

1 BEFORE THE POWER PLANT AND
2 TRANSMISSION LINE SITING COMMITTEE

3 IN THE MATTER OF THE APPLICATION OF) DOCKET NO.
4 SOUTHLINE TRANSMISSION, L.L.C., IN) L-00000AAA-
5 CONFORMANCE WITH THE REQUIREMENTS OF) 16-0370-00173
6 ARIZONA REVISED STATUTES 40-360, ET)
7 SEQ., FOR A CERTIFICATE OF)
8 ENVIRONMENTAL COMPATIBILITY)
9 AUTHORIZING CONSTRUCTION OF THE NON-)
10 WAPA-OWNED ARIZONA PORTIONS OF THE)
11 SOUTHLINE TRANSMISSION PROJECT,) CASE NO. 173
12 INCLUDING A NEW APPROXIMATELY 66-MILE)
13 345-KV TRANSMISSION LINE IN COCHISE)
14 COUNTY FROM THE ARIZONA-NEW MEXICO)
15 BORDER TO THE PROPOSED SOUTHLINE)
16 APACHE SUBSTATION, THE ASSOCIATED)
17 FACILITIES TO CONNECT THE SOUTHLINE) VOLUME II
18 APACHE SUBSTATION TO THE ADJACENT) (Pages 162 - 384)
19 AEPCO APACHE SUBSTATION, AND)
20 APPROXIMATELY 5 MILES OF NEW 138-KV)
21 AND 230-KV TRANSMISSION LINES AND)
22 ASSOCIATED FACILITIES TO CONNECT THE)
23 EXISTING PANTANO, VAIL, DEMOSS)
24 PETRIE, AND TORTOLITA SUBSTATIONS TO)
25 THE UPGRADED WAPA-OWNED 230-KV)
APACHE-TUCSON AND TUCSON-SAGUARO)
TRANSMISSION LINES IN PIMA AND PINAL)
COUNTIES.)

17 At: Tucson, Arizona
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20 REPORTER'S TRANSCRIPT OF PROCEEDINGS

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1 BE IT REMEMBERED that the above-entitled and
2 numbered matter came on regularly to be heard before the
3 Power Plant and Transmission Line Siting Committee, at
4 the Tucson Convention Center, 260 South Church Avenue,
5 Tucson, Arizona, commencing at 9:12 a.m. on the 30th of
6 November, 2016.

7

BEFORE: THOMAS K. CHENAL, Chairman

8

LAURIE WOODALL, Arizona Corporation Commission
IAN BINGHAM, Department of Environmental
Quality

10 LISA WILLIAMS, Arizona Department of Water
Resources

11 JIM PALMER, Counties, Appointed Member

MARY HAMWAY, Cities/Towns, Appointed Member

12 DAVID L. EBERHART, Public Member

JACK HAENICHEN, Public Member

13 PATRICIA NOLAND, Public Member

14

Note: No roll call taken. The following is a list
15 of the parties that made an initial
16 appearance.

17 APPEARANCES:

18 For the Applicant:

19 SUTHERLAND ASBILL & BRENNAN, L.L.P.

By Mr. James Guy

20 Ms. Marty Hopkins

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and

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24 By Ms. Meghan Grabel

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1 APPEARANCES:

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For Intervenor Pinal County:

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For Mountain View Ranch Development Joint Venture:

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By Mr. Todd Jackson
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1 CHMN. CHENAL: Good morning, everybody. Let's
2 begin the morning session. Thank you for your patience.

3 Let's talk about -- Mr. Guy, let's talk for a
4 minute. We spoke off the record for a moment about the
5 timing, how much time we are going to need. Let's share
6 your thoughts with the Committee so we can get a feel
7 from the Committee what they would like to do. So I
8 will let you just kind of rehash what you mentioned to
9 me.

10 MR. GUY: Absolutely. And one housekeeping
11 matter before I even get into that, to the extent most
12 folks are having a hard time hearing, I understand the
13 audiovisual guys have little amplifiers with earbuds.
14 It has an official name, but it ties into the speaker
15 system, so you can actually wear the earbud and hear a
16 little better.

17 Just looking what we have left. We have two
18 panels. We have a panel with three witnesses that we
19 are ready to call. Given the level of questions we have
20 had so far, I suspect this panel we would -- we would
21 finish up shortly after lunch.

22 And then all we have left at that point is our
23 environmental panel that has two environmental
24 consultants. Obviously there will be a lot of questions
25 with that panel. And then we will -- we plan to recall

1 at least one of our witnesses to answer any of these
2 follow-up questions that don't sort of naturally get
3 addressed today and tomorrow.

4 So with that in mind, if this panel finishes up
5 after lunch, the environmental panel, I suspect, would
6 take a little more than half a day as well. So we
7 could -- lots of options. We talked about perhaps
8 starting with that panel today and then working with
9 them Thursday afternoon, after the tour tomorrow. And
10 then Friday would really just be finishing up the
11 environmental panel, recalling any witnesses we need to
12 recall. Then we can leave early Friday.

13 That's a little bit compressed. So it might
14 make more sense, and we want to go Willcox next week at
15 least for a couple days and to finalize the order -- and
16 I am rambling, Chairman. Sorry for that.

17 I think where we were coming down, if this panel
18 goes to 2:00 or 3:00, we could perhaps dismiss today,
19 and then talk to the environmental folks tomorrow
20 afternoon and Friday, but then take off early Friday,
21 and then finish up with our witnesses on Monday in
22 Willcox.

23 CHMN. CHENAL: Thanks, Mr. Guy. Yeah. We don't
24 know how long it is going to take, but I just want the
25 Committee to hear -- looks like we are not going to have

1 a time pressure this week or next. I am very confident
2 we will finish by Wednesday of next week with the two
3 tours. I know some of the Committee members expressed
4 they would like to take the tour. So I think it is all
5 good. And I think with any luck we could, you know,
6 complete the hearing process by Tuesday after the tour,
7 and then start the deliberations and finish up by
8 Wednesday.

9 Yes, Member Woodall.

10 MEMBER WOODALL: My personal desire would be
11 that we proceed and use up each of the days for hearing,
12 because we don't know how long deliberations are going
13 to take. And since there has been discussions with
14 respect to conditions, and since I am sure that some of
15 the members here may have some conditions they want to
16 talk about, I would prefer that we proceed and not take
17 a break in the afternoon.

18 But I am just one person. And part of it is
19 because to take, you know, this much time away from
20 people who have regular business hours is challenging.
21 So that's just my own perspective on it.

22 CHMN. CHENAL: Okay.

23 Yes, Member Noland.

24 MEMBER NOLAND: Thank you, Mr. Chairman.

25 I think we just should proceed as best we can

1 and not work until 5:30 or, you know, well into dark.

2 But one thing that I would like to discuss just
3 as a housekeeping matter, and tagging onto Member
4 Woodall's comments, the last hearing we had was SunZia.
5 As we got into the conditions and so on, there were a
6 lot of, I think, substantive conditions that were popped
7 on us a lot last minute. And I don't think it is fair
8 to the Committee members and I don't think it is fair to
9 the applicant to not have time to consider those.

10 And we had a rule in the legislature, and you
11 had to file your amendments and so on, you know, 24
12 hours ahead of time to have them considered. Now, we
13 don't really have that time, but I think if there is
14 going to be a substantive amendment or additional
15 condition, we at least ought to have it prior to
16 beginning our meeting that day where we are going to
17 consider them. And I know it is sometimes hard to be
18 able to develop those, but I don't care if they are
19 handwritten and copied as long as I have time to
20 consider the ramifications. And I think it is only fair
21 to the applicant to have time to consider the
22 ramifications.

23 So as a Committee, I would hope that maybe,
24 either formally or informally, we could just make an
25 agreement that a substantive amendment or condition

1 would be provided to everyone prior to the beginning of
2 the meeting where we are going to consider it.

3 CHMN. CHENAL: Okay, great. Very good. That's
4 obviously a very good point, Member Noland. That might
5 require a little break at some point to allow people on
6 the Committee to come up and spend a little time
7 studying the CECs. I am in the process of doing that
8 myself, so I would appreciate a break at some point to
9 do that, and then get that information to the applicant.
10 Because my plan would be to provide some additional CECs
11 from previous cases, and ask your word processing
12 department to create, you know, kind of a modified list
13 which track changes and such. So that's going to take a
14 little time to do that. But anyway, okay.

15 Member Woodall.

16 MEMBER WOODALL: Are you anticipating having
17 someone here so that we can edit as we talk when we
18 arrive at our deliberations?

19 MR. GUY: Absolutely.

20 MEMBER WOODALL: Okay. So you will have some
21 document on the screen and we can change it. Okay,
22 great. Thank you.

23 MR. GUY: Absolutely.

24 MEMBER WOODALL: Thank you very much.

25 CHMN. CHENAL: And thank you, Member Noland,

1 because I also agree that that was a little difficult in
2 that situation, and I think that could be avoided very
3 easily. Looks like we will have plenty of opportunity
4 to have a break here before, you know, to give members
5 an opportunity to kind of work on some draft CECs, and
6 we can do that in a little more orderly fashion.

7 Okay. Member Woodall.

8 MEMBER WOODALL: And since, Mr. Guy, you were
9 going to be working with the counsel for Mountain View
10 Ranch with respect to some conditions, perhaps you could
11 communicate the desires of the Committee in terms of a,
12 you know, filing, and not at the last minute.

13 MR. GUY: We will do that.

14 MEMBER WOODALL: Thank you.

15 CHMN. CHENAL: Okay. Any more housekeeping
16 items or comments or questions from the Committee?

17 (No response.)

18 CHMN. CHENAL: Okay. Well, let's proceed then
19 with the new panel. I know Colette had asked me last
20 time don't forget to swear the witnesses in. So I have
21 it here. I am not going to forget.

22 Do you gentlemen prefer an oath or affirmation?

23 MR. BECK: Either is fine for me.

24 CHMN. CHENAL: Okay. I will ask you to raise
25 your right hands.

1 (Doug Patterson, Edmond Beck, and Andy Rawlins
2 were duly sworn.)

3 CHMN. CHENAL: Thank you, very much.

4 Mr. Guy, please proceed, or Ms. Hopkins.

5 MR. GUY: Thank you, Chairman.

6

7 DOUG PATTERSON, EDMOND BECK, and ANDY RAWLINS,
8 called as witnesses, having been previously duly sworn
9 by the Chairman to speak the truth and nothing but the
10 truth, were examined and testified as follows:

11

12 DIRECT EXAMINATION

13 BY MR. GUY:

14 Q. So we are going to start with Mr. Patterson,
15 Doug Patterson.

16 Good morning, Doug. Could you state your name
17 for the record.

18 A. (BY MR. PATTERSON) Doug Patterson.

19 Q. And do you see in front of you an exhibit binder
20 that has Southline's exhibits in it?

21 A. (BY MR. PATTERSON) I do.

22 Q. Would you locate for me Exhibit STL-6 and
23 identify that document.

24 A. (BY MR. PATTERSON) Yes. This is the PowerPoint
25 presentation that I created for today's hearing.

1 MR. GUY: Thank you, Mr. Patterson.

2 We have placed that exhibit up on the screen,
3 and would offer STL-6 into evidence at this time.

4 BY MR. GUY:

5 Q. Mr. Patterson, we will offer STL-6 into evidence
6 as we -- let's go ahead and get started on that. Would
7 you please tell us a little bit about your educational
8 background.

9 A. (BY MR. PATTERSON) I have a bachelor's degree
10 from Dartmouth College.

11 Q. And please describe your professional background
12 for us.

13 A. (BY MR. PATTERSON) My background is primarily
14 in the investment and development area, I spent the last
15 24 years, including significant focus in the energy
16 utility and infrastructure areas. Primarily I spent my
17 career at Goldman Sachs, where I was managing director
18 in equity investments.

19 In about 2007 I started becoming interested in
20 forming my own entrepreneurial activity, and really to
21 focus on longer-term investments, and formed Black
22 Forest Partners to pursue that.

23 Later, as you heard from Bill Kipp yesterday,
24 Bill and I joined together to push Black Forest forward.
25 It is a private investment and development firm really

1 focused on electric infrastructure, including
2 transmission efficiency. Efficiency and storage
3 opportunities is our primary focus.

4 As a background that may be relevant to these
5 proceedings, we are an active participant in WECC in the
6 planning coordination committee, as well as in the
7 WestConnect regional transmission planning groups. But
8 with respect to today's proceedings, we originated the
9 Southline Transmission Project and serve as the project
10 manager.

11 Q. Okay. And have you previously testified in an
12 administrative proceeding?

13 A. (BY MR. PATTERSON) No, I have not.

14 Q. What will your testimony today cover?

15 A. (BY MR. PATTERSON) Today I plan to give a
16 little more background on the project's history and the
17 design philosophy, to introduce some environmental
18 review and public outreach that helped form the project,
19 to discuss the need and benefits of the project, and to
20 outline estimated costs, and, finally, to walk through
21 the project's compliance with applicable laws and
22 regulations.

23 Q. Thank you.

24 And go ahead and start and give us an overview
25 of the Southline Transmission Project, please.

1 A. (BY MR. PATTERSON) Sure. So zooming out a
2 little bit, you have heard some of this, but to try to
3 just reiterate, at this time the project was really
4 designed to minimize resource impact through the
5 combination of upgrading existing assets and thoughtful
6 siting to follow existing infrastructure corridors
7 wherever possible.

8 The concept, the plan was really to serve
9 multiple purposes and meet multiple stakeholders' needs,
10 where we could address reliability, congestion issues,
11 while also facilitating access to renewables. And in
12 order to do that, we pursued a bidirectional design that
13 could be integrated with the existing system. And the
14 result, as was described in some earlier testimony, is a
15 370-mile integrated transmission project in two sections
16 that we refer to as the new build and the upgrade
17 section.

18 As detailed yesterday, the new build section is
19 roughly 249 miles of a double-circuit 345kV proposed
20 line, meaning one tower with two circuits on the single
21 tower, that would run from Doña Ana County, New Mexico,
22 traveling west into Cochise County.

23 The upgrade section, as discussed previously,
24 would upgrade 121 miles of existing WAPA single-circuit
25 115kV line to, again, a double-circuit 230kV structure

1 running from Cochise County through Pima County to Pinal
2 County.

3 I know we have seen this map before, but on the
4 map on the right, I just want to highlight a couple
5 points for the Committee, really just to locate the
6 overall project.

7 I think as Bill mentioned on the panel
8 yesterday, just to orient you, the origin of the project
9 over in New Mexico, you can see where El Paso is here.
10 Afton is the origination here at an existing substation.
11 We will talk more in a little bit about that later.

12 The stars on this map, just for your reference
13 when you look at it, so the solid stars are really the
14 beginning and end points of the section. So here is
15 Afton. Here is Apache. Here is Saguaro and Tortolita.
16 The open-ended stars represent other intermediate
17 interconnections, which is a critical point of the
18 project we will discuss more later as well.

19 Q. Thanks, Mr. Patterson.

20 And you mentioned that Black Forest and yourself
21 originally developed the idea for the project. Could
22 you describe the origin of the project and how it moved
23 forward?

24 A. (BY MR. PATTERSON) Certainly. So when we were
25 first looking at this -- you know, as you can tell, Bill

1 and I do not come from utility backgrounds, but we had a
2 lot of interest in the long-term opportunities and needs
3 in the infrastructure space in the utility and renewable
4 space. And early on we were analyzing what the
5 potential opportunities were, what was currently out
6 there, and, frankly, if there was an entrepreneurial or
7 a different way to attack issues or opportunities that
8 we saw that were out there.

9 And as we looked at the broader situation and
10 needs, we started to formulate opinions about a
11 philosophy, a strategy, a way that we could meet
12 multiple needs and maximize benefits but minimize
13 impacts and risks.

14 And I will talk a little bit more about that
15 philosophy later, but that helped form the concept that
16 we got started on originally back in about 2009. We had
17 a concept of was there a way to utilize existing
18 infrastructure.

19 And, in fact, the name Southline comes from --
20 the initial Southline is named after an old railroad
21 actually that the Southern Pacific Railroad, part of it
22 had a spur in this area that was used to serve mining
23 purposes. The railroad had been abandoned and tracks
24 pulled up. The initial concept that we were thinking
25 about was could you utilize existing abandoned old

1 right-of-ways, was there ways to minimize impacts,
2 because as we looked at ways, approaches to solving
3 infrastructure, it seemed that minimizing impacts was a
4 key part.

5 And so we came -- really, we had very good
6 advice to get very involved with coordinating regional
7 planning early on. So in 2009 we were introduced to the
8 regional planning process, which is very strong,
9 particularly here in Arizona. And we came to the
10 regional planning process. We talked about the proposal
11 that we were thinking about, which was is there a way to
12 achieve maybe some of the infrastructure goals in a low
13 impact way.

14 And over the next couple of years, working in
15 this coordinated open regional planning process, we
16 started to develop some line design concepts that were
17 really informed by that regional planning. Those
18 discussions and studies really suggested that one very
19 good opportunity was to upgrade the existing WAPA Apache
20 to Saguaro line. And that was an idea that had been
21 previously considered by the utilities in the regional
22 planning studies.

23 CHMN. CHENAL: Excuse me, Mr. Patterson.

24 Member Woodall.

25 MEMBER WOODALL: Did WAPA have this upgrade in

1 its 10-year plans or its construction schedule? Weren't
2 they planning on doing this anyway at some distant point
3 in the future?

4 MR. PATTERSON: Yes, Member Woodall, they did.
5 And, in fact, the plans evolve every year. But at the
6 time, you know, particularly when we were first looking
7 at it, this was a potentially needed upgrade that had
8 been identified for maintenance and operating reasons,
9 which we will get into, it had been identified in
10 10-year plan filings, and subsequently it has been
11 included in different plans of WAPA as well.

12 MEMBER WOODALL: So this upgrade was really not
13 anything new as it related to the new build that you are
14 proposing that segment. In other words, it wasn't like
15 they decided to upgrade because Southline is now doing a
16 new build; they had already planned on it.

17 MR. PATTERSON: No, actually quite the contrary,
18 really. Because really the origin, when we came to the
19 regional planning process, we said would there be a way
20 to bring some of the rich renewables in the area, but to
21 combine that with existing or planned upgrades. And
22 essentially -- and there were others that were
23 considered, but they didn't really, couldn't really meet
24 the needs of trying to get to markets. And, you know,
25 plus they didn't really have as much support or analysis

1 that the existing utilities had already done.

2 So when we were hearing from regional planning
3 that this was really a key line, it had already been --
4 it was in need of upgrade at some point. This is really
5 a question of timing. So, you know, if WAPA was to just
6 wait, you know, does it -- would it need to be upgraded
7 in five or ten or 20 years, you know, our proposal
8 essentially, if it becomes part of a broader project,
9 perhaps you pull that forward in time.

10 MEMBER WOODALL: And, of course, financing for
11 WAPA would always be a -- having the funds to actually
12 do the upgrade would also be an issue, would it not?

13 MR. PATTERSON: Absolutely, absolutely.

14 MEMBER WOODALL: So is there any particular
15 benefit to WAPA by having this entire project be
16 determined to be an appropriate transmission
17 infrastructure program project?

18 MR. PATTERSON: Certainly. And I plan to get
19 into that more --

20 MEMBER WOODALL: Okay.

21 MR. PATTERSON: -- later, but absolutely.

22 MEMBER WOODALL: Okay. I don't want to
23 interrupt your orderly presentation. Thank you.

24 MR. PATTERSON: Anytime.

25 CHMN. CHENAL: But I do. Just kidding.

1 I am looking at the sentence, the second -- with
2 the second clause of that third paragraph, but the need
3 for WAPA or the Arizona entities to do so on their own
4 was not sufficient to implement the upgrade at that
5 time.

6 I just wanted to -- need is a pregnant term in
7 these proceedings, as you can imagine. I won't ask you
8 now, but at some point I want you to explain that,
9 because the way I am reading that was there wasn't a
10 need but now there is. That's one of the things this
11 Committee has the authority to look at, is the need. So
12 that sentence, that clause caught my attention, and I am
13 sure other members of the Committee.

14 MR. PATTERSON: Sure. I will try to address
15 that as we move along, but maybe just, you know, to hit
16 it quickly, you know, really the purpose I am trying to
17 convey there is the sense of timing.

18 And going to Member Woodall's question, at the
19 time the upgrade section had been identified as a needed
20 upgrade, the timing was uncertain, and so there wasn't
21 sufficient need to do it in the time frame that we were
22 contemplating.

23 But if you had multiple entities potentially
24 participating, including the upgrade and the new build
25 section, looking at it in a more integrated project,

1 then that could move the whole project forward. And
2 that could bring benefits to multiple parties, including
3 relief of some of those costs to existing WAPA
4 customers, which we can talk about later as well.

5 MEMBER WOODALL: Yes. If you could explain who
6 owns transmission rights and what are the issues of
7 concern for public power entities related to WAPA, I
8 think that might help us to understand why this was
9 planned but was not built, because typically people like
10 things, but they don't necessarily want to pay for them
11 if they are not necessary. And if you could just very
12 short explain that to us, I think that will help us
13 understand why the TIP plan is important and why your
14 particular project would have been attractive to WAPA,
15 if I am being clear.

16 MR. PATTERSON: I think you are.

17 MEMBER WOODALL: Okay.

18 MR. PATTERSON: I will do my best.

19 MEMBER WOODALL: Sure, concise.

20 BY MR. GUY:

21 Q. Thanks, Mr. Patterson.

22 And you referenced earlier the regional planning
23 processes that you were involved in. Can you talk a
24 little bit more about the Arizona specific processes and
25 your role in those?

1 A. (BY MR. PATTERSON) Sure. So Southline actively
2 participated in some of the broader regional planning
3 that I mentioned, WestConnect, where a number of
4 Arizona -- all the Arizona entities participate. We
5 also have been an active participant since really, you
6 know, 2009 in those proceedings.

7 I would mention, I think it goes to maybe a
8 question that Member Woodall asked yesterday, just in
9 terms of Member Woodall had a question yesterday about
10 some interaction with ACC or ACC Staff, and this may not
11 be completely responsive to that question, but
12 partially, I think it is worth noting that really since
13 2009 we were active participants in Arizona planning
14 processes. ACC Staff attended many of the WestConnect
15 meetings where we had interactions of updating the
16 project as it went along.

17 And we also participated in the BTA processes,
18 the Biennial Transmission Assessment, that Staff
19 prepares every two years to assess the Arizona
20 transmission system. And my understanding of that
21 process is that, you know, any entities with a 10-year
22 plan or other planning projects in Arizona are invited
23 to participate in the BTA process, which we did and we
24 have done.

25 And it really has served as an important

1 coordination and communication forum for the project,
2 both for us to learn about what potentially the
3 opportunities might really be of interest in the area,
4 but also to update others on what we were doing.

5 The slide on the left here that I would like to
6 reference, it is Slide 6, is from the 5th BTA. And in
7 that BTA, there was a -- the utilities were requested to
8 provide their three best renewable transmission
9 projects.

10 And this map, really what I want to just show is
11 that, you know, back in 2009, here is an example of
12 projects that have been submitted by Arizona utilities
13 to the ACC in the docket here that identified the Apache
14 to Saguaro upgrade as a potential line that could be one
15 of the better renewable transmission projects in the
16 area.

17 Really, my point here was just to show some
18 evidence of what was going on at the time in the
19 planning to try to, you know, help lend some support to
20 that this was where the, you know, ideas and
21 coordination was coming from.

22 CHMN. CHENAL: Thank you.

23 Member Woodall.

24 MEMBER WOODALL: When was the first time you
25 filed your 10-year plan with the Commission?

1 MR. PATTERSON: So we filed --

2 MEMBER WOODALL: I think 2015 and 2016.

3 MR. PATTERSON: 2015 and 2016. Prior to that,
4 since we were still working through both refining the
5 scope of the project, doing the technical studies,
6 working through some of the preliminary routing, we
7 didn't feel that it had matured to a level that it was
8 ready to file the 10-year plan.

9 However, to my earlier point, we have always
10 tried to stay in touch and provide outreach as best we
11 can in those planning forums where we had interaction
12 with Staff, for example, to make sure that they were
13 aware of the project, you know, and provide all the
14 information we could.

15 MEMBER WOODALL: Just as a matter of disclosure,
16 I think that I was the project manager for the
17 consultant that did this BTA. So I am not sure, but I
18 believe it was the one that my firm, my then firm did.
19 So not that it means anything about anything, but I
20 thought I would reference it. Thank you.

21 MR. PATTERSON: Thank you.

22 BY MR. GUY:

23 Q. Mr. Patterson, we have gone back and forth kind
24 of from '09, and you mentioned some things going
25 forward. Have you provided a slide that kind of lays

1 out the timeline of this project?

2 A. (BY MR. PATTERSON) Yes. Thank you.

3 So I just want to make sure that I have the
4 right slide number. Sorry, I can't see. I believe this
5 is Slide 7. Yes. So Slide 7 of my presentation really
6 was a way to try to give you, the members, a better
7 overview of the timeline of the overall project. And I
8 will try to briefly walk through this.

9 But really in this early part, 2009 to 2014, we
10 were engaged in preliminary feasibility and design work.
11 A lot of this really was happening in the regional
12 planning processes that I mentioned. That coordination
13 led to the more formal WECC process, which we will talk
14 about more in a minute.

15 It also helped define the scope of the project
16 in terms of these concepts that we throw around now of
17 new build and upgrade, and exactly where we were
18 starting and why, and what interconnections were being
19 proposed. All of that really came out of here. It came
20 out of this area when we were talking about -- when we
21 were coordinating with existing utilities to try to
22 determine what was the best project, really, to take
23 forward. Once we had that scope, that allowed us to
24 really move forward on the routing side. And we will
25 get into this a little bit more in a minute as well.

1 But really, before we kicked off the more formal
2 NEPA permitting process, in addition to kind of
3 coordinating with the utilities, we really initiated
4 some public outreach to help identify routing
5 opportunities and constraints that would help us to
6 define the route, the application we were actually going
7 to move forward in the NEPA process.

