wires are suspended in the air by transmission structures, and they have a sag to them and that's free hanging, so in the wind conditions they can we call it blow out, they can theoretically sway from side to side.

Q. Do you know how many swing you guys allow for?

A. (Mr. Bryner) So we plan for as much as that line sags, so let's just say it sags 10 feet, then we plan for it to swing out 10 feet.

Q. Okay. Thank you. And these lines are uninsulated, bare metal; correct?

A. (Mr. Bryner) We're talking about the conductors on the line?

Q. Yeah, the wires.

A. (Mr. Bryner) That's correct.

Q. Okay. Thank you. If one of these high-voltage lines came down in a neighborhood could it cause a fire?

A. (Mr. Bryner) So I would say that our transmission system is built with a lot of safety factors. One of those is a very sophisticated relaying system, so as soon as it detects a fault, within a fraction of a second it's deenergized.

Q. So they could not cause a fire?

A. (Mr. Bryner) I don't know --

A. (Mr. Bakken) I mean, as we've looked at it I would say it's highly unlikely that a transmission line could cause any type of fire.

Based on what Clark was talking about, just the way the system is operated and configured, but certainly we are looking every day to find ways to even lessen that very low probability.

MR. DEMPSEY: That's all I have. Thank you.

CHMN STAFFORD: Thank you. Ms. Grabel, I

think you have some redirect you mentioned?

MS. GRABEL: I do have some redirect Mr. Chairman, but I would actually like the opportunity to kind of talk to my witnesses before I do, so can we break for lunch now?

CHMN STAFFORD: All right. With that, we can but we won't be back until 1:30.

MS. GRABEL: That's fine.

CHMN STAFFORD: Oh, and then before we break, Ms. Grabel --

MS. GRABEL: Yes.

CHMN STAFFORD: I understand you were going to offer Staff's letter as TEP-25.

MS. GRABEL: Yes. TEP-25, we have just filed it in the docket, and Mr. Ancharski can pass out copies if we need to.

In addition, while we -- since we have 15 minutes, Mr. Bakken I believe that over the break you found information to respond to the chairman's question about the delta between the 2.5 billion dollars of undergrounding, what is the actual undergrounding margin.

MR. BAKKEN: That is correct, Ms. Grabel. And Mr. Chairman, of the 2.5 billion that would be the cost of undergrounding, approximately 250 to 300 million of that would be the transmission cost. So the

incremental would be approximately 2.2 to 2.5 billion to underground approximately 127 miles of transmission line.

CHMN STAFFORD: Okay. So that was -- so the cost of -- I mean, restate this to make sure I understand it correctly.

So of the 2.5 billion to underground everything in your Ten-Year Plan, which is only high voltage, all but what, how many million --

MR. BAKKEN: So it would cost 250 million to 300 million to build that overhead, the incremental cost to underground would be 2.2 to 2.25 billion.

CHMN STAFFORD: So vast majority of that expense, then.

MR. BAKKEN: That's correct.

CHMN STAFFORD: Okay. So it's billions, it's billions more, with a B, to underground.

MR. BAKKEN: B as in boy. That's correct.

CHMN STAFFORD: So you said 600 million to build it above and then --

MR. BAKKEN: 250 to 300 million.

CHMN STAFFORD: 250 to 300 to build it aboveground and then 2.5 billion to underground everything in the Ten-Year Plan.

MR. BAKKEN: Yep.

CHMN STAFFORD: That's quite the striking

difference.

MEMBER GOLD: Mr. Chairman --

CHMN STAFFORD: Yes, Member Gold.

MEMBER GOLD: Was that 600 million or 300 million to go aboveground?

MR. BAKKEN: 300 million is the top end of the range.

MEMBER GOLD: And what was the cost per mile to underground?

MR. BAKKEN: Approximately 10 million.

MR. BRYNER: So it varies and, again, you're going to hear about this on our undergrounding panel. But yes, it varies by what's happening on the route, anywhere from 10 million up to I think we've got 20-plus million.

MEMBER GOLD: But average, 10 million, 15 million, just pick an average number.

MR. BRYNER: We'll go within that 15 million range.

MEMBER GOLD: Okay.

MR. BAKKEN: And the cost to build overhead, just so you have this information, is 2 million per mile.

MEMBER RICHINS: Mr. Chairman.

CHMN STAFFORD: Member Richins.

MEMBER RICHINS: In this specific application, are these numbers -- or this is -- is this a generalized number? Just I want to make sure that that's understood.

MR. BAKKEN: Generalized number looking forward at the cost potentially to underground 127 miles of transmission, that's currently within our Ten-Year Plan.

MS. GRABEL: And Member Richins, you'll hear the information specific to this project on panel number 4.

MR. BAKKEN: Correct.

MS. GRABEL: And Member Hill, just to respond to your request, we are looking at that information, it's not easy to retrieve, but we are getting the data regarding Tucson.

CHMN STAFFORD: And the data regarding the --

MS. GRABEL: Peak load, oh, yes.

CHMN STAFFORD: -- SF6 as well.

MS. GRABEL: Yes.

CHMN STAFFORD: Excellent. All right. Anything further from members?

MEMBER GOLD: Yes, Mr. Chairman.

CHMN STAFFORD: Yes, Member Gold.

MEMBER GOLD: 2027 is your projected completion date for this project. What if it's not? Let's assume you hit 2027 and you're either tied up in court or the project is delayed to the point where 2027 comes. We have a heat wave. How many people can die? Without electricity?

MR. BRYNER: I think Mr. Lindsey is kind of going to talk to what our plan would be.

MR. LINDSEY: Grace, if he could go to Slide 25.

Member Gold, so what we talked about briefly yesterday was we've spent or planned to spend just over 10 million to get us to '27.

So that's the spend that we know is either behind or in front of us no matter what. So if this project was to slide out past '27, we plan to invest another $10 million into the system. And to be specific about that, just to give some context, we'd be looking at installing new substation equipment at Olson station, Olson sub, it's an old 46 substation that we want to retire.

So instead of retiring that station with this project, we'd have to spend more money there to keep us going in the interim.

MEMBER GOLD: But all these things require

time and a plan to do them. Let's assume that you hit 2027, you're still trying to get this project done, but it isn't done. And you haven't thrown the money into the other substations in anticipation of this project being completed.

Let's assume we go where we are right now, just routine maintenance. What happens in 2027 if we have 115 degrees for an extended period of time? Are you going to have brownouts? Are you going to lose power in these areas? What's going to happen, worst-case scenario?

MR. LINDSEY: So Member Gold, worst-case scenario is we wouldn't spend the 10 million at all at Olson and we would anticipate substation equipment failure at that -- at Olson.

And what that would mean for us is we would then have to -- we do have mitigation plans; right, for other areas in our system. So we have a fleet of mobile and skid-mounted transformers that we use for emergencies. We don't have a big fleet but we do have equipment that we can mobilize.

It takes I'll say generally 24 hours to move one of those, install it safely and energize it.

So assume your worst-case scenario, folks around Olson station are out for 24 hours. We would do

everything we can to minimize that inconvenience. I mean, we have programs in place to deliver ice, you know, we try to help our customers as much as possible. But that's a major issue for us in this case.

So customers -- anticipate customers to be out without that spend by '27 and without this project.

Now, back to the skid and mobile concept. Our plan for that 10 million is to put skids in at Olson so this is not permanent equipment. So we can -- those are -- those are like quick projects.

But it's far from ideal. And what we don't want to have is a system full of skids. Because then at some point in time we'll have a warehouse full of skids, and a bunch of sunk costs that was unnecessary if we got in front of that with a project like this.

MEMBER GOLD: You're talking technical fixes. That's not what I'm asking.

MR. LINDSEY: Okay.

MEMBER GOLD: What I'm saying is in a worst-case scenario. We had a situation in Texas where their system froze and they had no electricity and people were living in subfreezing weather and we had tragedies.

We have just the opposite situation. If a catastrophe were to occur by this date, your proposed completion date, and it was not completed, it did not

work, you didn't have redundancy, you didn't have connections, what would be a worst-case scenario? Would people die? Would houses get so hot that people would cook in them?

MR. LINDSEY: Member Gold, I think that's been the condition in Arizona in the past. I don't know, I can't speak specifically to any of that for TEP. But I know residents in Arizona have passed due to the heat. And so that's why we're so concerned about getting this project done.

MEMBER GOLD: I understand your urgency. What I'm asking is what happens if it doesn't get done? What's the worst-case scenario? You have two weeks of 115 degrees and you have either brownouts or insufficient electricity.

MR. LINDSEY: So Member Gold, worst-case scenario is all of our mobiles and fleets are used somewhere else, Olson station fails, customers are out.

MEMBER GOLD: For how long?

MR. LINDSEY: A long period of time. This is really hard to quantify especially on the record, but if what you're looking for is an extreme scenario, that would be the extreme scenario.

We don't have equipment to make repairs. We would then be likely putting pieces together from

other stations or scavenging parts and pieces that could take days to do. We want to speculate out to a week for an outage like this, I'm looking -- it seems worst-case.

MEMBER GOLD: So worst case could be a week, it could be two weeks, the bottom line is we need this power by 2027. Is there any doubt in anyone's mind about that?

MR. LINDSEY: Member Gold, no, absolutely.

MR. BAKKEN: No doubt in my mind -- this is Erik Bakken -- that we need this line for reliability and to your point safety reasons.

MEMBER GOLD: Thank you. That was my question. Thank you.

CHMN STAFFORD: Ms. Grabel, you wanted to wait till after the lunch break to do your redirect?

MS. GRABEL: I would. Thank you.

CHMN STAFFORD: All right. Well, with that let's -- we would go take our lunch break. We stand in recess until 1:30.

(Recess from 12:23 p.m. to 1:37 p.m.)

CHMN STAFFORD: All right. Let's go back on the record. Ms. Grabel, I believe you're about to do your redirect.

MS. GRABEL: Yes. Thank you, Mr. Chairman. Just a few brief questions.

REDIRECT EXAMINATION

BY MS. GRABEL:

Q. Mr. Bakken, when the City's attorney Mr. Lusk was giving his examination he asked again about the various funding mechanisms and again asked about shareholder contributions.

And just to emphasis Fortis and TEP are two different companies; correct?

A. (Mr. Bakken) That is correct.

Q. They have different credit ratings?

A. (Mr. Bakken) Different credit ratings, different board of directors, yes.

Q. And Fortis infusing equity into TEP, their affiliated entities, is an investment; is that correct?

A. (Mr. Bakken) Yes. That's correct.

Any infusion of equity is done so on an investment basis. They have a number of different opportunities, a number of different utilities where they're able to invest their money. So to the extent that they invest in TEP and our activities, they are looking for a return on that investment.

Q. And so an affiliate's investment into a utility is what's known as an equity infusion at the Arizona Corporation Commission; is that correct?

A. (Mr. Bakken) That is correct.

Q. And the amount of equity that can be unfused into a utility is bounded by a capital structure that's approved by the Arizona Corporation Commission; correct?

A. (Mr. Bakken) That is correct.

Q. And so Fortis could not infuse more equity than is bounded by that capital structure without ACC approval; is that correct?

A. (Mr. Bakken) Yes. The ACC regulates those types of cash infusions.

Q. Thank you. Mr. Lusk also asked you about TEP's ability to borrow as a means of funding this project and other utility investments.

Is TEP's borrowing also authorized by the Arizona Corporation Commission?

A. (Mr. Bakken) That's correct, yes.

Q. And isn't it true that the ACC often imposes conditions on TEP's borrowing abilities?

A. (Mr. Bakken) Yes.

Q. Okay. And, of course, we've already established that the assets that TEP is allowed to recover through rates is also approved by the ACC; correct?

A. (Mr. Bakken) That is correct.

Q. Okay. And Mr. Dempsey asked you whether the aesthetics of the community were important to businesses from an economic development perspective.

Do you recall that question?

A. (Mr. Bakken) I do.

Q. Do you believe that the MRP Project improves the aesthetics of the community?

A. (Mr. Bakken) Yes.

As we look at the number of lines that we'll be undergrounding versus those that will be built overhead, certainly an improvement in aesthetics.

I think it's also important to note that as in particular commercial and industrial customers look to relocate or build their operations in the Tucson area, certainly electric rates as well as reliability are very important factors in that decision.

Q. Thank you.

And cheaper electric rates and reliability would result from this project compared to an alternative that Mr. Lindsey discussed; correct?

A. (Mr. Bakken) That is correct.

MS. GRABEL: Thank you. I have no further questions.

CHMN STAFFORD: All right. Thank you.

MS. GRABEL: Oh, actually, I'm sorry. I have one follow-up on the SF6, if you would like that.

CHMN STAFFORD: Please do.

BY MS. GRABEL:

Q. All right. Mr. Bakken, were you able to ascertain any data related to the system-wide release of SF6?

A. (Mr. Bakken) Yes, we were.

The total release for 2023 was approximately 32 pounds.

MS. GRABEL: Thank you.

That's all we have, Mr. Chairman.

CHMN STAFFORD: Oh, yes. And what about the breakdown of the City of Tucson customers as opposed to TEP customers outside the City?

MR. BAKKEN: We're still gathering that data.

CHMN STAFFORD: Okay.

MR. BAKKEN: We'll have that for you as soon as we can, most likely tomorrow.

CHMN STAFFORD: Perfect.

All right. With that you would you like to call your next panel.

MS. GRABEL: Absolutely.

And so I think we excuse Mr. Bakken and Mr. Lindsey from the panel. And we will bring up Mr. Robinson.

And we are now going to walk through the various alternative routes beginning with our preferred

route and we will need to swear Mr. Robinson in.

CHMN STAFFORD: All right. And we'll be starting at what slide in the presentation?

MS. GRABEL: Slide 42.

MR. BRYNER: Grace, could you reset us. I think we're out of sync at 42.

CHMN STAFFORD: Mr. Robinson, would you prefer an oath or affirmation?

MR. ROBINSON: I would prefer an oath, sir.

CHMN STAFFORD: Do you swear the testimony you will give in this matter will be the truth, the whole truth, and nothing but the truth so help you God?

MR. ROBINSON: I do.

CHMN STAFFORD: Thank you.

Please proceed, Ms. Grabel.

CLARK BRYNER AND LARRY ROBINSON,

called as witnesses as a panel on behalf of Applicant, having been affirmed or sworn and/or previously affirmed or sworn by the Chairman to speak the truth and nothing but the truth, were examined and testified as follows:

DIRECT EXAMINATION

BY MS. GRABEL:

Q. Mr. Robinson, please state your name and

business address for the record.

A. (Mr. Robinson) My name is Larry Robinson. I work at 88 East Broadway Avenue Boulevard.

Q. By whom are you employed and in what capacity?

A. (Mr. Robinson) I'm employed by Tucson Electric Power, and I am the Director of Engineering at that organization.

Q. What is your role in this matter?

A. (Mr. Robinson) The engineering route evaluations and estimates for overhead and partial estimates for underground were developed by people who report to me.

Q. If you would please turn to Exhibit TEP-6, which is the testimony summary of Larry Robinson.

A. (Mr. Robinson) Yes.

Q. Was TEP-6 prepared by you or under your direction and control?

A. (Mr. Robinson) Yes. It was.

Q. Are the contents of TEP-6 true and correct to the best of your knowledge?

A. (Mr. Robinson) Yes. They are.

Q. Do you have any changes you would like to make to Exhibit TEP-6?

A. (Mr. Robinson) Yes. I have one change. My title and responsibilities have changed slightly. I am

the Director of Engineering right now. Previous to -- previous to that assignment I was the Director of Land Resources Engineering and Project Management.

Q. Thank you. And if you quickly turn back to Slide 5, which is up on the right side -- the right screen.

Will you please give an overview of your education and professional experience.

A. (Mr. Robinson) Sure. I have -- I'm a graduate civil engineer from the University of Utah with a bachelor's degree in civil engineering.

I currently have the roles and responsibilities of the engineering departments, our nine cost centers that report to me in the engineering department.

And I have 40 years of experience. My first 20 years of experience in the utility industry were based around construction where I started in the industry as a groundman, worked my way up through lineman, project superintendent and then project estimator, ultimately leaving the contracting side of the business as a business unit director.

20 years ago I went to work for Tucson Electric Power as the supervisor in their transmission maintenance department and have continued to grow in my responsibilities through managing departments and was

promoted to a director nine years ago and have had various responsibilities as a director at Tucson Electric Power for the last nine years.

My current responsibilities are the director over engineer departments.

Q. All right. Thank you very much, Mr. Robinson.

So returning to Slide 42, in order to give the Committee a more comprehensive overview of each route and in the interest of being efficient, we're going to present each route independently and walk through the various considerations associated with it, including the 40-360.06 factors.

So sometimes we reserve an examination of those factors for a separate panel with an environmental witness, but in this case because it's such a heavily urbanized area we're going to identify each route and all of the factors with that route so that you can hopefully more easily compare one to another as we walk through.

And rather than look at the virtual tour all at once at the end, we'll show the discreet route that we've just examined after the demonstration of that route.

So, Mr. Bryner, please begin with the presentation of the alternative routes.

A. (Mr. Bryner) Thank you.

And before I jump into that, just to add one

thing to what Mr. Bakken shared about the SF6, we wanted to get this number before, but we didn't quite get it in time.

Just to put it in context, so he shared that we had about 32 pounds of releases last year. And we have 77,169 pounds in our system.