8 MEMBER WOODALL: I see.

9 CHMN. CHENAL: Member Woodall.

10 MEMBER WOODALL: Thank you, Chairman. I
11 appreciate it.

12 So during this initial process here, where you
13 are doing public outreach and workshops, I am assuming
14 some of that was done as part of the scoping, perhaps in
15 2011?

16 MR. PATTERSON: Yes.

17 MEMBER WOODALL: And then there were some
18 additional workshops that were in 2014?

19 MR. PATTERSON: Yes.

20 MEMBER WOODALL: Here is what my issue of
21 concern is, and this was why I was asking, you know, who
22 contacted who when. We have a proposal to site a long
23 transmission line, 34 percent of which is going to be on
24 private lands. And I am trying -- I understand you are
25 getting right-of-way from the federal agencies.

1 What I am trying to understand, and what I am
2 sure the Commission would be interested in, is what
3 kinds of efforts were made for outreach for people whose
4 lands would actually potentially be impacted. And it is
5 possible that you may already have what you need in
6 terms of statements of interest in terms of acquiring
7 easements and the like, but I don't know that.

8 And so obviously the federal right-of-way is
9 going to go to federal property, and then when federal
10 property stops, the private property will start. I just
11 want to make sure I have a good understanding of the
12 outreach efforts of the applicant, the environmental
13 consultant, and anyone else that you had so that people
14 who have private property that may need to be acquired
15 for this project were made aware of that.

16 And like I said, you may already have agreements
17 from all the private property owners. But typically,
18 the Commission has always been very interested in
19 knowing just what kind of notice folks have about the
20 potential impacts of a line.

21 And as you know, NEPA is a procedural process,
22 it is not a substantive one. And you kind of -- you
23 have your meetings, you click them off. I did review
24 the comments to your EIS, and there is not a lot of them
25 from private persons. And maybe that's wonderful.

1 Maybe that means there weren't really any issues of
2 concern. But maybe it means that there wasn't a really
3 thorough, thoughtful, and detailed effort to inform
4 people.

5 So that's why I was asking the questions
6 yesterday, and I just thought I would be kind of crystal
7 about the reason. I don't expect you to respond to
8 these questions. I think probably your environmental
9 people will do that. But I wanted to explain to you why
10 I am asking.

11 MR. PATTERSON: Thank you. And I think that
12 clarifies your question. And I will definitely touch on
13 part of that. We will be following up on that in the
14 environmental panel as well. It has been a critical and
15 strategic focus of ours to do as much outreach as we
16 can. And so I believe and hope that we can assure you
17 and the other members that that is the case. And
18 hopefully, through my testimony and the environmental
19 panel, we will do so, and show you really how we have,
20 frankly, gone, you know, done --

21 MEMBER WOODALL: I am appreciative. I
22 understand what you are saying. Because normally I have
23 seen many a NEPA process and there is kind of like a
24 check off the box. I don't know how thorough and
25 detailed it is in terms of actually contacting members

1 of the public.

2 I will just give an example. We have had some
3 transmission line projects by local utilities where they
4 have provided postcards to every person who the assessor
5 indicates has an ownership within certain miles from the
6 project. And so when people come in and say, oh, I
7 never heard about this project, the utilities say, well,
8 we sent them a postcard. And so that's really what I am
9 trying to get at here. And if you have detail on that,
10 I think that would be extremely helpful to the
11 Commissioners. Thank you.

12 MR. PATTERSON: Okay. Thank you.

13 So just to finish off walking through the
14 timeline for the project, really that early coordination
15 and outreach helped form the project that we took
16 forward both for technical studies as well as into the
17 formal NEPA process. And that led through the formal
18 series of scoping and the draft EIS and the final
19 environmental impact statement, which will be further
20 detailed by the environmental panel.

21 Moving forward a little bit, other arms of the
22 project, in order to really -- to establish and
23 determine the commercial need for the project, we
24 sought, as I believe Mr. Virant testified to yesterday,
25 authorization from FERC, who regulates interstate

1 transmission, to, among other things, commence an open
2 solicitation process that would help us identify
3 potential users of the capacity that Southline would
4 have. And I will talk more about that later, but that
5 was an activity in 2015.

6 Also, the final environmental impact statement
7 was published in 2015. And the Western Electricity
8 Coordinating Council, we were granted our Phase 3 path
9 rating, which is important as it helped -- and I will go
10 through this more in detail actually later to kind of
11 establish what the path rating means.

12 Into 2016, the federal record of decision by
13 both BLM for the decisions it needed to make at the
14 federal level, and WAPA for its decisions were issued in
15 2016. We moved forward with the open solicitation
16 process that I mentioned we sought authorization for in
17 2015, and we started to initiate the state process, as
18 we are here today.

19 We are also -- in parallel, we are working on
20 interconnection processes with the underlying utilities
21 that we are working with, and I will detail more about
22 that so you will know about that later.

23 Looking forward, the plan for the project would
24 be to complete the required state processes, both here
25 and in New Mexico that we would need to. Then also,

1 once we have those determined, assuming we are
2 successful in obtaining the determinations, we would
3 look to initiate some of the land activities that would
4 be needed and to complete the surveys that would allow
5 us to get into more detailed engineering, finalize the
6 plan of development, all of which would be necessary
7 before we could get to a financial close on the project
8 in order to move forward for construction, with an
9 anticipated goal of getting to where we could start
10 construction end of next year.

11 And then construction would take place in the
12 2018 to 2020 time period where we would phase operations
13 into service as practical based on obviously needing to
14 maintain service in the upgrade section and working both
15 with WAPA and underlying utilities to do so.

16 CHMN. CHENAL: Member Woodall.

17 MEMBER WOODALL: I raised this yesterday, and I
18 don't know if you are the witness who is going to
19 respond to it, but the land rights in 2017, then you are
20 going to start construction in 2018, I notice that in
21 the EIS, which is Exhibit B to the application, there
22 was a discussion of if the project proponent, Southline,
23 was not able to acquire right-of-way, then Western could
24 conceivably attempt to exercise its powers to acquire
25 that right-of-way. And since if it is a -- you can't do

1 it by agreement, you have to go through some court
2 proceeding process, that can take awhile.

3 So I am just kind of curious about what a -- to
4 me this looks kind of optimistic, if you are just going
5 to start getting the land acquisitions in 2017. Because
6 a typical condemnation process in Arizona from the state
7 may be 18 months if you got a good, you know, attorney.

8 So I am just -- you may not be the witness, but
9 I am kind of rambling on because I want people to know
10 why I am asking these questions.

11 MR. PATTERSON: Sure. I understand. And I may
12 not be the witness to address all of it --

13 MEMBER WOODALL: Sure.

14 MR. PATTERSON: -- but I can touch on part of
15 it. And clearly that is an excellent point as for why
16 we would avoid condemnation at all costs. It is not our
17 intention nor WAPA's intention to exercise or to go into
18 condemnation.

19 MEMBER WOODALL: Well, I am curious. And I am
20 curious about, number one, why would Western be
21 exercising the federal power of eminent domain for
22 property that it is not going to own; in other words, it
23 is going to be your structures on it. So number one, I
24 am interested in that.

25 Number two, I am interested in general about

1 where you are in your land acquisition. Maybe you have
2 got some temporary understandings or something. Because
3 that, to me, is a very optimistic schedule, given that
4 you need -- 34 percent of your land is private. So I am
5 just kind of curious about that aspect of it.

6 MR. PATTERSON: Sure.

7 MEMBER WOODALL: So anyhow... And the reason I
8 was asking about the outreach is, if it is possible that
9 you have this large amount of private land that may be
10 acquired through the exercise of eminent domain, then I
11 personally would want to know how much information these
12 people had on the front end potentially. So that's all.

13 MR. PATTERSON: Yeah. I can help, I think, get
14 at some of that. Because I think drilling into some of
15 the numbers we could do -- it would first be -- well,
16 and first, from the objective, would be to work with all
17 landowners in good faith and not to move to that process
18 at all.

19 In terms of the scope of the private lands at
20 issue, I can talk more about that later, because I think
21 it is a lot less than what might appear, frankly.

22 CHMN. CHENAL: Member Haenichen.

23 MEMBER HAENICHEN: Mr. Patterson, how many
24 individual landowners in the new build section are
25 there?

1 MR. PATTERSON: I don't have those details in
2 front of me, but in Arizona in the new build section I
3 believe that there are something less than a couple
4 hundred, as I recall. We can find the exact. And
5 really that is parcels, much of which is not
6 residential, frankly, I think as you saw from the tour
7 yesterday.

8 Obviously we would still have to work with each
9 one of those landowners, but I think that the level of
10 impact may not be as great as one might think if you
11 just think, you know, private land.

12 The proximity to residences is quite low,
13 frankly, because so much work was done on routing the
14 line, following where there is existing corridors. And
15 the agencies -- you know, we had made our proposal. The
16 agencies selected their federal preferred alternative.
17 But they spent a lot of time trying to avoid as best
18 they could impacts to private landowners, residences, to
19 the best possible they can, considering the overall
20 routing needs. And I think that hopefully the tour will
21 help show a little bit of that, and we may see some of
22 that, too, as we are out on the tour.

23 Now, I don't want to be dismissive, though, that
24 there wouldn't be private landowners who, you know, may
25 be impacted. But what I would like to point out,

1 hopefully which we will come out through the process, is
2 there was a very robust communication of the project and
3 there were multiple opportunities to receive comments.
4 But on the go-forward basis, certainly we would have to
5 work with any individual landowner, and we fully intend
6 to do that.

7 Do we have all the agreements with the
8 underlying landowners at this time? No, we do not, you
9 know, primarily because we couldn't initiate too much of
10 that process until we got through this process. What if
11 we had come here and the route had been changed? And,
12 you know, so then we wouldn't have contacted necessarily
13 the right landowners.

14 But, you know, having said that, I fully
15 appreciate the point that the folks who are potentially
16 impacted need, you know, we need to demonstrate that we
17 have communicated that as best we can and describe the
18 process on the go-forward basis of what we will be
19 doing, which is we really also couldn't go too far down
20 that path until WAPA needed to complete the federal
21 process, the federal NEPA process, before they could
22 identify a route.

23 So there is a little of a chicken and egg, you
24 know, process here. And we are -- but I think hopefully
25 we will be able to demonstrate to you that we have done

1 a good job of communicating where the project is and
2 what our plans are.

3 MEMBER HAENICHEN: I just want to clarify that
4 you and I are on the same page on this. I was talking
5 about the new build section. Were you as well?

6 MR. PATTERSON: I was taking about the new build
7 section.

8 MEMBER HAENICHEN: In Arizona?

9 MR. PATTERSON: In Arizona, yes.

10 MEMBER HAENICHEN: Okay. It seems to me that if
11 there were a couple hundred individual entities
12 involved, it is going to be impossible to get that done
13 without some condemnation. But that's just a guess.

14 CHMN. CHENAL: Let me ask, Mr. Patterson, of
15 those 200 parcels, I don't know that some parcels are
16 owned by more than one person or entity, but have all
17 those parcel owners been contacted about this project?
18 That's my first question.

19 MR. PATTERSON: No, they haven't been directly
20 contacted.

21 CHMN. CHENAL: Have you begun negotiations with
22 any of the parcel owners for, you know, right-of-way
23 rights?

24 MR. PATTERSON: No, we have not. We have
25 started -- we were going to initiate that process once

1 the routing -- following these proceedings.

2 CHMN. CHENAL: Okay. Thanks.

3 Member Woodall.

4 Thank you.

5 MEMBER WOODALL: I understand that the applicant
6 is going to try to supplement the description of the
7 route in the form of a CEC that will be presented to us.
8 What I want to make sure of is that whatever information
9 is in there would inform or notify someone that their
10 property, which would be described in some fashion
11 within the CEC, was conceivably within the corridor.

12 Now, I know you are getting a 200-foot
13 right-of-way, but if you are asking for us to approve a
14 corridor that would include private lands for people who
15 have not been previously notified about it, I kind of
16 want to know what specific information you can give us,
17 and is this -- how wide is this corridor, do you know?

18 MR. PATTERSON: I think another environmental
19 panel is going to address that question.

20 MEMBER WOODALL: That would be fine. I am
21 taking the liberty of having a colloquy rather than
22 asking questions, because I think it will help you
23 understand what type of information I am looking for.

24 Thank you.

25 MR. PATTERSON: Appreciate it. Thank you.

1 BY MR. GUY:

2 Q. Mr. Patterson, I think we want to know a little
3 bit about the outreach, but before we get to the
4 outreach, tell us more generally about the routing
5 philosophy that Southline undertook.

6 A. (BY MR. PATTERSON) Sure. I touched a little
7 bit on this, but just to hit maybe the highlights, the
8 project really was designed to minimize land and
9 resource impacts by focusing on existing corridors and
10 looking for opportunities to upgrade existing lines
11 where possible.

12 We talked a little bit about how that fed into
13 the technical studies and public meetings to kind of
14 share and receive information on those route options.
15 That led into the application that was filed, again at
16 BLM, that triggered the NEPA process. And so
17 subsequently, well, and in parallel, frankly we worked
18 through, on the technical side, through our WECC path
19 rating studies.

20 Q. Thank you.

21 And how were the initial routes developed?

22 A. (BY MR. PATTERSON) So given that basic
23 objective of trying to minimize impacts and utilize
24 existing infrastructure, prior to the formal NEPA
25 process, Southline conducted a number of public and

1 stakeholder outreach meetings in the project area to
2 thoroughly form the basis of alternative routes that
3 Southline would look to propose in its application with
4 BLM and WAPA.

5 As part of this process, we met with local
6 jurisdictions, such as city administrators, county
7 commissioners, Arizona officials, as well as we hosted
8 public meetings in Willcox, Tucson, Marana, and Benson.

9 And to the question about outreach and
10 communication, you know, as best I am aware, that's not
11 standard practice. This was something that most folks
12 were surprised we were doing, to kind of go out, host
13 public meetings ahead of any formal, really even
14 identified project at this time.

15 What we were talking about was a proposal of
16 what we were looking to do. We put up a number of
17 potential routing options and asked for feedback. There
18 were no agencies involved. This was just us,
19 self-organized and funded privately, trying to find the
20 best solutions.

21 It was really extremely helpful. It helped us
22 identify where the best opportunities were. And, you
23 know, for example, a lot of the feedback that we got
24 from individuals who came from private landowners was
25 the affirmation that, that going along existing

1 corridors was the best of possible solutions, and so --

2 CHMN. CHENAL: Let me interrupt you,

3 Mr. Patterson. Member Haenichen has a question. Sorry.

4 MR. PATTERSON: Please.

5 MEMBER HAENICHEN: This is going to expose my
6 own ignorance here, but the NEPA study that was done,
7 did that cover the entire transmission line or only the
8 WAPA portion?

9 MR. PATTERSON: It covered the entire project.

10 MEMBER HAENICHEN: Okay, thank you.

11 CHMN. CHENAL: Member Bingham.

12 MEMBER BINGHAM: Thank you, Mr. Chairman.

13 You keep referencing existing corridors. So am
14 I understanding these private landowners that you are
15 talking about, the 200 parcels already have existing
16 facilities on these parcels?

17 MR. PATTERSON: That's correct. Some form --
18 and I will get more into a little bit of the breakdown,
19 but that's correct. There is some form in the vast
20 majority of the project, it is greater than 95 percent
21 in Arizona and 85 percent across the whole project, is
22 there is either an existing linear feature of some form
23 that's there, or it was upgrading the existing line that
24 has an existing easement for the existing line.

25 So I guess just to move along from how the

1 routes were developed, those outreach meetings were
2 really used to form the basis of the applicant proposed
3 alternatives that we submitted to the agencies. And
4 then they took that into their formal NEPA scoping
5 process. And the environmental panel will talk a little
6 bit more about that formal process and what was done
7 there in terms of outreach with the public, as well as
8 coordination and consultation with other agencies and
9 other entities.

10 But I think it is worth mentioning that the --
11 actually, I apologize. I already talked about that.

12 BY MR. GUY:

13 Q. And then we are kind of going off slides back
14 and forth, but are there other aspects of the public
15 outreach and, in particular, sort of more recent public
16 outreach that you could tell us about?

17 A. (BY MR. PATTERSON) Certainly. So outreach, as
18 I mentioned, has always been a big focus of ours. We
19 view it as an ongoing effort. And it will not stop
20 here, and it will continue on through the construction
21 of the project, et cetera. SWCA will discuss the more
22 formal public involvement in the NEPA process which
23 culminated in the RODs in 2016.

24 But just some additional detail in terms of what
25 outreach we can do that I can add in, we do maintain an

1 active website. We have a very active -- well, we have
2 an open e-mail and phone line system that has been made,
3 folks have used in the past. I think there was a
4 question about, you know, the number of inquiries that
5 we get, and we do get some. We always respond, we
6 coordinate, you know, with WAPA to make sure we are all
7 on the message. But it serves as a very good
8 communication tool.

9 In preparation -- well, we also, you know, one
10 point I would mention in terms of private landowners and
11 communication, in addition to the formal process,
12 through the NEPA process there was some questions about
13 how the existing WAPA upgrade would impact certain
14 areas. One of those was the J-6 Mescal community
15 outside Benson. And they had raised questions, and some
16 of those questions had been addressed or answered in the
17 NEPA process. Some of those questions, they still had
18 additional questions.

19 Following when the ROD came out, the community
20 there reached out to us to ask if we would come and have
21 a meeting with them following the Record of Decision.
22 And we were happy to do so. In September this year
23 there was a -- we went and met with the community to
24 answer questions that they had about where we were in
25 the project, what the process would be, and how, you

1 know, how we would move forward from there.

2 CHMN. CHENAL: Member Woodall.

3 MEMBER WOODALL: This community that you are
4 talking about, is that a lower socioeconomic community?
5 In other words, were there environmental justice issues
6 associated with their concerns?

7 MR. PATTERSON: I --

8 MEMBER WOODALL: That might be --

9 MR. PATTERSON: I don't know.

10 MEMBER WOODALL: Okay. And if there were any
11 communities where there were potential environmental
12 justice issues that were addressed, it would be helpful
13 to me to know where those were. Thank you.

14 MR. PATTERSON: We can, I think, follow up with
15 the environmental panel on that.

16 Other outreach or coordination in preparation
17 for the CEC process, we did reach out to, I think it
18 was, 33 agencies, affected jurisdictions, potential
19 intervenors, inviting them to the prefiling meeting.

20 We did publish our application and transcripts
21 of the prefiling and prehearing conference on our
22 website. I don't know if that's common, but from other
23 projects that I have tried to follow before the
24 Committee, I am not sure that the transcripts were all
25 made available. So we have tried to provide all the

1 information that we can, and we reached out to as many
2 potential interested parties that we can think of.

3 The detailed notice plan that we prepared and
4 was outlined yesterday by Mr. Virant, I believe,
5 included the signs and publications in numerous
6 publications that we mentioned and which we had reviewed
7 at the prefiling conference.

8 And additionally, we met with ACC Staff, I
9 believe it was October 3rd, in preparation for this
10 process as well.

11 I am just going to hit some of the outreach
12 coordination that we have been doing. I would also just
13 add that we were regularly, pretty much every quarter,
14 in front of the -- I was also going to just mention that
15 every quarter we participate with the regional planning
16 meetings, where those are open meetings to anyone who is
17 interested in transmission projects in the area, and we
18 provide updates as well.

19 BY MR. GUY:

20 Q. Mr. Patterson, I want to follow up. You
21 mentioned the publications and the notices. Do you
22 recall how many state and local newspapers we published
23 notice of this proceeding in?

24 A. (BY MR. PATTERSON) I actually don't recall the
25 number off the top of my head.

1 Q. That's fine if you don't recall it.

2 Do you recall whether -- I think it was Matt
3 testified to that yesterday, we had both county and
4 statewide newspapers. Do you recall if Southline
5 included a map of the project itself in either of the
6 newspaper notices or the signs along the side of the
7 road?

8 A. (BY MR. PATTERSON) Yes, a map was included with
9 both of those.

10 Q. And let's shift to the NEPA process. Can you
11 tell us a little bit more about that process?

12 A. (BY MR. PATTERSON) Sure. So BLM and WAPA, as I
13 mentioned, served as the co-lead agencies for the NEPA
14 federal review. This was a six-year comprehensive
15 process that included scoping, impact analysis,
16 significant public involvement, detailed review of
17 alternative routes as well as mitigation planning.

18 There were 17 agencies that formally
19 participated in the NEPA process, and there was a much
20 larger number that were invited to participate -- and
21 the environmental panel can review that, I think --
22 including numerous Arizona entities who were very
23 actively involved, including Arizona Game & Fish, who I
24 think as you heard from that discussion from Bill Kipp's
25 discussion yesterday, but Arizona State Land Office,

1 Cochise County, Greenlee County, Graham County, City of
2 Sierra Vista as well.

3 CHMN. CHENAL: Member Woodall.

4 Excuse me, Mr. Patterson.

5 MEMBER WOODALL: Since you are talking about
6 your outreach or collaboration, your consultation with
7 entities, I did have a chance to look at Exhibit B to
8 the application, which is the EIS. And I know that in
9 Volume 1, on pages 26 and 27, there is a reference to
10 consultation with the New York -- excuse me, the New
11 Mexico Public Regulatory Commission and consultation
12 with the Arizona Corporation Commission. And I don't
13 see anything that indicates that there was any
14 consultation. It simply says this is what the PUC does
15 and this is what the ACC does.

16 So I am curious if there were any consultations.
17 I mean you -- it is referenced in the EIS, but it
18 doesn't say that there were any. It just says, it just
19 describes what the two governments do. Maybe that's an
20 environmental issue.

21 MR. PATTERSON: Yeah. I think we are talking,
22 we were planning on --

23 MEMBER WOODALL: Thank you.

24 MR. PATTERSON: -- looking to address that in
25 the environmental panel.

1 MEMBER WOODALL: Thank you.

2 MR. PATTERSON: So just to move forward a little
3 on the NEPA process, the BLM and WAPA published their
4 final EIS in November of 2015. They issued their
5 Records of Decision in the spring of 2016, which
6 selected the preferred route of the agencies.

7 And I think also, importantly, it committed
8 Southline and WAPA to the proponent committed
9 environmental measures, the PCEMs, that were identified
10 in that final EIS and which will be reviewed really in
11 more detail in the environmental panel. But I think it
12 is germane on the discussion around conditions and
13 standards, et cetera.

14 CHMN. CHENAL: Let me interject at this point.
15 This is an issue I think that's extremely important, and
16 we addressed it at the prehearing conference. This is
17 one line composed of two parts, new build and an
18 upgrade. The upgrade is subject to certain conditions
19 that have been imposed in the Records of Decision for
20 the WAPA line.

21 We are the Committee that sets the standards to
22 be approved by the Corporation Commission and modified,
23 if necessary, for the other part of the line. It is
24 like building a bridge with two different regulatory
25 agencies, but it is one bridge. And I think it is

1 important that at the end of the day, that the line have
2 symmetry in the standards that are applicable for the
3 construction and the environmental protections.

4 So we don't have two standards for, you know,
5 construction and protection. So I think I had
6 mentioned, Mr. Guy and Ms. Hopkins, at some point in the
7 proceeding, probably sooner rather than later, I think
8 it would be very helpful to have some discussion, maybe
9 some handouts, of the conditions that are applicable on
10 the federal -- on the WAPA line through the Records of
11 Decision, so that we can make sure that when we get to
12 the conditions that we impose that there is asymmetry
13 there. I hope I am making myself clear.

14 MR. GUY: You are, Chairman. And it is our
15 expectation that we would do that very thing. I will
16 state -- and certainly the environmental witness can
17 make it evidence as opposed to just a lawyer stating it,
18 but within that ROD that you refer to, BLM ROD, there is
19 both the plan of development and there is these PCEMs
20 that you hear folks reference.

21 It is -- and the witness can testify to this,
22 the PCEMs will actually apply to the entire project. So
23 although they are within that ROD, both WAPA and
24 Southline have committed to follow those conditions for
25 the entire project. And we will have -- I believe

1 that's a document we actually offered as a prehearing
2 exhibit, and we expect to have a copy for this hearing
3 as well. And we can walk through those as deliberately
4 as the Committee would like.

5 CHMN. CHENAL: I think that's important, and
6 that's the PCEMs, the environmental measures, but there
7 are other conditions that are applied through the RODs
8 that I think we also would like to see. And maybe these
9 can be in the form of a handout or summary which would
10 make it easier for us to then craft conditions that
11 would make, you know, those other conditions and the --
12 well, the other conditions, if applicable, applicable to
13 what we are reviewing here.

14 MR. GUY: We will do that.

15 CHMN. CHENAL: Okay.

16 BY MR. GUY:

17 Q. Mr. Patterson, you have moved in your
18 presentation to the ROD agency selected alternative map.
19 Would you describe what you have up on the screen?

20 A. (BY MR. PATTERSON) Certainly. This is the
21 route that WAPA and BLM selected for the agency
22 preferred alternative in the Records of Decision. My
23 colleagues on the environmental panel will go through a
24 little more detail on that and how the agencies reached
25 their conclusion. But this is the preferred route that

1 was established.

2 Q. And was this -- my assumption is this was not
3 the only route or the route that was filed and
4 considered through the NEPA process. There was more
5 than one route considered?

6 A. (BY MR. PATTERSON) Yes. As the environmental
7 panel will go through, there were multiple routes
8 considered through that process. Southline had proposed
9 a range of routes and the agencies considered a number
10 of alternatives to get to this selection.

11 Q. Could you give us -- go back to that map. Could
12 you give us an example of some of the coordination
13 efforts and how you worked with folks to get to this
14 route?

15 A. (BY MR. PATTERSON) Certainly. So I think to
16 understand the route, you need to understand some of the
17 feedback that was provided in the process. One example
18 was discussed yesterday at Crane Lake, which is on the
19 east side of the Willcox Playa shown here on the map,
20 but that was also being balanced with the very important
21 mission of Fort Huachuca and the Buffalo Soldier
22 Electronics Testing Range which is shown in this kind of
23 pyramid shape here. Fort Huachuca is down here in pink
24 on the bottom part of this map. And the Buffalo Soldier
25 Electronics Testing Range extends north, you know,

1 through a good part of the project.

2 We were made aware early on that the mission of
3 the Buffalo Soldier Electronics Testing Range was really
4 critical from a military perspective, also from an
5 economic perspective. Fort Huachuca is a key
6 constituency for southern Arizona. And so they were
7 consulting, making sure that we were taking into
8 consideration the military needs and request was
9 critical.

10 And so there was a real balancing that had to
11 happen in terms of identifying the route in this area,
12 general area of the project, which led to multiple
13 alternatives that were explored that the environmental
14 panel can go through in more detail.

15 But in the end there was good compromise or
16 resolution to find a route that could work, for example,
17 for the military, because it maintained -- stayed on the
18 east side of the Willcox Playa and didn't infringe upon
19 issues that they had.

20 But as Bill Kipp, I think, went through
21 yesterday, we worked, you know, very diligently and
22 creatively with Arizona Game & Fish to come up with
23 mitigation measures that could help, while not avoid the
24 impacts of bringing the line by the Crane Lake area,
25 could help mitigate those through the project that was

1 described yesterday as the Crane Lake relocation, and
2 which you will get a chance to see on the tour.

3 And the other point I would just mention from
4 the Buffalo Soldier Test Range, I think it was also
5 important that the route that we selected, one of the
6 reasons that they could support that route and support
7 the project concept of upgrading the existing line was
8 that their mission, or their measuring of the, basically
9 the electronic, their register of their -- oh, I am
10 sorry, I didn't mean to point the laser in your eye.

11 Upgrading the existing line has much lower
12 impact to the mission because the existing line is
13 already in all their databases, it is a known quantity,
14 as opposed to establishing a new corridor which would
15 create new EMI interference to their mission,
16 potentially.

17 Q. Mr. Patterson, Slide 12 of the presentation
18 discusses or summarizes the mileage that's on the
19 approved route. Could you go through that for us?

20 A. (BY MR. PATTERSON) Certainly. So there has
21 been some discussion of this, but to try and put some of
22 the numbers in context, because I know we have had some
23 discussion around this, but the total, the total project
24 is 370 miles, as discussed. In Arizona, there is 187
25 miles. The portion of the project that is in the

1 application is 71 miles, as has been mentioned.

2 This chart really tries to also break down the
3 type of ownership at the different parts of the project,
4 but also the amount that either has paralleling existing
5 infrastructure or where there is a new corridor.

6 CHMN. CHENAL: Excuse me, Mr. Patterson. Member
7 Woodall has a question.

8 MEMBER WOODALL: I see in your chart here on
9 Slide 12 you have parallel existing. And I am assuming
10 that means a utility corridor of some sort?

11 MR. PATTERSON: Parallel existing
12 infrastructure.

13 MEMBER WOODALL: And my question is: Does that
14 infrastructure include, is it all electrical lines, or
15 are there some areas where there is just pipelines?

16 MR. PATTERSON: Pipelines and transmission lines
17 and other linear corridors in the CEC section that we
18 are talking about, as I think as Mr. Kipp went through
19 yesterday, it is primarily paralleling pipeline and
20 transmission line.

21 MEMBER WOODALL: And so there is a big
22 difference between infrastructure which is below the
23 surface and infrastructure that's above the surface.
24 Would you agree with me on that, sir?

25 MR. PATTERSON: Yes, they are different.

1 MEMBER WOODALL: So I mean it is conceivable
2 that even though this is paralleling existing
3 infrastructure, people might have a different point of
4 view with respect to whether or not to burden their land
5 with infrastructure that is above the surface versus
6 another pipeline, for example. Is that possible?

7 MR. PATTERSON: Yes, I think that's possible.

8 MEMBER WOODALL: So is there any way of letting
9 me know if there is areas where this paralleling an
10 existing corridor, whether there already is electrical
11 infrastructure here in any part of it, where you are
12 saying it is paralleling an existing corridor, or is it
13 all pipeline?

14 MR. PATTERSON: So in the CEC new build section
15 coming in from New Mexico, the first roughly, I believe
16 it is 40 -- I don't have the numbers exactly in front of
17 me, but the first 40 miles or so are paralleling a
18 pipeline. And I think as Mr. Kipp showed on the tour
19 where the route starts to head south towards the Apache
20 station, the remainder of that is paralleling an
21 existing 230kV transmission line of AEPCO's.

22 MEMBER WOODALL: I keep harping back to the
23 private owners, but is it possible that private owners
24 might have a different perspective about granting
25 easements for above-ground infrastructure versus below

1 the surface?

2 MR. PATTERSON: I am sure.

3 MEMBER WOODALL: Anything is possible, I know
4 that.

5 MR. PATTERSON: I am sure that's possible.

6 MEMBER WOODALL: Okay. Anyway, thank you very
7 much. Appreciate it.

8 MR. PATTERSON: So the main point, I think, here
9 is that the vast majority of the project has been
10 proposed to be sited along existing corridors. There
11 may be, to Member Woodall's point, you know, some
12 different levels of impact based on those corridors, I
13 suppose. But in all cases I think it would also be fair
14 to argue that siting alongside an existing corridor,
15 irrespective of what that corridor is, is lower impact
16 than a new corridor, which would require new roads and
17 new, you know, other additional impacts. And I think
18 the environmental panel could talk to that, too.

19 But, you know, this, frankly, you would see both
20 on the New Mexico side, but we think this is one of the
21 reasons why there has been a relatively limited amount
22 of concern on the project, because it is less than a new
23 corridor.

24 But to your point, if it is, if that existing
25 corridor is your property, you may have concerns about

1 that. And what -- this is really, these areas we will
2 do our best to work with folks to come to agreements
3 that are, you know, work for all parties.

4 MEMBER WOODALL: I am sure you will have to.
5 Thank you.

6 CHMN. CHENAL: Mr. Guy, let me ask this question
7 in terms of a morning recess for 15 minutes, if we want
8 to go a little longer, that's fine, if there is a
9 natural breakpoint to Mr. Patterson's testimony.

10 MR. GUY: I think we could break right now if
11 you are ready. This is as good a stopping point as any.

12 CHMN. CHENAL: Okay. Let's do that. Let's take
13 a 15-minute recess, and we will be back here ready to go
14 back at 10:45. Thank you.

15 (A recess ensued from 10:31 a.m. to 10:50 a.m.)

16 CHMN. CHENAL: All right. If we could
17 recommence with the morning session, Mr. Guy, I believe
18 Mr. Patterson is still testifying.

19 Are there any questions we should address before
20 we begin? Let's have that discussion now, otherwise we
21 can resume with Mr. Patterson.

22 Ready to go? Okay. Please resume.

23 BY MR. GUY:

24 Q. Before we move on to talk about the detail on
25 the proposed route, before we do so I want to follow up

1 on some of the discussion we had before the break. We
2 had a lot of discussion about private landowners and
3 potential impact on private landowners. Could you give
4 the Committee a general description of what Southline's
5 philosophy is going to be with land acquisition?

6 A. (BY MR. PATTERSON) Sure. Our philosophy, our
7 approach is going to be to work with private landowners
8 just like we work with all our stakeholders. We are
9 going to look to find voluntary agreements. I would
10 reference the way we worked with other stakeholders is
11 how we would like to work with private landowners
12 ultimately as well.

13 We talked with Arizona Game & Fish and how we
14 worked with them to find mitigations. Even though the
15 route had been determined by federal agencies, we had to
16 get agreement with Arizona Game & Fish about the ability
17 to implement that route and ultimately, you know, get to
18 a right-of-way. Similarly with private landowners, our
19 intent would be to work with all the private landowners
20 and to come to these voluntary agreements.

21 I think it is important to mention that as a
22 merchant project, we have flexibility to do so. I don't
23 know how many other lakes have been moved for
24 transmission projects with a typical utility project.
25 But because this is a commercial private enterprise, we

1 have some flexibility. We have the ability and we have
2 the strong desire to work with those individual
3 landowners.

4 The fact that we haven't gone out and acquired
5 those lands, or started that yet, was mainly because the
6 process hadn't matured to that level. We hadn't, to I
7 think Member Woodall's point, you know, properly
8 identified the exact location of who all these folks
9 would be in order to do so. But on the go-forward,
10 which I think is critical, that would be exactly our
11 plan. Our approach would be, you know, to contact these
12 folks and to work in, you know, in voluntary agreement.

13 CHMN. CHENAL: Member Woodall.

14 MEMBER WOODALL: What is going to happen when
15 the first property owner says no, I am not going to
16 allow you to put a transmission line, I am not going to
17 give you an easement to put a transmission line on my
18 land which is currently burdened with a gas line? What
19 are you going to do?

20 MR. PATTERSON: Well, I would assume that we
21 assess alternative options, would there be the ability
22 to microsite the project so that it, you know, avoids
23 the impact, would there be, you know, other options to
24 work with that landowner, look to explore all options to
25 avoid or mitigate that impact.

1 MEMBER WOODALL: I am saying somebody has
2 acreage out there. They have a pipeline running through
3 it. Let's say it is 100 acres and they say no, I don't
4 want a transmission line going through 100 acres of my
5 private property. What are you going to do?

6 MR. PATTERSON: Well, if there was the ability
7 to microsite and, you know, within the study corridor
8 that we have talked about --

9 MEMBER WOODALL: How wide is that study
10 corridor?

11 MR. PATTERSON: Well, the study corridor on the
12 new build is, it was studied within a mile of the
13 centerline.

14 MEMBER WOODALL: The pipeline?

15 MR. PATTERSON: Not of the pipeline, but of the
16 adjacent proposed route.

17 MEMBER WOODALL: Okay. So we will have some
18 details on that, I am assuming --

19 MR. PATTERSON: Yes.

20 MEMBER WOODALL: -- at some point?

21 MR. PATTERSON: We will be following up with the
22 environmental panel.

23 MEMBER WOODALL: So if we issue a CEC, we are
24 giving the applicant the authority to acquire a 200-foot
25 easement anywhere within a mile-wide corridor? Is that

1 the gist of it, Mr. Guy, or the witness? I mean I am
2 just trying to figure out what is happening.

3 MR. GUY: I think we will probably defer to the
4 environmental panel. I don't actually personally know
5 the answer to that question. I think the environmental
6 experts are going to need to address that.

7 MEMBER WOODALL: Just for my own, and for
8 putting something in the CEC, I mean it is to grant, you
9 know, authority like -- well, anyplace within a mile is
10 one thing, but to say, well, within 600 feet of the
11 centerline of a pipeline roadway is something different.
12 And I just want to make sure that if we grant a CEC that
13 it is really clear where this line is going to be.
14 That's the reason I am asking the questions. Thank you.

15 MR. GUY: I was going to say absolutely, that's
16 a reasonable request, and we need to address that, and
17 we will address it in the CEC.

18 MR. PATTERSON: Well, and we will have
19 additional details, but essentially the alignment
20 would -- we would be requesting a 200-foot corridor -- I
21 mean, I am sorry, a 200-foot right-of-way within that
22 broader corridor to potentially microsite. It may not
23 just be a landowner that maybe needs a particular
24 location, there may be detailed design that we don't
25 know about, and until we complete survey detailed design

1 work, you know, we may need some flexibility around the
2 proposed right-of-way, 200-foot right-of-way that we
3 have put into our application.

4 But that's very different. I want to make clear
5 what we are not asking for is approval for a corridor
6 within which to site the 200-foot right-of-way. It is
7 the inverse, really. We are talking about a 200-foot
8 right-of-way within a study corridor for variations if
9 needed.

10 MEMBER WOODALL: Yes, and I understand what you
11 are saying. What I want to make sure is that the
12 description in the CEC is quite precise, because it
13 could be construed as anywhere within that mile we are
14 saying you can put a 200-foot, you know, right-of-way to
15 put your transmission line. And a mile is long, it is a
16 wide distance. And I just want to make clear I am not
17 expressing whether that's appropriate or not
18 appropriate. I just want to make sure it is clear in
19 the CEC so the Commissioners understand what we are
20 suggesting that they authorize.

21 Thank you.

22 CHMN. CHENAL: And Mr. Patterson, let's go back
23 to Member Woodall's question. I want to make sure what
24 the ultimate leverage is for Southline. Try to
25 microsite. Try to move around this person. But at the

1 end of the day, this person is just not going to
2 negotiate. So at that point, I assume from what we have
3 heard yesterday, you will work with WAPA, and WAPA will
4 use its condemnation power to acquire that right-of-way,
5 is that correct?

6 MR. PATTERSON: Only as a last resort, and
7 really only if WAPA does ultimately participate. And
8 WAPA will only participate if, as I think mentioned in
9 their Record of Decision and some other exhibits, if
10 there is -- you know, they are satisfied with a number
11 of processes, you know, they need to work through, but
12 one of which would be that they are comfortable that
13 there is a federal interest in the project.

14 I mean in this case we are talking about the new
15 build. And if WAPA decides to participate, they would
16 have to be convinced that there is a strong enough
17 federal interest that they would have federal
18 acquisition powers as a last resort.

19 They have expressed, and put into writing as
20 well in other areas like the ROD, I believe, and then
21 the final EIS that, you know, that also is their
22 approach, last resort. I believe at one of the public
23 meetings they shared that in their experience with
24 thousands of miles and decades of doing this, it is less
25 than 2 percent of the time. And most of those, I think,

1 had to do with some other issues as opposed to not just
2 maybe an unwilling landowner, but maybe legal issues
3 that could only be resolved in that fashion, if I
4 recall.

5 So that would be, in the worst case outcome,
6 which is essentially what you are asking for, that's
7 what would happen. But that could only happen if WAPA
8 ultimately decides to participate. We would only
9 want -- we would never want that to happen, but --

10 CHMN. CHENAL: Sure. I know that.

11 MR. PATTERSON: We would only pursue that if we
12 couldn't resolve it by any other means necessary.

13 CHMN. CHENAL: Sure. I did want to hear if
14 nothing else works, what is the last option, and I think
15 you explained that, and I appreciate it.

16 Member Woodall.

17 MEMBER WOODALL: Well, I am kind of surprised
18 that the idea would be -- because you described the
19 project as two separate sections: WAPA's upgrade, they
20 are going to run it, it is going to be theirs; yours is
21 going to be private, you are going to run it.

22 Now I am hearing, well, if we can't acquire all
23 the right-of-way that we need, WAPA would exercise its
24 power of federal eminent domain, and all private
25 property would be located in an easement acquired by the

1 federal government, which kind of makes me wonder if the
2 line between the private nature of your project is as
3 bright as I had initially contemplated here.

4 MR. PATTERSON: Well, the proposal as I think
5 Mr. Virant walked through yesterday, and that is
6 included in exhibit, I believe that's 25, which outlines
7 the presentation WAPA made to its customers, the
8 essential proposal was that, you know, WAPA is
9 considering -- is that WAPA would own and construct the
10 existing upgrade segment. Essentially Southline would
11 be funding the entire project, funding the construction
12 of the entire project. WAPA would be -- would own,
13 operate, construct the upgrade segment. Southline, in
14 return for its financial contributions, would have some
15 capacity rights on the upgrade segment.

16 On the new build segment, Southline would own
17 the physical assets, and WAPA would have transmission
18 rights, and to the extent they did acquire land, they
19 would own land rights.

20 MEMBER WOODALL: They would own the transmission
21 rights, but not the structures, correct?

22 MR. PATTERSON: We would be owning the physical
23 structures, correct.

24 MEMBER WOODALL: Go ahead.

25 MR. PATTERSON: Well, I was going to say to the

1 extent they acquired land, they would own land or own
2 those easements that they were involved in acquiring.

3 MEMBER WOODALL: Yeah. I mean obviously I am
4 not a federal eminent domain lawyer, my expertise lies
5 in the State of Arizona processes, but -- well, I think
6 I have already communicated to Mr. Guy I kind of want it
7 explained. Because I am just -- if this is a private
8 project, and you are going to own the structures and
9 WAPA is going to own, perhaps as a component of your
10 open season process -- is that what they are going to
11 do? I mean is that conceivable? I don't want you to
12 disclose anything, but would WAPA participate in your
13 open season, or could it, hypothetically?

14 MR. PATTERSON: Well, the arrangement between
15 WAPA and Southline really predates the open
16 solicitation.

17 MEMBER WOODALL: Okay.

18 MR. PATTERSON: And I think this goes to a
19 question that came up before to me, but I hadn't
20 addressed it yet. One thing is critical, WAPA has to
21 maintain its contracts with its existing customers.
22 There is an existing line. It is used by existing
23 customers. Those contracts have to be maintained.

24 But beyond that, the existing WAPA customers
25 have future needs. I think we have heard some

1 discussion in the prefiled -- preconference from some of
2 those entities, and WAPA is very focused on making sure
3 that those existing WAPA customers, that their needs
4 will be met.

5 And so part of the proposed arrangement, again,
6 is outlined in Exhibit 25. But essentially the
7 proposition was that WAPA and Southline would split the
8 capacity of the upgraded line based on their
9 contributions. WAPA would be contributing the existing,
10 you know, line, and to the extent they -- you know,
11 other efforts of developing and engineering, et cetera.
12 And --

13 MEMBER WOODALL: So the concept would be that
14 WAPA would conceivably justify its exercise of federal
15 eminent domain, and the public purpose would be to
16 enhance transmission capacity for some of their public
17 power participants, for example? In other words, that's
18 why there is a federal interest, that's why WAPA would
19 exercise eminent domain? I mean, is that conceivable?
20 I know you are not a lawyer.

21 MR. PATTERSON: No, I am not.

22 MEMBER WOODALL: Lucky you.

23 MR. PATTERSON: Subject to being corrected by
24 others on subsequent panels, but my understanding is at
25 least for the upgrade section, since this is --

1 MEMBER WOODALL: I am not concerned about that.
2 I am more concerned about the new build.

3 MR. PATTERSON: Okay.

4 MEMBER WOODALL: Because that's the only thing
5 that is in front of us.

6 MR. PATTERSON: Right. And so I think WAPA
7 believes they would have the federal authority. The
8 particular authorities that they have to implement that
9 I can't, you know, completely speak to myself.

10 MEMBER WOODALL: Okay. So basically you believe
11 that WAPA thinks that if they acquire transmission
12 capacity on the Southline new build component, that it
13 would provide sufficient federal nexus for WAPA to
14 exercise their federal power of eminent domain? Is that
15 what you understand?

16 MR. PATTERSON: That's my understanding. And
17 that was put much more succinctly than I could.

18 MEMBER WOODALL: I just find that really
19 surprising. But then, as I said, my expertise is not in
20 federal eminent domain.

21 Okay. Thank you.

22 If I can go back a little, but even under those
23 circumstances, Southline or SU FERC, son of, daughter
24 of, cousin of, would be operating and maintaining the
25 line?

1 MR. PATTERSON: The new build section, yes.

2 MEMBER WOODALL: So basically WAPA would be kind
3 of a customer in a way, not in the formal FERC sense,
4 but they would just own rights to capacity, but they
5 would not be maintaining or operating the new build?

6 MR. PATTERSON: As proposed, that's correct.

7 MEMBER WOODALL: Thank you, sir. I have no
8 other questions at this time.

9 MR. GUY: And Chairman, if I may, I am not
10 necessarily going to make that a legal argument, or I
11 certainly don't represent WAPA, but it is my
12 understanding exactly the way Member Woodall described.
13 A potential federal interest, and I understand she was
14 not advocating that it is a federal interest, but trying
15 to fairly describe what a potential federal interest
16 might be from WAPA's perspective, that is exactly one of
17 the types of federal interest that I understand WAPA is
18 considering. I think there are others, there may be two
19 or three other things that WAPA is considering.

20 In the plan of development, which is part of the
21 BLM ROD, it generally describes -- this is in evidence,
22 but part of what it says is, you know, if, exactly what
23 we have been saying, if Southline is unable to negotiate
24 an easement, Western may negotiate the easement or
25 obtain the rights through condemnation, and it simply

1 says in accordance with federal law. So they left it
2 very general in here, and I think in part because they
3 may have a number of alternatives.

4 MEMBER WOODALL: Not to beat a dead horse, but
5 one of the reasons why I am interested in the federal
6 acquisition of the land is because the federal
7 government gets the right of immediate possession of the
8 property, whereas the project proponent, I believe, if
9 they were going to exercise eminent domain for a public
10 purpose, you would have to wait for proceedings to be
11 all done before you could get possession. Is that
12 correct?

13 MR. GUY: I am certainly not familiar with
14 Arizona condemnation law, and it probably wouldn't be
15 helpful for me to tell you what Texas law is.

16 MEMBER WOODALL: It is the immediate possession
17 component that is of concern to me. Thank you, sir.

18 MR. GUY: And let me close the gap. Because
19 this is something that we -- it is one of the follow-ups
20 we will likely have Mr. Virant talk a little bit more
21 about, WAPA's participation. And that is one of the
22 things that was sort of left undecided, whether it is
23 the capacity rights that WAPA needs to believe it has
24 sufficient federal interest or whether there is some
25 other participation that can get to what they think is

1 the same place.

2 But in no event, no matter what the
3 participation is, you know, the fundamental parts of
4 this application before the Committee will not change.
5 I mean WAPA will continue to own, operate, and construct
6 the upgrade section, and Southline is before this
7 Committee on the entire new build section. No matter
8 what participation WAPA has, it is not our intent to all
9 of a sudden back up and say, well, you don't have
10 jurisdiction over WAPA anymore. So, you know, this
11 application of Southline is before the Committee,
12 properly before the Committee, and that doesn't change.

13 CHMN. CHENAL: Okay. Thank you.

14 Go ahead, Mr. Patterson, or Mr. Guy.

15 BY MR. GUY:

16 Q. I think, Mr. Patterson, we were about to get
17 into a little more detailed description of what actually
18 is before the Committee, the actual proposed route.
19 Could you -- it looks like you have Slide 13 of your
20 exhibit on your screen. Could you go through that for
21 us?

22 A. (BY MR. PATTERSON) Sure. And this is partially
23 a review of materials that you have seen, so I will try
24 to be brief on this. But it sets the stage for a
25 discussion, a little more detailed discussion around the

1 project elements and some of the other parts that we
2 would like touch on today.

3 But this map, the CEC proposed route, shows the
4 application that's before us today in blue. In blue you
5 can see the CEC new build route coming in from New
6 Mexico, coming down towards Apache. This first portion,
7 to previous discussion, is paralleling an existing gas
8 pipeline. It is roughly this area here.

9 This first part is primarily BLM lands from the
10 New Mexico state border to where it crosses I-10, and
11 then there is a mixture of private and state lands
12 following the pipeline for this 20 something mile
13 section, I believe, before it starts to head south
14 following the existing southwest -- or AEPCO 230kV
15 transmission line towards Apache. At that point, the
16 project would interconnect with AEPCO's Apache
17 substation, and we can talk more about that in detail,
18 or Mr. Rawlins can talk about some of these subsequent
19 interconnections.

20 But the other major elements of the project
21 include tying in AEPCO's Pantano station to the existing
22 WAPA line, which is shown here on the map; tying in
23 TEP's Vail station from the existing WAPA station, which
24 is shown here on the map; tying in TEP's DMP station to
25 WAPA's Tucson station, which is a little harder to see,

1 but is here; and then, finally, interconnecting TEP's
2 Tortolita station to the upgraded WAPA line, which is
3 shown here on the map.

4 Q. And Mr. Patterson, you went through detail --
5 well, this looks like a blow-up of the previous map. Is
6 there anything you would want to add to this?

7 A. (BY MR. PATTERSON) No. I already hit it.
8 Thank you.

9 And there is really not much more to say on this
10 map other than it just might be a little easier to see,
11 but in the upgrade section you can see in gray the WAPA
12 upgraded -- the existing line where the upgraded line
13 would be in blue. You see where the CEC proposed
14 interconnected substations are. Here is Pantano,
15 AEPCO's Pantano, TEP's Vail, TEP's DeMoss Petrie, and
16 Tortolita.

17 Q. Let's move into some of the substance of the
18 project. Would you describe to us the project approach.

19 A. (BY MR. PATTERSON) Sure. So in general, the
20 approach has been to find a multipurpose project. One
21 of our key points of view was that in order to make a
22 private merchant transmission project work, you really
23 need to meet as many needs and maximize the benefits
24 that are possible, at the same time as minimizing risks
25 and impacts. So our approach has always been to

1 weigh -- essentially maximize the benefits and
2 minimizing costs and impacts.

3 We have looked to maximize benefits through
4 finding a project that could be flexible, that could fit
5 into the existing system and meet multiple potential
6 stakeholders' needs. And we did that. And we will
7 drill into some of these specific benefits in terms of
8 the types of reliability improvement, you know, helping
9 alleviate congestion, accessing renewables, and helping
10 to facilitate growth.

11 We have tried to minimize costs by really sizing
12 the project for a size that we think meets commercial
13 and market demands. And by utilizing existing
14 infrastructure, which helps to lower total new mileage,
15 it helps to lower overall costs, it helps to lower
16 environmental impacts, all of which -- and help avoid
17 kind of, you know, an all or nothing type of
18 proposition.

19 CHMN. CHENAL: Mr. Patterson, I have one
20 question. It may be a little awkward, but I am going to
21 ask it. Is Southline in competition at all, to your
22 knowledge, with SunZia?

23 MR. PATTERSON: We really view the two projects
24 as separate projects. And I think, you know, if I
25 could, could we revisit the question after we have had a

1 chance to go through, you know, walking through maybe
2 some of the benefits and costs and discussing the
3 project? Because you will -- I think the short answer
4 is I think what you will -- we have really tried to
5 identify and design a project for, you know, our
6 particular focus.

7 I know that SunZia and other projects have their
8 own focus that they are focused on, a different,
9 perhaps, geographic region or different type of resource
10 or different type of market. And I think if we walk
11 through some of the benefits and costs that we will
12 hopefully help answer that question. But if not, I am
13 happy to come back.

14 CHMN. CHENAL: That's fine. Obviously it is an
15 issue of need. I just think it would make a more
16 complete record to have that. So anytime you feel it is
17 appropriate, that's fine.

18 BY MR. GUY:

19 Q. Mr. Patterson, we have presented a page from
20 your presentation that kind of lays out the existing
21 transmission infrastructure in relation to the Southline
22 project. Could you go over that map for us?