CHMN STAFFORD: What's that come out to as a fraction?

MEMBER HILL: 32 over 77,169.

CHMN STAFFORD: Yeah, yeah, yeah. But, like, percentage-wise, I guess.

MR. BRYNER: Just a second.

CHMN STAFFORD: Whatever the actual number is I think it's, to be clear, it's a de minimus amount.

MS. GRABEL: Only an engineer can do math on the fly.

MR. ROBINSON: Yeah. It's .004 percent.

CHMN STAFFORD: Okay.

MR. BRYNER: I'll add one zero also to that, 000 -- oh, sorry, he gave it in a percent.

MR. ROBINSON: Yeah, it's a percent.

MR. BRYNER: He's the engineer, not me.

MR. ROBINSON: Yeah. It's .04 percent.

CHMN STAFFORD: That is clearly a de minimus amount compared to total volume.

MR. ROBINSON: That's correct.

CHMN STAFFORD: It puts it in perspective then. Thank you.

MR. BRYNER: Okay. Sorry to go off topic there for a second.

So, yes, as we've talked already, we had ten routes -- ten alternative route segments that we put forward. Four of those -- sorry, let me -- so four of those were between -- or are between our DeMoss Petrie Substation and our Vine Substation, and six are between the Vine Substation and the Kino Substation.

So each of those routes has a route name. The numeric routes are between -- sorry, the alpha -- I'm not -- the routes that begin with a letter are between DeMoss Petrie and Vine, and the routes that begin with a number are between Vine and Kino.

So we're going to start by looking at our preferred route, which is -- and we'll start on the DeMoss Petrie to Vine section of that route, and so that's our Route B.

Before I do that, the map you're seeing on Slide 46 on the left-hand side, we'll use a map that shares the same layout for the description of all these. So I want to kind of orient you to what you're seeing on the map since you're going to be seeing this quite

frequently.

So you're used to seeing our lovely triangle symbols that we use for our substations. So those continue on these maps. The route colors that you're seeing, so in this case for Route B it uses an orange line, that's the same route -- the same symbol that we use on your placemats and anything else.

You'll see dotted lines like this in black dotted lines, those represent areas on the route where we would take existing overhead lower voltage distribution lines and move those underground if this route were selected.

Also on the map you'll see these pink lines. Those designate neighborhood boundaries. So there are a lot of neighborhoods within our study area. And you can see in the pink writing those are the names of those neighborhoods. So you might correlate those with some of the folks who provided public comment last night and where they're at in relationship to these lines.

And then as far as land uses go, you'll see the kind of tannish color on the map. That denotes areas that are primarily residential.

And the gray areas on the map are areas that -- well, basically anything other than residential,

so your commercial, industrial, institutional land uses. Again, are those primarily --

CHMN STAFFORD: So the darker areas are residential?

MR. BRYNER: Correct.

CHMN STAFFORD: Okay.

MR. BRYNER: The last thing I just want to orient you to on here are -- is up in the legend there. We have sensitive noise receptors. So we list adult care and nursing homes, child care facilities, hospitals, houses of worship, and schools. And those are scattered around in the map.

We don't have these up there because of safety concerns with the line, but that's something we look at with respect to noise.

And I know Mr. Dempsey asked a question about corona. So while that is a noise that's generated from the lines, it's a fairly minimal noise. So our real concern is more the temporary impact that -- that comes with the construction of the line. And that's all outlined in Exhibit I to our application TEP-1.

Okay. So I think I've oriented you to the map to the extent I'd like to. So I'm going to start describing this map.

I want to first go over just sort of some

route statistics on the right screen, so Slide 44.

So this route alternative Route B, so, again, this is just the first half of this route. It would cost around 9 and a half million dollars. It's -- and that cost is inclusive of right-of-way, any environmental work that might be needed, engineering procurement, construction, so that's everything.

It would go through about a mile of residential area. All of which is considered low income. And it would go through some historic districts about .3 miles. And one of the things that we looked at was trying to maximize the use of existing overhead utility corridors. So this route really takes advantage of that.

74 percent of the route would go where we have existing overhead utilities today. And as a result of that, we would move 2.3 circuit miles underground if this route were selected, and 9.5 miles of overhead communication wires would be moved either underground or relocated.

The reason why I can't commit to underground is because those aren't our lines. Once we take away the poles they're going to have to go somewhere. We know they won't go on our poles, but they'll either go in the trench with our other utilities or somewhere else.

CHMN STAFFORD: Because there's a federal prohibition on attaching the communication lines to the highway voltage lines?

MR. BRYNER: So --

CHMN STAFFORD: I seem to recall that being mentioned before, but I can't recall what the prohibition was from.

MR. BRYNER: So I wouldn't call it a prohibition. I would say that for -- when you have lower voltage lines, then they are allowed to be on those poles by -- I don't know if it's by right maybe. Maybe you know that.

MR. ROBINSON: Yeah. According to the Communications Acts, joint use attachments are only allowed for poles that have distribution voltages on them.

So if you're higher than distribution voltages, they're allowed only if the utility chooses to do so. Joint use attachments are things like communication, fiberoptic, and other overhead attachments, even cellular sites, things like that.

CHMN STAFFORD: Oh, so they are -- they can be allowed. It just takes both the utilities have to agree, the telecom company and the utility company -- the electrical company I guess I should say?

MR. ROBINSON: That's correct. It has to be based on a mutual agreement, meaning we have permission to tell them no.

CHMN STAFFORD: But otherwise if it's distribution voltage, then you don't have that discretion, you have to allow it?

MR. ROBINSON: That's correct.

CHMN STAFFORD: And what do they define distribution voltage as?

MR. ROBINSON: Below 25kV.

CHMN STAFFORD: Okay. Thank you.

MEMBER GOLD: Mr. Chairman.

CHMN STAFFORD: Yes, Member Gold.

MEMBER GOLD: You are mentioning historic districts, residential districts.

Where on the map are the historic districts?

MR. BRYNER: The historic districts are not on this map, but they are on a map I'll show you in just a minute.

The other question that you might have is you're putting 2.3 circuit miles of distribution underground but 9.5 miles of communication. Why is that number so much larger? And that's because, as you'll definitely see on our route tour and I'm sure you've seen

just driving around, if you look at the wires that are in the lowest position on these poles, those are the communication lines, and sometimes there'll be one, two, five, any number of these lines on those poles.

Sorry. I've got a lot of controls here, and I'm trying to figure out which one I'm on.

Oh, the last thing, sorry, before I leave Slide 44. So we did receive a lot of comments. One of the things that we did once we'd identified all of the route alternatives is we asked for specific comments from the public and our stakeholders on those alternative routes. And so we received comments specific to these routes, and both in favor of the routes and in opposition to them.

So for Route B we actually just received one comment specific to this route that was opposed to it, and that was because it ran through neighborhoods.

And then we also received three comments that were in support of this -- specifically in support of this route. A couple of those were because -- or it maximized the use of existing corridors as I already discussed, and then also it was a less costly alternative route.

So with that I now want to direct your attention to the map on Slide 46. I'm going to walk you

through and kind of describe what's going on along this route.

So we're going to begin at DeMoss Petrie. So we talked a little bit about DeMoss Petrie and that site yesterday, but it's located -- in fact, this whole area as you can see on the color on the map is all an industrial area. And the DeMoss Petrie campus is fairly large, has a couple of substations on it today and some existing generation.

One thing I didn't mention yesterday that you'll see on our tour is we are rebuilding our 138kV substation there right now as a GIS substation. So that will be our second GIS substation that will be in service on our system.

CHMN STAFFORD: Which one's that?

MR. BRYNER: DeMoss Petrie.

CHMN STAFFORD: Okay.

MR. BRYNER: And so you'll see that tomorrow or Thursday.

MEMBER MERCER: Mr. Chairman?

CHMN STAFFORD: Yes, Member Mercer.

MEMBER MERCER: I just have a question.

The jurisdictional boundary for Pascua Yaqui, is that where that casino's going to be?

MR. BRYNER: Yeah, Member Mercer. I'm

highlighting that right now.

So just south of Grant Road and just to the east of I-10, so that's land that is in trust with the Pascua Yaqui, and that is exactly where they're currently developing a casino.

MEMBER MERCER: Now I know where I am.

MR. BRYNER: So moving along on Grant Road. Grant Road is a major area material road. It was recently the subject of a public improvement project to widen that, and you'll see in a slide that we'll show in just a minute a visual simulation of the new reconstructed infrastructure that we have along there.

A lot of the distribution lines -- well, almost the entire length of this we would plan to put distribution lines underground. The land uses along this area are primarily commercial until you get a little bit further east, but that's outside of where we'd be crossing for Route B.

So our first visual simulation. This is located on Grant Road at the intersection with Stone Avenue looking -- and let me just orient you to what these little symbols mean on the map.

So you'll see symbol 30. So that means key observation point 30. So if you wanted to look in your application under Exhibit G-3 -- I believe it's G-3 of

the TEP-1, you'll see these photo simulations as well.

And this is the one that I corrected the record on because in your application we still had all -- oops -- we still showed all of the existing infrastructure on the -- since we're looking west, this is the south side of the road or the left side of the picture, all that existing structure was still there.

So that's utilities that we built, we rebuilt recently as part of this Grant Road public improvement project. Those are 46kV lines with distribution under build and then the communication wires down below. And those poles were built to a 138kV standard.

Throughout -- this public improvement process or project took a couple of years to build. And for a while, there were the old poles, the new poles. Anybody in Tucson thought Grant Road was the ugliest thing in the world because of our poles.

And so, you know, adding another pole line to this road was just going to further add to that blight. So we wanted to make sure as a company we're committed to having a single pole line down this stretch of Grant Road when this project is done.

That 46kV line that you see, that will be able to be retired as part of this project that serves

some of the 46kV substations that will be retired, and the distribution lines we'll place underground.

There may be an opportunity to reuse those existing poles for this 138kV line. And I'll actually let Mr. Robinson, if he wants to elaborate on that a little bit.

MR. ROBINSON: Sure. I'd love to.

There's been several discussions about the use of the new carbon core conductor and that technology to reduce the impact of the height of the structures. As we look at this, we'll definitely evaluate the possibility and the potential of reusing all these structures along 46 -- along Grant Road, excuse me.

But there are several different factors that need to be considered when you're talking about carbon core factor or carbon core conductor. One, the primary difference is the center of the conductor. A normal conductor has a steel core, and carbon conductor has a fiber core in it.

That fiber core is much, much stronger than steel. And so the core is a little bit smaller, which allows a little bit more aluminum current carrying conductor to be in the same profile. And it also allows you to string it at a much higher tension because of the rated breaking strength. That rated breaking strength

and that higher tension allows you to string it tighter.

One of the other properties is that the thermal expansion of that conductor is lower than the thermal expansion of steel. So when it's operating at its maximum temperature, it doesn't sag as much, right?

The tradeoffs for that, that higher tension and that tighter sag, means that you have a higher load on the structure at the dead ends and things like that, which can often result in a larger diameter structure, a heavier steel pole and a larger foundation.

So as we go through the detailed considerations of engineering, once this line is routed, we'll definitely consider where we can utilize these new conductor technologies and result in a benefit to the community, but it's not simply a solution for every setting.

MR. BRYNER: Thank you.

And as you can see, we haven't reflected us reusing those existing poles in our simulation. We've showed putting the poles on the opposite side of the road. The corridor we're requesting as part of the CEC would allow us the flexibility to go on either side of the road.

MEMBER KRYDER: Mr. Chairman.

CHMN STAFFORD: Yes, Member Kryder.

MEMBER KRYDER: One question about the poles. I see three different types here in the illustrations.

Is there any significant cost differential between them, or is it chosen by some other criteria?

MR. BRYNER: So you're probably talking about I think on the next couple of slides I've got two other finishes. And I'll just scroll through real fast to show folks those.

So you've got also the galvanized finish.

MEMBER KRYDER: Right.

MR. BRYNER: And the painted steel pole finish.

So to answer your question, Member Kryder, the weathering steel poles are the least expensive of these. The galvanized have a little bit of a premium on them. The painted poles, while they may not cost -- I'm not sure on the total cost initially, but the life cycle cost of those painted poles is much more because they're much more maintenance intensive.

MEMBER KRYDER: Thank you very much.

I personally like the COR-TEN, but that's a personal preference, the weathered steel I think you call it.

MR. BRYNER: That's what makes it so

challenging is there's a lot of personal preferences.

MEMBER LITTLE: Mr. Chairman.

CHMN STAFFORD: Yes, Member Little.

MEMBER LITTLE: Looking at the pictures here, it looks like the pole, regardless of what color you use, is going to be on the inside of the sidewalk; is that true?

I mean, I know that when you're in town you're dealing with a whole lot more existing structures that you have to work around. So I'm assuming that if a pole needs to go where the sidewalk is, you'll relocate the sidewalk?

MR. BRYNER: That's correct.

So this is just a preliminary design. But, yeah, we would plan to relocate sidewalks, if need be.

MEMBER LITTLE: Thank you.

BY MS. GRABEL:

Q. And, Mr. Bryner, before you leave the slide, I know you've done so already, but if you could sort of underscore the amount of existing infrastructure that will be relocated or abandoned because of this project, because, as you see, comparing the left side to the right, this project really does clean up the view from Grant.

A. (Mr. Bryner) Yeah. So there is -- even today

even though we've removed all the sort of transitional poles on Grant, there's a lot going on there on the south side.

So, again, I kind of pointed out you've got the 46kV lines right here with an overhead shield wire, so you've got four wires up there. You've got primary distribution. This is three-phase with a neutral wire.

And then you've got some secondary running down here, another wire. And I'm not sure that I can see the number of communication wires, maybe three. So all of those wires will go away.

You've also got all those poles that will go away, which you can't quite count as many as that are in my view from right here, but those are spaced on a distribution span. So I talked earlier about how our typical transmission span will be 600 feet. These are more 2 to 300-foot spread apart. So for every three poles you'll have a couple poles on the transmission. So far fewer poles will be a result, far fewer wires, really cleaning things up.

All right. So now we've just entered into the Jefferson Park neighborhood, so kind of orienting you back to the map. Sorry. I jumped the gun on the -- on moving to the visual simulation.

But the Jefferson Park neighborhood is bordered

on the north by Grant Road. And so we've just entered that neighborhood. And there were quite a few folks from the Jefferson Park neighborhood who came out last night and spoke. This has been one of the more vocal neighborhoods on this project.

And this visual stimulation, now turning your attention to Slide 50, is on Park Avenue. Park Avenue is a collector road, so it's a little more -- a little less traveled road than the arterial road that Grant Road is. Not a residential street, still a main road. The primary uses along this are residential, but there are some scattered commercial uses along in here.

Another thing I want to point you to is we do have, again, existing 46kV, existing distribution infrastructure in this area that's located on -- we're looking north right here. So this is located on the east side of the street. And all of those wires, the 46kV wires, the distribution wires, the communication wires, and the poles supporting them, will all be retired to 46 or placed underground for the lower voltage distribution.

And, again, here we're illustrating our new 138kV line on the west side of the road. It could go on either side depending on how we're able to stage things. But in the end, we'll have one line going down the road here.

A. (Mr. Robinson) All right. Can I add --

A. (Mr. Bryner) Yes.

A. (Mr. Robinson) Can I add a comment here?

With respect to the rendering of the new 138 line, this is a common observation from our point here. You can see the 138 line the conductor is all positioned to where it's on the street side. We did that intentionally to try to reduce the amount of blowout impact that these roads -- that these wires would have on the customers and on private properties.

So with it offset to the street side our required easements and overhang easements on the customer side will be a bare minimum except for where we have a route where there's common double-circuit lines that would be required. And I'll talk a little bit about each segment where there's potentially overlapping routes.

A. (Mr. Bryner) And I'm not going to show all these visual simulations and all the finishes. I'll just show them in our preferred weathering steel finish, but if you want to see in Exhibit G-3 of our application, we have each key observation point in all three materials. So if you're wanting to get an idea of the different perspectives and what pole finish might look better.

So this is another visual simulation also on Park Avenue looking south this time. So you'll see that

same 46kV line, distribution line running along the east side of the road. There's an apartment building on the right side or west side of the road, again, going through a primarily residential area here.

And, again, on this -- all of this infrastructure, all of these wires, the 46kV circuit, the distribution, the communications, those would all be removed or placed underground. Also, even this wire coming into this light pole here, we didn't quite get that removed in our visual simulation there, but it's attaching to nothing in this case. That would have to be relocated underground as well.

Actually, before we get to this one, I just want to talk about one other thing. So I'm going to refer to you back to the map on Slide 46 on the left.

So in this area right here, our route leaves the Jefferson Park neighborhood and enters the North University neighborhood. Again, there were quite a few folks that came out from the North University neighborhood last night to the public comment.

One thing that I think was also mentioned last night is our route proposes to use Adams Street. Now, Adams Street is a residential road. You'll see that on the next visual simulation. The reason that came up even -- because we don't typically look at a residential

road as a great opportunity to put a line. But we have our 46kV. And I know you can't see the pinpoint on this, but there's an alleyway just north of Adams Street. And that's where your 46kV line runs today into our U of A medical substation.

Once we got fairly far down the process of looking at different routes and we got into looking at some more detailed engineering, we looked at that area and found that the alleyway had been encroached upon by buildings over the years, and there was just no way that we could go and safely rebuild that 46kV line to a 138kV line in there.

And so we looked at the roads on either side of that alleyway. In this case it was Lee Street on the north, Adams Street on the south. Adams Street was a little bit wider, had further building setbacks, and also has a parking lot for a fairly good stretch of it, and so that's why we moved it to Adams Street.

I'll talk on one of the panels that we have about some of the things that we did to make sure that we notified folks of that sort of late-stage change in our game plan.

So this is looking down Adams Street now. So this is from Park Avenue looking east down Adams. So as I pointed out, you do have residential uses, some

single-family residential uses, also some multiplexes and some apartment buildings on this. Basically Adams Street I would characterize it as the northern edge of the university kind of campus area or influence -- area of influence.

And then you've got a parking lot that you can see on the south side of the road, and we're depicting our 138kV line on the south side again with flexibility to go on either side.

MEMBER GOLD: Mr. Chairman.

CHMN STAFFORD: Yes, Member Gold.

MEMBER GOLD: Just a question.

Electromagnetic fields. In residential areas a lot of people are concerned about the electromagnetic field from these wires.

If you look at the 46kV side and you go to the 130-some-odd-kV side, it's a lot higher. What is -- is the electric field, the electromagnetic field, less for those tall poles since it's much higher in the air than the other ones that are closer to the ground, closer to the buildings?

MR. BRYNER: So electric and magnetic fields, they decrease with distance. And so, yeah, so because they're located higher up they have more distance to decrease that field.

We do have in our application some numbers on that if you look under -- in Exhibit I. I don't have those off the top of my head, but I could -- I could pull it up if you'd like me to.

MEMBER GOLD: No. I was just curious that since it's higher voltage it would have a stronger field, but it's higher up, so it may have less of an effect. So I'm just asking you in general would there be an equivalent electromagnetic effect, or would it be less with the new equipment you're installing?

MR. ROBINSON: I don't know the answer to that question.

MR. BRYNER: So I don't know. But your rationale is -- is definitely correct. So I'd have to see what the ground level -- what it was at that distance.

But we did do some measurements for this project, so maybe I can look it up on the break and let you know.

MEMBER GOLD: I'm just curious if we're increasing the effect or decreasing the effect. Obviously it looks better.

It may be -- you know, for those people who are concerned about the health effects, it may, you know, be better than what's there now, just questioning.

MR. BRYNER: So moving on to another visual simulation on Adams Street. So this is on Adams Street at Vine Avenue, so we're really close to the Vine Substation right here.

So, again, looking back west, here this is primarily your single-family residential. And there are no existing overhead utilities along Adams. I didn't point that out. So this would be -- would be new infrastructure. We're proposing to locate it on the south side.

And I think, Mr. Robinson, you wanted to mention some things here.

MR. ROBINSON: Yeah. I just wanted to point out that according to the simulation you can see, again, a single-circuit configuration coming down Adams Street.

And as you look at our route proposals, there are three -- I think three other routes proposals that use Adams to Vine as a common corridor entrance into Vine Substation.

So we didn't want to predetermine and we didn't know what your recommended routes would be, so we didn't show this line as a double-circuit line. But this line depending on the routes that you approve in your CEC could be a double-circuit section of line.

So in that case, you would have back-to-back insulators on those poles with another circuit to the south closer to the housing.

MEMBER LITTLE: Mr. Chairman.

CHMN STAFFORD: Yes, Member Little.

MEMBER LITTLE: Well, we'll probably see this on Thursday, but how far down Adams in that section that is running east and west are -- I see the parking lot there, but how far down are the apartment complexes? And, I guess, the question would better be asked where do the single-family homes start?

Is that mostly single-family homes or half?

MR. BRYNER: It's a great question. I would say it's probably about half. You do have -- there's a fairly large apartment building. If you see the large pine tree right here. So there's a fairly large apartment building in front of that. But then you have a lot of multiplexes that are kind of scattered throughout here.

MEMBER LITTLE: Thank you.

MR. BRYNER: Yeah. Sorry. I wish I had a really clear answer for you.

MEMBER LITTLE: We'll see it.

MR. BRYNER: So at this point the route then turns onto Vine Avenue. And so this is looking at

the visual simulation on 54. I'll just point out this wall right here, this red wall lined with the kind of concrete outline, that is the wall around our existing U of A medical substation that you've heard about.

These are the 46kV lines dropping into that substation. They come in from both the south and the north in this case running through the North University neighborhood as well as running through the Jefferson Park neighborhood.

The other substation that's actually operated by the University of Arizona is just south of this substation just out of the frame. So looking at the visual simulation here, you probably say, wow, it looks great in the current situation, but you had a whole lot of wires in this new situation.

So what we're simulating here right here is sort of the worst-case scenario. We're going to have to do some cutover as we change from a 46kV system to the 138kV system where we're going to need to have that 46kV substation in service and serving our customers while we build the new 138kV infrastructure and the station and everything before we're able to retire that.

But I think Mr. Robinson has a little bit of a game plan so that we can avoid having something look like that even temporarily.

CHMN STAFFORD: I have a quick question.
MR. BRYNER: Yeah.
CHMN STAFFORD: Looking at the image on the left, that rusty looking box, what is that?
MR. BRYNER: Are we talking --
CHMN STAFFORD: Yeah.
MR. BRYNER: -- this?
I believe that's sort of a weathering steel fence around that home.
CHMN STAFFORD: That's -- you said that's what, your substation?
MR. BRYNER: No. I think that rusty -- if I'm -- is this the rusty box you're talking about?
CHMN STAFFORD: To the right is the substation, is that what you're saying?
MR. BRYNER: On the right side of the picture is the substation. On the left side that box is a perimeter fence on a home.
CHMN STAFFORD: It looks like it's photoshopped in. It doesn't look like it's really there. That's what was throwing me off. I was --
MR. BRYNER: It's there. I promise we photoshopped the simulation. We didn't photoshop the fence.
CHMN STAFFORD: Yeah. It looks really odd

to me. Is anybody else getting that, or is it just me?

MEMBER MERCER: To me when you look at the two pictures together, it looks like the substation is right behind that house. But then you look at the other side is the house is there.

CHMN STAFFORD: Right. Yeah. That's why I was getting confused there.

Okay. All right. That's actually there. That's their real fence. Okay.

MR. BRYNER: The bad thing this is only day two. It's going to be interesting on day five of this hearing what we're seeing.

MR. ROBINSON: So I just wanted to clarify what Clark was saying. What is being depicted here as a potential temporary solution is a conservative view; right? Our actual practice would be to put a temporary 46 line on the west side of Vine that would allow us a clean corridor to build the 138 line up the east side of the street and optimize the height of the structures so they are shorter, and we don't have to put a permanently taller structure to accommodate the temporary 46 lines underneath them.

So that's what our plan would be is to build a temporary line on the west side, cross across the street underneath the new 138 line so the 138 line

doesn't have to be so tall.

BY MS. GRABEL:

Q. So just to put a final point on it, Mr. Robinson, which of the lines on the simulated condition will be removed from view?

A. (Mr. Robinson) These lines here will be removed out of the -- out of the actual work that's done.

Q. Thank you.

MEMBER GOLD: Mr. Chairman.

CHMN STAFFORD: Yes, Member Gold.

MEMBER GOLD: So a question, again, just for clarification.

The right side of the screen, the left side of the image, right and left side, the street down the middle, the high voltage line is on the right-hand side.

What's that on the left-hand side, and is it going to stay there?

MR. BRYNER: So those are poles with communication attachments, and they don't have any of our wires on them. So they're sort of independent communication poles. So we wouldn't really have a say on that.

MEMBER GOLD: So those are not electric lines? They are communication lines, cable, and telephone?

MR. BRYNER: Yep. Correct.
MR. ROBINSON: Telephone, cable, fiberoptic, yes.
MR. LINDSEY: Mr. Chairman.
MEMBER GOLD: But they're not allowed to attach them to your poles; right?
MR. BRYNER: They could be allowed if we allowed it.
MR. ROBINSON: That's correct.
CHMN STAFFORD: They don't have to allow it.
MEMBER GOLD: Oh, okay.
MR. BRYNER: For the distribution we kind of have to allow it, which is probably a good thing. We don't want to have double lines running everywhere.
But for the higher voltage lines we don't have to allow it.
MEMBER GOLD: So the people with that horrendous fence who live in that house obviously -- well, I don't know, did they complain at all about two sets of, you know, telephone poles on both sides of the street?
MR. BRYNER: I don't know.
MEMBER GOLD: I would be curious, but it's --

MR. BRYNER: Yeah.

MEMBER GOLD: -- not your problem. Okay.

MR. BRYNER: One other thing before we leave this slide that I just want to point out is -- and this was kind of a miss on our simulation as well. But if you see those smaller poles in the distance beyond your simulated 138kV pole, those are 46kV poles that will be retired as part of this project, so this will be removed.

CHMN STAFFORD: Member Little, you had a question?

MEMBER LITTLE: I did. Do you have an approximate distance for this proposal going down Adams, the section of line that's on Adams and the section of line that's on Vine, what that distance is?

MR. BRYNER: So I'm going to give you a frame of reference here. You know, I made this map right here on the left and I didn't put a scale bar, which is breaking all rules of mapmaking.

MEMBER LITTLE: Uh-huh.

MR. BRYNER: But between Grant -- whoops, sorry. I need to switch over.

So between Grant Road and Speedway is one mile. Between Park Avenue and Campbell Road -- or Campbell Avenue is one-half mile.

So Adams Street I'm going to say it's a little over a quarter of a mile. Going up Vine is a couple hundred feet.

MEMBER LITTLE: Thank you.

MR. BRYNER: And I just remembered one other thing I want to show you on the simulation here.

But our Vine Substation is basically located in that area right there is where it would be located.

And we would plan to -- the wall that you saw on the simulation there, it replicates not the wall around our substation but the wall that's around the University's substation just south of us. And, again, we'll point those out on the field tour.

CHMN STAFFORD: So in this picture on Slide 54 on the right, there's an existing substation in the right corner there, that's what this fence is for; correct?

MR. BRYNER: That's correct.

CHMN STAFFORD: And then another substation is going to further back behind those trees?

MR. BRYNER: Yeah.

So basic -- so our substation wall ends I know -- if you can see right in the center of that spotlight, that's where the substation wall ends. That

will be the beginning of the Vine Substation. It will be -- share that same wall of that existing substation and extend north.

CHMN STAFFORD: Okay. So it's almost just an expansion of an existing substation as opposed to an entirely new substation?

MR. BRYNER: You might characterize it that way.

CHMN STAFFORD: But there will be several fence --

MR. BRYNER: Probably got a little squirrelly in the wording.

CHMN STAFFORD: Yeah. But it's right adjacent to the existing substation?

MR. BRYNER: Correct.

MS. GRABEL: And actually, Mr. Chairman, Mr. Bryner, there are two substations that currently exist right along that area; correct?

MR. BRYNER: That's correct. And one of those substations is a GIS substation. The University Substation is a GIS substation.

BY MS. GRABEL:

Q. So we'll see this on the tour, but the UA med substation is -- you know, will you highlight that for me?

A. (Mr. Bryner) UA med is right there.
Q. And then immediately adjacent to that is our 46kV?
A. (Mr. Bryner) So U of A med is a TEP substation.
Q. Oh, I'm sorry.
A. (Mr. Bryner) The university's I believe they call it Health and Science Substation is adjacent to that.
Q. And will you show them where each of those is so they can see the substation -- the substation -- proposed substation?
A. (Mr. Bryner) I'd love to, but the university substation is out of the frame. It's just to the edge.
Q. We'll see it on the tour.
A. (Mr. Bryner) It's just to the edge.
CHMN STAFFORD: All right. Thank you.
MEMBER KRYDER: Mr. Chairman.
CHMN STAFFORD: Member Kryder.
MEMBER KRYDER: Looking -- continuing kind of that discussion, you said that the new Vine -- I understood better said -- that the new Vine Substation wall would be identical to the distant wall what we see on the right-hand simulation; is that correct?
MR. BRYNER: So it's not correct. So that wall that you see is the wall around TEP's current

substation.

MEMBER KRYDER: Okay.

MR. BRYNER: Since that substation is going to be removed, we were planning to mimic the wall that's around the University of Arizona-owned health and science substation that you're unfortunately not able to see in this image.

MEMBER KRYDER: Okay. So the university-owned substation is just because they're a big user they have their own substation, or is this all over the area served by TEP that individual landowners have their own substations?

MR. BRYNER: So it's not a typical thing. We have a few larger customers who receive a higher voltage rate, and as part of that they're responsible for transforming their own voltage. So they take it at that high voltage, they transform it, and distribute it to themselves.

MEMBER KRYDER: Okay. Thank you very much. That's very clarifying.

MS. GRABEL: Mr. Bryner, it might be helpful to show them Slide 40 which has the simulation of the Vine Substation.

MR. BRYNER: Sure.

CHMN STAFFORD: I had a quick question

about the U of A substation. So they -- so they have a tariff that they just take -- so they're not on the distribution system? They take delivery from the transmission system and transform it themselves?

I know that mines do that. Does the university do that as well?

Is it similar to that or virtually the same or there's specific differences between the way the mines do it?

MR. BRYNER: I'm not an expert on that.

I would say for my mind similar to what the mines do. They take it at that -- they receive a different rate than a customer who's receiving it through the distribution because they're now responsible for paying for costs associated with transmission and distribution of that.

Whereas a customer who takes it a transmission rate they're only responsible for the costs of the transmission system, and they're taking those other costs on themselves.

CHMN STAFFORD: Right. And one of the effects of that is that they don't pay the surcharge for demand response energy efficiency surcharge because they don't -- it's on the distribution system they don't take -- they don't take service through the distribution

system; is that correct?

MR. BRYNER: I don't know. Do you know?

CHMN STAFFORD: I know the mines don't because they just -- they get -- they don't pay those costs. They don't pay for any -- when they're -- in their rates the costs related to the distribution system are not allocated to them because they don't use it.

MR. BRYNER: If you'd like to -- no doubt somebody in this room has the answer or we can find it so we could get it back to you.

CHMN STAFFORD: I'm just -- I -- I think that's because that's, like, one of the benefits of taking it that way despite the -- because you have to deal with it, your own transformer, but I'm just saying it's -- I'm just curious.

I just want to make sure that's what the university's doing that's similar to what the mine does, and that's they don't incur -- so they're not allocated those costs. They just --

MR. BRYNER: I believe so.

CHMN STAFFORD: Okay. Subject to check.

All right. Thank you.

Please proceed.

MR. BRYNER: So before I jump on, let's just -- let me just -- oh, boy, I forget about all these.

I thought it was going to be an easy switch. There we go.

So, yeah. So the wall we were talking about, you can see it's a little bit different than that design, sort of that -- that red with the white outline on it. This wall is it's a red brick and a little bit different design. Same idea.

CHMN STAFFORD: In the current condition, what is that?

MR. BRYNER: The -- are we talking about --

CHMN STAFFORD: White building, what is that?

MR. BRYNER: That's a white -- so those are some of the old University of Arizona maintenance and facilities buildings, and it's surrounded by kind of a blue wrought iron fence.

CHMN STAFFORD: But TEP's acquired that to put the substation on, then?

MR. BRYNER: We have.

And we're going to go inside some of those buildings for our tour stop.

CHMN STAFFORD: Okay.

MR. BRYNER: So that we can get out of the sun.

CHMN STAFFORD: Thank you. That will be

appreciated.

MR. BRYNER: Okay. So kind of moving on from a general route description, I'll orient you back to the map, which is -- has changed now to Slide 55 and talking about some of the existing plans that are pertinent to this route, and, in fact, all of the routes.

So all of our route -- our alternative route segments are fully within the jurisdiction of the City of Tucson. And so they all fall under the general plan of the City of Tucson, which is called Plan Tucson. So that plan is intended to guide the creation of policies and ordinances and provide guidance on land use decisions.

So there are also specific plans. And I know we had a little bit of discussion on that yesterday with Mr. Lusk. And I'm sure he and his witness will share more details on this. But there are specific plans that kind of help to implement the general plan on a more localized level. And those come in the form of neighborhood and area plans. So area plans, I guess, would be the next level up, and neighborhood plans the more -- the most specific, most localized level.

And so on the map here, the area plans are illustrated with a hash mark that kind of tilts to the left and the neighborhood plans with a hash mark that

tilts to the right. And then you'll see, like, around Jefferson Park you've got a cross-hatching. That's where you have both an area plan and a neighborhood plan that overlap one another.

So Plan Tucson, again, that's Tucson general plan, doesn't include any specific guidance on the placement of the utilities.

Of the four specific plans -- and I'm not going to name those all, but if you want to see the names of those, those are in blue lettering on the map. But of those, only the University Area Plan includes any language specific to the placement of utilities. And I'm going to quote that language just to put it on the record.

It says, "Wherever possible place utility and service equipment underground or in other visually screened areas."

Now, TEP, we believe that we are consistent with the University Area Plan because we further the purpose of that plan by a net reduction of 11 miles of overhead utilities as part if Route B were selected, and we would remove 49 existing poles from within that plan area. Now, that's again just pertaining to Route B. And we believe that we're consistent with all of the other specific plans within the area.

One other thing that I want to just mention, I guess, on this is just to kind of put it in context. On the University Area Plan, so that plan was adopted in 1989. And since that time, TEP has installed -- well, installed 1,934 poles within the University Area Plan.