23 A. (BY MR. PATTERSON) Certainly. So this map was
24 really an attempt to help the Committee locate the
25 project from an electrical system perspective, where

1 exactly does the project fit in.

2 I know we have talked about how we will connect
3 the existing system, how -- what do we mean by that,
4 where really is it. So I want to spend a little time on
5 this. And this is a slide or a map that probably we
6 will reference multiple times, because I think it helps
7 illustrate some of the concepts that we are talking
8 about.

9 So first, just to describe the map, this is a
10 map of the extra high voltage system in Arizona and New
11 Mexico coming out of the SWAT regional planning group.
12 This is not comprehensive in terms of all the lower
13 voltage, local systems are not reflected, but this is
14 really showing you 230 and 345 and 500kV systems in the
15 area.

16 The green shaded corridor is the new build area
17 of the Southline project here, and the blue is the
18 upgrade portion of the project. As you can see working,
19 you know, across from the beginning of the new build
20 project, the proposal would be -- or the project
21 interconnects with the existing system here at Afton
22 where there is an existing station. Not shown on this
23 map, but we will detail later, actually an additional
24 part of the project is to tie in this other 345kV line.

25 But the point is that this starts to tie into

1 the existing 345kV system in New Mexico at the beginning
2 portion, and then would come across, go to the existing
3 Hidalgo station in New Mexico before making the approach
4 into Apache, where new Southline facilities would be
5 built adjacent to interconnect to AEPCO's Apache line.

6 Continuing to go through some of the
7 interconnections that the project has in a moment, but
8 it is worth just noting that other major
9 interconnections to the high voltage system in Arizona
10 would include the interconnection to Vail, which we have
11 talked about at TEP's Vail, is electrically important in
12 that that would tie in the EHV system. It connects
13 Southline into that EHV system which creates
14 opportunities, you know, for multiple purposes.

15 And then there are some intra interconnections
16 of the existing WAPA system which aren't shown on this
17 map, but I will go through in a moment. But really this
18 shows how the project would ultimately tie into the
19 existing 500kV system here, for example, here at
20 Tortolita with TEP. And so the project ties into the
21 existing system on both ends and all throughout in the
22 middle.

23 And that essential concept will come into play
24 as we discuss benefits, whether it is reliability or
25 congestion or accessing or delivering renewables. All

1 of those are, frankly, helping to meet growth and
2 demand. All four of those reliable -- all four of those
3 benefits that we have talked about are relevant.

4 And I think this partially goes to Member
5 Woodall's question yesterday about, you know, many of
6 the benefit categories that projects discuss are
7 similar. And, you know, I think this is one point at
8 least that I want to highlight one of the unique things
9 about this project, is that it really is a network
10 upgrade. It is not a, you know, a line just
11 interconnecting a potential resource. It is really
12 looking to improve the system and to provide multiple
13 points of interconnection that can be used for multiple
14 purposes.

15 Q. Thanks, Mr. Patterson.

16 Could you describe -- or I guess let me ask the
17 question. Were regional planning studies conducted for
18 these interconnections?

19 A. (BY MR. PATTERSON) Well, regional planning
20 studies helped define the project scope. And the, yes,
21 the points of interconnection, particularly on the
22 Arizona side of where to interconnect the existing WAPA
23 system, really arose out of the regional planning. So
24 the concept in Arizona of connecting in these additional
25 stations of AEPCO's Pantano, of TEP's Vail, DeMoss

1 Petrie, and Tortolita came out of those regional
2 planning discussions.

3 Q. And after the regional planning discussions, I
4 believe you had said maybe earlier that it has also been
5 subject to the WECC path rating process. Can you tell
6 us about that?

7 A. (BY MR. PATTERSON) Sure. You know, I
8 apologize. Could we back up before I hit that question?

9 Q. Yeah, go ahead, if there is something you
10 missed.

11 A. (BY MR. PATTERSON) There were a couple
12 things -- I apologize -- that I wanted to touch on.

13 One is why the project starts where it starts
14 and ends where it ends sometimes is a question. And
15 two, so starting at Afton had a number of reasons. It
16 did come out of the regional planning. The local, the
17 system operator suggested that would technically be a
18 good place to start.

19 I would also mention that it is a good place to
20 access the existing EHV system in New Mexico without
21 impacting potentially sensitive areas. This is on the
22 west side of White Sands Missile Range and some other
23 sensitive areas. And so it was a way of not creating
24 potential impacts.

25 Afton was also screened as a potentially good

1 place to site large scale renewables on public lands.
2 There were BLM lands, so they had programmatic studies
3 for solar potential there.

4 And similarly, on the other end, in terms of
5 going to Saguaro, that point of -- the termination point
6 also arose out of regional planning. That was the
7 common access point in and around there for multiple
8 entities. TEP's Tortolita station is closely adjacent,
9 and that's what helped facilitate the idea to connect
10 that point at Saguaro. Also APS, this is part of APS's
11 system, and WAPA has an existing connection to APS there
12 as well. It would connect into the existing WAPA
13 system.

14 The other point that I wanted to make is that
15 sometimes there is a question as to why two voltages.
16 So we have a 345kV system proposed in the new build, and
17 we have a 230kV system. And there are a few different
18 reasons. One, the 345 on the new build, on the new
19 build section, the existing system is 345kV. And so to
20 interconnect at 345kV could keep costs low and provide
21 more of a consistent design, minimize costs and minimize
22 impacts.

23 On the upgrade section, WAPA had indicated that
24 their standard to upgrade the 115kV was really to move
25 to 230. They were doing, or planning for that in

1 similar projects, like ED-5 Palo Verde that you may be
2 familiar with, or other areas of the WAPA system where
3 they are looking in the long term to move from 115 to
4 230.

5 There are also constraints, though. And in
6 terms of it wouldn't be practical or desirable to go
7 bigger in that corridor, particularly if we needed to
8 use just the existing 100-foot right-of-way as WAPA has
9 indicated they would in areas that are congested, that
10 where, and we will get into this more, but, you know,
11 where practical, where it is possible, in areas where it
12 is not congested, and if you are able to expand the
13 right-of-way, it would be preferable from an operating
14 and reliability maintenance perspective to have a
15 100-foot, 150-foot right-of-way for the upgrade section,
16 but, if needed, a double-circuit 230 line could be built
17 inside of the existing 100-foot right-of-way.

18 And so the right-of-way constraints, or
19 constraints isn't the right word, but the environment of
20 where they are, their existing easement, helped also
21 determine what the appropriate voltage would be or could
22 be in the upgrade section.

23 Q. Thank you, Mr. Patterson.

24 You have now got in your presentation and
25 description what is entitled Technical Sketch. Could

1 you go over what you are trying to demonstrate with
2 that?

3 A. (BY MR. PATTERSON) Sure. So this slide is a
4 little busy, but it helps answer a lot of questions
5 about the technical scope of the project.

6 This is really just a schematic of the proposed
7 project. The new build is represented in green, the
8 upgrade in blue. I will work my way across just
9 identifying what is on this slide, and then that can
10 carry on to some of the studies that were done and other
11 processes and where we are.

12 But what this slide reflects are all of the
13 proposed interconnections, as we discussed, starting at
14 Afton. The project would move from existing 345kV line
15 in and out and Afton, in addition to building this new
16 double-circuit 345kV line to Hidalgo station, and then
17 ultimately come to interconnect or to come to the new
18 Southline facilities to interconnect with AEPCO's Apache
19 station.

20 The upgrade section between Apache and Saguaro
21 is represented in blue here. This slide tries to
22 outline where the existing WAPA stations are that would
23 need to be upgraded. And those are shown here at Adams
24 Tap. There is WAPA's Nogales station, WAPA's Del Bac
25 station, WAPA's Tucson station, WAPA's Rattlesnake

1 station, WAPA's Marana station, and the facilities
2 necessary to interconnect to APS's Saguaro.

3 What is also shown here are the new
4 interconnections that are here as part of our
5 application on the CEC upgrade section. And those would
6 include tying in AEPCO's Pantano station, which is not
7 currently connected to the WAPA line, tying in TEP's
8 Vail station, connecting to TEP's DMP station to Tucson,
9 and connecting to TEP's Tortolita station.

10 So this plan of service is really what was
11 formed in the early regional coordination planning work.
12 And that plan of service is what was taken forward with
13 some first preliminary studies, and then later into the
14 formal WECC process, the Western Electricity
15 Coordinating Council, to go through, first, the regional
16 coordination process, as I mentioned, which there is a
17 requirement to go through and evaluate projects and
18 their potential impacts on local or on transmission
19 owners in the region of a proposed project.

20 And then that led into the path rating process,
21 where the objective is to obtain a path rating of what
22 the transfer capability of the project could be, taking
23 into consideration the underlying system. The
24 conclusion of the path rating process established that
25 the project could achieve both an east-to-west and

1 west-to-east rating, and essentially the project would
2 have -- is 1,037 megawatts east to west, this segment
3 about a thousand megawatts east to west from Apache to
4 Saguaro.

5 And west to east the capability was more
6 limited, mainly due to the prevailing use, and it is
7 west to east. So there can be more challenges if you
8 try to bring power west to east. But we did do all the
9 studies in a bidirectional manner and established that
10 the project is capable of 430 additional megawatts of
11 west-to-east capability for the upgrade section, and up
12 to 971 megawatts west and east for the new build
13 section.

14 CHMN. CHENAL: Let me ask a question,
15 Mr. Patterson, out of curiosity. The power sucking
16 sound comes from west, so what would be the reason for
17 the west-to-east power flow?

18 MR. PATTERSON: Well, why is there a --

19 CHMN. CHENAL: When you move from the west to
20 east when the power is being used from the west. I am
21 sure there is a reason for it.

22 MR. PATTERSON: Primarily economics.

23 CHMN. CHENAL: Sorry?

24 MR. PATTERSON: Primarily economics. And I have
25 some slides to try and talk about that in a moment. But

1 it is a good question. But basically economics, cheaper
2 power sources potentially could be available.

3 So I mentioned some of the entities that the
4 project would connect to, but just to clarify, so with
5 TEP there would be connections, new connections at Vail,
6 DeMoss Petrie, and Tortolita. With AEPCO there would be
7 a connection of the new Southline facilities to
8 interconnect at Apache and to a new interconnection to
9 interconnect AEPCO's Pantano station to the upgraded
10 WAPA line.

11 It is just worth noting, I think, also that the
12 existing WAPA line does connect into Saguaro, where APS
13 is as well.

14 I think that's what I was going to do on this
15 slide, James, unless there were questions.

16 BY MR. GUY:

17 Q. On this discussion, in your exhibit book to your
18 left, can you identify for me Exhibit STL-22.

19 A. Yes. It is the WECC accepted path rating report
20 that I mentioned.

21 MR. GUY: All right. And Chairman, we would
22 offer Exhibit STL-22 into the record.

23 CHMN. CHENAL: We will admit STL-22.

24 (Exhibit STL-22 was admitted into evidence.)

25 CHMN. CHENAL: And Mr. Guy, I don't know if you

1 moved to admit STL-6, Mr. Patterson's presentation, or
2 not.

3 MR. GUY: I will move to have it admitted at
4 this time.

5 CHMN. CHENAL: Okay. STL-6 is also admitted.
6 (Exhibit STL-6 was admitted into evidence.)

7 CHMN. CHENAL: I am not sure if you have
8 referenced other exhibits, but we will clear that up at
9 the end. But if there are others, before we close the
10 hearing, I assure you we will go through and make sure
11 that everything is accounted for one way or the other.

12 Member Woodall.

13 MEMBER WOODALL: Have you provided a copy of
14 your Exhibit 22 to Staff of the Arizona Corporation
15 Commission?

16 MR. GUY: Yes, ma'am. Actually that report was
17 submitted in response to a data request from Staff.

18 MEMBER WOODALL: And what Staff person made that
19 request?

20 MR. PATTERSON: Zack Branum, I believe.

21 MEMBER WOODALL: I wanted to make sure his name
22 was in the record so I could go back and tell him his
23 name was in the record.

24 MR. GUY: Charles Hains, the attorney, and I
25 think Zack --

1 MR. PATTERSON: Zack Branum.

2 MR. GUY: -- was the technical guy.

3 MR. PATTERSON: James, one other before you move
4 off this.

5 MR. GUY: We are planning to move off this
6 technical discussion, so if you need to add something,
7 please do so.

8 MR. PATTERSON: Sure. I just want to highlight
9 that in addition to the coordination that I mentioned
10 with the Arizona utilities that are mentioned, the more
11 formal interconnection process, which is a distinct
12 process for the WECC process, is in motion. We have
13 submitted an interconnection application to Tucson
14 Electric, and that is currently in motion.

15 We have been working closely with AEPCO to
16 follow up on some of the WECC studies in order to make
17 sure we take into account all considerations that they
18 have, particularly around the interconnection at Apache,
19 and making sure that we have actually defined to bear on
20 WAPA's agreement, at which point we will then initiate
21 the formal interconnection process as well, and as with
22 all the entities, but that is a process that is ongoing
23 as well.

24 I also just want to take a moment to mention
25 briefly that in addition to coordinating with the

1 Arizona utilities, there will need to be -- there is and
2 continues to be coordination with other stakeholders.
3 As I mentioned, particularly with WAPA's existing
4 customers, it is very critical. This is a -- the access
5 to the WAPA Parker-Davis system is very important to
6 many entities here in Arizona, public power, co-ops,
7 many other entities.

8 And entities related to water and water
9 resources, I think we have heard some of that in the
10 prefiled and prehearing. And I just want to note for
11 the record that we fully intend to work with WAPA and
12 those entities to address and resolve any issues.

13 You might note that this particular map shows
14 the Del Bac station, which is an existing station along
15 the WAPA route. CAP in particular, who was at the
16 prehearing meeting, has, you know, identified that they
17 have some questions and concerns or that they want to
18 know more about how certain features of the project will
19 be handled in terms of the design or the costs. And we
20 are fully committed to working with them and WAPA to
21 resolve that.

22 And so really the only point I want to make for
23 the record here is that, although this map shows Del Bac
24 station as an optional substation, the reason that's
25 listed there is because there is not currently service

1 out of this station. But to the extent that Southline
2 project is upgraded and to the extent that CAP has
3 concerns or needs to access some of these existing
4 stations where they either have service or where they
5 are planning on taking service, we are certainly
6 committed to working with them and others to address and
7 resolve any issues they may have.

8 BY MR. GUY:

9 Q. Thank you.

10 And you mentioned coordinating with the other
11 local utilities. And you might have stated this, but
12 could you tell us where you are in the interconnection
13 process with those utilities?

14 A. Yes. I think I mentioned that we submitted the
15 interconnection application with TEP, and we are working
16 with AEPCO to finalize the follow-up from WECC studies
17 in order to submit the application, which we assume --
18 which we will be doing shortly. We have submitted an
19 interconnection application with El Paso Electric, and
20 we will continue to work with all the other affected
21 entities.

22 Q. Thank you.

23 And let's go into talking about some of the
24 purposes of the project itself. Would you give us more
25 detail on the objectives of the project attempts to

1 address that?

2 A. (BY MR. PATTERSON) Sure. So the project
3 provides multiple benefits. And as I mentioned, our
4 goal has really been to maximize benefits while looking
5 to minimize impacts.

6 The benefits that I think are relevant,
7 particularly in Arizona -- and I will look to kind of
8 walk through some of these -- the project improves
9 reliability. It relieves congestion. It supports
10 growth and can help facilitate access to renewables.

11 And we have been trying to -- our objective has
12 been to really balance those benefits or needs against
13 impacts and costs, and we have done that by trying to
14 upgrade system lines following existing corridors,
15 looking to minimize environmental and other cultural
16 impacts.

17 The result of that focus on minimizing impacts,
18 as we mentioned before, is a large, you know, the vast
19 majority of the project, up to 95 percent of the Arizona
20 route parallels or upgrades some form of existing linear
21 corridor.

22 And I will talk a little bit more about on the
23 benefit side in a moment, but essentially we went out to
24 the market in the open solicitation process, and the
25 need for the types of benefits that we were designing

1 the project for was confirmed by the response to the
2 open solicitation window, which the expressions of
3 interest received were in total in excess of the
4 project's capacity. And I have a follow-up slide we can
5 go into more detail, because I know there was discussion
6 yesterday, but just from a bigger picture perspective.

7 CHMN. CHENAL: Member Woodall has a question.

8 MEMBER WOODALL: Mr. Patterson, if this is
9 proprietary, just let me know. But you said you had
10 expressions of interest in excess of capacity. How much
11 overcapacity? Two megawatts? 3,000 megawatts? I would
12 kind of like to get an idea.

13 MR. PATTERSON: Yeah, I don't know that we have
14 provided an exact figure, but it was substantially over.
15 I would have to find out what is commercially sensitive
16 versus not, but if I may, I may follow up on that one if
17 that's okay.

18 MEMBER WOODALL: Sure. So it is bigger than a
19 bread box.

20 MR. PATTERSON: Bigger than a bread box?

21 MEMBER WOODALL: Yes.

22 MR. PATTERSON: Yes.

23 MEMBER WOODALL: Thank you.

24 MR. PATTERSON: So the point on the -- just a
25 closing point on this really, thinking about objectives.

1 So really what -- the only portion of the project that
2 is before the Committee, I believe the entire project
3 would function as an aggregated whole, and the approval
4 of the application would really allow for integrating of
5 the project. It would allow for the upgrade of the
6 existing lines, and would allow for these new
7 interconnections, you know, particularly in Arizona
8 which is going to bring a lot of benefits to Arizona.
9 And that's really what I would like to get into in a
10 little more detail on each of these different benefits,
11 if I may.

12 BY MR. GUY:

13 Q. Let's do that. Let's dive into each one. Like
14 the first one is reliability. Can you describe a little
15 bit more about the reliability benefits?

16 A. (BY MR. PATTERSON) So the project provides
17 substantial reliability benefits, particularly in
18 Arizona. The upgrade section replaces aging
19 infrastructure. The existing WAPA line was built, I
20 think it is, 60 years ago as part of the federal effort
21 to deliver federal hydropower out to Arizona and other
22 areas. The line is aged and has been shown for need of
23 upgrade.

24 This a picture of an existing structure along
25 the line outside Tucson. In the background you can see

1 actually a picture of what an upgraded double-circuit
2 230kV tower looks like. It kind of gives in the picture
3 a sense of perspective of what really we are talking
4 about doing.

5 We are talking about replacing this wooden pole
6 H-frame structure with this steel monopole
7 double-circuit. And my colleague, Andy Rawlins, can go
8 into more of the details there. But really from a
9 reliability perspective, as going into a little bit more
10 detail, these lines are old, they are in need of repair,
11 and there would be reliability benefit from that
12 perspective.

13 Q. And to that point you just raised --

14 A. (BY MR. PATTERSON) Sorry. I just have one more
15 point. Could we go back on this slide for a moment?

16 The WAPA line has also been shown in planning
17 studies to be something of a weak link in the area. You
18 think about it, it runs right through the backbone of
19 Tucson. It was old, 60-year-old, limited capacity line.
20 And that really is evidenced by a study that I think I
21 might have referenced earlier, but the SWAT SATS group
22 performed a study in 2008. And I believe we have that
23 as an exhibit. I am not sure if we already submitted
24 that.

25 But the point of that, the point I want to make

1 about that study is that that study had been relatively
2 recently done when we were first looking at the project
3 and the design. I think that helped shape some of the
4 feedback we got from some of the utilities, because it
5 had identified in a fairly comprehensive manner in the
6 southeast Arizona transmission system, had identified
7 potential challenges and solutions and opportunities.
8 And upgrading the WAPA 115kV line had been identified in
9 that report as something from a technical perspective
10 that could provide benefit. So I just want to mention
11 that in this context.

12 Q. And would you look in your notebook at
13 Exhibit STL-23 and confirm that that's the study you are
14 referring to?

15 A. (BY MR. PATTERSON) Yes, that is the Southeast
16 Arizona Transmission Study report of 2008 that I was
17 referencing.

18 Q. And do you know if that study was also submitted
19 to the ACC Staff as part of a data request?

20 A. (BY MR. PATTERSON) Yes, it was.

21 CHMN. CHENAL: Member Woodall.

22 MEMBER WOODALL: Has this study been updated, do
23 you know?

24 MR. PATTERSON: I actually don't know the answer
25 to that. I don't know if the study itself has been

1 updated.

2 MEMBER WOODALL: I just wonder if -- I mean it
3 is 2008 and time has moved. So I was just curious. So
4 thank you.

5 MR. GUY: Chairman, we would offer
6 Exhibit STL-23 into the record.

7 CHMN. CHENAL: Just one second, Mr. Patterson.

8 MR. PATTERSON: Oh, I am sorry.

9 CHMN. CHENAL: All right. STL-23 is admitted.
10 (Exhibit STL-23 was admitted into evidence.)

11 CHMN. CHENAL: Thank you. Go ahead.

12 MR. PATTERSON: Slide 21, I believe I wanted to
13 discuss a little bit more benefits. This is just some
14 more information about the existing WAPA line, some
15 information that was provided by WAPA where you can see
16 the condition of some parts of this older line. It is
17 really aged beyond its reliable service life. And there
18 are a number of conditions of deterioration that have
19 shown up through maintenance reviews with shell rot and
20 weathering and broken crossarms and braces.

21 Here is an example of a broken arm on an
22 existing structure in between Adams Tap and Nogales.
23 All this is requiring substantial maintenance, and makes
24 it susceptible to risk of weather and introduces safety
25 and reliability concerns such that, you know, almost a

1 third of the transmission line structures, according to
2 WAPA, are either in need of rehabilitation now but also
3 forecasted to worsen as time goes by.

4 BY MR. GUY:

5 Q. Thank you, Mr. Patterson.

6 The second benefit you mentioned in your slide
7 was that the project could reduce congestion. Can you
8 just describe in more detail what you mean by that?

9 A. (BY MR. PATTERSON) Certainly. Increased market
10 access is a potential significant driver for the
11 project. Much of the transmission capacity in
12 southern -- oh, I think I was referring to the
13 right-hand, the Slide 17 as opposed to Map 17 or
14 Slide 17 of my presentation. But I can move on.

15 In thinking about congestion and what the
16 project would do to access the market, much of the
17 transmission capacity in southern Arizona is currently
18 fully utilized. Adding additional capacity could help
19 mitigate existing and anticipated future congestion, and
20 really provide expanded opportunities for Arizona. The
21 multiple on- and off-ramps that we have discussed, you
22 know, due to the interconnections of the project can
23 expand opportunities for Arizona utilities to access
24 cost effective resources, and potentially to reach
25 markets.

1 The chart that's shown here, I think there was a
2 question about why, why west to east and, in the
3 discussion, why would that be of benefit. We kind of
4 wanted to illustrate. This is a graph of forward power
5 prices at market hubs at Mead and Palo Verde, and these
6 power prices are low. And they are projected to stay
7 low. And they offer an opportunity to potentially --
8 power prices at the market hubs is likely lower than the
9 cost of new build generation. So to the extent entities
10 could reach markets, there could be the opportunity to
11 bring cost effective resources from markets back to
12 loads.

13 CHMN. CHENAL: So Mr. Patterson, go back to that
14 last slide, please. What you are suggesting is power
15 from Mead and Palo Verde might be shipped east to meet
16 loads east, and that would be because of the low cost of
17 that power, and also slippage I think you mentioned
18 also, that would be the reason to moving power from west
19 to east?

20 MR. PATTERSON: That would be the economic
21 reason, correct. It would be power prices are
22 essentially -- so, okay, we have this slide back up on
23 the right-hand side. We have this map that we reviewed
24 previously. But -- sorry. My eyes are real bad.

25 But here we have Palo Verde where my pointer is

1 around right here, and Mead. You know, here is the
2 project area. You know, to the extent that power prices
3 are lower at these markets, that could create demand, is
4 the better way to put it, to access these resources that
5 might be lower cost, and that could be a driver of
6 west-to-east use of the line.

7 CHMN. CHENAL: Member Woodall, and then Member
8 Haenichen.

9 MEMBER WOODALL: So when you are talking
10 utilities -- and you are speaking generally, you are not
11 speaking specifically -- do you have any belief that TEP
12 would be acquiring any of this lower cost power? I mean
13 do their integrated resource plans indicate that they
14 are planning on acquiring any or buying in such a
15 manner? Because we are talking up north, Mead and Palo
16 Verde here. And I understand --

17 MR. PATTERSON: I am just using those as
18 examples. Those are markets where there is data to look
19 at and you can compare where the price of power is
20 versus what the cost of building new power is. And that
21 was the point I wanted to make.

22 As far as TEP, I might defer to Mr. Beck who
23 will be speaking later. He could --

24 MEMBER WOODALL: No, that's fine. I just
25 wanted -- you are speaking conceptually.

1 MR. PATTERSON: I am speaking conceptually.

2 MEMBER WOODALL: Okay, thank you.

3 MR. PATTERSON: I am speaking conceptually. We
4 have had -- you know, I think for all of these benefits
5 I am trying to outline, we have had some validation, I
6 think, through our solicitation process, but these are
7 conceptual benefits I want to try and outline.

8 CHMN. CHENAL: Thank you.

9 Member Haenichen.

10 MEMBER HAENICHEN: Mr. Patterson, by the
11 accompanying overgeneration, I presume you mean the noon
12 solar generation peak?

13 MR. PATTERSON: Yes, thank you.

14 MEMBER HAENICHEN: Where is the market for that,
15 though?

16 MR. PATTERSON: Well, that's a good question,
17 and I don't know that I have the answer. But really
18 the -- really putting this up as an opportunity, this is
19 kind of new ground for everyone, given the buildout of
20 renewables, the existing generation that's there, the
21 existing system, figuring out exactly how resources, you
22 know, can be integrated, managed, delivered to where
23 they need to go. I think a lot of people are still
24 trying to figure that out, frankly.

25 The point I want to make, though, from more than

1 just a basic economic perspective, if you think about
2 it, if power prices are already at these low levels at
3 markets, and we know that California, for example, is
4 going to continue to build more and more renewable
5 generation, which is going to create more supply, at
6 least at certain hours, what will that do to prices,
7 does that create opportunities for exchange among
8 parties, and if so, can we implement that.

9 And the point I wanted to make without, you
10 know, making too big a deal out of it is just it
11 provides an option. It is an opportunity. More
12 transmission among entities provides an opportunity to
13 potentially access or interface with dynamics that might
14 be happening, like if overgeneration does in fact
15 pressure prices or create other opportunities.

16 MEMBER HAENICHEN: Yeah. Those are nice general
17 conversations, but the reality is there might be a
18 problem unloading this energy. In conceptualizing this
19 line, this proposed line in the beginning, what fraction
20 of its capacity, were the proponents thinking of being
21 developed indicated to renewables, specifically solar
22 and wind, which are very intermittent, as opposed to
23 just the normal enterprise of dispatching of
24 transmission line? What fraction of it did you have in
25 mind?

1 MR. PATTERSON: You know, we really didn't
2 conceptualize it that way. We really tried to design it
3 so it could be used for multiple purposes. And for both
4 of those, we didn't really -- I can't really provide a
5 quantitative type figure.

6 I can give you a conceptual type answer,
7 perhaps, in that, you know, I think the realities of the
8 potential use of the line, because it does provide both
9 east-to-west and west-to-east capabilities, most likely
10 the east-to-west demand is to access renewable resources
11 and to bring those to loads, and the west-to-east
12 capability is probably more for accessing economic
13 power, you know.

14 MEMBER HAENICHEN: Would you agree that in the
15 absence of a reliable and cost effective bulk storage
16 scheme for electricity that transmitting renewables is
17 kind of a pain in the butt because, you know, you have
18 to give them a dedicated amount of megawatts of
19 capacity, but it is not full utilization of the line
20 during that time?

21 MR. PATTERSON: I would agree that integrated
22 renewables present lots of challenges. And I do have a
23 slide coming up where we talk a little bit about that.
24 Maybe I could hit on part of that question, but if I
25 don't, you know, if I could follow up there.

1 MEMBER HAENICHEN: Okay. But continuing along
2 this line, in the absence of storage, what is the
3 difference between the amount you have to charge per
4 megawatt hour for an intermittent source like solar or
5 wind use and of the conventional fossil fuel generation?

6 MR. PATTERSON: From the transmission, from our
7 perspective we would be looking to transmit or to work
8 with entities in the open solicitation where we were
9 soliciting for capacity on the transmission. So a firm
10 transmission rating is what we are seeking. So the
11 amount of usage would not be -- well, I don't know that
12 I am answering your question.

13 I apologize. Could you rephrase -- could you
14 restate your question? Because I am not sure I got it.

15 MEMBER HAENICHEN: Okay. Let's say you have the
16 option to sell time on the line to two different
17 customers, one which had a nonintermittent
18 characteristic of generation, and the other an
19 intermittent, such as solar or wind. And let's say you
20 had two transmission lines side by side, one was just
21 doing one type of transmission, one the other.

22 What would be the difference in what you would
23 have to charge those customers to make money for the
24 transmission operation?

25 MR. PATTERSON: I don't know that I have a good

1 answer for you on that, other than the way we thought
2 about the way to recover our cost and what has been
3 outlined in the open solicitation is that we essentially
4 have capacity rights that are firm capacity rights that
5 we would be looking for entities to subscribe to and pay
6 for. And whether or not those are used for a 24/7
7 resource or some type of intermittent resource wouldn't
8 be as much of a concern for us, because we would just be
9 charging -- they would be paying for, if they have 100
10 megawatts, they would be paying for 100 megawatts worth
11 of capacity.

12 MEMBER HAENICHEN: Yeah. But the reason for my
13 question is this Committee is going to be faced with
14 more and more renewables, as is the industry, as the
15 future goes on. And I think this is going to -- could
16 be a deal breaker at some point for the system in
17 absence of storage. And so we have to struggle with the
18 viability of these projects based on that argument.

19 MR. PATTERSON: Your point is a fair one. I
20 think that storage may be one potential solution, but I
21 think transmission improvement can help that situation
22 as well. And we will touch on that in a moment, because
23 it may allow the system to integrate those resources in
24 a more efficient manner.

25 And it may not be so much about moving the

1 renewables around from one place to another, but if
2 there is more transmission, particularly if the
3 transmission is connecting multiple entities, those
4 entities may be able to better integrate that
5 transmission using either existing conventional
6 resources that they have or the new planned resources,
7 but this may change the amount of those conventional
8 resources that you need.

9 And we will go over this a little bit more and
10 make -- this won't address your question fully, but I do
11 think that additional transmission can help alleviate
12 part of the challenge that you are raising about
13 integrating renewables.

14 MEMBER HAENICHEN: Because I think the fact is
15 that you will agree that you have to give them firm
16 transmission time for what their purpose is. And it
17 would be impossible to dispatch some other source in the
18 middle of an outage of solar. For example, if it was an
19 hour long, you just couldn't do that. So the line is
20 basically sitting, that portion is sitting idle during
21 that period.

22 MR. PATTERSON: But the other direction could be
23 used potentially to back those resources up. So --

24 MEMBER HAENICHEN: Well, that's storage, but of
25 course they do it now with combustion turbines. Thank

1 you.

2 CHMN. CHENAL: Member Woodall has a question.

3 MEMBER WOODALL: So everybody buys firm capacity
4 from you, and if they don't use it all, what happens to
5 the unused capacity?

6 MR. PATTERSON: You know, I would have to follow
7 up on that.

8 MEMBER WOODALL: Can they sell?

9 THE WITNESS: They have their rights, yes. I
10 actually don't know. I need to follow up with our --

11 MEMBER WOODALL: I mean because obviously the
12 line is always full of juice regardless whose capacity
13 it is, but if you buy firm and you don't need it all,
14 can you sell it to somebody else? That's my question.
15 Thank you.

16 CHMN. CHENAL: Mr. Guy, I see we are about at
17 the noon hour. I see that our estimate of completing
18 this panel by noontime is off. I had these visions as I
19 was looking at this map of the Crane Lake and the crane
20 loafing station of loafing at the Best Western pool
21 later today, this week. But I am not going to have that
22 luxury.

23 I think we are off on our time, which is time we
24 need to do this. But I don't think we are going to have
25 as much fill-in time as we had anticipated.

1 So maybe we should consider the noon break at
2 this time. Would an hour be sufficient for the
3 Committee, so we come back here at 1:00 and resume at
4 1:00?

5 Let's take our break and we will resume at 1:00.
6 Thank you.

7 (A recess ensued from 12:06 p.m. to 1:07 p.m.)

8 CHMN. CHENAL: All right. Good afternoon,
9 everybody. Let's resume the afternoon session.

10 I had an off-the-record discussion with Mr. Guy
11 for just a moment about timing, and it may be that we
12 will fill out the rest of the day with this panel. We
13 will see. I am afraid to even suggest anything at this
14 point.

15 Just a reminder, in case some people want to be
16 on the tour and won't be here later in the day, we will
17 meet here at 8:00 in the morning. It is casual day.
18 Okay? That means the suits -- no suits. If you want to
19 wear a suit, you can, but don't feel any obligation. I
20 encourage you not to wear a suit. Let's be comfortable.
21 And we will resume in the afternoon, so let's not have
22 suits either. So let's have a play day tomorrow, no
23 suits.

24 Mr. Guy, all yours.

25 MR. GUY: Thank you, Mr. Chairman.

1 BY MR. GUY:

2 Q. Mr. Patterson, welcome back. Before the break
3 we were going through some of the benefits of the
4 Southline Transmission Project. You talked a little bit
5 about the reliability benefits and the congestion, and
6 relieving congestion benefits. And we ended on this
7 slide here that has to do with the energy imbalance
8 market.

9 Let me ask you this. Could the Southline
10 project have any interaction with the Cal ISO energy
11 imbalance market?

12 A. (BY MR. PATTERSON) Thank you. I believe the
13 Southline project could potentially interact with the
14 energy imbalance market should Arizona entities decide
15 to participate. And it could be a potential option in
16 the sense that the project would -- has
17 interconnections, as we talked about, with four
18 balancing areas, Arizona Public Service, TEP, Western
19 Area Power Administration, and El Paso Electric over on
20 the Mexico side, but also interconnects with other
21 transmission owners who might be in other imbalance area
22 such as AEPCO, Arizona G&T Cooperative or PNM on the New
23 Mexico side. And the assets in New Mexico are inside of
24 El Paso's area in the region of the project.

25 But the point really is with increased capacity

1 and the interconnections to the multiple substations, 14
2 existing substations that we have previously reviewed,
3 these new interconnection permutations, it would
4 increase the opportunity should any of these want to
5 interact with markets like, or if those markets
6 developed, much of this is relatively new and uncertain
7 where it would go, but that could be a potential avenue
8 to potentially deal with some of the excess energy that,
9 Member Haenichen, we were discussing before lunch.

10 But I also want to emphasize that this is not,
11 it is not really a driving force of the project or about
12 the project's need, not part of the business plan, but
13 it is an option. It is something that if new
14 transmission and new interconnections were in place,
15 then it might change the way entities think about
16 whether there is an opportunity to participate in
17 something like an energy imbalance market.

18 CHMN. CHENAL: Thank you.

19 Member Woodall has a question.

20 MEMBER WOODALL: Mr. Patterson, right now it is
21 my understanding that there is only one Arizona based
22 utility that is participating in the EIM. Is that
23 correct?

24 MR. PATTERSON: That's my understanding.

25 MEMBER WOODALL: And do you know the name of

1 that utility?

2 MR. PATTERSON: I believe Arizona Public Service
3 has announced, you know, publicly.

4 MEMBER WOODALL: So right now there is only one
5 Arizona utility, although I do understand that TEP is
6 considering and studying and pondering its options
7 there. And you don't -- I mean that's what my
8 understanding is. It is not a question.

9 So right now there is only one that we know of
10 that's participating. But your point is if they have
11 this, then potentially it would be made more attractive
12 to these other folks listed on the slide?

13 MR. PATTERSON: Correct.

14 MEMBER WOODALL: Thank you.

15 CHMN. CHENAL: Let me interject. We have a
16 panel up there, which often implies that the witnesses
17 will, you know, jump in at the appropriate time. So
18 Mr. Patterson, if there is any questions that are asked
19 that either of the other two panel members, the
20 outspoken panel members, have anything to add, then
21 please have them jump in.

22 BY MR. GUY:

23 Q. You know that question that we were just talking
24 about, Mr. Beck, would you have anything to add to that?

25 A. (BY MR. BECK) No. It is correct that Arizona

1 Public Service is the only entity that's currently
2 signed up, and TEP as well as others are looking at the
3 EIM for the future participation.

4 CHMN. CHENAL: Okay. I am going to ask if the
5 witnesses would actually hold the microphone. It is
6 just a lot easier for people to hear, and, more
7 importantly, the court reporter. So if you would do
8 that, I would appreciate it.

9 Member Hamway.

10 MEMBER HAMWAY: I was a little troubled by the
11 photos from the WAPA existing conditions. And so what
12 does -- so let's assume, you know, Southline gets
13 delayed, doesn't make it, whatever. Will WAPA go ahead
14 and upgrade those lines? And what needs do they do
15 that? Is that where the TIP comes into play? Would
16 they get a grant from that?

17 I am just kind of curious, because a lot of
18 those things would happen anyway if WAPA upgraded their
19 system. So what is the plan that -- are they mutually
20 exclusive? Are they dependent on each other? I am just
21 kind of confused with new build versus upgrade. Are
22 they dependent on each other or can they go without each
23 other?

24 MR. PATTERSON: So the project, we are
25 considering the project as an integrated whole. And

1 really it fits together for a number of reasons that we
2 are talking about.

3 But if Southline didn't go forward for whatever
4 reason, those maintenance needs will still be there and
5 they will need to be addressed. To the extent that
6 maintenance can prolong the life of the line, you may be
7 able to do that for some period of time, but at some
8 point, the line will need to be replaced. It has been
9 identified as, you know, in the plan.

10 And WAPA has a system to evaluate all of their
11 infrastructure and a time frame of when it would need to
12 be replaced, and that would have to move forward. And
13 without Southline, WAPA's underlying customer base would
14 have to pay for that.

15 And I have a slide later we can view, but
16 essentially WAPA, in the exhibit -- maybe you can help
17 me.

18 But the WAPA customer presentation, we
19 referenced it before, made a presentation to its
20 customers. They did an analysis to show what the costs
21 would be to existing customers if Southline did not go
22 forward. And what they estimated, they estimate that
23 that was -- oh, thank you very much.

24 It is Exhibit STL-25 was what I was referring
25 to. And I have it later in my slides and I will hit the

1 exact numbers.

2 But roughly I believe it was \$3 a kilowatt year
3 of avoided cost if Southline moves forward, or,
4 reversed, it would cost existing customers that amount,
5 which, to put that in perspective, is something like
6 18 percent relative to the existing or the current firm
7 transmission rate on the Parker-Davis system.

8 So I don't know if that's responsive to part of
9 your question or not. But without Southline, at some
10 point in the future that line needs to be replaced.
11 There are established costs of what that would be.

12 MEMBER HAMWAY: So that caused another question
13 to come up. So WAPA, if let's say the system as a
14 whole, both of them together, upgrade and new build, so
15 WAPA would not have to go back to their customer base to
16 get -- to have rates to pay for their upgrade portion?

17 MR. PATTERSON: Right. So the fundamental
18 proposition is that Southline will be funding the
19 capital costs to both build the new build and provide
20 for the upgraded system, and that WAPA's existing
21 customers would not have to pay for that capital
22 investment. They would maintain their current
23 contractual rights, and WAPA would also be getting
24 additional rights on the upgraded system, and future O&M
25 type of expenses would be split based on how much

1 capacity they own.

2 But that was the proposal that was outlined in
3 this Exhibit STL-25 that has been presented to the WAPA
4 customers. It is still under review and discussion.
5 That is one of the critical items that WAPA needs to
6 resolve with us to get to formal participation
7 agreements.

8 But before we can do that, both WAPA and
9 Southline, we have to work through a number of items,
10 including, you know, some of these permitting matters.
11 But from the business, commercial contractual side, it
12 is also going to be critical -- WAPA has made sure to
13 communicate that they will -- they would take the
14 proposal back to their existing customers to follow up
15 and frame out. These were principles that had been kind
16 of put to the customers for their review, they have
17 gotten some input, continuing to work on that. But that
18 will need to go back to WAPA's customers and WAPA's
19 stakeholders to review before that can be finalized.

20 MEMBER HAMWAY: Okay.

21 MR. PATTERSON: I don't know if that helped.

22 MEMBER HAMWAY: Yeah.

23 BY MR. GUY:

24 Q. And I think just for the sake of the Committee,
25 I believe the lawyer for -- Mr. Lynch, at the prehearing

1 conference, represented IEDA, which is a large group of
2 water groups and other significant customers of WAPA. I
3 mean I believe he stated on the record at the prehearing
4 conference that his client supported the project. So I
5 think that reflects some of the facts that Mr. Patterson
6 is talking about.

7 BY MR. GUY:

8 Q. The third major benefit, or sort of general
9 benefit you had described earlier, was that the project
10 would support growth, Mr. Patterson. Could you give us
11 more detail about that?

12 A. (BY MR. PATTERSON) Sure. So without adequate
13 transmission capacity, utilities' options are limited to
14 generation solutions, for the most part, to meet
15 resource needs, and the potential types and locations of
16 those sources may be limited and the constraints of the
17 system as they see it at the time.

18 Increased transmission is one potential resource
19 that really could be a resource in a more integrated
20 planning process, and could potentially open up
21 opportunities for accessing new or different or
22 preferred resources. The capacity that Southline helps
23 provide could unlock a range of resource solutions and
24 potentially a greater universe of generation types and
25 locations of those sources.

1 Q. Let's talk about that a little bit. I mean, how
2 would those additional sources of purchased power be
3 relevant in Arizona?

4 A. (BY MR. PATTERSON) Sure. So let's talk a
5 little bit about how the stronger transmission system
6 could allow entities to access existing resource
7 locations, and then we spoke a little bit how they might
8 be able to access markets like Palo Verde or Mead folks.

9 This slide we are looking at on Slide 25 is a
10 little bit of a refinement of that discussion. Maybe
11 just to tie in some of the discussions we were having
12 and some of the questions I think that Member Haenichen
13 raised, but the all familiar point of the duck curve
14 shown here just for perspective, as California
15 potentially continues to ramp or build new renewable
16 generation, particularly solar, that may provide pricing
17 pressure at the markets.

18 And whether that's finding a way, to Member
19 Haenichen's question, I think, of are you really trying
20 to move those solar resources and is there a market for
21 that or could it be that the excess supply or additional
22 supply in market hubs just puts pressure on pricing and
23 that makes perhaps existing conventional generation
24 sources that may be at or have access to these markets
25 more available is a trend that I think is worth

1 considering.

2 And so part of the thesis is that Southline,
3 kind of cartoonishly represented here, could be a
4 potential piece, a potential part of the puzzle to, if
5 you think long term, if these are where the trends are
6 heading and that there is going to be lots of, or more
7 attractive supply to the markets, it could be a
8 potential option to help access those markets both in
9 southern Arizona as well as into southern New Mexico.

10 CHMN. CHENAL: Member Woodall.

11 MEMBER WOODALL: I had asked previously about
12 the other Hunt project, that Nogales connection project.
13 Is there any possibility that the Southline project
14 would make it easier to get renewable resources into
15 Mexico?

16 MR. BECK: Member Woodall, as far as the Nogales
17 project goes, it will be -- it is planned to connect up
18 to TEP's system at Vail, as this project also is
19 projected to connect at Vail. So to the extent there
20 are renewable resources at the end of this project in
21 New Mexico, it would give them a path into Mexico
22 through the Nogales project.

23 MEMBER WOODALL: Thank you. That's kind of what
24 I thought, but I am glad to hear an engineer who knows
25 something tell me that. Thank you, Mr. Beck.

1 MR. BECK: Yes.

2 BY MR. GUY:

3 Q. Mr. Patterson, moving on to the fourth, I
4 believe the fourth major benefit, it was that the
5 project would facilitate renewable resources. Could you
6 go into more detail on that?

7 A. (BY MR. PATTERSON) Certainly. So accessing
8 renewable resources is a key benefit that the project
9 offers. These maps are really an attempt to show where
10 the project is relative to resource locations. As I am
11 sure the Committee is aware, really the whole
12 southwestern corridor, particularly in Arizona, New
13 Mexico, southern California, some of the robust solar
14 resources anywhere, and Southline is right in the heart
15 really. Solar is ubiquitously good and attractive in
16 the area.

17 In terms of wind, the project, because it
18 connects into the existing system, we spent some time
19 earlier with the slide on the right again, just as a
20 reminder how the project interconnects at Afton to the
21 existing 345 system, this provides a number of
22 opportunities to potentially access the high capacity
23 wind that is in New Mexico.

24 And coming back to the slide on the left here,
25 and then looking at the map on the right, this shows

1 some of the existing transmission system in New Mexico,
2 as well as some of the higher wind quality areas, higher
3 capacity factor areas in New Mexico. And Southline is
4 shown in green here.

5 The point of this slide is to show that even
6 though Southline may not connect directly to the highest
7 wind areas that are interesting to potential wind
8 buyers, using the existing transmission system could
9 provide a path for resources to enter the system and
10 then be exported out along Southline, just as when they
11 get to the end of Southline the existing system could be
12 used to reach markets. And we will talk more about that
13 later.

14 But just to focus on the renewable portion, the
15 point I wanted to make is that the project has access to
16 both solar as well as high capacity wind in New Mexico
17 as well.

18 Q. I don't know if you touched on -- can we go back
19 to the previous slide? I don't know if you have touched
20 on, Mr. Patterson, the additional interconnections, the
21 14 different connections in the area and what advantages
22 that has to the project with respect to renewables.

23 A. (BY MR. PATTERSON) Sure, I can touch on that
24 again. The interconnections along the system help both
25 the ability to on-ramp new resources, as well as provide

1 an off-ramp, you know, along those 14 existing
2 substations for entities to receive those resources.

3 Q. Thank you.

4 And I think you were moving on to the next
5 slide, Slide 27, which -- well, describe to us what that
6 slide shows.

7 A. (BY MR. PATTERSON) Sure. So this is a map that
8 has been around and is frequently used. These are
9 renewable energy zones that the Western -- renewable
10 energy zones that I believe was commissioned by, I think
11 it was, the Western Governors Association. It was some
12 time ago, but it is still quite frequently in use.

13 It shows the size and location of wind
14 resources, for example, in eastern New Mexico. There is
15 a very strong pocket of wind in southeastern New Mexico,
16 as well as some of the solar opportunities.

17 But since this was done, you know, quite a few
18 years ago, it really is using perhaps some older
19 technologies or technologies at the time. Actually, one
20 of the points I wanted to make, this doesn't really
21 capture the robustness of the solar opportunities since
22 this was really screened for solar thermal technology
23 resource. But solar PV has really dramatically led in
24 terms of cost and performance.

25 So the whole solar corridor is real rich and

1 abundant. But similarly with wind, there has been
2 evolutions in the design and the technology that I think
3 change the available market that folks have been focused
4 upon. And we will talk about that in a moment.

5 Q. Okay. Let's move on, and I believe this slide
6 talks a little bit more --

7 CHMN. CHENAL: You need your microphone.

8 MR. GUY: I apologize, Chairman.

9 BY MR. GUY:

10 Q. Tell us a little bit more how the project can
11 access wind resources.

12 A. (BY MR. PATTERSON) Sure. So we talked about
13 the highest capacity wind resources in New Mexico, and
14 how the existing system could be used to access those,
15 and about how solar is really all along the line.

16 The other point I want to make is that there has
17 been a real change in technology on the wind side. This
18 is a very interesting slide that came from Lawrence
19 Berkeley Labs that was a report that essentially
20 analyzed wind projects. It controlled for location and
21 the wind resource at certain areas. And by looking at
22 the, you know, same type of area, same type of wind
23 resource, over time what you see is you can see the
24 impact of the evolution of technology in the wind
25 sector. And you can see that, you know, going back into

1 2008, 2009 time period, the areas that might have only
2 been 25 or 30 percent capacity factor wind now may be 5,
3 10 percent plus more percent using today's technology
4 and turbine designs.

5 And the relevance of that is that there has been
6 a lot of effort to focus on particular resource areas,
7 you know, particularly in areas where the strongest wind
8 is in New Mexico or Wyoming or these places, and
9 certainly those are potentially very attractive resource
10 areas. But technology may be opening up a larger market
11 for wind as well.

12 And as a way to illustrate that, on the slide on
13 the right, these are two maps of New Mexico wind. The
14 one on the left is using NREL data to show 2008
15 technology at 80 meter hub heights, and this map looks
16 similar to a lot of the wind maps that you tend to see.
17 And what this shows is how much of the land area could
18 provide more than a 35 percent wind capacity factor.
19 And you can see the 2008, it is really kind of central
20 New Mexico, and that kind of lights up.

21 But if you applied today's current technology
22 with the higher hub heights, you will see that a much
23 larger area opens up that may be potentially
24 developable. And this is relevant just because the
25 Southline corridor runs all the way through here, and it

1 may offer the opportunity to develop wind resources
2 closer to the line, which may decrease costs. It may
3 decrease, you know, the need for additional tie lines
4 or, you know, and kind of simplify potential resources.

5 But there will be a trade-off. So this wind in
6 this corridor still won't be as high a capacity factor
7 as wind in other areas, for example, of New Mexico. But
8 there is an economic balance of how much is, you know,
9 45 percent capacity factor wind, how much more valuable
10 is that than 35 percent capacity factor, and how do you
11 compare that versus the transmission. And those are
12 weighting analyses that are, you know, that we are
13 seeing people think through now.

14 But I think it is worth raising, because this
15 wind -- the main point I think is that there is a range
16 of resources that may have different grades, but there
17 is the potential to access multiple different types of
18 resources and multiple different locations because of
19 the access to the existing system and the resources that
20 are generally in the area.

21 CHMN. CHENAL: Member Woodall.

22 MEMBER WOODALL: Mr. Patterson, are you aware of
23 any specific wind projects in the areas that you have
24 depicted on the screen? And note that I am not asking
25 you if they participated in your open season. I am just

1 asking you if you know of planned or conceptual wind
2 projects in these areas.

3 MR. PATTERSON: Sure. I will start actually
4 with some of the actual wind projects. So, you know,
5 clearly there have been, you know, a number of wind
6 projects built in central New Mexico, and those are very
7 attractive and in demand.

8 And Ed could correct me if I am wrong, but Macho
9 Springs, there is an existing wind plant in New Mexico
10 kind of generally in this region on the map that I am
11 pointing to here that TEP actually purchases wind
12 currently from. There is also a recent wind project
13 just across the border, actually in Arizona outside of
14 Willcox, I believe it is called Red Horse wind project.

15 And I don't have all the details on each of
16 those specific plants, but I think it kind of
17 illustrates to me at least that there is potentially
18 developable economic wind in these different areas. It
19 depends on a lot of the other factors, a lot of the
20 other costs, the needs, the availabilities of what
21 particular entities may be looking at.

22 But in my own opinion, I think you have this
23 range and this trade-off where, you know, perhaps there
24 may be some other wind available in that area of Red
25 Horse. I don't know, but I suspect that that resource

1 just across is probably not quite as good as the
2 resource in southern New Mexico, and, similarly, the
3 resource in New Mexico is not as good as some of the
4 areas of central New Mexico or eastern New Mexico. So
5 there will be a weighing of the plusses and minuses of
6 looking at different locations versus costs.

7 MEMBER WOODALL: Thank you. You answered my
8 question, sir.

9 BY MR. GUY:

10 Q. And for the record, Mr. Patterson, you have been
11 referring to Slides 28 and 29 in your presentation?

12 A. (BY MR. PATTERSON) Yes. Thank you.

13 Q. You have talked about these renewable resources.
14 Can you now tell us how the Southline project would help
15 with the integration of these resources?

16 A. (BY MR. PATTERSON) Certainly. And this, I
17 think, goes to some of the earlier discussion as well.
18 But transmission, and the Southline project
19 specifically, can help integrate renewables.
20 Renewables, as Member Haenichen mentioned, are variable
21 and intermittent. They are not predictable, and
22 integrating them presents operating challenges for
23 utilities. And this is being seen quite clearly by
24 California entities, by Arizona utilities. All of them
25 are seeing the challenges of and the opportunities of

1 integrating renewables.