We have 5,000 poles installed in there. So we've installed roughly 40 percent of our poles since that plan was adopted just to give you an idea. And we'll be removing some of those poles as part of this project. So, again, we feel like we furthered the purpose of that plan.

BY MS. GRABEL:

Q. And, Mr. Bryner, just to clarify, you've installed those poles aboveground; correct?

A. (Mr. Bryner) That's correct.

Q. Thank you.

A. (Mr. Bryner) Okay. And --

MEMBER LITTLE: Question.

MR. BRYNER: Yeah, sorry.

CHMN STAFFORD: Member Little.

MEMBER LITTLE: What you mentioned, the Plan Tucson doesn't talk about utility placement.

How about the Jefferson Park Neighborhood Plan?

MR. BRYNER: It does not mention the placement of utilities either.

MEMBER LITTLE: Okay.

MR. BRYNER: Okay. So moving on to the Gateway Corridor Zone. I know we've spent some time discussing this. So that's applicable to gateway and scenic routes that are identified in the City's major streets and routes plan. I think we mentioned that that was adopted in 1982.

And it does have some guidance in there specific to the placement of utilities. And, again, I just want to quote this one. It says, "New utilities for development on private and on public right-of-way along gateway routes shall be underground."

CHMN STAFFORD: And, Mr. Bryner, these perpendicular crossings, this is what you were talking about when you talked about getting the special exception to the undergrounding code from the City, it's because it's not going to run parallel. It's going to perpendicularly cross; correct?

MR. BRYNER: That's correct.

CHMN STAFFORD: Those are the -- okay.

MR. BRYNER: Yeah. So we would have -- Route B would have a perpendicular crossing of the Gateway Corridor at Oracle Road, and that would be the

only place that it intersected.

And we do believe that -- so we talked a bit about the special exception process that was developed with the City in coordination with TEP. And we believe that under criterion D of that special exception that we would be able to build not just that portion but all of Route B overhead.

I guess one other thing just to kind of put it in context, too. So there are lots of Gateway Corridors throughout the Tucson area. And since it was implemented or the Gateway Corridor ordinance was implemented in 1982, TEP has installed 2,002 poles within those Gateway Corridors out of a total of 2,704 that are installed.

So 74 percent of poles installed within Gateway Corridors have happened since that ordinance was passed. In terms of mileage, we've installed 47 miles of distribution and/or 46kV lines since the ordinance was passed, and we've installed 16 miles of overhead transmission.

MEMBER KRYDER: Mr. Chairman.

CHMN STAFFORD: Yes, Member Kryder.

MEMBER KRYDER: I think I know the answer to this, but to clarify for me, looking at Grant Road where it crosses the Oracle Road, under your proposed B,

I guess this is called, those would be higher structures to go up and over Oracle and so on, or are they essentially the same as if you go back 600 or 1200 feet from Oracle?

MR. BRYNER: Yes, Member Kryder. So good question.

Those would be the same as any other structures that we would install along Grant Road. Oracle Road, it's a major arterial road very similar to Grant Road, but it doesn't have any bridge crossings or anything else that would require those kind of -- those taller structures we discussed.

MEMBER KRYDER: Thank you very much.

MR. ROBINSON: So, Commissioner Kryder, it is true that we would have to go up a little bit to cross over the major traffic signals and things like that and the streetlights that are associated with that crossing. But it's not the top end of the heights that we have in our -- in our application.

MEMBER KRYDER: Thank you again.

MR. BRYNER: All right. So talking about other overlay zones, there are a few other overlay zones that are applicable in this area.

So we have neighborhood preservation zones, which these are codified in the Uniform Development Code,

the UDC, and their purpose is to preserve and protect historic resources, and they do that through the development of neighborhood-specific design manuals.

And those are represented -- the neighborhood preservation zones are represented with that left -- whoops, am I on the wrong -- yeah, with the left tilting hash marks, so you've got the Jefferson Park Neighborhood Preservation Zone and the Feldman's Neighborhood Preservation Zone.

Not shown on this screen right now but it will be pertinent to some of the other routes are what are called historic preservation zones, and those, again, are codified in the City's UDC, and their purpose is to preserve and rehabilitate significant historic districts through compliance with neighborhood-specific design guidelines. So some similarities between those two, both have a historic component.

MEMBER KRYDER: Mr. Chairman.

CHMN STAFFORD: Yes, Member Kryder.

MEMBER KRYDER: Another question that I heard yesterday for the first time in the public presentation. I seem to recall one of the -- one of the people who gave testimony said words to the effect that if above -- this was presented overhead, it had the potential of taking a historical zone or area or building

and having it lose its designation as such.

Is -- I know this is out of your realm, but I had never heard this, and you all must have touched on it at some place.

Meghan?

MS. GRABEL: Yes. Thank you, Member Kryder.

Actually, the next slide addresses the historic preservation area. And we do have an exhibit, which is TEP-4, in which we have Mr. Bryner's correspondence with the state historic preservation office. And it addresses exactly the question you're asking. So I think if we let Mr. Bryner continue, he'll answer your question.

MEMBER KRYDER: And the related question was someone else brought up, oh, not only can we lose our historic preservation capability, but, oh, by the way, we get a significant real estate tax abatement.

Are you going to touch on that, or did I hear that wrong?

MS. GRABEL: I think you heard that correctly, and Mr. Bryner will discuss it on the next slide.

And I misspoke. It's TEP-24, not 4.

MEMBER KRYDER: Thank you very much.

MR. BRYNER: Yeah, so if you're okay holding on just a second, I'll finish up my discussion right here and then address your question.

So there's just one other overlay zone that I wanted to cover right here, and that's what's called an archaeological sensitivity zone. And those are represented with kind of these, like, blue diamonds pattern. And those are not codified. Those are simply a planning tool to help the City of Tucson when work is done, when work is being performed within City rights-of-way to provide for the protection of historic or archaeological resources that requires that whoever's doing the work have a professional archaeologist monitoring any ground disturbing activities.

So that's something that TEP -- we work with the City all the time. Most of our facilities are in City rights-of-way. And so when we fall on that, we always have the professional archaeologist out there.

CHMN STAFFORD: So in that area it says Stone Pipe, and then there's the San Ignacio Yaqui. That seems to be that's where the archaeological sensitivity zone is.

What -- it looks like part of that is residential use. What's going on with the rest of it? Is it vacant land, or are there things built there?

MR. BRYNER: The whole area right there is built up.

To Member Mercer's point, there's -- it was an old movie theater for many years, and now it's being rebuilt as a casino. So it's all built-up land.

CHMN STAFFORD: Has it all been surveyed then? I mean --

MR. BRYNER: I don't know. I will speak -- I don't know about that particular area.

But for the whole route, a lot of it has been surveyed for cultural resources, but a lot of it has not been. It depends on the route.

CHMN STAFFORD: And looking at the map, it appears that the orange line is on the opposite side of the road, so it would not be in that archaeologically sensitive -- sensitivity zone, correct, or is that just --

MR. BRYNER: I'll say I'll leave it to the City of Tucson when we apply for our right-of-way use permit to say whether or not we need to have a monitor there.

These are -- maps are kind of pictorial, so I can't say exactly where it starts and stops.

CHMN STAFFORD: Okay. So the preferred route isn't married to the north side of Grant Road,

then?

MR. BRYNER: So our preliminary design shows it on the north side, but we're requesting a corridor that goes on either side.

CHMN STAFFORD: Okay. Just to make sure we know what we're talking about.

MR. BRYNER: Sure.

CHMN STAFFORD: Member Little.

MEMBER LITTLE: This map -- I'm a little confused. This map just shows two neighborhood preservation zones in addition to the archaeological sensitivity zones; right?

There's no historic preservation zones.

MR. BRYNER: You're correct. I just wanted to provide that context because you'll see that in a minute.

MEMBER LITTLE: Okay. Thank you.

MR. BRYNER: And for these I kind of talked about the compliance with the archaeological sensitivity zone.

With respect to the neighborhood preservation zones Route B is not inconsistent with these zones.

And, again, we would follow any requirements to have professional monitors on-site.

Okay. So now getting to Member Kryder's question on the historic districts.

So let me first just give an explanation of what historic districts are. So they are listed in National Register of Historic Places, and they identify a group of structures that represent a certain period at either the local, state, or federal level a certain period in history.

It's comprised of multiple contributing properties that when you look at as a whole they convey some sort of significance for that particular aspect of American history.

And a contributing property is a structure that contributes to the historic significance or the visual character of that district and one that maintains enough of its original qualities that it can visibility convey that significance.

So in this case, our Route B does cross through three of these recognized historic districts. You have Miracle Mile, Jefferson Park, and adjacent to Feldman's. And I believe we heard from at least people from two of these -- of these areas. I'm not sure that we had anybody speak to Miracle Mile yesterday.

Now, these are not the only historic districts. We have many historic districts that you'll

see on other routes as well that we pass through or are adjacent to.

And so we had a third party do a historic district analysis. And that's found in our application under Exhibit E-4. And they concluded that none of the routes in the project would impact the designation of any of these historic districts, and that was confirmed with the City of Tucson's historic preservation office as well as with the State historic preservation office.

BY MS. GRABEL:

Q. And, Mr. Bryner, is the confirmation that you just discussed from the state historic preservation office contained in Exhibit TEP-24?

A. (Mr. Bryner) It is.

Q. Thank you.

MEMBER KRYDER: Mr. Chairman.

CHMN STAFFORD: Yes, Member Kryder.

MEMBER KRYDER: Just to continue that discussion just a bit, Mr. Bryner. This all confuses me. I'm old enough to be historic I've been told, but I'm not sure that makes me a district or impacts my taxes.

But in looking at this, the state historical association or society, whatever, office, has said that overheading these would not impact the historical verifications or anything of this district.

Is that a fair estimate or statement?

MR. BRYNER: So it won't affect the status as a designated historic district. So to affect the status of it you'd have to affect the contributing properties. So, in other words, we would need to demolish some of those buildings or do something to alter them, so which we're not proposing to do.

MEMBER KRYDER: Okay. So the people I know from Jefferson Park were here last night and some other places and -- in the literature we received, and I know that they had spoken about or written about serious concerns that this was going to impact their historical district, and yet I've got the state organization saying it's not going to.

What's the interface here that I'm missing?

MR. BRYNER: So I'll say that we've tried to convey this to neighborhoods, to concerned residents, customers, and I would just say maybe we failed in communicating that it would not have an impact.

MEMBER HILL: Mr. Chair.

CHMN STAFFORD: Member Hill.

MEMBER HILL: My recollection of the testimony wasn't that it would affect the neighborhood or the designation of the district. My recollection was something about if it was a national historic site.

So it was not the State's -- it wasn't the State purview. It was the Federal purview. And I can look back at my notes. But I remember her saying if it's been designated a national historic site, and there are probably certain homes that have that designation separate and apart from the district, those were the ones they were concerned about.

So one of my questions was have you actually mapped the national historic preservation sites in these neighborhoods?

Do you have a map of that?

MR. BRYNER: So that's exactly what we're referring to. These are national -- they're listed historic districts on the National Register of Historic Places. And the State historic preservation office is the one who -- I don't know exactly how the law works.

MEMBER HILL: We're all out of league here.

MR. BRYNER: But they make the designation or they make that determination.

MEMBER HILL: So you're saying, just to clarify, that a nationally designated historic site will not be affected? Its status will not be affected by the transmission lines?

MR. BRYNER: That is correct.

MEMBER HILL: Okay.

CHMN STAFFORD: And that's what -- exactly what SHPO has confirmed in TEP-24 then.

MR. BRYNER: Correct. Now I will note that in TEP-24 SHPO did confirm that while it won't affect the status of the designation, that that doesn't mean it won't have some visual impacts on those areas.

MEMBER HILL: Thank you for that clarification.

MR. BRYNER: And so they did recommend -- there are recommendations in our TEP Exhibit E-4 to minimize visual disturbance associated with our line.

And so, yeah, that -- we would fully intend to follow the advice of SHPO to work with them as we get into the design of our line so that we could minimize that.

CHMN STAFFORD: Okay. But it's, like -- I know I'm beating this to death, but it doesn't affect the designation as a historic district, then?

MR. BRYNER: That's correct.

CHMN STAFFORD: We are certain of that?

MR. BRYNER: Unless we demolish a building, we can't affect it.

CHMN STAFFORD: Okay. All right. Member Little, you had a question.

MEMBER LITTLE: I just wanted to say for

the record as an owner of a house that is -- has national historic designation, there's a difference between the site and the district.

MEMBER HILL: That's what I was trying to get at.

MEMBER LITTLE: And so there are homes in the district that my house is located that are on the National Register of Historic Sites. And the restrictions for what can be done to my home are different than the restrictions for other homes in the district. So I don't -- just to inline with that Member Hill said.

MR. BRYNER: Yeah. And amongst these there are a number of individually listed properties within those districts. And those are -- I'm not prepared to summarize those, but they are in our report.

MEMBER LITTLE: And we know that those homes' designation will not be affected?

MR. BRYNER: Correct.

MEMBER LITTLE: Individual sites?

MEMBER GOLD: Mr. Chairman.

CHMN STAFFORD: Member Gold.

MEMBER GOLD: So a statement made by some of the visitors said historic districts will lose tax breaks is wrong?

MR. BRYNER: So the tax break is basically tied to the historic district where you're essentially giving up some of your rights to have control to modify your home or your business, whatever the building is, and in exchange for that you are getting a property tax break. If the designation of the historic district doesn't change, your tax break status should not change.

MEMBER GOLD: Thank you.

CHMN STAFFORD: Unless, of course, you modified the building so it no longer complies, doesn't look historic anymore.

MR. BRYNER: Yeah. And then that would be their choice.

CHMN STAFFORD: Right.

MR. BRYNER: Nothing we're going to do.

CHMN STAFFORD: Right. So then you'd lose your -- the designation and then be subject to higher taxes.

MR. BRYNER: And I believe that that's -- again, Member Little could probably confirm this better than myself, but to be a district you have to have over 50 percent of the properties within that area have to be a contributing property. In other words, they have to, you know, have enough of that character that represents that period that the district represents that they can

convey that moving forward.

So if properties make those changes and it goes below the 50 percent threshold, then the district loses its status and all the homes within it lose that tax break.

CHMN STAFFORD: But you'd have to do -- that would have to be affected by changes to the structures themselves, not additional infrastructure in the neighborhood, though?

MR. BRYNER: That's correct.

CHMN STAFFORD: Okay.

MEMBER GOLD: So if you had power lines over the Alamo, would that affect its historic status in any way?

MR. BRYNER: I don't feel like I'm in a place to make a decision on that.

MEMBER GOLD: I'm just taking it to an extreme.

So these the power lines over the houses or in this area will not affect the historic district?

MR. BRYNER: It won't affect the historic district, not to say that it doesn't have a visual impact.

MEMBER GOLD: Okay.

CHMN STAFFORD: Right. But there are power

lines running to the Alamo now, aren't there?

I mean, it's not -- it has electricity inside it, doesn't it, when you go visit it?

MR. BRYNER: I've never been there.

MEMBER GOLD: I think they're underground.

CHMN STAFFORD: But they run to the building?

MEMBER KRYDER: Mr. Chairman.

CHMN STAFFORD: Yes, Member Kryder.

MEMBER KRYDER: Historically speaking, if we go back 40 years, I would suspect there was very little undergrounding. Perhaps that's what needs to be preserved.

MR. BRYNER: That's a unique spin.

BY MS. GRABEL:

Q. Mr. Bryner, just for the record, will you please again refer this Committee to the report that we commissioned that reaches the conclusions you've just testified about.

A. (Mr. Bryner) Yes. So it's Exhibit E-4 of our application, which is TEP Exhibit 1.

Q. And, once again, for the Committee's benefit, Exhibit TEP-24 also includes two conditions to the CEC that the State Historic Preservation Office suggested we include in the CEC; is that correct?

A. (Mr. Bryner) That is correct.
Q. And the form of CEC that TEP has provided to the Committee for consideration includes those conditions; correct?
A. (Mr. Bryner) Correct.
Q. Okay. Thank you.
CHMN STAFFORD: I thought I heard another voice besides Member Gold's from down here with a question? No?
All right. Please proceed, Mr. Bryner.
MR. BRYNER: Okay. Thank you, Mr. Chair.
One last thing that I want to talk about before we leave this slide that is historic in nature, we had a Class I cultural resource study, which is a record search of what's been surveyed up to this point, and that's also found in our Exhibit TEP-1 under Exhibit E-2.
And we found through that that there were three sites in proximity to Route B. Two of those were eligible for listing on the National Register of Historic Places and one was found to be not eligible.
There was a recommendation that we have a monitor present if we do any ground disturbing activities within proximity to those two eligible sites, which is something that we would definitely commit to do. But as a practice, TEP does try to span whenever possible these

sites so that we can just fully avoid any potential impact.

CHMN STAFFORD: Right. Because the impact is from the structure itself, not the span.

So if you have -- it's the placement of the pole that impacts the site, not the spanning of the conductor across it.

MR. BRYNER: Correct. One of the nice things about an overhead line.

CHMN STAFFORD: Right. Because if it's underground, then there's no way to avoid disturbing it. You'd have to remediate it?

MR. BRYNER: Correct. And that's one of those concerns that is an unknown about an underground line is you don't know what you're going to find, and this is -- as you'll see over and over again, as I go through some of these different routes, this is a historic and prehistoric area with a lot of history.

CHMN STAFFORD: All right. So follow-up to that.

Say you were going to underground the line and you come across these historically eligible sites, and you have to remediate it, what kind of additional costs would you incur?

Or does your -- we haven't gotten to the

estimates, but does that include this type of event, or is that -- would that be in addition to what your expert's going to testify about, about the costs of undergrounding?

MR. BRYNER: So that would be in addition to what he'll testify about. But those costs -- so to remediate a site, depending on what happens, let's say you find a burial or something, I mean, it's going to result in stopping the work, fully excavating, looking into that.

Or say you come across some foundations or different things that were from some thing and you have to do some extensive excavation, you can have hundreds of thousands, in the millions of dollars, and it can take you years to do that, so a significant project delay, significant additional costs.

CHMN STAFFORD: All right. Thank you.

MR. BRYNER: And the last thing I want to mention before we leave Route B is just the effect on low income.

So one of the things is we've met with the public that they determined was one of the most important considerations that TEP have on the selection of a route was that we don't have a disparate impact on low-income communities.

So -- and I think we've heard about this a little bit already too. But the City of Tucson does have a fairly sizable low-income population. So the City as a whole has 19.8 percent of the citizens live below the poverty level.

CHMN STAFFORD: How is that poverty level defined for the City of Tucson?

MR. BRYNER: I'm going to have to research that.

CHMN STAFFORD: I mean, I'm interested to know. You know, what are we talking here?

Is it X dollars for a family of four?

Y dollars for individual?

What's the -- what are we looking at?

What's the criteria?

MR. BRYNER: Can I get back to you?

CHMN STAFFORD: I just want to know if we're saying that their poverty level is greater than a percentage of Tucson as a whole, what level are we talking?

MR. BRYNER: Yeah. I'll have to look into that. I'll say we pulled this information from the U.S. census. So this is coming from the latest census data. And we mapped it based on census tract, which is the way that they report it, and we're able to kind of make it

spatial.

CHMN STAFFORD: I figured you had to. There would be no other way to make the claim unless you did that analysis, so --

MR. BRYNER: I don't know what the threshold is.

CHMN STAFFORD: Right. Right. If you knew off the top of your heard, that would be quite impressive.

MR. BRYNER: Sorry. I'll work on that for next time.

But as you can see on the screen, this black crosshatch represents the areas within the study area that are -- have a population -- so the way we measured it for this was if the population within that area exceeded the 19.8 percent threshold, then we said, all right, that's a level that's -- has a greater population below the poverty level than the City as a whole, and so we labeled that as a low-income area.

And you can see almost the entirety of where Route B crosses would be considered a lower income area based on that definition with the exception of a little bit just to the south of Grant Road.

CHMN STAFFORD: So not where the casino's going?

MR. BRYNER: Not where the casino's going.

And even when you look at this whole area, until you get to the east side of Campbell Avenue, you really don't get out of this lower income area.

And so, I guess, based on that, we felt like we don't really have a disparate impact because the entire area is lower income, so we're not targeting one area over another, I guess.

MEMBER GOLD: Mr. Chairman.

CHMN STAFFORD: Yes, Member Gold.

MEMBER GOLD: The University of Arizona is lower income?

MR. BRYNER: So this is just a theory. So students don't typically make a lot of money. At least I know I did not make a lot of money as a student.

You do have a lot of students living in this area, and so the census data is based off of residents of the area, not necessarily homeowners. And so you may have a lot of people that own buildings within this area, but they don't occupy them. But those who occupy them are lower income.

And it's also done by census tract, so it's generalized. Within any of these areas you could have pockets that are not low income at all, and you could have areas in the areas that are not marked as low income

that do have low-income populations.

MEMBER GOLD: Why are we concerned about income levels?

Do lower income people have more or less rights than median income or higher income?

I mean, why were you -- did you even do this?

MR. BRYNER: So the purpose was a concern that -- and I think this stems back into the history of the project -- that when we were -- you know, in the initial -- the initial project we were looking at a route down Campbell. And when the Gateway Corridor Zone came up, then it was where do you go?

And so the routes that we looked at pushed the line over into lower income areas. And so when we restarted the process, I think there were a lot of sensitivities that, hey, the folks that are more affluent in the less -- in the more affluent areas, they get the break at the expense of everyone else.

So they wanted to make sure that, hey, we didn't just push it into lower income areas to keep it out of the other areas.

MEMBER GOLD: So the areas east of Campbell are higher income, west of Campbell are lower income?

MR. BRYNER: Based on the census data.

MEMBER GOLD: And why didn't you just go straight up Campbell?

MR. BRYNER: I'll let you make your own decision on that. We do have a Campbell route included in the application.

MEMBER GOLD: Thank you.

CHMN STAFFORD: And Campbell is part of the Gateway Corridor Zone; right?

Which the entire stretch of that line the City says that had to be underground to run parallel to that road.

MEMBER GOLD: Oh, okay. I saw that, yeah, on that other map. Gotcha. Gotcha. Thank you.

CHMN STAFFORD: All right. We've been going about 90 minutes now. I think we'll take a ten-minute recess and come back.

And I think you're going to be moving on to a different route now?

MR. BRYNER: I'll go to the second half of our preferred route.

CHMN STAFFORD: Okay. All right. Excellent.

MS. GRABEL: Well, actually Mr. Robinson still needs to discuss the constructability of this line.

CHMN STAFFORD: Okay. All right. With

that, we are in recess.

(Recess from 3:08 p.m. to 3:32 p.m.)

CHMN STAFFORD: Let's go back on the record.

Mr. Robinson, I believe you were going to go through the engineering route selection criteria.

MR. ROBINSON: That's correct, Chair Stafford, thank you.

Thank you. So I wanted to spend a minute and talk to you about some of the things that we consider while we're doing an engineering assessment on whether we can build a power line along the route or whether we can't.

Mr. Bryner talked about the back line lots between the alleyway on Adams Street and Lee that has -- currently has a 46kV line that goes along that back alleyway. And he referred to that area as not having enough room to build a 138 transmission line through there.

So we wanted to go through and talk about what criteria we look at.

First, we look for the physical space for the line to be located along the route selection. Our major roads are preferred because they have wider -- wider areas and the building setbacks are increased.

We also assess whether we have NESC code clearance requirements and whether those requirements can be met. Those requirements include avoiding buildings, signs, streetlights, and traffic signals.

We also review any known underground conflicts. Things like sewer lines, major water lines, and some of our own electrical facilities and other utilities.

In addition to that, we try to use road right-of-way where possible to take advantage of the franchise agreements that we have in place for our rate case -- or our ratepayers.

From a physical space perspective, we also look at all major intersections and evaluate those intersections to make sure we can either go over, under or around all the facilities that are taking place there.

We limit the use of residential areas because the roads are narrower and the building setbacks are shorter. So the physical structures are closer to those roadsides, and it's harder to -- not impossible -- but nor difficult to engineer facilities.

One of the ways we can minimize that impact is to have a little bit shorter span so we don't have as much conductor blowout.

//

BY MS. HILL:

Q. Mr. Robinson, may I interrupt you for a second?

A. (Mr. Robinson) Sure.

Q. Thank you. Mr. Robinson, could you clarify two things, please, for the committee, two terms that you used. The first is NESC code clearance, and what is NESC code. And then the second question is could you just briefly discuss what blowout is.

A. (Mr. Robinson) Sure. NESC is an acronym that stands for the National Electrical Safety Code. It's what governs the design and implementation, operational use of electrical facilities.

So in addition, blowout is a condition that we have to engineer to associated within the NESC code, which is the position of the conductor under the wind-loading conditions that moves the conductor out of its normal vertical position when it is sitting idle with no wind on it.

So that blowout condition is the position that conductor goes to under those wind loads.

Q. Thank you, Mr. Robinson. And does blowout have any connection to some of the questions that were asked earlier by perhaps Member Hill about advanced conductors or other things that prevented sway or sag?

A. (Mr. Robinson) Yes. So with advanced

conductors, as I had talked about before, strung at a tighter tension with less sag, they would blow out in a shorter distance than what our normal ACSS conductor would blow out at.

Q. Okay. Thank you very much. And so, Mr. Robinson, did you review all of these routes for buildability -- I just said buildability, which I'm not sure is a word, so we're going to call it constructability?

A. (Mr. Robinson) I reviewed all these routes with my engineers, and they did detailed evaluations of all of these routes.

Q. Could you tell the Committee about the constructability of Route B?

A. (Mr. Robinson) I will. I believe that that's in a slide in the future if that's okay.

Q. Of course.

A. (Mr. Robinson) Correct. Yeah. So one of the additional engineering concerns for constructability are we try to utilize existing lines. The proposed -- the locations where they can be used, and we try to collocate facilities on common structures where possible.

In these routes selections you'll see commonly where we relocate distribution underground to provide collocated opportunities for our 46 and 138 on the same

structure.

We also consider what our special permit requirements are with ADOT and UPRR for construction permit crossings and requirements for additional clearance in those areas. And floodplain considerations for the route selections that we went through.

In addition to that, we discuss and consider construction and maintenance activities. We want to make sure that all of these structures have access to them that we can get our equipment to. Those areas in storm-type conditions to where we can restore and do regular maintenance as needed over the life cycle of these lines.

And we talk about and consider what traffic road closures and impacts on traffic would be during construction and also potentially during maintenance activities.

So in order to be a little bit brief in the future, I want to refer the members and the chairperson to the placemat in front of you.

Routes A, B, C, and D are the potential routes from DeMoss Petrie to Vine Substation. And you can see that all four routes have a common path from DMP to Stone Avenue.

So there's some common design considerations

that I will not repeat as we go through these route descriptions. But if you'd like to discuss them in the future on some other routes, I'd be happy to talk about more of those details.

But you can see from where our line at Flowing Wells and Grant Road, which is right -- okay. Flowing Wells and Grant Road, that intersection, we rebuild the existing distribution line to 15th underground in order to give us space in this corridor.

Common in that corridor is also a 46kV line that we will relocate and build common double circuit structures from Flowing Wells and Grant to 15th Avenue. That 46 line at 15th Avenue turns and heads to the north. So it no longer becomes an impact to the project.

Also common to this route from 11th Avenue over to Park Avenue is an existing 46 line on the south side of the road with distribution underbuild.

The plan is to put that distribution underbuild underground and evaluate the 46 structures to the degree possible and reuse those existing 46 structures as 138 structures in a single circuit configuration, because that 46 system will be abandoned once Vine Substation is in line and we have alternate energy sources to keep U of A Med -- U of A Med Substation in service while we're doing this construction.

So our plan would be to build -- rebuild this line and utilize the existing structures along the south side of Grant all the way to Park where possible, and only replace required structures along that pathway.

At that point, the line turns and heads south along Park Avenue down to Grant Avenue. And we would rebuild the distribution line and put it underground and locate the 138 line to the west side of Park Avenue.

As noted before, Park Avenue isn't a full width road in there. It's an arterial road. And so we'll locate the circuit of 138 to the east side of that structure to limit the impact for aerial easement needs on private property owners going along Park Avenue.

At that point we'll turn and head to the east on Adams Street, and we've already discussed some of the aerial impacts and the visual impacts along Adams Street that Clark has covered in his renditions.

I do want to speak for a minute about some of the potential collocations of the route combinations that can occur.

So along Route B, if Route 2 is selected, there's a common area that would be double circuit from Vine up to the Vine Substation. This short section would be double circuit if combination B-2 was selected.

For routes 3, 4, and 5, there would be a double

circuit section from Park and Adams along Adams Street and then turn north on Vine into the Vine Substation. Those would all be double circuit towers if those route selections were made.

And then, finally, if Route 6 were selected along with B, there would be a common line built from Stone and Grant all the way to Park in Route 6 as a double circuit and Route 6 could continue further to the east along Grant in the future.

And those are the only comments that I have about route selection B.

CHMN STAFFORD: I'm confused. I thought all the routes on this section were letters, not numbers.

MR. ROBINSON: They are. So the letter or the number combinations that we're talking about are the routes that would go from Vine to Kino.

CHMN STAFFORD: Okay. Okay.

MR. ROBINSON: All right.

BY MS. HILL:

Q. And Mr. Robinson, you used the word abandoned in relation to some of the 46kV along Grant Road. Can you just clarify that abandoned means retired and removed?

A. (Mr. Robinson) Yes, that is correct. Abandoned does mean retired and removed. Oftentimes in underground facilities if we abandon we'll abandon in place, but

these will be removed.

Q. Okay. Thank you very much.

MEMBER KRYDER: Mr. Chair -- oh, I'm sorry. Go ahead.

MEMBER HILL: No, Mr. Kryder.

CHMN STAFFORD: Member Kryder.

MEMBER KRYDER: Question on that, Mr. Robinson. You talked about here, we see in the slide above us, your 63 that three and -- well, some major portion of this 46kV is going to be undergrounded. Did I get that right? Some of the existing overhead is going to be undergrounded?

MR. ROBINSON: So that voltage that would be undergrounded is distribution voltage at 13.8.

MEMBER KRYDER: Oh.

MR. ROBINSON: None of the 46kV will be undergrounded. It will be abandoned and removed.

MEMBER KRYDER: Okay. So it's distribution that was undergrounded, not the 46kV. Thank you very much. I missed that.

MR. ROBINSON: That's correct.

MEMBER HILL: Mr. Chair.

CHMN STAFFORD: Yes, Member Hill.

MEMBER HILL: I have a curiosity question or one that I just feel a little embarrassed to even ask.

But I've been thinking about this, trying to visualize how the distribution undergrounding works. And so if you're undergrounding along my street a distribution line --

MR. ROBINSON: Yes.

MEMBER HILL: -- like my house currently connects to a -- connects to a pole.

MR. ROBINSON: Yes.

MEMBER HILL: Will I have a cost for bringing the line into my home if it's underground? Will I incur a cost for that, or how -- how is that going to work. I'm visualizing the street and what that looks like.

MR. ROBINSON: Yeah. Member Hill, that is a really good question. So your question is will your service line, which is currently overhead, have a cost to put underground to you?

MEMBER HILL: Into my home.

MR. ROBINSON: If our line is dist -- is put underground --

MEMBER HILL: Yes.

MR. ROBINSON: -- right? Yes. The way our current rates and rules are applied, that cost to put up a new underground service panel and to run from the underground service panel to our connection point would

be borne by the customer. That's correct.

MEMBER HILL: So in the road, or along the corridors where you are now taking aboveground distribution and putting it underground, each homeowner will have to incur a cost to connect to that underground trenched line?

MR. ROBINSON: No. Each owner can decide to stay with their overhead service, and in that situation we would run the underground cable over to the overhead service pole and come up the pole, and there they would be served the same way they are currently being served with an overhead service.

MS. HILL: Member Hill, maybe I can ask an additional clarifying question that will help.

MEMBER HILL: Please.

BY MS. HILL:

Q. Okay. Mr. Robinson, and bearing in mind not many of us really think about how the power gets from the transmission line to our homes.

MEMBER HILL: Apparently the Hills do.

MS. HILL: Well, we do, and Member Hill, I don't think it's a silly question that you should be embarrassed to ask, because I doubt -- I doubt that most people who don't do what we do have any idea.

//

BY MS. HILL:

Q. So, Mr. Robinson, could you give a very brief explanation about if we have 46kV, say, how it gets from there to distribution and then at what point it drops into the home?

A. (Mr. Robinson) Sure. So in that area that's served with 46 sub transmission power, it goes to a substation where there are transformers in this area that transform 46kV to 4kV, and that distribution system then goes out through the community.

Near homes, commercial areas, there are transformers, smaller transformers, usually pole mounted, that transform that 4kV to usable voltage, 120, 240 which is what our residential customers use.

That voltage then goes via secondary or service wire to the customer. Usually overhead. In some areas underground.

In these areas they are mostly overhead services where we would intercept that connection at the overhead service point from an underground source now, instead of an overhead source.

MEMBER HILL: Okay.

BY MS. HILL:

Q. And so Mr. Robinson, though, homeowners individually could elect to incur the cost of it on their

own to continue that underground to their homes; is that correct?

A. (Mr. Robinson) That's correct.

Q. But it is not going to be a mandatory expense that any of them have.

A. (Mr. Robinson) That's correct. Yeah, that -- that -- I'm sorry.

CHMN STAFFORD: Member Gold, do you have a question?

MEMBER GOLD: I do. So you're going from high voltage to distribution voltage, from distribution voltage to another pole that connects to the house. Is that correct?

MR. ROBINSON: That is correct. From a service connection, most areas in these neighborhoods have overhead services.

MEMBER GOLD: So those overhead services are going to remain, those poles are still going to be there.

MR. ROBINSON: At the individual houses unless the customer elects to underground their service, they will remain.

MEMBER GOLD: No, what I'm asking is right now are there individual poles for individual houses or is there one pole for a whole bunch of houses, another

pole for a whole bunch of houses? How many poles per house? Or how many houses per pole?

MR. ROBINSON: So that secondary network is usually one pole for a house.

MEMBER GOLD: Okay.

MR. ROBINSON: Or one service wire per house.

MEMBER KRYDER: Mr. Chairman.

CHMN STAFFORD: Yes, Member Kryder.

MEMBER KRYDER: Continuing that a little bit, can you give me, Mr. Robinson, back of the envelope, I suspect it's a charge made by the number of feet involved, but I'd like some clarification.

What kind of money am I talking about if I have one of these houses that it comes to a service pole and comes to a mast on my roof, and I say no, let's underground this bad boy. How much am I looking at?