2 In the area where Southline is located, it is an
3 area inside of the Southwest Reserve Sharing Group. And
4 Ed knows this much better than me, but essentially
5 reserves are held. And the reserve margin in this area
6 is 42 percent, which is more than double the NERC
7 reference level of 16 percent.

8 And the point to make here is just that each of
9 those utilities in that area, as I understand it, they
10 are all doing exactly what they need to do and they are
11 planning inside of their own area. But collectively,
12 that means you end up carrying more reserve capacity
13 than you probably need to if you had access to your
14 neighbors, or could share more adequately, essentially
15 is how I understand it. And Ed can correct me if I am
16 wrong.

17 But my point generally is that transmission
18 connecting multiple entities like Southline is going
19 to -- could open up the opportunity to more effectively
20 integrate new resources or renewables into a system that
21 has a substantial amount of, or has at least some
22 existing capacity that may not be fully utilized.

23 Also, though, if you look forward, and these
24 numbers don't reflect the ongoing integrated resource
25 planning efforts that are underway right now, but when

1 these materials were put together we did a review of at
2 least four of the regional utilities, the investor-owned
3 utilities in the area, Arizona Public Service, TEP,
4 El Paso, PNM. There was well over 5,000 megawatts of
5 new natural gas-fired resources planned in the next ten
6 years.

7 And so I think the point is if transmission is
8 connecting many of these entities, if you have
9 transmission that connects El Paso Electric to Tucson
10 Electric to APS to some of PNM's resource assets, would
11 you still need to build the same amount of 5,000
12 megawatts of new forward, you know, capacity and/or
13 could that change the way that -- the amount of reserves
14 that are held, and could that enable you to more
15 effectively integrate these renewables that are
16 variable, are ramping up and down, and that really need
17 this conventional, these conventional generation sources
18 to help really stabilize and operate the system.

19 Q. Thank you, Mr. Patterson.

20 And you mentioned at sort of the end there of
21 the type of entities that might be interested in the
22 Southline project. How had you gone about assessing the
23 demand for the project?

24 A. (BY MR. PATTERSON) So we discussed a little
25 before about an open solicitation process that was

1 launched by SU FERC, and we discussed SU FERC a little
2 bit previously. But Southline Transmission, as the
3 project sponsor and passive investment owner that holds
4 the project assets and rights, would propose to lease
5 those transmission rights to SU FERC.

6 And as Mr. Virant testified, SU FERC had gone to
7 FERC, as the federal transmission regulator, to seek a
8 declaratory order to provide service under negotiated
9 rate authority. And that was granted, as well as the
10 process for an open solicitation, which set the stage
11 for Southline to -- or, I am sorry, for SU FERC to go
12 out to the market to assess the demand for the capacity
13 rights on the Southline project.

14 That process kicked off in March of 2016 and
15 concluded in June, and allowed parties to indicate
16 interest in obtaining transmission rights on the
17 project. The goal is really to identify the customers
18 with whom SU FERC would engage in bilateral
19 negotiations.

20 The results of that process were that the
21 expressions of interest exceeded project capacity. And
22 those expressions of interest were screened and ranked
23 by an independent solicitation manager, and then SU FERC
24 initiated bilateral negotiations with those entities in
25 July of 2016.

1 Q. Mr. Patterson, there was a question yesterday of
2 Mr. Virant, I think, where he was asked about what
3 criteria is being used to evaluate these expressions of
4 interest. And I think he gave a general answer based on
5 the FERC filing. Can you give us a little more
6 information about how those expressions of interest are
7 being evaluated?

8 A. (BY MR. PATTERSON) Sure. So there were two
9 levels. First there was a screening, and the screening
10 criteria looked at four criteria. There was first mover
11 status in terms of were they submitted on time and in
12 order, a measure of creditworthiness of the
13 counterparty, the duration of the service request being
14 at least ten years, and the level of the capacity
15 interest being over 15 megawatts.

16 And if those screening tests were satisfied,
17 then the expression of interest moved into a ranking if
18 the total exceeded amount of capacity, which was the
19 case. And so then the ranking criteria were applied,
20 which included ideas such as creditworthiness, the price
21 terms of the expression of interest, whether it was the
22 timeliness of the commitment or early commitment,
23 whether there was an interest in project risk sharing,
24 the ability to assist with development needs, the length
25 of service, the size of the capacity reservation, and

1 the ability to access the project.

2 And so those were the screening and subsequent
3 ranking criteria.

4 CHMN. CHENAL: Member Woodall.

5 MEMBER WOODALL: And I am assuming that you are
6 not ranking these proposals by the nature of the
7 generation? In other words, you are not giving a
8 preference to renewables. If everyone that submitted
9 was for a coal resource, the capacity on this line would
10 go to a coal generator -- I mean a generator that uses
11 coal?

12 MR. PATTERSON: There was no criteria based on
13 the type of resource.

14 MEMBER WOODALL: Would you be able to do that
15 under FERC? Would that be discriminatory if you were to
16 do that?

17 MR. PATTERSON: It would, as I understand it.

18 MEMBER WOODALL: Okay. Thank you.

19 BY MR. GUY:

20 Q. Mr. Patterson, are you aware of any other
21 evidence of demand based on the community support or
22 from business leaders?

23 A. (BY MR. PATTERSON) Yes. I would like to --
24 well, in terms of, you know, the broader question of how
25 the project could potentially support growth, I would

1 like to mention the confirmation related by Sun Corridor
2 and their letter of support that we had entered into the
3 record.

4 MR. GUY: And I think, for the record, the
5 Chairman entered the Sun Corridor letter as Chairman
6 Exhibit 2. It is also as Exhibit STL-12. And we are
7 happy to offer that as a Southline exhibit if necessary.

8 CHMN. CHENAL: Well, I think it is in, but let's
9 not take any chance. You are offering STL-12. We will
10 go ahead and admit it into the record.

11 (Exhibit STL-12 was admitted into evidence.)

12 CHMN. CHENAL: And Member Woodall.

13 MEMBER WOODALL: Who asked them to send this
14 letter, do you know?

15 MR. PATTERSON: Sorry, I didn't hear you.

16 MEMBER WOODALL: Who asked them to send the
17 letter that has just been admitted?

18 MR. PATTERSON: I actually don't know the answer
19 to that. I would have to find out.

20 MEMBER WOODALL: I mean, is it someone from
21 Southline?

22 MR. PATTERSON: Well --

23 MR. GUY: We can follow up. I think --

24 MEMBER WOODALL: I am just trying to figure
25 out --

1 MR. GUY: I think folks from Southline met with
2 Sun Corridor, and Sun Corridor expressed an interest in
3 offering the support and asked the best way to do that.

4 MEMBER WOODALL: Okay, thank you.

5 MR. PATTERSON: Well, just to summarize the
6 letter and why it may be relevant in this part of the
7 discussion, the gist of the letter is that Sun Corridor,
8 you know, an important development and business
9 organization here in southern Arizona, supported the
10 project. And that highlights that infrastructure is
11 really the key to attracting and retaining new
12 businesses and the jobs that they bring in Arizona.

13 And, you know, I would just mention that some of
14 the recent success of Sun Corridor in working to help
15 bring Caterpillar jobs here to the area, there has been
16 a recent expansion of Raytheon, which I believe was
17 2,000 jobs, and I think I saw a press release yesterday,
18 and it might not be directly to Sun Corridor but to my
19 broader point of economic development, that I think
20 Lucent Motors just announced that they were going to
21 locate facilities in Pinal County -- you can ask
22 Mr. Hay, I don't know if he is here -- but for another
23 2,000 jobs, and the point really that I just want to
24 make is that those are all in the general area of the
25 project that we are talking about, that providing the

1 necessary infrastructure is going to be critical for
2 Arizona to keep and maintain its very friendly and
3 attractive environment to locate new businesses and to
4 grow existing ones and that Southline, by improving the
5 system, interconnecting with the existing entities and
6 utilities can help be a part of that infrastructure
7 development.

8 Sorry, one other point, that in addition to the
9 potential economic support, that infrastructure could
10 play another trend I think worth considering is that
11 increasingly many corporations are becoming more
12 involved in their own energy procurement process. Many
13 corporations have -- or corporations have become one of
14 the larger buyers of renewables directly. And they are
15 not doing that because there is some government mandate.
16 They are doing it because they view it as economic and
17 that's strategic to their business. And I think there
18 have been lots of examples of corporations either
19 choosing sites or working with the utilities in their
20 area to make sure that the type of procurement that they
21 would like as a corporation can be satisfied.

22 And so again just mention this more as a
23 long-term potential benefit to support growth in the
24 southern Arizona region.

25 BY MR. GUY:

1 Q. Okay. Let's switch gears now and talk a little
2 bit about cost. How much is the total project estimated
3 to cost?

4 A. (BY MR. PATTERSON) The total estimate is about
5 \$800 million.

6 Q. And what is the Arizona portion of those costs?

7 A. (BY MR. PATTERSON) Slightly more than half, or
8 about 467 million.

9 Q. And does the 467 million, is that just the CEC
10 facilities, or is that the entire Arizona project?

11 A. (BY MR. PATTERSON) That would be for the entire
12 Arizona. So the CEC facilities that are under the
13 application would be approximately \$275 million.

14 Q. Could you provide a cost breakdown by county in
15 Arizona to give a sense of where the capital investment
16 is going to be located?

17 A. (BY MR. PATTERSON) Certainly. So of the total
18 number of 467 million, we currently estimate about
19 231 million would be in Cochise County, which would be
20 about 29 percent, roughly; 189 million, or 24 percent of
21 the total project, in Pima County; and 46 million, or
22 6 percent of the project, in Pinal County.

23 Q. Thank you.

24 And we talked about this a little earlier with
25 respect to the cost of the projects on WAPA and WAPA's

1 preferential customers. Could you go into that a little
2 bit more about how those costs impact WAPA.

3 A. (BY MR. PATTERSON) Sure. So in, I think it is
4 now Exhibit 25, we reference the customer presentation
5 that WAPA provided to its customers. And in that
6 presentation, they estimate that the rate, if the
7 Southline project were to go ahead, that would
8 essentially avoid or save \$3.10 per kilowatt year, which
9 compares to the current Parker-Davis transmission rate
10 of \$17.16 per kilowatt year, which is a savings of
11 approximately 18 percent.

12 I would just also note in terms of thinking
13 about costs of this issue and rate impacts, that it
14 should be noted, I think -- and we have heard that in
15 prefiling, prehearing comments, I believe -- that costs
16 are extremely important to WAPA customers. They depend
17 on the federal hydropower and federal transmission
18 system to meet their needs. Many of these customers are
19 public power or rural or water related entities, which
20 really means that this wholesale cost of infrastructure
21 ripples through the Arizona economy and that changes to
22 WAPA's customers could really compound and impact the
23 Arizona economy.

24 So saving costs in this system means partially a
25 large benefit to WAPA's customers, but more broadly to

1 Arizona because of the nature of those customers.

2 Q. Can you tell me a little about that? What type
3 of customers, when you refer to that, what type of
4 customers does WAPA have?

5 A. (BY MR. PATTERSON) Well, I am not the expert to
6 speak to all of it, but as I understand it, many of the
7 customers in the Parker-Davis system include public
8 power, rural, co-ops, water related entities, to all
9 whom costs are highly important and very sensitive.

10 CHMN. CHENAL: Member Woodall.

11 MEMBER WOODALL: Referring to your estimated
12 cost for the CEC proposed route, which is depicted on
13 Slide 32 of your presentation, I see you have
14 right-of-way acquisition \$10 million initial cost and
15 then 150,000 annually. Does that include your
16 acquisition from the State Land Department?

17 MR. PATTERSON: It does include an estimate, but
18 we have not -- we don't have those numbers yet because
19 we haven't initiated --

20 MEMBER WOODALL: Sure.

21 MR. PATTERSON: -- that application until this
22 process. But what we did is we did extrapolate some
23 estimates based on --

24 MEMBER WOODALL: Do you know how they actually
25 came up with that \$10 million? I mean, did you have

1 someone going out there looking at, you know,
2 agricultural lands are selling at X dollars per square
3 foot or something?

4 MR. PATTERSON: I think it was more top down,
5 based on what the estimate was for the state lands, and
6 then providing some type of estimate for private lands.
7 But I don't think it was bottoms up.

8 MEMBER WOODALL: So these are pretty rough
9 estimates?

10 MR. GUY: They are high level planning
11 estimates, yes.

12 MEMBER WOODALL: Okay. Thank you, sir.

13 MR. GUY: Mr. Chairman, I would like to offer
14 Exhibit STL-25 into the record.

15 CHMN. CHENAL: Okay. STL-25 is admitted.

16 (Exhibit STL-25 was admitted into evidence.)

17 BY MR. GUY:

18 Q. Mr. Patterson, let's talk about Southline's
19 financing of the project. How much capacity has to be
20 contracted for to obtain financing for the project?

21 A. (BY MR. PATTERSON) An independent project like
22 Southline would typically be financed through project
23 financing where the transmission owner would enter into
24 transmission service agreements with the customers to
25 route the power purchase agreements, or if they are

1 using it for their own purposes and those transmission
2 service agreements would serve to secure the financing.

3 In that model, as mentioned I think previously
4 by Mr. Guy in his opening, and Mr. Virant, Southline is
5 really bearing the risk of the project and is funding
6 the project. And really the only costs that are passed
7 on are to the customers who sign on to take the
8 capacity.

9 The project, in order to receive financing, is
10 going to have to have sufficient clarity of revenues
11 that will be sufficient to cover costs and to get that
12 project financing. Revenues are really a function of
13 the amount of capacity that you sell and the price at
14 which it is sold.

15 So I guess a long way getting to your question,
16 the exact quantity that's needed to obtain financing is
17 not really precise, but I would think it would be
18 somewhere in the 50 percent to 100 percent range. And
19 the -- because it may depend on a lower amount that's
20 subscribed but a higher price, or lower price and higher
21 subscription.

22 But needless to say, there would have to be
23 sufficient capacity contracted in order for the project
24 to move ahead and, more importantly, sufficient clarity
25 of revenues that financing could move forward.

1 CHMN. CHENAL: Excuse me, Mr. Patterson.

2 Member Woodall.

3 MEMBER WOODALL: You indicated that as part of
4 your open season there is two sets of screens, and that
5 you were looking at financial capability and the initial
6 and the secondary screen. Are you anticipating that
7 whoever your financing partner might be for the line,
8 that they are going to be looking at the financial
9 quality of the service agreements that you have entered
10 into as well?

11 MR. PATTERSON: Yes, I would.

12 MEMBER WOODALL: Okay. You think -- I mean you
13 know what their standards are because those are the
14 standards you are using because you know you have to go
15 to money guys and it has to meet their requirements?

16 MR. PATTERSON: That's correct.

17 MEMBER WOODALL: Okay, thanks.

18 MR. PATTERSON: So just to close out the
19 question on the amount of contractual or contracts that
20 would be needed for financing, the open solicitation
21 really demonstrated sufficient interest that there is
22 demand for the project and for the amount that's needed.
23 And now the work is to move from those expressions of
24 interest to the contracts that would be sufficient and
25 binding and have the terms and what Member Woodall

1 mentioned in order to move ahead with financing.

2 BY MR. GUY:

3 Q. Thanks, Mr. Patterson.

4 CHMN. CHENAL: Microphone, Mr. Guy.

5 MR. GUY: Thank you.

6 BY MR. GUY:

7 Q. Southline has incurred costs to date, have they
8 not, as part of the project?

9 A. Yes.

10 Q. And if the project doesn't go forward, will any
11 of the costs be passed on to customers?

12 A. No. All of the costs have been incurred
13 privately. Southline is privately funding development
14 costs of the project in the form of equity. Southline
15 would continue to fund the costs of the development of
16 the project.

17 And, you know, as we discussed earlier, the
18 proposal is that Southline would also be funding the
19 construction for the entire project, and that WAPA and
20 its customers would not have the financial obligation
21 for the construction of the project, that they would
22 maintain their existing contract rights, that WAPA in
23 return for its contributions would also -- would
24 maintain existing contracts and would have an increment
25 of the additional capacity that it could make available

1 to its customers for its participation and for its
2 contributions. And Southline would have the balance of
3 those transmission rights, which would be -- at least
4 SU FERC would, which would operate them as we discussed
5 previously.

6 CHMN. CHENAL: Member Woodall.

7 MEMBER WOODALL: Can you give me an estimate of
8 what have been development costs to date with respect to
9 this project and, say, maybe carrying through to the
10 conclusion of the CEC process? With the understanding,
11 of course, we don't have the legal bills yet. I am just
12 trying to get an idea about how much you will have spent
13 to get to that point. And if that's super secret, you
14 can tell me it is super secret. I just don't know, so I
15 would like an idea.

16 MR. PATTERSON: If I could take that back just
17 to confer.

18 MEMBER WOODALL: Yes. I mean I don't need to
19 know a number. I mean I am sure it is more than
20 a million dollars.

21 CHMN. CHENAL: We don't want your face to turn
22 white when you ask Mr. Guy for the legal fees.

23 MEMBER WOODALL: I think it would be helpful,
24 because sometimes orders of magnitude and cost of these
25 things, it is helpful to say here to here it cost X. So

1 thank you.

2 MR. PATTERSON: Thank you.

3 BY MR. GUY:

4 Q. And I guess one thing -- and you have answered
5 this, I believe you have answered it, but let's be
6 clear -- who bears the risk of the project not going
7 forward, the financial risk?

8 A. Southline does.

9 Q. And have you relied upon any federal funding to
10 date?

11 A. Not to date. As I mentioned, the development
12 has been privately funded, and the plan is for Southline
13 to fund the forward construction costs as well. We,
14 Southline, does intend to submit an application for TIP
15 financing following the development period. But as
16 mentioned with the previous discussion, the TIP
17 financing is really a debt financing vehicle. It is
18 similar to commercial financing.

19 And so I think to try and maybe clarify a little
20 bit of some of the questions yesterday, we have -- we
21 had not submitted a TIP application to date really
22 because a TIP application is not mature, just like a
23 commercial lending application is not mature yet. We
24 have a number of developing activities that need to be
25 in place before a lender will provide money.

1 At this stage all the funding is equity, is the
2 risk of Southline's. But Southline does intend, as
3 Mr. Virant had mentioned, we had filed statements of
4 interest with TIP with WAPA, and we will be seeking or
5 looking to apply for both commercial project financing
6 as well as working with the TIP financing.

7 Both of those are under review, and the exact
8 amounts or methods haven't been fully determined because
9 they depend on prior processes, such as working through
10 the permitting here and in New Mexico. Lending
11 decisions will be contingent on other activities, you
12 know, such as, you know, my colleague, Andy Rawlins, can
13 probably touch on like more detailed design that will
14 determine a more precise cost estimate. There will be
15 environmental compliance matters that have to be taken
16 into account, surveys, and those types of things. Many
17 of those types of activities will need to be completed
18 or substantially more fleshed out than they are today
19 before a lending application is made, you know,
20 irrespective of whether it is TIP or commercial.

21 But I think, conceptually, I think it is
22 important to understand that, from our perspective, TIP
23 is a potentially, potentially very interesting strategic
24 piece important to both us and WAPA and could really
25 help the project, but it is also a debt financing

1 vehicle just like commercial lending. So I want to make
2 sure that there is not a misunderstanding of what it is.

3 CHMN. CHENAL: Member Woodall.

4 MEMBER WOODALL: So do you know what the TIP
5 rate would be? And I am talking about the interest
6 rate.

7 MR. PATTERSON: The interest rate, actually I
8 don't know off the top of my head, but I can confer.

9 MEMBER WOODALL: Is it fixed?

10 MR. PATTERSON: I think they are looking at some
11 different programs, and I would have to confer and find
12 out.

13 MEMBER WOODALL: And I guess what I am getting
14 at, would you anticipate that rate would be more
15 advantageous than what you can get in the financial
16 markets? And I realize, you know, if you could predict
17 the future of the financial markets you would be off on
18 an island somewhere, but you catch my point.

19 MR. PATTERSON: Yes. And I can't speak to the
20 specifics, but conceptually, yes, that's one potential
21 benefit, yes, it could provide potentially lower rates.

22 MEMBER WOODALL: Potentially as much as a couple
23 of points at least, I would think.

24 MR. PATTERSON: I have to come back to you.

25 MEMBER WOODALL: Okay. I am just thinking that,

1 you know, it is kind of a speculative undertaking. I
2 mean no disrespect to you, but whereas a government loan
3 is a little more -- anyway, that's enough. If you just
4 can give me a ballpark if you think it is going to be a
5 lot more advantageous to get the TIP loan, that would be
6 helpful. Thank you.

7 CHMN. CHENAL: Member Noland.

8 MEMBER NOLAND: Thank you, Mr. Chairman.

9 Mr. Patterson, I may have missed it. Did you
10 tell us how much you have already invested in this
11 project up to this point?

12 MR. PATTERSON: I don't think we have, but that
13 question was also asked and we will follow up. I just
14 need to confer with my colleagues and come back to you
15 on that.

16 MEMBER NOLAND: Really? You don't know off the
17 top of your head?

18 MR. PATTERSON: No. Well, sorry, I have a
19 pretty good sense of what the number is, but I do need
20 to check because I don't know that I have the most
21 up-to-date number.

22 MEMBER NOLAND: Okay. Because we asked the same
23 question of SunZia. They even had a, you know, a graph
24 about how much they had spent. I know it is a little
25 speculative about how much you will have spent through

1 the obtaining of a CEC, but I would think you would
2 pretty much have it at your fingertips how much you have
3 spent to date, and I would be interested in that
4 information, too.

5 MR. PATTERSON: Okay. We can follow up with
6 you.

7 MEMBER NOLAND: Thank you.

8 CHMN. CHENAL: Member Woodall.

9 MEMBER WOODALL: Mr. Patterson, does your firm
10 have an equity interest or some participation interest
11 in the Southline project?

12 MR. PATTERSON: We have. We do have an
13 agreement with Hunt that does provide economic
14 incentives for us being in the project.

15 MEMBER WOODALL: And I mean no offense by this
16 question, but is your economic incentive in part
17 dependent upon whether or not there is an issuance of a
18 certificate of environmental compatibility?

19 MR. PATTERSON: No.

20 MEMBER WOODALL: Okay. Thank you very much,
21 sir.

22 BY MR. GUY:

23 Q. Mr. Patterson, let's shift back to, I don't want
24 to say to something more boring, but let's shift back to
25 more of the regulatory discussion and away from the

1 economics.

2 Has Southline filed its 10-year plans for this
3 project?

4 A. Yes, in 2015 and in 2016.

5 Q. And would you look in your exhibit notebook for
6 Exhibits STL-15 and STL-16 and confirm whether those are
7 copies of the 10-year plans that were submitted.

8 A. Yes, they are.

9 Q. And --

10 CHMN. CHENAL: Excuse me. Member Woodall again.

11 MEMBER WOODALL: As I understand it, you started
12 looking into this project in 2009, and you were doing
13 NEPA evaluations in 2011. And then there were more NEPA
14 in 2014. Why did you wait until 2015 to file your
15 10-year plan?

16 MR. PATTERSON: Well, I think it is because the
17 project hadn't matured to the level that we -- that it
18 was appropriate to file at that time. We did
19 participate in the BTA process. We did participate in
20 the regional planning to provide updates. But the
21 exact -- since the form of the project was still being
22 formulated both in terms of the technical plan of
23 service through the WECC process, but also in terms of
24 developing the routing options and where the project
25 would be located, we didn't file until the project was

1 really more mature.

2 MEMBER WOODALL: Did you make the decision with
3 respect to when to file the 10-year plan, Mr. Patterson?

4 MR. PATTERSON: Did I make the decision?

5 MEMBER WOODALL: Yes.

6 MR. PATTERSON: No, I did not.

7 MEMBER WOODALL: Do you know who made that
8 decision?

9 MR. PATTERSON: I believe our regulatory
10 counsel.

11 MEMBER WOODALL: The reason I am asking is the
12 statute says every person contemplating constructing the
13 line, and I always wonder at what point intention ripens
14 into the contemplation such that it would trigger the
15 obligation to file. And since the 10-year plans are
16 typically a depiction of electrical connection to
17 electrical connection, I am afraid I really don't
18 understand why you didn't feel that the project was soup
19 yet until 2015. But if you don't know the answer,
20 that's fine. Thank you.

21 MR. GUY: One question I might ask Mr. Patterson
22 is maybe the nature of the project itself.

23 BY MR. GUY:

24 Q. Can you describe, to the extent you are
25 familiar -- and perhaps if not, Mr. Beck can assist --

1 is the different type of planning processes that a
2 traditional investor-owned utility that has an
3 obligation to serve its customers might be planning
4 versus the type of planning process that a merchant
5 transmission project might be identifying and planning,
6 are there any differences in how one might approach
7 those types of projects that might affect how early in
8 the process one would file a particular plan?

9 A. (BY MR. BECK) I guess I would say that, from a
10 merchant project standpoint, there are a lot of things
11 you are looking at as you are developing the project.

12 Very specifically for the Southline project, I
13 am not sure that the Southline group was fully aware of
14 what our statutes say. And I do recall having a
15 conversation which may have been the impetus for
16 Southline to actually file the 10-year plan back
17 probably in that time period.

18 So I think partially, for this project in
19 particular, it was probably just lack of knowledge.
20 They are not a local entity within the state. As far as
21 the planning process goes, you still plan a project the
22 same way. It is based on load, generation, and
23 location, so...

24 Q. Mr. Patterson, do you have anything to add to
25 that?

1 A. (BY MR. PATTERSON) No, I don't.

2 Q. Mr. Patterson, you mentioned earlier the
3 different regulatory processes you have been involved
4 in. Can you list those out for us again?

5 A. (BY MR. PATTERSON) Sure. So as I mentioned,
6 the project was an active participant in the ACC BTA
7 process. The project is currently actively moving ahead
8 with interconnection activities, including have you
9 submitted an interconnection application to Tucson
10 Electric Power in Arizona. And we are working with the
11 other Arizona entities and will plan on filing
12 interconnection applications with them shortly as well.