MR. ROBINSON: Member Kryder, that's a great question and I'm going to need to defer that. I can find that information out for you from a general perspective.

I will answer in this way; right? The underground trenching to get the conduit from the service point to the house would be part of the customer's responsibility.

So that could vary depending on which contractor or how you choose to put that in. But I'll get an estimate and I'll also get a fee perspective from us as a company to transition that service.

MEMBER KRYDER: That would be great. Does it require -- does it typically require changing the panels? Or just the connection from the pole to the house?

MR. ROBINSON: To do it correctly, it usually will require the replacement of the service entrance panel on the house.

MEMBER KRYDER: Okay. That's just what I was looking for.

CHMN STAFFORD: Thank you, Member Kryder. Ms. Hill?

BY MS. HILL:

Q. Mr. Bryner, before we proceed with the next route, I just want to take you back to the testimony earlier in this panel about the historic districts.

A. (Mr. Bryner) Okay.

Q. Okay. So do you recall talking to the Committee about Exhibit E4?

A. (Mr. Bryner) Yes.

Q. Okay. And do you recall the discussion about individual listed properties and the impacts on

individual listed properties?

A. (Mr. Bryner) Yes, we were talking about if -- well, the impact of the routes on the designation of -- as a historic district and also the specific impact on individually listed properties.

Q. Right. And at the break were you able to determine which portion of the very large E4 discusses those?

A. (Mr. Bryner) Yes.

Q. All right. And do you recall the page numbers off the top of your head or would you like me to refresh your recollection?

A. (Mr. Bryner) I believe it was on page 5 of Exhibit E3 or E4. Can you help me out with that?

Q. It's E4.

A. (Mr. Bryner) E4, which is our historic district analysis.

CHMN STAFFORD: Which is attached to TEP-1, the application.

MR. BRYNER: Correct. Which you can't miss even if you're blind. So on page 5 of that report, it talks about the effect of any of our routes on the designation as historic districts. And on page 6 of that it talks about the individual listed properties.

//

BY MS. HILL:

Q. Thank you. Okay. Everybody can put TEP-1 away again. Do your stretches first.

Mr. Bryner, I believe that we are ready to move on to the second half of our preferred route, which is Route 4 from Vine to Kino. Is that correct?

A. (Mr. Bryner) Yes. That's correct.

Q. Okay. Could you please proceed with describing this route to the Committee?

A. (Mr. Bryner) All right. So on to the second half of our preferred route, so this is Route 4. I'll first start off with the screen on the right.

Just kind of go over some of the stats for the route. And I'll also refer to you just as we're going through, all of these routes, your placemat does have a matrix that includes some of these summary statistics, but then it also, it doesn't have those specific mileage and different things, but it includes all the factors we were looking at.

So that's a good place to look. Or if you're kind of wanting an overall summary, not to skip forward in the presentation but if you go to slides 200 and 201 they have a summary of all this, so if you're wanting to compare one route side by side with another.

I believe I got these slide numbers correct.

So let's start off, though, just talking about this route. So Route 4 would cost about $12.8 million. Again, that cost is inclusive of not just the transmission line and the right-of-way, but also any of those associated costs to place any of that distribution infrastructure underground.

So it's -- that's when you see five miles, it's a little higher than that $2 million per mile average we discussed earlier.

So this route would go through a little over a mile of residential area. Most of which would be considered low income. About a half a mile through historic districts and again this route does utilize a lot of overhead utility corridors, not quite as much as Route B did. But it's 66 percent.

There would be an additional 2.3 circuit miles of existing distribution lines that would be moved underground, and 7.3 miles of communication wires that would be moved underground or relocated.

Just discussing a quick overview of comments that we received specific to this route, so in opposition to this route, we received six specific comments. Summarized as shown on the pie chart.

But just to go over those quickly, some about the route, some concerns about the route running through

neighborhoods, others, and this would have been impacts on historic landmarks, so that would have been some of those individually listed properties.

Impacts on transit, vehicle or pedestrian, and then the belief that the roadway was too narrow to accommodate the line.

And then we received eight comments in support of the route. If you'll notice, the largest chunk of that pie chart is that they said it has the least impact on neighborhoods, whereas in opposition somebody felt like it -- they were opposed to it because it went through neighborhoods.

And I just illustrate that just to point out the challenge that I know members of the Committee are aware of, but a lot of these impacts or perceived impacts, they're based on perspective, and where you're coming from, where your area of interest is, various things.

And so it's just the challenge that we face as we try to identify the best routes to bring to the Committee for your decision, and balancing the various environmental factors together with the both real and perceived impacts of the public.

So it's a bit of a challenge. As you see some of these things you might see comments in opposition and in favor that are the same.

Let's see. Let's start going through the overall route and just describing what's going on with it. So we're going back to the left screen, Slide 66.

Okay. So we're starting at Vine Substation. So we already talked about it going through Adams, so we know Adams is a residential street. Then it goes down Park. So on Park there are some -- no 46kV in this case, but we do have some distribution poles that go down Park in this area, and we do go past one of those individually listed properties which is the University Heights Elementary School.

And I believe we have a photo simulation.

Okay. So, yeah, so looking from our key observation point 42, this is located on Park Avenue looking south at Mabel Street, this is just barely south of the simulation we looked at before looking down Adams Street.

So now we're looking down Park. And the building you see on the right side of the photo is the University Heights Elementary School, so it's no longer an elementary school, it now serves as student housing.

But Park Avenue we've discussed is a collector road. And as I mentioned before we do have some existing distribution lines along this today. So we would plan to place all of those wires underground and relocate the

communication wires.

Q. And Mr. Bryner, there are also -- there's a pole, it appears, in the current conditions photo that is not present in the simulated condition that is on the far left side of the current condition. Is that pole going to be removed?

A. (Mr. Bryner) I assume you're talking about this pole on the very far left?

Q. That's correct.

A. (Mr. Bryner) So that's -- I would say that was an oversight in our visual simulation. That's a span guy wire, so it's supporting a line that goes to the east from here and that line would not be placed underground. So that pole would still be there.

Q. Okay. And then otherwise, I see a difference in the pole that's in the far distance there on the current condition versus the one that's in the far distance on the visual -- in the simulated condition. Are we replacing -- yes, there you go. See --

A. (Mr. Bryner) So that's a distribution pole that would be removed with the wires moved underground. And then we would -- in roughly the same location we would have a new 138kV structure.

Q. Okay. And otherwise, are there any other poles and wires that are going to be removed that you haven't

spoken about?

A. (Mr. Bryner) Can't quite tell with the palm trees. I think that would be it.

Q. Thank you.

CHMN STAFFORD: Yeah, because it looks like there's another pole right next to those palm trees, is that staying or going?

MR. ROBINSON: I'm not sure. That is an ally arm pole that would be removed.

CHMN STAFFORD: Okay.

MR. BRYNER: So that would be removed.

CHMN STAFFORD: What is that one?

MR. ROBINSON: It's a distribution pole with the distribution on an ally arm instead of a normal crossarm. That's to allow the wire to be offset on to one side of the pole instead of how it normally spans and is equally balanced.

CHMN STAFFORD: And would that be one removed as part of this project?

MR. ROBINSON: It would be, yes.

CHMN STAFFORD: Okay. Okay. So those are two poles, and the one of them is taken out and one of them wasn't and then pole on the far left would still be there?

MR. ROBINSON: Can I add a little bit of

that?

So under this condition, right, and as we're rebuilding this distribution system in this area, even though that pole, this pole right here, would still be here, either -- either it would be a riser pole which would be a self-supporting structure where the guy wires are now removed and there's going to be an underground riser coming up to feed that distribution circuit overhead going to the east.

Or it would be undergrounded one additional span off from the picture and go up a riser pole at that location.

But the plan would be to probably replace this pole, that detailed design is not complete yet, with a riser pole and eliminate these down guys. This pole would eliminate completely and the distribution pole in the foreground would also go away because it's undergrounded.

CHMN STAFFORD: Thank you.

MR. BRYNER: All right. So moving on. The route at this point, so at this point the route then -- that was weird. Sorry. I'm thrown off by the technology here.

Okay. So the route would leave the West University neighborhood and enter Speedway. And

Speedway, I think it is the first time we've talked about Speedway at all.

Speedway is, again, it's a major arterial road. Speedway doesn't have any overhead utilities on it today. And it's one of the main entryways into the university area campus. It's also a roadway that has some fairly narrow setbacks.

We wouldn't be on Speedway for this route for very long, about one span is all, and then we would turn down Euclid.

Euclid Avenue is also an arterial road and that's what you're seeing in the photo simulation here is Euclid. It's essentially the western edge of the University of Arizona campus so largely on the western -- sorry -- on the eastern side of the roadway you have institutional uses associated with the university, and on the west side you have a mixture of commercial uses, some apartment buildings, and some residential uses.

BY MS. HILL:

Q. Mr. Bryner, before you move on, is Speedway a Gateway Corridor?

A. (Mr. Bryner) Speedway is not a Gateway Corridor.

Q. Okay. Thank you. And you also said one span. Can you just remind the Committee how long -- how far one

span is?

A. (Mr. Bryner) So one span, our typical is around 600 feet.

Q. Thank you.

A. (Mr. Bryner) We can go shorter or longer depending on what on what Mr. Robinson's group dictates.

Let's see. I do want to point out I guess on this simulation here you'll notice there are no overhead utilities on this stretch of Euclid.

But going back to the map, you'll see dotted lines, I know our little key observation point thing covers a lot of them up, but the majority of Euclid does have overhead utilities and you'll see that on a couple of other simulations we have.

MEMBER KRYDER: Mr. Chairman.

CHMN STAFFORD: Yes, Member Kryder.

MEMBER KRYDER: Could you speak -- do I see a distribution line going across to that house from above the sidewalk and across the street? Or am I making up things? It looks like there are three distribution lines that'll go across. Is that true?

MR. BRYNER: You're correct. You're not seeing things there. And I don't know if Mr. Robinson wants to elaborate on that.

MR. ROBINSON: And so in the scenarios that

we have where distribution lines are crossing our proposed facilities at a 90-degree angle, we are not anticipating that we would underground those facilities. Only when there is a pole that is in alignment with the corridor where we're building in.

So under that scenario, if there's a crossing distribution line and there's a pole that is in that corridor, we would underground to the pole on the east and on the west on the perpendicular sides and dip the distribution under where we're building the transmission line and it's in conflict with our proposed route.

MEMBER KRYDER: Thank you very much.

MR. BRYNER: So moving a little bit further south along Euclid Avenue, this key observation point comes from a location on University Boulevard right near the entrance to the university and they call this Main Gate.

In both the current and the simulated condition you can see the overhead wires. Those are not associated with, those are not utility infrastructure nor are they associated with this line, but those are wires associated with the City of Tucson's modern streetcar. So those would all remain. But you can see in the simulation our 138kV pole.

CHMN STAFFORD: This is KOP 46?

MR. BRYNER: KOP 46, correct.

BY MS. HILL:

Q. Mr. Bryner, so do you recall, is this section that we're looking down now, is this within the University Area Plan?

A. (Mr. Bryner) This is within the University Area Plan, correct.

Q. And do you recall when the modern streetcar was constructed?

A. (Mr. Bryner) I'll bet you Mr. Lusk can. It's probably around 2011, '12.

Q. Okay. Thank you.

A. (Mr. Bryner) Now, this is Euclid Avenue now looking north at 6th Street. So this 6th Street is essentially the southern edge of the university campus. This stretch, we do have existing distribution running down Euclid with communications.

And right here, this is actually a span guy supporting a 46kV structure that runs down 6th Street. So we would remove that infrastructure, all of the wires associated with the distribution. That 46kV line, that will be able to be retired as part of this project. And so that would be removed. And we would be left with a single pole line running down Euclid.

Again, in this area you can see some of the university buildings there on the right side of the photo, with some of the residential uses on the left or west side.

CHMN STAFFORD: And this is KOP 47?

MR. BRYNER: Correct.

BY MS. HILL:

Q. Mr. Bryner, I'm sorry, could you explain -- could you tell us how many poles we see removed in this simulated condition as compared to the current condition?

A. (Mr. Bryner) I'm going to try. So you've got one pole, two poles, three poles, four poles, five poles, then it gets hazy for me. Five-plus poles.

Q. And how many of those are actually going to be removed?

A. (Mr. Bryner) Every one of those poles will be removed.

Q. Okay. And so I see one pole in the -- close to us, and then is there another one further down?

A. (Mr. Bryner) So, yeah, you've got this first pole in the simulated condition that's located in roughly the same location as the pole in the current condition.

And then beyond that, you've got a second, a third, and I think I can see a fourth pole, but that's well beyond the area that I identified for the five poles

in the current condition.

Q. Okay. So what, we have one pole for every three or four poles in the simulated condition, one pole, one transmission pole for 138kV versus four, three or four distributions?

A. (Mr. Bryner) Yeah, if you look at the current condition right around here, this is the fourth pole down and that's roughly the same location as this second 138kV pole.

Q. Thank you. And then, I'm sorry, I'm just not clear. I thought you said we were going to see one line, one wire. I see two or three. Did I mishear you?

A. (Mr. Bryner) So our circuits have three circuits -- or, sorry, three wires make up a circuit and then you have an overhead shield wire, so you'll have four wires in the air associated with one of our circuits.

And I'm just noticing this now, but we do have some remnant, I'll call them ghost wires here on our simulated conditions associated with that existing 46kV line that would be removed.

Q. Thank you.

A. (Mr. Bryner) Before I jump to that next key observation point, I do want to point out that throughout this whole stretch where we've talked on Euclid, we're

within the West University neighborhood.

And we'll talk about it in just a second. But the West University neighborhood is within the historic preservation zone, and I believe there are a number of folks that commented last night that were from that neighborhood.

But at this point, south of 6th Street we now enter into the Pie Allen neighborhood. And it's also a historic district. We'll see that here in a second.

But the land uses do change quite a bit from this point into more residential land uses. On the east side and on the west side you have Tucson High School and a couple of commercial businesses.

And you're seeing some of that in key observation point 52, which is shown on the right screen. So within this you're seeing some of the single family residential areas. This is, again this is looking north, so that's on the east side of the road.

And this does have distribution running on both side of the street here, so all that infrastructure on either side of the street would be removed as part of this project if route -- sorry, if route 4 were selected.

MR. ROBINSON: And this would be a good simulation to point out that perpendicular crossing situation, Member Kryder, that you talked about.

Can I see that for just a minute?

As you can see, the silver wire here that is in this rendering is within that corridor. And so we'll need to go one span off the photo frame this way and to the structure just off from the photo frame to the other side of the road and make those riser poles to clear up this corridor.

MEMBER KRYDER: I see. Thank you.

MEMBER HILL: Mr. Chair.

CHMN STAFFORD: Member Hill.

MEMBER HILL: So none of the houses along this street are pulling down electricity from those distribution poles? Is that -- that's a question. Sorry.

MR. BRYNER: So, no, they are.

MR. ROBINSON: All of them are.

MEMBER HILL: When you underground their service how does that affect them?

MR. BRYNER: You want to take that?

MEMBER HILL: When you underground those poles, will there still be things aboveground to --

MR. ROBINSON: The riser pole will still be aboveground.

MEMBER HILL: Okay. So there -- so this looks like there are no other poles except the lights and

138kV, but there will still be riser pole here, service poles?

MR. ROBINSON: We're going to be utilizing the existing service wire pole because it leaves the distribution line to a service wire pole and then goes to the attachment, the riser attachment on the house.

MEMBER HILL: Uh-huh.

MR. ROBINSON: We'll reutilize that connection point.

MEMBER HILL: Okay.

BY MS. HILL:

Q. Mr. Robinson, could you clarify where the service poles, the individual service poles are in relation to the homes?

MS. HILL: If I'm reading your question correctly, Member Hill.

MEMBER HILL: Okay. Yeah. I think if you could just clarify where those service poles are in relation to the homes, please.

A. (Mr. Robinson) So generally speaking they're somewhere on the back lot line that would go -- they're not shown. I don't see any -- oh, there is one that I see here.

So you can see here, that is a service pole that we would utilize, or if that's a secondary pole, we would

relocate that underground to the next service pole.

MEMBER HILL: Okay. So the distribution poles on the photo in the left in the current condition the distribution poles are on the left side and it looks like there's a line that crosses over to the service pole. And you're going to underground all of those distribution lines, maybe even cross the road underground and then come up?

MR. ROBINSON: That's correct. The distribution lines that are shown here would go across the street underground to the next pole and riser up that pole.

MEMBER GOLD: Mr. Chairman.

CHMN STAFFORD: Member Gold.

MEMBER GOLD: I'm looking at the image on the right and comparing it to the image on the left when you talk to that service pole. So if you look at the service pole on the left, okay, now go to the same place on the right.

MR. ROBINSON: It's not there.

MEMBER GOLD: Half of it is there.

MR. ROBINSON: Yes.

MEMBER GOLD: What happened to the other half?

MR. ROBINSON: From a rendering

perspective, these renderings are very difficult to show all of the impacts that are anticipated to occur. And so we did our best to render what we think will accurately be without a full-on design and evaluation of what needs to be undergrounded and how we'll continue to serve our customers.

MEMBER GOLD: So that service pole is actually still going to be there unless the customer wants to underground it?

MR. ROBINSON: Unless the customer wants to convert to an underground service, that service pole would still be there, yes.