13 And we also have been active in the Arizona
14 regional planning groups, including WestConnect SWAT,
15 SWAT-Arizona, WestConnect planning management committee,
16 where there are a number of the planning entities.

17 Q. Thank you.

18 Let's turn to the next slide in your
19 presentation. This presentation is entitled -- this is
20 Slide 34 -- the ACC Guiding Principles for Transmission
21 Adequacy and Reliability. Could you walk us through why
22 you included that slide in your presentation?

23 A. (BY MR. PATTERSON) Sure. So as I understand
24 it, these guiding principles are there to ensure
25 adequacy and reliability of the transmission system.

1 And we wanted to demonstrate how Southline has and will
2 meet these principles.

3 Q. And with respect to, I guess, what is called
4 T.1, compliance with NERC, WECC, regional reliability
5 criteria, does the project comply with those criteria?

6 A. (BY MR. PATTERSON) Yes. Southline has met the
7 T.1 principle through to the WECC peer reviewed path
8 rating process, and will continue to monitor compliance
9 with NERC and WECC standards, criteria, and regional
10 business practice as required by T.5. And that will be
11 enforced with interconnection agreements with affected
12 utilities.

13 Q. And with respect to the second item there, the
14 application of more restrictive electric criteria if
15 necessary, does Southline intend to comply with more
16 restrictive criteria?

17 A. (BY MR. PATTERSON) Yes. Interconnection
18 agreements with the affected utilities will stipulate
19 the application of more restrictive compliance and
20 compliance with T.3.

21 Q. And I think we have discussed the item T.3 about
22 the submission of 10-year plans, and we have discussed
23 T.4, participation in state and local transmission
24 forums. Does Southline intend to follow the NERC and
25 WECC as transmission owner and operator?

1 A. (BY MR. PATTERSON) Yes. Southline's
2 interconnection agreements will dictate additional
3 requirements, which we will comply with.

4 Q. And with respect to No. 6, could you confirm
5 whether Southline intends to perform electrical
6 induction studies, to the extent the project is parallel
7 to or within 100 feet of gas lines?

8 A. (BY MR. PATTERSON) Yes. These studies are
9 required by gas pipeline companies, and Southline
10 anticipates this would be a condition of any ultimate
11 CEC, if it was granted. And my colleague, Andy Rawlins,
12 could speak to this in more detail if needed.

13 Q. Okay. Still staying on the next slide, please,
14 still staying on the regulatory requirements, I would
15 like to go through the factors that the Line Siting
16 Committee plans to consider for the purposes of this
17 CEC.

18 Did Southline analyze -- well, just going
19 through one at a time, I guess, the existing plans, item
20 No. 1, did Southline analyze the existing plans of local
21 government and private entities for other developments
22 when developing this project?

23 A. (BY MR. PATTERSON) Yes. And I believe as the
24 SWCA witnesses will discuss in more detail, existing
25 development plans were analyzed in the EIS process. And

1 Southline also analyzed the specific plans related to
2 the CEC portion of the project in Exhibit H to its
3 application. And the proposed project activities were
4 not found to conflict with those plans.

5 Q. And Mr. Patterson, could you go through sort of
6 elements 2 through 6 on that slide, and just stay sort
7 of the high level kind of what you believe the project
8 has analyzed and concluded.

9 A. (BY MR. PATTERSON) Sure. So with respect to
10 analyzing fish, wildlife, and plant life and associated
11 forms of life on which they are dependent, the SWCA
12 witnesses will discuss this in more detail, the
13 biological resources and areas of biological wealth were
14 analyzed in EIS programs.

15 Southline also analyzed the specific biological
16 resources related to the CEC portion of the project in
17 Exhibit C and D to the application. And the project is
18 not likely to jeopardize the continued existence of
19 listed species likely to be present in the study area,
20 and the PCEMs and mitigation measures will minimize or
21 avoid potential impacts on the species listed under the
22 ESA.

23 In terms of analyzing noise emission levels and
24 interference with communication signals, SWCA witnesses
25 again will discuss this in more detail, but noise

1 emissions and interference with communication signals
2 were analyzed in the EIS process.

3 Southline also analyzed the specific noise and
4 interference signals in Exhibit I to the application.
5 And the overall level of operational noise will be
6 minimal and will therefore represent a minor but --
7 sorry -- a minor but long-term impact to ambient
8 soundscapes. Potential impacts to nearby military
9 facilities will require Fort Huachuca to revise its
10 radiofrequency emitter inventory to account for the new
11 design and operation of the line, and Southline is
12 committed to working closely with Fort Huachuca to do
13 so.

14 CHMN. CHENAL: Mr. Patterson, just for the
15 benefit of the court reporter, when you are reading off
16 the page, if you could slow down a little, and
17 enunciate. It is just --

18 MR. PATTERSON: Certainly. Sorry.

19 So in terms of the next issue, did Southline
20 analyze the ability of the project area for recreational
21 purposes, yes, as SWCA witnesses will discuss,
22 recreational uses were evaluated in the EIS process.

23 Further, Southline analyzed specific
24 recreational uses available in the CEC portion of the
25 project in Exhibit F of the application. Construction

1 is not expected to permanently preclude use of or access
2 to any existing recreation operations, but some
3 short-term impacts to these resources will occur during
4 the construction phase.

5 BY MR. GUY:

6 Q. And the next item, I think, is the scenic and
7 historical archeological resources.

8 A. (BY MR. PATTERSON) Yes. As SWCA will discuss,
9 scenic and historical/archeological resources were
10 evaluated in the EIS process.

11 Southline also analyzed specific scenic and
12 historical/archeological resources in the CEC portion of
13 the project in Exhibit E to the application.

14 PCEM and mitigation measures that minimize
15 impacts to these areas and an archeological survey of
16 100 percent of the project area will be conducted prior
17 to ground disturbance.

18 Q. And what did -- did Southline analyze the total
19 effect on the total environment?

20 A. (BY MR. PATTERSON) Yes. As will be discussed
21 more on the environmental panel, the total environment
22 was evaluated in the EIS process. Southline also
23 analyzes the total environment in the CEC portion of the
24 project. With the application of PCEM and mitigation
25 measures, the project was found to be environmentally

1 compatible.

2 Q. Thank you, Mr. Patterson.

3 With respect to item 7 on your list, did
4 Southline analyze the practicality of achieving the
5 proposed objective?

6 A. (BY MR. PATTERSON) Yes, it did.

7 Q. And I think we know from your testimony, but
8 just to confirm, did Southline analyze the projected
9 cost of the estimate?

10 A. (BY MR. PATTERSON) Yes, we did.

11 Q. And what other additional factors did Southline
12 consider in evaluating the project?

13 A. (BY MR. PATTERSON) There is additional factors
14 were considered including in application Exhibit J. And
15 they included some of the design philosophy that we have
16 previously discussed today, as well as the public and
17 stakeholder outreach and involvement that was done, and
18 as well as the relocation of Crane Lake that had been
19 previously described.

20 Q. Thank you.

21 And can you confirm that Southline complied with
22 all applicable laws and regulations?

23 A. (BY MR. PATTERSON) Yes. As described in detail
24 in the final EIS at Table 1.5, Southline will comply
25 with all applicable laws and relations.

1 Q. And will you or can you confirm compliance with
2 state and local land use plans?

3 A. (BY MR. PATTERSON) Yes. As I mentioned above,
4 the environmental panel will discuss in more detail and
5 Exhibit H to the application confirms that the project
6 complies with all known land use plans and processes.

7 CHMN. CHENAL: Excuse me.

8 Member Woodall.

9 MEMBER WOODALL: Mr. Patterson, I suspect this
10 will be for your environmental consultants, but with
11 respect to Exhibit H, I was quite surprised to see that
12 there were no private entity plans identified in the CEC
13 proposed route and CEC substation study area. So I am
14 probably going to want to ask your consultant what they
15 did to establish that. And if we are talking about 52
16 miles, if we are talking about 52 miles and we have a
17 one-mile corridor, it is really surprising to me that
18 there would be nothing.

19 So I kind of want to know what your consultants
20 did in order to establish that statement in Exhibit H.
21 So I am kind of giving them a heads-up by interrupting
22 you. Thank you.

23 MR. PATTERSON: Thank you.

24 BY MR. GUY:

25 Q. Mr. Patterson, I think one last question and

1 that will conclude your presentation. Would you see if
2 you can locate in the exhibit notebook Exhibit STL-21.
3 And when you find that, can you confirm or identify that
4 is the draft CEC that Southline submitted as an exhibit?
5 I should say proposed CEC.

6 A. (BY MR. PATTERSON) Yes. That is the proposed
7 CEC that was submitted.

8 MR. GUY: We would offer Exhibit STL-21 into the
9 record.

10 CHMN. CHENAL: I am not sure that's what we want
11 to admit into the record. I mean we will use it, we
12 will have it marked STL-21, but I don't think we will
13 admit that. At the end the actual CEC will become an
14 exhibit.

15 MR. GUY: And that's fine. Thank you.

16 Ms. Hopkins wanted to confirm that we have
17 actually admitted Mr. Patterson's presentation, which is
18 STL Exhibit 6.

19 CHMN. CHENAL: My notes reflect that STL-6 was
20 admitted. But if there is any question about it, we
21 will admit it right now. STL-6 is admitted.

22 MR. GUY: And that's all the questions we have
23 for Mr. Patterson.

24 CHMN. CHENAL: Thanks, Mr. Guy.

25 Does the Committee have any questions of

1 Mr. Patterson at this time?

2 (No response.)

3 CHMN. CHENAL: Did you have enough questions,
4 Mr. Patterson, from the Committee?

5 MS. WOODALL: I have a question. Was this as
6 much fun as you thought it would be?

7 MR. PATTERSON: It was great.

8 CHMN. CHENAL: All right. Well, just
9 coincidentally it is 2:30, so let's take our afternoon
10 break. We will come back at 2:45.

11 (A recess ensued from 2:28 p.m. to 2:51 p.m.)

12 CHMN. CHENAL: All right. Let's get back to it
13 for the remainder of the afternoon session. I think
14 Mr. Beck is up for his testimony.

15 So go ahead, Mr. Guy.

16 MR. GUY: Thank you, Mr. Chairman. And we are
17 going to continue with this panel with Mr. Beck.

18 BY MR. GUY:

19 Q. Mr. Beck, would you please, for the record,
20 introduce yourself.

21 A. (BY MR. BECK) My name is Edmond Beck. I work
22 for Tucson Electric Power.

23 Q. And do you see to your right the Southline
24 exhibit book? And would you identify for me or confirm
25 that what is shown as Exhibit STL-7 is the presentation

1 you prepared for this?

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

3 Q. And was that prepared by you or under your
4 supervision?

5 A. (BY MR. BECK) Yes, it was.

6 Q. We have that presentation loaded onto the
7 projector.

8 Would you describe your educational background.

9 A. (BY MR. BECK) Sure. I have an MBA as well as a
10 bachelor of science in civil engineering from the
11 University of Arizona, as well as extensive industry
12 specific training.

13 Q. And please describe your professional
14 background.

15 A. (BY MR. BECK) I am a registered professional
16 engineer in Arizona, member of the American Society of
17 Civil Engineers. I have 37 years of experience in the
18 electric utility industry.

19 I currently am the director of transmission
20 development for both UNS Electric and Tucson Electric
21 Power. Previous to this position I had experience
22 directing our project management, land department, our
23 line siting department, and planning departments,
24 including distribution, transmission, and resource
25 planning.

1 Prior to that, I was an engineer and project
2 engineer for both substation and transmission projects.
3 And I currently am continuing on the board of the
4 Arizona Independent Scheduling Administrator in the
5 state.

6 Q. And have you previously testified in Arizona
7 transmission related regulatory proceedings?

8 A. (BY MR. BECK) Yes, I have. I have testified
9 before both the Line Siting Committee and the ACC on
10 behalf of both TEP and UNS Electric on multiple
11 transmission projects, including Cases 111, 123, 137,
12 144, 149, 157, 164, and 165, ranging from 138 up to
13 500kV projects. I have also represented TEP before the
14 Commission in 10-year plan filings and for summer
15 preparedness workshops.

16 Q. Have you ever testified before the Federal
17 Energy Regulatory Commission?

18 A. (BY MR. BECK) Yes, I have. I have testified in
19 FERC proceedings regarding TEP's open access tariff and
20 the associated rates, Southwest Reserve Sharing Group
21 issues relating to capacity benefit margin, and the
22 Arizona Independent Scheduling Administrator
23 organization, also on conditional transmission for the
24 Western Electric Coordinating Council, and participated
25 in hearings regarding TEP transmission rights, a dispute

1 we had with El Paso Electric.

2 Q. What will your testimony today cover?

3 A. (BY MR. BECK) Several items. First of all, I
4 would like to clarify relative to a question that was
5 asked yesterday regarding a 10-year plan filing for the
6 Nogales project, the location of the Southline
7 transmission project relative to the TEP system, the
8 reliability aspects relative to TEP with this project,
9 and TEP's interest in the project.

10 Q. Thank you.

11 In the next three or four slides in your
12 presentation are various maps or schematics. The first
13 one we turn to is numbered Slide 4. Would you please
14 provide a brief overview of what this slide shows.

15 A. (BY MR. BECK) Sure. This is effectively a
16 subset of the map that Doug had used earlier showing
17 both Arizona and New Mexico.

18 This is the TEP lines that we use for serving
19 our load. Basically the Tucson Electric load is the
20 Tucson area. That's our service territory. We have
21 lines that extend from the Four Corners area of Arizona,
22 New Mexico, where we get San Juan power, down to
23 Springerville, where we have our Springerville power
24 plant, through the Greenlee substation into the east
25 side of Tucson. And then we have ownership in the

1 Navajo project up in the middle part of Arizona at the
2 top of the state. We participate in two 500 lines down
3 to Westwing substation, and then a 345 that comes into
4 the west side of Tucson.

5 Basically this diagram is intended to show how
6 we bring power into our load center. And it also
7 shows -- it is hard to see, but the interface points
8 with the service territory with the EHV system, which
9 will become clear in a further diagram.

10 Within the service territory our 138kV system
11 delivers power to our load, and then ultimately through
12 a 46kV system to our customers.

13 Yesterday Member Woodall brought up the Nogales
14 project. And that is a proposed DC interconnection
15 right at the City of Nogales. That is a joint project
16 between Hunt Power and TEP/UniSource Energy or UniSource
17 Electric. In that project it would be a DC tie going
18 across the border. And UNS Electric did, in fact, file
19 a 10-year plan filing for that project this past
20 January.

21 Q. Thank you, Mr. Beck.

22 Moving to the next slide, Slide 5, tell us what
23 the purpose of this slide is.

24 A. (BY MR. BECK) The intent of this slide is to
25 show how the Southline project fits into the TEP system.

1 Unless you have the map right in front of you, I can see
2 it is not real easy to see, but the blue line at the
3 bottom is the Southline project alignment.

4 There has been discussion today about the
5 parallel nature of the Southline to other facilities.
6 Well, here is a good example of it. It is parallel and
7 adjacent to the TEP EHV system for the majority of the
8 Arizona portion, at least going off the map. Worst
9 case, it is about 25 miles away right near Greenlee and
10 reduces down, gets closer in other portions of that
11 alignment.

12 Once you get to Tucson, the Vail area, going
13 from Vail up to Tortolita, it is right in our service
14 territory, inside of our 345 portion that goes to
15 Westwing and, as you will see in another slide, adjacent
16 to our 138 system.

17 Okay. Here is TEP's service territory. The
18 boundary is shown by the black line. The orange lines
19 represent 138kV transmission that delivers the power
20 from our EHV system actually to the distribution
21 substations that deliver directly to our load.

22 Go to the next slide. Then again, this is
23 superimposing the Southline transmission project onto or
24 through our service territory. As you can see, as I
25 said, it is perfectly adjacent to our 138 system.

1 Generally our power flows from the Tortolita area and/or
2 Vail up into our load center. So it is kind of in a
3 northwesterly, southeasterly direction right alongside
4 the alignment that is proposed for the Southline
5 project, and, in fact, along the existing WAPA lines
6 that are in the area now that were 15kV.

7 Q. And for the record, this slide here is Slide 7?

8 A. (BY MR. BECK) That's correct.

9 Q. And I am not sure if this slides goes with this
10 question, but just to make sure, will the proposed
11 project interconnect with TEP's system? And, if so,
12 what location?

13 A. (BY MR. BECK) Actually, if we can go back to
14 Slide 7, again, because of the scale, it is a little bit
15 hard to see, but Tortolita is up in the northwest corner
16 of this slide. That would be one interconnection point.
17 The DeMoss Petrie substation is kind of centrally
18 located. It is at I-10 and Grant Road, roughly in the
19 center of the city. And then Vail is down on the
20 southeast part of Tucson, adjacent to the project.

21 Q. Thank you, Mr. Beck.

22 Would you please describe the reliability
23 aspects of the project relative to TEP.

24 A. (BY MR. BECK) Sure. This project will consist
25 of the upgraded double-circuit line, one line being

1 230 -- well, actually I guess both of the upgraded lines
2 are 230kV. They would extend from the Apache substation
3 in Cochise County to the APS Saguaro plant, and on to
4 Tortolita for TEP.

5 And it includes the interconnections that I
6 mentioned at Vail, as well as DMP. Because the line is
7 parallel and adjacent to our 138kV system, any
8 additional capacity produced or resulting from those
9 lines will allow power to flow across those lines and to
10 our system.

11 So absent an RTO type structure in Arizona, or
12 in the region, by adding any transmission, it improves
13 grid reliability and grid network connectivity and
14 flowability. And by having the direct connections into
15 the TEP system at our south, midpoint, and northern ends
16 of our system, it provides an alternative path to power
17 to flow to our loads. So it provides effectively backup
18 in the case of failure of parts of our system.

19 Q. What is your opinion regarding the impact of the
20 project on congestion?

21 A. (BY MR. BECK) Because the system is congested
22 today, both TEP's as well as Western's, the addition of
23 the additional capacity will reduce congestion for the
24 whole region. And in particular for TEP, because this
25 is our load area, any reduction in congestion will be a

1 plus for us.

2 There has been a lot of talk about Western. We
3 have done projects with Western in the past. And
4 basically Western, if you come in and say we will
5 rebuild your system for free, you know, it is a great
6 deal for them. They get a new line out of it. And then
7 such as in this case, you put another line on the other
8 side, there is that additional capacity that results
9 from that.

10 Western has for a long time planned to convert
11 their whole 115 system to 230. The issue has always
12 been funding.

13 There has been mention of the TIP program.
14 That, again, is a funding mechanism. But the bottom
15 line is customers of Western are the ones that have to
16 pay for the service. Customers are not willing to fund
17 the upgrades to 230 that Western would like to do on
18 their system. And so a project like this, where an
19 outside party comes in and proposes to rebuild that
20 system at no cost to Western, is a big benefit to all of
21 their customers and, in fact, the region. So that's why
22 this generally is a good project relative to Western.

23 CHMN. CHENAL: Member Hamway.

24 MEMBER HAMWAY: Yes, thank you.

25 We toured some of that area in a previous

1 application, and there was some social justice,
2 environmental justice issues. So because it is an
3 upgrade of the existing line, do -- you have all the
4 right-of-way, do you have the ability land use-wise to
5 upgrade without displacing anyone or tearing down any
6 buildings or doing anything like that?

7 MR. BECK: Well, not being directly involved, I
8 can only say that from Western's standpoint, I know that
9 the portion of the line that goes through the Tucson
10 area is in well developed areas to a large degree. And
11 so any construction on their project will have some type
12 of impact to neighborhoods or neighbors that will have
13 to be resolved. But relative to justice issues, I can't
14 really address that issue.

15 MR. GUY: I think Ms. Bellavia on the
16 environmental panel should be able to address that. It
17 is the kind of things that were studied as part of the
18 NEPA process, and she is going to testify to those.

19 CHMN. CHENAL: Thank you, Mr. Guy.

20 Mr. Beck, I had a question, follow-up question.
21 You mentioned that the existing customers in the WAPA
22 line don't want to pay for the upgrade, which is
23 understandable. Who regulates when -- a utility in
24 Arizona, if they are going to have improvements, has to
25 go before the Corporation Commission. Because this is a

1 federal WAPA owned, who regulates the additional costs
2 that are passed on to the customers which would increase
3 the rates with a federal line or WAPA line?

4 MR. BECK: Western itself is its own regulator
5 effectively; although, it does have a public process or
6 customer process where it goes up to its customers. And
7 I think Doug mentioned the fact that they did a
8 presentation to their customers. They go before their
9 customer group and say for this particular project, and
10 this is what they call the Parker-Davis system, we have
11 these needs, and this is our -- generally once a year
12 they do this -- this is our long-term plan and this is
13 our next year plan, here is the associated costs of what
14 we want to do. And then their customers basically have
15 input as to whether they would move forward with that.

16 The cost to rebuild from 115 to the 230 is very
17 large, so the customers to date have not had any
18 interest in doing that. They are captured customers who
19 have existing rights, and their position is we have got
20 our rights, we don't need to help anybody else out, and
21 we want our rates to stay the same.

22 The reality is that as the surrounding system
23 has developed and additional generation loads have
24 developed, the flow across that Western system has
25 increased. And that's part of why Western is having

1 problems with their existing 115 line. But their
2 customers still say we have got our rights, we just
3 maintain our rights, we don't want to pay any more.

4 So what Western has been doing piecemeal, as
5 projects come along that allow them to rebuild, they
6 will incrementally do that.

7 And as an example, on La Cañada Road there was a
8 county road widening project. A number of structures
9 had to be relocated on the Western line. Because
10 Western has preexisting rights and federal preemption
11 and so on, Pima County had to pay for that relocation.

12 All those structures that were relocated were
13 built at 230. So if you go along and look at that line,
14 you will be -- it is 115 insulators, arms, and so on.
15 All of a sudden the poles get big for a couple of
16 structures, then it goes back to what it was, because
17 they incrementally built it when they can do it on
18 someone else's dollar, basically. So that's why a
19 project like this is a big benefit to Western.

20 CHMN. CHENAL: Thank you.

21 BY MR. GUY:

22 Q. Thank you, Mr. Beck.

23 Another one of the benefits that the Southline
24 project provides, at least according to Mr. Patterson's
25 testimony, it facilitates renewable generation. Could

1 you explain how the project will impact renewable
2 generation for TEP?

3 A. (BY MR. BECK) Well, any access into New Mexico
4 that provides potential reach to new renewables is a
5 benefit to TEP. Today we are very dependent -- not
6 dependent, but we are getting very high level of
7 involvement of solar resources. Solar resources are
8 very subject to cloud cover and so on moving through and
9 having a big drop in load quickly. If we can diversify
10 that across a region, and even if we pick up other solar
11 resources in New Mexico, there can be benefit to that,
12 as well as wind, which has a totally different profile.

13 If we can get to wind projects, it is helpful.
14 There is very little wind availability in southern
15 Arizona for projects. We do, in fact, have a project
16 near Willcox. It is 30 megawatts. It has only become
17 reasonable because of the changes in the technology. So
18 they have been able to harness the wind much better than
19 they used to be able to. But the really good wind is
20 over in New Mexico.

21 So this project, even though it only goes to
22 Afton, and in fact we have the Macho Springs, which is
23 near Luna/Deming, New Mexico, the potential is for wind
24 developers to extend their, what we would call,
25 generator leads down in this project to get into the

1 Arizona system, and in particular the potential for TEP
2 to take advantage of that.

3 We recently went through an RFP process for wind
4 energy, and a lot of parties came forward and requested
5 interconnection to TEP's existing system along the
6 border between New Mexico and Arizona. The problem
7 today is the capacity isn't available for bringing that
8 wind home, and our lines are pretty well booked up. So
9 anything that brings new capacity into the region is a
10 benefit, and it will allow the use of renewables, as
11 well as in the other direction.

12 If we can get additional access to the Palo
13 Verde market, it has been mentioned, but to dump energy
14 that California puts into the Palo Verde area at times
15 actually has had negative pricing. They have weird
16 contracts in California where they are obligated to take
17 the solar output and pay for it, even if they can't use
18 it. And they don't have curtailment provisions in some
19 of those contracts. So there they, for example, had to
20 actually pay people to take that power. So that
21 availability of that market is also a plus. So this
22 project is another avenue for us to reach out
23 potentially into that Palo Verde market.

24 One of the issues that we have with our system
25 is that, because it is pretty much fully booked, we

1 don't have a lot of capacity to go get these other
2 resources but we can't justify building a transmission
3 line on our own just for those resources or those needs.
4 So you really have to start pooling things together.
5 And this is an opportunity through the merchant project
6 to go out and solicit that multi-party interest.

7 As I -- well, I haven't mentioned yet, but TEP
8 has participated in the solicitation process. And that
9 is one of the benefits to us, is being able to just buy
10 a small piece of the project and not having to pay for a
11 full project to reach these markets.

12 Q. Thank you, Mr. Beck.

13 And you generally described the benefits and
14 interest that TEP has in the project. It looks like
15 Slide 9 summarizes some of those. Is there anything you
16 would want to add to what you already said?

17 A. (BY MR. BECK) I think I already mentioned the
18 fact that this is a unique, somewhat unique project, in
19 the fact that I believe they are only the second
20 merchant project coming forward in Arizona, being paid
21 for by a third party taking on the risk for development.

22 The other key piece to this is the Western
23 involvement and the public/private kind of partnership
24 type thing. Again, it has the potential to get small
25 incremental value without having to buy the full

1 project. And to the extent you can share it across a
2 bunch of different parties, it makes it much easier.

3 In a merchant scenario like this when you are
4 soliciting, the likely users of the project include
5 developers of renewable projects, whether they be wind
6 or solar. And it has been mentioned, I know that
7 because we have participated in the solicitation
8 process, we did get a response that we had made it
9 through into what they call, probably not the right
10 term, but bucket one at the solicitation process. There
11 is a bucket two of the extra capacity requests over and
12 above the capacity of the project. It is about all we
13 know about the solicitation process.