MEMBER GOLD: But how would he do that? This looks like it's hooked to the front of the house. You'd underground it to the front of the house, then, the same --

MR. ROBINSON: So what we would do is underground to the service pole and then riser up the service pole and connect to his existing overhead connection at the service pole.

MEMBER GOLD: So it would be overhead or it would be underground?

MR. ROBINSON: It would be overhead. It would be overhead from the service pole into the house. If the customer --

MEMBER GOLD: But if he wanted to underground it he could do that, too?

MR. ROBINSON: Yes, if he chose to convert his service from overhead service to underground service, and put the trenching in and updated their service panel, then we would go to an underground service to his new panel.

MEMBER GOLD: Just out of curiosity's sake, are we talking hundreds, thousands, tens of thousands of dollars to do that?

CHMN STAFFORD: I think Mr. Bryner is going to put that number together and have it for us tomorrow.

MR. BRYNER: Yeah.

MEMBER GOLD: Oh, okay.

CHMN STAFFORD: About what the cost to underground a service line from the street to your home is going to be. I think we asked about that earlier. I think that's one of Mr. Bryner's homework assignments is to come up with an estimate what it takes to underground that service job.

MEMBER GOLD: Gotcha.

MEMBER HILL: Mr. Chair, I have a follow-up question.

CHMN STAFFORD: Member Hill.

MEMBER HILL: So, first of all I really

want to compliment you on, like, really trying to address the aesthetics of all of these things, and I'm trying to follow it all.

I know you want to put the line in service by 2027. What's the project time line for removing the 19 miles of kV -- 46kV and undergrounding the distribution lines? Like, it's probably not the urgent priority of TEP to do that.

So kind of I know you want to put the new line in service, but what's the project time line for doing all the other mitigation pieces, if you will. Can you talk about that a little bit?

MR. BRYNER: Yeah, good comment.

MEMBER HILL: It may be out of place, so forgive me, but I think it will be helpful for me to understand that commitment.

MS. HILL: Mr. Chair, Member Hill, I love that question. Thank you.

MR. BRYNER: Yeah, so Member Hill, to address your question, so certainly there are some areas where we'll have to prioritize removing some of these infrastructure because it is in the way of where our route will go.

MEMBER HILL: Okay.

MR. BRYNER: In the places where it's not

in the way we expect that will take a period of, well, overall for the, you know, we talked about a lot of distribution improvements and the conversion of the distribution circuits from 4kV to 14kV, and that will be associated with replacing a lot of the old distribution infrastructure in here.

And so for all of that work we're expecting it to occur over a period of about 10 years, so from the 2027 time period we're going to start reconfiguring our circuits so that we can retire those 46kV substations, get those out of there, retire those 46kV lines and complete all that distribution work.

And in conjunction with that we would also be working on undergrounding any of these lines that we didn't have to prioritize to get out of the way for the sake of getting the transmission line up.

MEMBER HILL: Okay. That's helpful for -- because I appreciate all of the work that you're trying to do to mitigate those visual impacts, but I wanted to understand, now that I'm feeling the scope of what you guys really need to do and what you need to move, like what will citizens' time line and expectations be around the mitigation work.

Because that's what I'm kind of calling this at this point. So that's helpful. Thank you.

MR. BRYNER: Sure. Thank you for asking the question.

And it is a big project. I wish we could snap our fingers and have it done because it does, it checks the box on so many things that are priorities for us to get done, and it does -- it really cleans up a lot of this area. It will make it look a lot nicer than it looks today. And it doesn't look bad today, but it will make it look better than it does today once this is done, but it's going to take a while.

MEMBER HILL: Thank you.

MR. ROBINSON: Member Hill, can I add just a little bit of clarification --

MEMBER HILL: Absolutely.

MR. ROBINSON: -- on that transition. Right? We're transitioning from a 46kV, 4kV system to a 138, 14kV system.

Outside of the corridor where the 138 line is, we are not anticipating that we would transition any of the distribution from overhead to underground in that conversion. So what is currently overhead would remain overhead.

MEMBER HILL: I do understand that.

MR. ROBINSON: Okay.

MEMBER HILL: Yeah. Thank you.

MR. BRYNER: But, yeah, we do have at a lot of older poles and other things that will be addressed as part of that. One other thing that I'd just like to mention.

I know that we've gone into a lot of detail about the distribution lines and some of the things in the simulations that will go away, won't go away. Our intention with these visual simulations isn't to mislead anyone, the members of the Committee or the public on what's going to happen.

We were trying to represent to our best capabilities what would happen. In some cases we missed things that we shouldn't have missed, some places we removed things that we shouldn't have removed. And so I guess if you'll have a little grace with us, we're trying to represent as best we can what will happen. But without specific designs on every detail of it, it's hard to say.

So at this point we kind of leave some of the residential areas for a bit as we cross Broadway, which we've discussed Broadway is one of the Gateway Corridors. And we cross over Aviation Highway, the Union Pacific Railroad tracks, and this is all within an industrial and commercial area.

Follow down, once we cross over we actually

go to a road called Toole Avenue, which then turns back into Euclid Avenue and we follow Euclid Avenue south through an industrial area. And throughout this stretch we do have overhead utility infrastructure. Again, same thing would apply even though it's an industrial area, we would plan to relocate that underground.

And then just before we get to 36th Street we do move into a residential area. So we start off with residences just on the east side of the road, and then we have residences on both sides of the road. And this is within the South Park neighborhood.

And here is a photo in that area where you do have residences on both sides of the road. So, again, you've got existing --

CHMN STAFFORD: And this is KOP 4?

MR. BRYNER: KOP 4. Sorry. Sorry about that, Chairman.

So you've got existing distribution facilities and 46kV facilities on the east side of Euclid Avenue in this location, with quite a number of communication attachers here. It looks like about five.

MR. ROBINSON: Six.

MR. BRYNER: Six communication attachers, so all of that equipment would be relocated or moved underground. And then we would plan to put up our new

138kV line. Again, we depict it on the east of the road, it's possible that it could go on west side of the road.

I think from a staging perspective it would be much simpler for us to build it on the west side of the road so that then we can wreck out things on the east side of the road. I don't know if Mr. Robinson has any comments on that.

MR. ROBINSON: I think the detail design would need to be completed to determine exactly which side of the road is most appropriate.

CHMN STAFFORD: But the right-of-way would allow either one you're requesting; correct?

MR. BRYNER: The requested CEC corridor, yes.

CHMN STAFFORD: Okay.

MR. BRYNER: And you can see there's a pretty good setback on either side of the roadway here.

And then at this point our route turns to the east and follows 36th Street which, again -- and I forget to mention about Euclid in this area, and you can see it in the photo simulation.

North of Broadway Euclid is an arterial road. So it's a more major road. South of Aviation Highway Euclid is not an arterial road, it's more of a residential or business access road. But 36th Street,

again, is a major arterial road and we have existing infrastructure along that.

Also, one other thing I want to point out on 36th Street on the south side of the road that is the Bridges development that we talked about a little bit. I think you'll see that, too, in this.

So this is KOP, key observation point 3 that we're looking at on the right screen. So in the current condition, on the north side of the road or the right side, you do have existing residential uses.

On the south side, this is the Bridges development, so it's a mixed-use development, you can see some apartment buildings right here. You've got a lot of commercial uses going on there.

And the line you see on the south side of the road is our 138kV line that goes between the Kino and Irvington Substations. That is the first phase of the line that we're trying to complete as part of this project.

On the north side of the road are 46kV lines with distribution underbuild, and this is another area where we failed in our simulation, and we would plan to remove that infrastructure as part of this project.

So that 46kV line would be retired, the distribution lines would be placed underground. So you'd

end up just having the single line on the south side of the road because for this project we would collocate the new circuit on the same structures that have been already been built and are capable of handling a second circuit.

CHMN STAFFORD: Is that a streetlight attached to, like, a utility pole?

MR. ROBINSON: It is. Yes.

MEMBER HILL: That's not uncommon. Happens all the time.

MR. ROBINSON: Yeah, so TEP does have many, many streetlights as part of its offerings to the community and customers.

BY MS. HILL:

Q. Mr. Bryner, then if I could just point out, so just so the transmission line that you see, then, in the simulated condition is part of that Irvington to Kino line that this committee already approved, and has now been completed and is in service.

It appears to me, though, that you are adding the second circuit there in the simulated condition. Right?

A. (Mr. Bryner) That's correct. You can see in the current condition you just have the three insulators coming off on the south side or right of the pole, and in the simulated condition you have insulators and wires on

the left side of the pole.

Q. And then that follows it all the way into the Kino Substation; is that correct?

A. (Mr. Bryner) That's correct. And this same land use situation that you're seeing in the photo exists all the way to Kino Parkway, where again at Kino Parkway we would have -- Kino Parkway would be a Gateway Corridor. We would have a perpendicular crossing of that into the Kino Substation that's located immediately to the east side of that road.

Q. Thank you. So, Mr. Bryner, we're doing things a little differently than we often do. Are you prepared to go ahead and show the Committee the virtual tour for this route?

A. (Mr. Bryner) So I have a couple of other things that I guess I'd like to cover for this route before we get to that.

Q. Sounds great.

A. (Mr. Bryner) Okay. So we won't need to go into nearly as much detail on these plans and overlays and different things, but I want to make sure I cover some of the differences that occur with each route.

So we'll go through in the same order we went through for Route B, for Route 4. But, again, this route falls under the purview of the City of Tucson general

plan, Plan Tucson, and there are a number of neighborhood and area plans, again, more specific plans, that are meant to guideline these decisions within those areas.

Of all of these neighborhood and area plans pertinent to Route 4, the only one that makes mention of anything on the location of utilities is the University Area Plan, which, again, we discussed that in some detail before.

But I do want to mention as well that we believe that Route 4 would be consistent with the University Area Plan because it furthers the purpose of that plan by removing, having a net reduction of six miles of overhead utilities and it would remove 53 poles within that plan area. So when you combine that with Route B, which is the north half of our preferred route, it would have a net reduction of 102 poles and 9.6 miles of overhead utilities.

MEMBER HILL: Mr. Chair.

CHMN STAFFORD: Yes, Member Hill.

MEMBER HILL: Mr. Bryner, when we talked about the mitigation pieces and the time line of roughly ten years to kind of complete all that work, is the University District an area that you would consider kind of a priority for mitigating sooner rather than later?

We talked about you guys would have to do a

bit of prioritizing, but given the area plan or the neighborhood plan would that be a priority area for you guys?

MR. BRYNER: I would -- I don't know if Mr. Robinson has a --

MEMBER HILL: Or maybe -- and it's okay if you say our priorities will be around operational things rather than the area plans or aesthetics. But I'm just kind of curious given the City's planning, like how are you guys treating it in terms of a priority.

MR. BRYNER: I'll say one thing before Mr. Robinson, just, you know, we looked at things going on around the Vine Substation. We don't want to have kind of ugly situations persist any longer than they need to. We want to get in, get out, and get things done as quickly as possible.

Maybe Mr. Robinson will add to that.

MR. ROBINSON: Yeah, I would say, Member Hill, we have an asset management team and a planning department that try to balance out the system reinforcement needs, and these voltage conversions are part of those system reinforcement needs that would be best to answer that question.

MEMBER HILL: Okay.

MR. ROBINSON: We do want to prioritize

that, but it's also a balance of what our overall system needs.

MEMBER HILL: Okay. Thank you.

MR. BRYNER: I think I already covered the Gateway Corridor zones that we would perpendicularly cross as we were going through the route, but we do have the Broadway Boulevard Gateway Corridor and the Kino Parkway Gateway Corridor that we would perpendicularly cross as part of Route 4.

As far as other overlay zones are concerned, so I mentioned we've talked about the Jefferson Park and Feldman's neighborhood historic preservation zones.

This route would go through part of the West University historic preservation zone, and it would go -- and all three of those overlay zones, we would not be inconsistent with those.

And we would go through, skirt the edge of the downtown archeological sensitivity zone. So, again, there would likely be some requirements to have a professional archeologist present to monitor any of your ground disturbing activities.

And then historic districts. This route crosses through four different historic districts. So it's adjacent to the Jefferson Park, but then it crosses

adjacent to Feldman's and through West University and through Pie Allen and adjacent to Iron Horse Expansion Historic District.

But as we discussed before, and this applies for all of our routes, none would have any impact on the designation of those historic districts.

With respect to the class 1 cultural resource study that we had conducted, we do cross, or Route 4 is within the vicinity of eight different sites. Three of those are eligible for listing on the National Register of Historic Places. Five were either not eligible or have yet to be evaluated. And of those, one site was recommended that we have a monitor present.

And the last slide that I want to talk to you on this route is just the low-income areas. So you can, again, see as we see more of the -- of our study area going south, again, a lot of lower income areas.

This route does avoid some of those through the industrial area, south of Aviation it's not considered lower income. But then goes back into lower income, and more importantly lower income residential area.

That's with the slide on -- slide 65 on the right screen, that's why we report it as low-income residential, because these low-income areas, they extend

into industrial and commercial areas, which it's not really fair to characterize that as you're not affecting a person there. So we wanted to distinguish that difference.

But this route, again, crosses through a lot, but most of the area is lower income.

MR. ROBINSON: So Clark Bryner's done a really good job of discussing some of the areas of distribution that will be undergrounded as part of this route selection.

So I'm not going to repeat that, but I am going to emphasize that as we talked about in your design criteria that we try to utilize and collocate our transmission lines where possible, and so when we installed the line from Irvington to Kino Substation, we designed that as a double circle capable structure so we utilize that location without additional impact to our customers and the communities.

And that line path is right here along Park that's coming up to Kino, so that intersection point from here into Kino Substation would be double circuited on existing facilities, and then start on its own facility going to the north up through here.

One of the other things that I want to point out is where I just had any cursor and that's on

the crossing from the railroad tracks and the Aviation Parkway area right here.

Our application indicates that our tallest structures would be possibly 130 feet tall without going through detailed engineering. Crossing Aviation and the additional elevated bridgeways and the railroad tracks, we anticipate that this is the location that these tallest structures would need to be utilized for a few spans in each direction as we get up to that possible 130-feet height and then step back down to our normal 75 to 85-foot-tall structures heading up along Euclid.

The other thing I wanted to point out is that along Euclid, the setbacks are narrow as you saw in the renderings, and the U of A building setbacks on the east side of Euclid are very close to street side and that does not give us room to put the 138 line on the east side of the Euclid alignment, and we would then have to then be on the west side, which is the residential side of street which would possibly require us to pick up a little bit of aerial overhead easement from individual customers along that area.

And then finally, just a commonality from our route selection you can see common to Route 4 or Route B, Adams Street into Vine is a double circuit common overlap. And then if Route C is selected by the

Committee, there's a common overlap here at Speedway over to Park, north on Park into Adams, and up into Vine.

MR. BRYNER: Now we're ready for our visual tour if we can.

MS. HILL: Thank you. While that is being loaded and brought up here, though --

CHMN STAFFORD: How long is the virtual tour?

MS. HILL: What is it, ten minutes?

MR. BRYNER: So I think we're planning on playing it in double speed, not because it's boring or we want to gloss over things but we recorded it fairly slow. And so I want to keep your attention.

MS. HILL: So is that ten minutes?

MR. BRYNER: Probably five, six minutes.

MS. HILL: That's what I thought. So, and then Mr. Chair, I anticipate we would maybe close for the day.

CHMN STAFFORD: Yes, you anticipate correctly. I think after the virtual tour that would be an excellent stopping place to pick up from there tomorrow morning at nine, once you complete the tour.

MS. HILL: Okay. Thank you.

But quickly before we begin the virtual tour, could you turn to Exhibit TEP-12, and Committee

members, you each have a flash drive containing the virtual tour that we're about to show.

And Mr. Bryner, while you're bringing that up could you just -- well, I guess you need to be near your mic for this. Will you lift the exhibits up?

MEMBER HILL: Mr. Chair.

MS. HILL: Oh, I'm sorry.

CHMN STAFFORD: Member Hill.

MEMBER HILL: I do have a question not related to the visual tour, so maybe I'll ask my question then we can go to visual tour. Forgive me.

Yesterday we had a little bit of conversation about the railroad. And the crossing that you propose in your preferred route, has that been approved by the railroad company at this point?

MR. BRYNER: So the crossing has not been approved but it would meet all -- so the railroad puts out design guidelines --

MEMBER HILL: I understand that, yeah.

MR. BRYNER: -- and so it would meet their design guidelines for perpendicular crossing and having the poles set back far enough. So we're not concerned about that. It just takes time.

MEMBER HILL: Okay.

CHMN STAFFORD: But --

MEMBER HILL: Yesterday there was a discussion about how if we did not select the preferred route and we chose a different route, then you would want an alternative because the railroad was -- you didn't have confirmation that the railroad crossing was going to be okay. Am I recalling that correctly?

CHMN STAFFORD: Well, I have written down that they said that Routes 5 and 6 would need railroad authority, so there's some additional hurdles to overcome with the railroad if Routes 5 or 6 are chosen. Correct?

MEMBER HILL: Thank you. Thank you for clarifying that, Mr. Chair.

MR. BRYNER: That is correct.

MEMBER HILL: So my question is does the preferred route have approval for a crossing in a way that 5 and 6 do not?

MR. BRYNER: I think Mr. Robinson wants to clarify this.

MR. ROBINSON: Yeah. The difference between Routes 5 and 6 and Route 4 are both 5 and 6 and 4 cross the railroad. But on the north side of the railroad Routes 5 and 6 parallel the railroad along Aviation Highway for quite a period of time. And that requires additional authorizations and permitting processes through the railroad.

MEMBER HILL: Okay. All right. That's helpful. Thank you.

BY MS. HILL:

Q. All right. So Mr. Bryner, do you have TEP-12 in front of you?

A. (Mr. Bryner) I do.

Q. Okay. And this is a flash drive that contains the virtual tour?

A. (Mr. Bryner) Mine's just a paper.

Q. Okay. Yours is probably plugged in.

Can you explain to the Committee how the virtual tour was created?

A. (Mr. Bryner) So the visual tour was created using a 3D model that was created in PLS-CADD, a design -- software design tool used by our engineering group to develop a -- so create this 3D model, and then we brought that into Google Earth, which just uses commercially variable aerial imagery as a base map.

And then we created a virtual tour path along that, we were able to record that path and then we use some post-processing to add in some labels and different things just to help orient the Committee to what's going on and the different land uses and things happening along the way.

Q. So Mr. Bryner, was this tour created under your

direction and control?

A. (Mr. Bryner) Yes.

Q. And does it contain accurate information or an accurate simulation of each of the alternative segments that we've identified?

A. (Mr. Bryner) Yes, it does.

MS. HILL: Okay. I'm going to move for the admission of TEP-12, then.

CHMN STAFFORD: I'll admit all the exhibits at end of the presentation, end of your direct case.

MS. HILL: That's right. Old habits die hard.

CHMN STAFFORD: I'm paying attention. I got them all checked which ones you're covering and like I think I've said it before, the parties have all stipulated to TEP Exhibits 9 through 11.

MS. HILL: Thank you.

CHMN STAFFORD: I still expect Mr. Bryner, he's the third panel that's going to cover all that, isn't he?

MS. HILL: Yes, we would. If we've stipulated to the admission of it, though, I believe that Ms. Grabel's idea is we can breeze through it fairly quickly.

CHMN STAFFORD: Yes.

MS. HILL: And not put everyone through the painful process of --

CHMN STAFFORD: Right. It should cut his presentation time in at least half, I would think.

MS. HILL: One would hope.

CHMN STAFFORD: Yes. I guess it depends on how many questions he gets.

MS. HILL: I guess so. All right.

BY MS. HILL:

Q. And so Mr. Bryner, could you please begin the virtual tour of Route B-4 which is the preferred route when they're combined.

A. (Mr. Bryner) Yes. Grace, could you start it? Thanks.

This is just an overall map showing our study area. We'll zoom in on the route.

So now we're at the DeMoss Petrie Substation, so you can see, it looks like, there you go, that's the generation site right in there. So you've got a lot of existing infrastructure going on.

Now, this is Grant Road we're coming up on right here. So you can see it's a major road. Our 400-foot-wide corridor is represented with the orange lines on either side of the roadway, so it does extend quite a bit out.

Q. Mr. Bryner, does the virtual tour simulate the conditions post-project or does it simulate the conditions as they are currently?

A. (Mr. Bryner) It simulates the conditions as they are currently. We didn't model all of our infrastructure. There are some remnants that Google Earth models in this, but we did not model that.

So you can see it's primarily commercial all along Grant Road. You do have some mixed residential uses.

Q. What are we crossing, Mr. Bryner?

A. (Mr. Bryner) So right there, that was 1st Avenue or Euclid right there that we just crossed and now we're turning on to Park Avenue.

So now you do see some remnants that Google Earth builds in there on the east side of the road, the right side of the road and our 138 on the -- sorry, our 138's on the right side. The 46 is on the left side. But this is residential uses primarily going through this area. You can also see some of the university buildings off in the distance there.

So this is going through the Jefferson Park neighborhood and now we're turning down on Adams Street. So again you see some of those residential uses. Some of the higher density apartments and some of the multiplexes

I was talking about. Coming in, you see the hospital there and the Vine Substation, or the site of the Vine Substation.

So now we're kind of backtracking on that, again, we talked about how for our preferred route we will use --

CHMN STAFFORD: Can you pause it a second? Can you back it up a little bit? The yellow lines is the corridor you're talking about?

MR. BRYNER: Correct.

CHMN STAFFORD: Is the corridor boundary on the right going through those people's backyards.

MR. BRYNER: You're seeing that correct. So, again, we have no intention of going there. Our intention with the corridor is so we can be on either side whatever the main road was. But in some areas, it's wider than others and we wanted to just make it simple and have a single width of a corridor.

CHMN STAFFORD: Okay. I don't know if my fellow members feel like -- I feel like that's kind of almost too broad a net to cast.

MS. HILL: Mr. Bryner, Mr. Chairman, may I ask a couple of clarifying questions?

CHMN STAFFORD: Certainly.

//

BY MS. HILL:

Q. So, Mr. Bryner, is the corridor designed to also encompass any aerial easements or blowout from the line?

A. (Mr. Bryner) So it would encompass any of those. It's primarily intended to be location of the poles, but it would encompass the full width of the right-of-way.

Q. Okay. And so then the Chairman is saying, you know, this is -- this goes far into the residential area further than they're discussing. Could you just clarify at this time does TEP intend to condemn any private property for this project?

A. (Mr. Bryner) We do not. TEP, as a matter of practice we -- that's our last resort. We always try to look for different ways of doing that. So no, we don't plan to condemn. We don't plan to purchase homes, demolish homes.

And I think if the Committee is uncomfortable with the 400-foot-wide corridor we could get some more descriptive language that gave us the flexibility to go to either side of the roadway that we intend to be on without raising fear in any neighboring residents.

CHMN STAFFORD: All right. And you're talking about aerial easements. Does that mean that the power line would span over someone's home? Or it would

be in front of their home and over their property. But it looks like the setbacks aren't very far on the right side, but that could be an optical illusion because we're looking at it at slightly an angle.

MR. BRYNER: So I'll let Mr. Robinson address that with respect to being located over homes.

MR. ROBINSON: NESC code gives us some restrictions about building setbacks and safe working distances between buildings, so we would not be looking for an aerial easement that would encroach upon an existing building.

In addition to that --

CHMN STAFFORD: But it would be -- it could be over the property.

MR. ROBINSON: Yes.

CHMN STAFFORD: The homeowner's property, so it could span their front yard but it wouldn't span over the actual residential structure itself.

MR. ROBINSON: That's correct.

CHMN STAFFORD: Okay.

MR. ROBINSON: And just to clarify, in some of my earlier testimony about route selection, the route does have to be buildable. So if you look at the yellow edges that go through the backyards of these facilities, that route is not buildable. So we couldn't use that as

a proposed route for this facility; right? The only route that will work is along the streets.

CHMN STAFFORD: Unless you condemned all that property.

MR. BRYNER: That's correct.

CHMN STAFFORD: Then you own it and have big giant vacant lots with a power line in it through the neighborhood.

MR. BRYNER: We'd make a lot of friends that way.

CHMN STAFFORD: Yeah, that doesn't sound like a good plan at all. Okay. Yeah, looking at it, it didn't occur to me that the corridor was that wide compared to the street. This does give me some heartburn. I think we may need to, you know, put some clarifying language in the description of that to make it clear that you are not -- if the Committee grants the CEC we're not authorizing you to build it over the homes or under the homes for that matter.

But, yeah, I think that will -- it wouldn't -- I don't -- I'm not comfortable doing a normal description of it as here's the corridor, it'll be 400 feet wide, the final right-of-way will be 100 feet wide. But even a 100 foot wide right-of-way is going to look, if it's --

MEMBER HILL: Mr. Chair.

CHMN STAFFORD: -- going to encompass a good chunk of that residential property there, isn't it? I guess I better look, because I can't tell what the width of that road is, but I think the actual tour we'll be able to see what we're talking about but I think we'll definitely need to pay attention when we drive down the street for the route.

MEMBER HILL: I mean, my observation is that I know the intention is to put it down Vine, but like the right-of-way that you're proposing would allow you to put it down Ring if you wanted to. I mean, it encompasses like that narrow city block and goes all the way to the other side of the adjacent street. So I think we need to tighten that up little bit.

MEMBER LITTLE: Mr. Chairman.

CHMN STAFFORD: Yes, Member Little.

MEMBER LITTLE: Would it be possible to for you guys to talk amongst yourselves, the applicant, and maybe come up with some language that -- because I realize that it needs -- the corridor will need to be wider on the four-lane streets than it is on the two-lane streets, and I recognize that that's why you just wanted it to be a consistent width.

But perhaps there's some language that we

could use that says the corridor will span the street up to the setbacks on either side of the street or something like that. You know, you guys are the experts in that kind of thing.

I just do not -- I don't feel comfortable with this, and I think that -- I think that, I mean technically we are giving you the right to do whatever you want all across those houses. And I don't think that that is really something that we would feel comfortable doing.

MR. BRYNER: That's fair enough. Chairman, to your point, Member Little, to your point, we can come up with some language that addresses that. Our only ask is really the flexibility to go to either side of the road --

MEMBER LITTLE: Sure.

MR. BRYNER: In the event there's something we need to avoid or we run into a challenge.

MEMBER LITTLE: And I don't think that we disagree with that at all. It's just that we want to --

CHMN STAFFORD: Yeah, it's just that the -- the edge of the right-of-way is in the backyard.

MEMBER GOLD: Mr. Chairman.

MEMBER LITTLE: Third house over.

CHMN STAFFORD: Yeah, the backyard of the

third house back from the street.

Member Gold.

MEMBER GOLD: Mr. Chairman, where's the actual property line? Do these poles go beyond the individual property lines? Or do they stay off the property lines?

MR. BRYNER: So Member Gold, that all depends on the location. So in general the poles, the poles will be in road right-of-way, but there are some area as Mr. Robinson attested to that we feel like we're going to have to get some private easement for the -- to accommodate that blowout.

CHMN STAFFORD: Because there's a setback from the -- because you have the edge of the street and then there's the -- the kind of easement that's the -- there's a setback from the edge of the street, and there's -- they'll have the easement in that, somewhere in that space to place the pole.

And that's going to be pretty close to where the structure is. Like, do their property lines extend all the way to the street or is there -- or there's a chunk of city property between the edge of the road and before the property line of the homeowner, that's where the line's going to have to go, but -- right?

MR. BRYNER: Yes, that's correct.

CHMN STAFFORD: Okay. But since there's not -- that's not a very big area, you may have to have an easement over the part of the person's front yard to accommodate, because otherwise if there's any sway from the line that would trespass into their property without an easement.

MR. BRYNER: That's correct.

CHMN STAFFORD: All right. I just want to make sure I understand it here.

MEMBER HILL: I have a follow-up question along that line, too.

CHMN STAFFORD: Member Hill, please.

MEMBER HILL: You're using the road right-of-ways which often goes into the yards, so you wouldn't actually have to acquire an easement in a lot of places you plan or using the road right-of-ways because of the franchise agreement; right?

MR. BRYNER: That's correct.

MEMBER HILL: So you might be encroaching on front yards, but it is technically accessible because of the road easement; right?

MR. BRYNER: So, yeah, there are cases, I mean, my front yard goes up to the road. I think of that as my front yard. It may not be my property but I think

of it as mine. But technically it would be owned by the City.

MEMBER HILL: Yeah.

MR. BRYNER: Or a portion of it.

CHMN STAFFORD: All right. Is -- any more questions, Members? Or do we want to proceed with the tour?

MEMBER KRYDER: Mr. Chairman.

CHMN STAFFORD: Yes, Member Kryder.

MEMBER KRYDER: Would it be possible to back up? I'm still caught up on this Vine Substation, and since we've got a nice overhead view could I see it from the overhead? Can you back up that far? It was just around the corner behind the barn there.

MR. BRYNER: Like right in there?

MEMBER KRYDER: Well --

MR. BRYNER: Maybe a little bit further back?

MEMBER KRYDER: Where is it? Where --

MR. BRYNER: The Vine Substation there, it's --

MEMBER KRYDER: Okay. What I was looking for is we talked about the walls and the university substation and your station and then the new station, and I was wondering if I could see that from above. Is

that -- will it show or not?

MR. BRYNER: So I can -- sorry to speak over you, Member Kryder. I can point out those right here. I can't -- since this is a static recorded video, I can't kind of turn it to get you that perfect overhead, but I'll point out where those substations are at relative to our new location, at least I'll do the best I can.

And also, Grace, when we start again, can we go at one and a half time speed? I feel like we might be racing a little bit quick, even for me who's seen this several times.

So right here, I'm just starting at the Vine Substation. So you see these large white buildings right in here? Those are the buildings that you saw in our rendering of the simulation of the Vine Substation site. So that's where the new substation will be located.

TEP's existing U of A Medical Substation is located right here. And then there's just a tiny space in between that, and then this is the university's GIS substation. So they're immediately south of that.

MEMBER KRYDER: Okay. That's very helpful.

I hope we -- will we be stopping there tomorrow or when we're on the ground?

MR. BRYNER: We'll be stopping there several times.

MEMBER KRYDER: Excellent. Okay. Thank you very much.

CHMN STAFFORD: It will be on Thursday, not tomorrow, though.

MEMBER KRYDER: If I'm out there I guess I'll be alone.

MR. BRYNER: Any more questions?

Grace, can you go ahead and play it?

That's a better speed.

MEMBER KRYDER: That's much better.

MR. BRYNER: If anybody feels like they didn't get justice on Grant Road we will see Grant Road several other times. So we can point things out again there.

So now we're on Vine Avenue heading south.

CHMN STAFFORD: That's U of A to the left and residences to the right?

MR. BRYNER: Correct. That was a hospital.

CHMN STAFFORD: Hospital. Okay.

MR. BRYNER: U of A kind of mixes a bit there. And then we are on Adams right here, so now you can see a little more clearly some of those apartments and multiplexes going on. You can see that parking lot

that we saw in some of the photo simulations.

Now we're turning on to Park Avenue. The University Heights Elementary School is right there, or the historic University Heights Elementary School.

You can see a lot of high-rise student housing from the university as we approach Speedway. Speedway Boulevard runs right there. Downtown off in the distance.

Now we're turning on to Euclid, entering into the West University neighborhood. So again, you can see it is fairly tight in here with, you know, apartments on one side, some high-rise buildings on the left side. Getting into some more residential uses on the west side.

You can see Tucson High coming up. And this is 6th Street we're just crossing over, entering into the Pie Allen neighborhood on the left side. Iron Horse neighborhood on the right side. Broadway Boulevard is right here running east-west -- yeah, east-west.

So now we're approaching the crossing of Aviation Highway which is right here, and the railroad tracks. So that's where we'd need some of those taller structures that Mr. Robinson talked about. Going on to Toole Avenue. Now we're entering into a much more industrial area where we'd follow Euclid.

Does the little jog right here, so we'd

have a couple of structures in close proximity to make that turn. We have a school right there as we cross over 22nd Street.

Now we're into the South Park neighborhood. We do start getting a smattering of a few residential uses in here, but still primarily industrial. And now we really get into a lot more residential uses on the east side of the road, or the left side of Euclid Avenue.

And then now we're into residential on both sides of the street.

We're approaching 36th Street.

Now, this, if you look off you can see our existing line from Irvington coming in from the south. We'd join up with this and from there on we'd have a single pole line going into the Kino Substation and this again is that Bridges development that's been spoken of on the right side.

And you'll see there's actually more development there today when we go out on field tour.

We've got a library and a community center on the right side -- or the left side of the road.

And then our Kino Substation as we cross over Kino Parkway.

And that's the preferred route tour.

MS. HILL: Thank you, Mr. Bryner.

And with that, Mr. Chairman, I think we'll conclude our presentation for the day unless there are any other questions from Committee members.

CHMN STAFFORD: Any other questions from members?

MEMBER RICHINS: Mr. Chairman, just a quick confirmation that the power line heights have been cleared with Davis-Monthan, that's not an issue? Just want to make sure we got that.

MR. BRYNER: Yeah, so we're outside of all of the -- it's late in the day -- there's no conflict.

MR. ROBINSON: Thank you.

CHMN STAFFORD: With Davis-Monthan, is that what you asked about?

MEMBER RICHINS: Yeah.

CHMN STAFFORD: Okay. All right. Excellent. Any other questions, Members?

(No response.)

CHMN STAFFORD: All right. We will see you back here at nine a.m. tomorrow. With that, we are in recess.

(Proceedings recessed at 5:07 p.m.)

STATE OF ARIZONA)
)
COUNTY OF MARICOPA)

BE IT KNOWN that the foregoing proceedings were taken before me; that the foregoing pages are a full, true, and accurate record of the proceedings, all done to the best of my skill and ability; that the proceedings were taken down by me in shorthand and thereafter reduced to print under my direction.

I CERTIFY that I am in no way related to any of the parties hereto nor am I in any way interested in the outcome hereof.

I CERTIFY that I have complied with the ethical obligations set forth in ACJA 7-206(F)(3) and ACJA 7-206(J)(1)(g)(1) and (2).

Dated at Phoenix, Arizona, July 14, 2024.

JENNIFER HONN, RPR
Arizona Certified Reporter
No. 50885

I CERTIFY that GLENNIE REPORTING SERVICES, LLC, has complied with the ethical obligations set forth in ACJA 7-206(J)(1)(

GLENNIE REPORTING SERVICES, LLC
Arizona Registered Firm
No. R1035