14 But it brought forward a lot of potential
15 developers that had an interest that would buy a block
16 reservation, the questions raised earlier about pricing.
17 The intent, I believe, of the Southline project is to
18 sell that block reservation to full capacity, if
19 possible. It will be up to the developers, the buyers
20 of that transmission, as to whether or not they -- how
21 they resell it. To the extent -- they are obligated by
22 FERC to resell it. They just can't not use the
23 transmission. So to the extent they are not using it,
24 they have to resell.

25 But beyond that, the operator of the line --

1 which ultimately I think is SU FERC in this case -- will
2 have an obligation to make that transmission available
3 at least on a nonfirm basis to the extent it is not
4 scheduled. So there will be other opportunities for
5 others to use the transmission, but at least the concept
6 that Southline has laid out is trying to sell as much of
7 that capacity on a long-term basis as they can. It is
8 locked up. And then it becomes the issue of those
9 buying it as to how they utilize it and what their
10 pricing structure is to their ultimate customers, if it
11 is a generation project.

12 Q. Will the project improve TEP's ability to
13 provide reliable electrical service to your customers?

14 A. (BY MR. BECK) Yes. A key part of it is the
15 fact that, because it ties in at the south, middle, and
16 north end of our system, it provides that additional
17 path, an additional roadway to get from our receipt
18 points on our existing transmission system up to our
19 actual customers. So when we have overloads or problems
20 within our current 138 system, by having these
21 interconnections and this line available, power will be
22 able to flow over these lines and serve some of our
23 customer needs.

24 There is no control over the flow of the
25 electrons. They will flow where they flow. The fact

1 that it is going from a 115kV line also up to a 230 is a
2 benefit, because there is less impedance, so there is
3 less resistance to the flow of power. So there will be
4 even a tendency for this line to take more power than it
5 would have at a 115kV level. So there definitely is a
6 benefit to TEP.

7 Q. And I think you covered this earlier, but are
8 there benefits you haven't mentioned in terms of
9 importing renewable energy to either the Tucson load
10 pocket or Arizona in general?

11 A. (BY MR. BECK) I think I generally touched on
12 it, but to the extent it is another path out of New
13 Mexico into Arizona, it provides the ability to get
14 those renewables over to Arizona.

15 To the extent it connects, the project connects
16 at TEP's Tortolita substation, TEP has direct
17 connectivity from Tortolita all the way to Palo Verde.
18 So it would take what is called a wheel, so part of it
19 buys transmission from Southline. If they really want
20 to go to Palo Verde, they would have to buy transmission
21 potentially from TEP on that path, or possibly be able
22 to utilize some Western existing transmission from
23 Saguaro to get to Palo Verde. But it gives access up
24 into the Phoenix area, potentially right into
25 California, for renewables.

1 Q. Could you summarize TEP's support for the
2 Southline Transmission Project?

3 A. (BY MR. BECK) Yeah. As I mentioned, TEP's
4 system has congestion, so there will be a benefit from
5 the standpoint of just the additional capacity in the
6 area. We have extensive solar resources, which I have
7 already mentioned, and the fact we could potentially
8 diversify with either other solar and/or wind in New
9 Mexico. There is need to reduce congestion across the
10 whole region, so any additional transmission is good,
11 however it gets built.

12 The alternate routes I already mentioned. I
13 think I have covered the points I wanted to make.

14 MR. GUY: Thank you, Mr. Beck.

15 And that concludes our direct examination of
16 Mr. Beck.

17 CHMN. CHENAL: Thank you very much, Mr. Guy.

18 Does the Committee have any questions of
19 Mr. Beck?

20 (No response.)

21 CHMN. CHENAL: All right. Thank you, Mr. Beck.

22 MR. BECK: Thank you.

23 CHMN. CHENAL: Mr. Guy.

24 MR. GUY: And we are going to proceed with the
25 direct examination of Andy Rawlins, and Marty Hopkins is

1 going to do that.

2

3

DIRECT EXAMINATION

4 BY MS. HOPKINS:

5 Q. Good afternoon, Mr. Rawlins. Could you please
6 state your name for the record.

7 A. (BY MR. RAWLINS) It is Andy Rawlins.

8 Q. Mr. Rawlins, could you please turn to Exhibit
9 STL-8 in the exhibit binder in front of you.

10 A. (BY MR. RAWLINS) Yes. This is the presentation
11 I prepared for today's meeting.

12 MS. RAWLINS: Thank you, sir.

13 Mr. Chairman, we move to enter Exhibit STL-8
14 into the record.

15 CHMN. CHENAL: Okay. STL-8 will be admitted.

16 (Exhibit STL-8 was admitted into evidence.)

17 CHMN. CHENAL: I just want to confirm we have
18 done the same with Mr. Beck with STL-7.

19 MS. HOPKINS: No, Mr. Chairman, we did not. We
20 would also move Exhibit STL-7 into the record.

21 CHMN. CHENAL: We will admit STL-7 and 8 in this
22 proceeding.

23 (Exhibit STL-7 was admitted into evidence.)

24 MS. HOPKINS: Thank you, sir.

25 BY MS. HOPKINS:

1 Q. Mr. Rawlins, I have loaded the presentation onto
2 the projector here. Can you tell us a little bit about
3 your educational background.

4 A. (BY MR. RAWLINS) I have a B.S. in civil
5 engineering from Purdue University.

6 Q. And please tell us more about your professional
7 background.

8 A. (BY MR. RAWLINS) I have 38 years of experience
9 in the electrical utility business. My first five years
10 were with the Bureau of Reclamation, and I spent six
11 years on-site at WAPA's headquarters in the Denver area
12 as a -- with two consulting firms.

13 Other than that, I spent 18 years with Black &
14 Veatch. And the last nine years I have worked as an
15 independent consultant as a one-man consulting firm,
16 working primarily with Black & Veatch.

17 Q. Thank you, Mr. Rawlins. Could you please hold
18 the microphone closer to you. Thank you.

19 A. (BY MR. RAWLINS) I will.

20 Q. Thank you.

21 A. (BY MR. RAWLINS) Sorry.

22 Q. Can you please tell the Committee who Black &
23 Veatch is and what they do.

24 A. (BY MR. RAWLINS) Black & Veatch is a global
25 engineering, consulting, and construction firm that

1 specializes in energy, water, and telecommunication
2 projects.

3 Q. And what is your role in the Southline project?

4 A. (BY MR. RAWLINS) I have been involved since
5 late 2008 with Southline. My role has been as the
6 engineering manager for transmission lines. And I have
7 generally been providing technical support for routing
8 and permitting since then.

9 Q. Who is Jeff Robertus?

10 A. (BY MR. RAWLINS) Jeff is in the audience. If
11 there is additional engineering testimony that is needed
12 and I have a potential scheduling conflict, then Jeff
13 would adopt my testimony in whole and follow up.

14 Q. Thank you.

15 Have you testified in a judicial proceeding or
16 administrative proceeding before?

17 A. (BY MR. RAWLINS) I have twice before the
18 Colorado Public Utilities Commission, both for
19 Tri-State, on behalf of Tri-State G&T for their
20 Nucla-Sunshine transmission project.

21 Q. What will your testimony today cover?

22 A. (BY MR. RAWLINS) I will be covering the
23 technical components of the Southline project.

24 Q. Can you please generally describe those
25 components.

1 A. (BY MR. RAWLINS) Yes. As described previously,
2 Southline seeks a CEC for approximately 72 miles of the
3 overall project located in Arizona, approximately 66
4 miles of new double-circuit 345kV transmission line,
5 which would terminate at a new substation near the
6 existing AEPCO Apache substation. There would be about
7 one mile of an interconnection tie line between the
8 existing substation and proposed new substation.

9 Then there is approximately five miles of new
10 138kV and 230kV transmission lines and associated
11 facilities that would interconnect the upgraded WAPA 230
12 line to four existing substations, DeMoss Petrie, Vail,
13 Pantano, and Tortolita substations.

14 Q. Does the project include an electric generation
15 or generating plant?

16 A. (BY MR. RAWLINS) No, it does not.

17 Q. Please describe what the improvements to the CEC
18 substations we just mentioned will entail.

19 A. (BY MR. RAWLINS) Each substation, existing
20 substation, would be expanded to some degree. There
21 would be new fencing, new grading for most of them. It
22 will be basic equipment such as bus work and switches.
23 Some of the substations will have transformers and some
24 substations will have more specialty equipment such as
25 series capacitors, shunt reactors, shunt capacitors, and

1 one has a static VAR compensator. There will also be
2 construction lay-down areas near each one of the
3 substation sites.

4 Q. Thank you.

5 Now let's talk about the CEC new build section
6 specifically. Can you summarize the technical aspects
7 of the projects in the CEC new build route?

8 A. (BY MR. RAWLINS) Yes. As described previously,
9 we have approximately 66 miles from the Arizona state
10 line to Apache substation that would be a double-circuit
11 345kV transmission line. We expect to utilize lattice
12 towers for the majority of that alignment, though steel
13 monopole structures could be used in special
14 circumstances.

15 Approximately 43 miles of the 66 miles parallel
16 existing natural gas pipelines, and the remaining 23
17 miles parallel existing transmission lines in the area.
18 Doing that maximizes the use of existing access roads,
19 so generally we are talking about we would use their
20 existing access roads and build spur roads off of there
21 to the new structure locations.

22 CHMN. CHENAL: Excuse me, Mr. Rawlins.

23 Member Woodall.

24 MEMBER WOODALL: You indicated there is maybe 23
25 miles where it is paralleling existing transmission

1 facilities, is that correct?

2 MR. RAWLINS: 23, yes.

3 MEMBER WOODALL: What voltage are these
4 facilities?

5 MR. RAWLINS: I am sorry?

6 MEMBER WOODALL: What voltage --

7 MR. RAWLINS: Oh, I am sorry.

8 MEMBER WOODALL: -- are these facilities?

9 MR. RAWLINS: In this area that's an existing
10 230kV line that if -- on the Map 4 on the right-hand
11 side it is the northwest or north-south portion that
12 comes into Apache will parallel an existing AEPCO 230
13 line that goes into Apache.

14 MEMBER WOODALL: Thank you, sir. You have
15 answered my question.

16 MR. RAWLINS: So in addition to the transmission
17 line, we would be expanding the AEPCO existing
18 substation. It is a 230 to 115 and 69kV substation, so
19 we would be building a new 345 to 230kV substation
20 adjacent to that. And there would be approximately .7
21 miles of transmission mile that connect the two
22 substations, either at 115kV or at 230kV. So that would
23 be -- the Apache substation becomes the western terminus
24 of the new build section and becomes the -- I will take
25 that back -- the eastern terminus of the new build

1 section and becomes the western terminus of the upgrade
2 section.

3 CHMN. CHENAL: Mr. Rawlins, I am going to ask a
4 question. I will ask the question. On the lattice
5 towers proposed as the primary structure type for the
6 345kV line, the new build, why is it lattice versus
7 monopole? I guess that's my first question.

8 MR. RAWLINS: Two reasons, primarily cost. For
9 lattice structures at 345kV, with the amount of
10 conductor that we are hanging on the structures, just
11 becomes more economical to build it using lattice, if
12 you can have long spans. If you are in town and have
13 short spans, poles start to become more economical.

14 The other thing is aesthetics. They tend to
15 blend in in a long distance. Again, up close you can
16 see them, but when you are out in the distance they tend
17 to blend in. They disappear more than the poles do, at
18 least in my opinion.

19 CHMN. CHENAL: And then for the upgrade section,
20 my understanding is the 245 -- or the 230 section, my
21 understanding, that will be a monopole construction --

22 MR. RAWLINS: That is correct.

23 CHMN. CHENAL: -- from Apache to Tortolita.

24 MR. RAWLINS: Yes.

25 CHMN. CHENAL: Why monopoles for that portion?

1 I know you haven't gotten to that, but --

2 MR. RAWLINS: Again, it is cost. You are
3 hanging less wire, your smaller wire, and fewer of them
4 on the structures. You generally have shorter spans
5 because you are going around things; you can't spread
6 out. And lattice becomes more cost effective if you can
7 get above, say, 12-foot spans, which is harder to do in
8 town.

9 And the other part of that is just the footprint
10 that a lattice tower takes up is more obtrusive in town.
11 And again, it is probably some aesthetics that people up
12 close tend to like the looks of poles more than they do
13 lattice towers if they are close.

14 CHMN. CHENAL: Thank you.

15 BY MS. HOPKINS:

16 Q. Mr. Rawlins, could you describe the technical
17 aspects of the lattice structures that you were just
18 talking about that will be found in the CEC new build
19 section?

20 A. (BY MR. RAWLINS) Yes. Slide 6 shows three
21 basic types of towers. The one on the left is the
22 tangent tower. That would be used probably 95 percent
23 of the time. The one in the middle would be a
24 suspension angle structure, which would be utilized at
25 smaller line angles. And the tower on the right is a

1 dead-end structure, which would be used for heavy line
2 angles.

3 The structures -- I can't see myself, so I am
4 going to have to turn the page here. But we are looking
5 at height ranges in the range 110 to 170 feet; probably
6 140 feet is a pretty typical height that we will be
7 using. That's going to depend upon spans. The longer
8 the span, the taller the structures need to be, and
9 things it would go over as well.

10 We are looking at span lengths in the 700- to
11 1400-foot range. Again, we like to keep it in -- the
12 1200-foot range is typical when you are out in the open
13 land. But in some cases we will have to go longer to
14 get over something, and there will be a lot of cases we
15 have to get shorter to get around things. But that
16 works out to about four to seven structures a mile.

17 We are asking for a right-of-way width of
18 200 feet. The conductor size we are talking about is a
19 1272 KCMIL ACSS conductor. It is a traditional type
20 conductor. There would be two conductors in a vertical
21 configuration per phase. So at the end of each one of
22 those insulators shown there will be two conductors
23 hanging roughly 18 inches apart attached to the
24 structure.

25 And we are planning to design this for 30 feet

1 of ground clearance at the maximum operating
2 temperature, which is 100 degrees Centigrade, 212
3 degrees Fahrenheit. That's in excess of the National
4 Electric Safety Code requirements. The NESC requires
5 roughly 26 feet of clearance, but we design for more
6 clearance to give us some more latitude during
7 construction, if we have to move a structure or if there
8 is something out there that causes problems, and gives
9 us a little bit of a buffer for future development and
10 the lines as well.

11 Q. Mr. Rawlins, you mentioned that in some cases a
12 monopole may need to be used in the CEC new build route.
13 Can you describe the technical aspects of the monopole
14 structure?

15 A. (BY MR. RAWLINS) So Slide 7 shows, again,
16 another structure family of 345kV double-circuit pole
17 structures, again, as a tangent suspension angle and a
18 dead-end structure that could be used.

19 We are expecting that the heights of these will
20 be a little shorter, in the 90- to 150-foot range, and
21 average of probably 100, 130 feet or so. The span
22 lengths we expect will be a little shorter. Again, it
23 is just more economical to shorten the spans if we are
24 using poles. So we expect the span lengths to be in the
25 700- to 1100-foot range. That works out to about five

1 to seven structures per mile. Again --

2 CHMN. CHENAL: Member Noland.

3 Excuse me.

4 MR. RAWLINS: I am sorry.

5 MEMBER NOLAND: Mr. Rawlins, I have just a quick
6 question. The 200-foot right-of-way, is that
7 immediately adjacent to the existing right-of-way, or is
8 there any space in between those two?

9 MR. RAWLINS: Typically we try to keep it
10 against the existing right-of-way. We have some issues
11 that may preclude that. When we are paralleling, in
12 this case we would be paralleling a 230kV line, we
13 expect we can have our two right-of-ways abut each
14 other. In some cases if we are against a 345kV line, we
15 have to spread them out to maintain -- we have a
16 250-foot minimum to meet some WECC requirements.

17 When we are paralleling the gas pipeline, we
18 would like to, but we will be dealing with the gas
19 companies and seeing what kind of restrictions are put
20 on there. There are induced fuel concerns that we have.
21 So they put cathodic protection on their pipelines to
22 keep them from rusting, and we can mess that up
23 basically if we are too close to them. So there is --
24 so we can modify that, and that's typically what
25 happens. Or we could potentially move it further away

1 from the pipeline.

2 So we will need to be working with the
3 landowners. The landowners may not allow us, a private
4 landowner particularly may not allow us to move it away.
5 But if it is acceptable to the landowner, the pipeline
6 companies would typically like to keep us further away
7 if possible.

8 MEMBER NOLAND: And Mr. Rawlins, due to the
9 different footprint of the monopole as compared to the
10 H-structure, can you reduce the right-of-way needs for
11 the monopole as compared to the lattice?

12 MR. RAWLINS: You might be able to. And we
13 expect that if the 200-foot right-of-way is what we are
14 requesting, that would cure 99 percent of the instances
15 that we expect to find out there. If there are choke
16 points where we are having to go through something, we
17 could shorten up spans and reduce the right-of-way. So
18 in that case, it may be more economical, at that point
19 anyway, to go ahead with a steel pole structure in that
20 section.

21 MEMBER NOLAND: Thank you.

22 CHMN. CHENAL: Member Woodall.

23 MEMBER WOODALL: I am anticipating, are you
24 going to use trucks for all this, no helicopters at all?

25 MR. RAWLINS: Helicopter construction, what we

1 would like -- it would be left up to the construction
2 contractor. It is very common to use helicopter
3 construction to string pilot lines, which are the very
4 light lines that are used to pull in heavier conductor
5 during the stringing operation. So that's very
6 possible. But the use of helicopter construction for
7 the structures themselves, I doubt it. It gets pretty
8 expensive. We have good access. It is flat. So we do
9 not anticipate the use of helicopter construction.

10 MEMBER WOODALL: Thank you, sir.

11 CHMN. CHENAL: Member Hamway.

12 MEMBER HAMWAY: Will you have to create new
13 roads?

14 MR. RAWLINS: Since we are paralleling existing
15 linear facilities, we don't expect to have to build new
16 longitudinal roads down our right-of-way. We expect
17 those will need to be upgraded -- generally just blading
18 is what we are talking about -- to make them passable,
19 to keep the construction crews moving at a reasonable
20 rate. But then at each structure location we would
21 expect a spur road that would come off of the existing
22 road into that structure site.

23 CHMN. CHENAL: Member Bingham.

24 MEMBER BINGHAM: Thank you, Mr. Chairman.

25 But you will need space to construct, build some

1 work areas. Are you going to be clearing areas, or you
2 have space already designated off these access roads to
3 be able to bring in the heavy equipment and put your
4 structure together?

5 MR. RAWLINS: No. At each structure site we
6 would typically need to clear a site -- something in the
7 range of 100 feet by 100 feet would be typical -- in
8 order to, yeah, lay down the structures, assemble the
9 structures on the ground. And then a crane moves in to
10 erect the structures.

11 There will also be stringing sites that will be
12 used, especially at corners. Some stringing sites will
13 be within the right-of-way along tangent and straight
14 sections. But at angle points we will need additional
15 right-of-way outside the 200-foot right-of-way in order
16 for temporary conditions to -- for the stringing
17 operations.

18 MEMBER BINGHAM: Thank you, Mr. Chairman.

19 BY MS. HOPKINS:

20 Q. Mr. Rawlins, can you please explain what is
21 proposed at the Apache substation?

22 A. (BY MR. RAWLINS) Yes. Slide 8 shows the Apache
23 area. The Apache generating station owned by AEPCO is
24 in the northwest corner. Their existing substations are
25 on the south end of that station. Our proposed

1 Southline substation expansion is the large green area.
2 I think that's about 180 acres that's designated as a
3 siting area, and we will need approximately 30 acres for
4 our substation site.

5 The P7 red line coming in is the proposed
6 right-of-way coming in for the 345kV double-circuit
7 line. The U1a red line is the WAPA, proposed WAPA
8 corridor in that region. It will be a slight reroute
9 just in that immediate area off the WAPA existing
10 corridor to get into this new expansion area. And then
11 the P8 red line is the, what we are calling a .7 mile
12 line that would connect the two substations together.

13 Q. What is a general arrangement plan?

14 A. (BY MR. RAWLINS) General arrangement plan is a
15 spacial diagram that shows the anticipated layout of the
16 substation. It is an actual geometry of what we expect
17 will be required.

18 Q. And please describe what the current Apache
19 general arrangement is.

20 A. (BY MR. RAWLINS) This one shows a fenced area
21 1357 feet long by 851 feet wide is our proposed site.
22 It would have the 345kV circuits coming in on the east
23 side of this diagram, and the 230kV circuits would exit
24 out the east side -- or, I am sorry, the west side of
25 the arrangement.

1 There is an additional -- so there is additional
2 circuit leaving out of the northwest portion of the
3 yard. And it is currently shown as a 115kV line that
4 would go up to the existing substation. But in between
5 that is a lot of basic equipment, again, switches, bus
6 work, circuit breakers. There are transformers to
7 connect the different voltages. And there is quite a
8 bit of special equipment in this yard, including series
9 capacitors. The SVC is a static VAR compensator, and
10 there is also some shunt reactors. These are generally
11 power quality equipment.

12 CHMN. CHENAL: Member Woodall.

13 MEMBER WOODALL: Sir, within the bounds of
14 common sense, could you please describe the security
15 measures that you are going to have at the substation.
16 Obviously I don't want to know where the locked gates
17 are, et cetera, but can you give us a general feel for
18 how you are going to do that?

19 MR. RAWLINS: Yes. All substations these days
20 of any size have quite a bit of security in the form of
21 cameras. There will be lights. This won't be a manned
22 substation, but there are -- and I am, frankly, talking
23 outside my area of expertise, but suffice it to say that
24 if anybody tries to enter that substation an alarm will
25 go off.

1 MEMBER WOODALL: And I am assuming it is fenced?

2 MR. RAWLINS: Oh, yeah, it is.

3 MEMBER WOODALL: Do you want to describe the
4 fencing?

5 MR. RAWLINS: Yeah, a fence with barbed wire on
6 top.

7 MEMBER WOODALL: Thank you.

8 BY MS. HOPKINS:

9 Q. Mr. Rawlins, you just described the Apache
10 general arrangement, and I notice it was the current
11 general arrangement. Are these general arrangements
12 subject to change, based on negotiations with local
13 utilities?

14 A. Yes, they definitely are, this one probably less
15 than some of the others, in that there is not as much
16 interaction with the existing substation. But yes, this
17 is our conceptual plan at this point, and things can
18 change.

19 Q. Thank you.

20 CHMN. CHENAL: Excuse me.

21 Member Eberhart.

22 MEMBER EBERHART: Thank you, Mr. Chairman. My
23 first question of the hearing, which is very unusual for
24 those who don't know me.

25 Could we go back to the previous slide, please.

1 Are those white lines in the lower left corner, is that
2 a platted subdivision that's shown on that drawing?

3 MR. RAWLINS: To be honest with you, I am not
4 sure what that is. There is nothing out there. I can
5 tell you that just from looking. I mean I have been out
6 there. So it may be something like that, that somebody
7 had one day thought that somebody would like to live
8 next to a coal plant, but there is nobody living there
9 right now.

10 MEMBER EBERHART: Okay. The area shown in
11 yellow or green, are there any floodplains in that area?

12 MR. RAWLINS: No, there aren't. This is very
13 flat land out there, so I don't believe there is
14 anything anywhere around here of any significance.

15 MEMBER EBERHART: And I am a little puzzled why
16 we need to -- why we can't just add a couple more, I am
17 not sure -- I guess I am puzzled on why we need a whole
18 new substation when we are just bringing in a little
19 more juice. Can't you add just a couple more whatever
20 it is in there, flux capacitors or whatever it is?

21 MR. RAWLINS: The biggest issue is that there is
22 no 345kV yard there. So we need to build a -- we need a
23 345kV yard. There is not enough room.

24 It is hard to see on this slide, but the
25 existing substation is very utilized. I guess there is

1 not much, there is not really room to expand it. And as
2 I showed on the general arrangement, there is quite a
3 bit of large -- especially the static VAR compensator,
4 SVC, takes up quite a bit of space, as well as the
5 series capacitors.

6 So this has got a lot going on in it, and there
7 isn't room. There is one open position in the existing
8 230kV yard which we may utilize as our connection. But
9 there is not enough room there to bring the two 230
10 circuits into there when WAPA upgrades it anyway. So we
11 definitely need a new yard.

12 MEMBER EBERHART: Okay. Thank you for that
13 explanation. I appreciate it.

14 CHMN. CHENAL: Member Noland.

15 MEMBER NOLAND: Thank you, Mr. Chairman.

16 Mr. Rawlins, can you say again how many acres
17 that whole "I see as yellow you see as green," that
18 colored area is?

19 MR. RAWLINS: I believe it is about 180 acres.

20 MEMBER NOLAND: And by my calculations the
21 footprint you need is about 27 acres, is that correct?

22 MR. RAWLINS: Of fenced area, that sounds about
23 right. And we will need a little more permanently
24 disturbed area of that for grading, but that's why I am
25 saying we need about 30 acres.

1 MEMBER NOLAND: So why 180 acres?

2 MR. RAWLINS: Excellent question. It
3 encompasses both state lands and private lands right
4 there. We haven't started negotiating. So to leave
5 ourselves some more options, we identified a larger
6 siting area. So the whole area has been essentially
7 cleared environmentally, but we will only use about
8 30 acres of that.

9 MEMBER NOLAND: So you are saying you will only
10 really purchase 30 acres of the 180?

11 MR. RAWLINS: We would purchase more than the
12 30 acres, but we look at about 30 acres of permanent
13 disturbance, is what we think we could use. But we
14 might -- and it may be a private landowner that doesn't
15 want to give up, doesn't want to -- you know, he may
16 force us into purchasing his entire parcel as opposed to
17 just what we need.

18 MEMBER NOLAND: Can you tell me the breakdown
19 between private and public land in that 180 acres?

20 MR. RAWLINS: I believe you can see the white
21 line. It goes horizontally east-west through there.

22 MEMBER NOLAND: Yes.

23 MR. RAWLINS: And Doug, you may have to back me
24 up on this. But as I remember, the northern portion of
25 that, north of that line is private and south of that

1 line is state land.

2 MEMBER NOLAND: North is private and the south
3 is state?

4 MR. RAWLINS: Yes.

5 Do you remember, Doug?

6 MR. PATTERSON: That sounds correct, but I would
7 have to review and come back.

8 MEMBER NOLAND: Okay. Thank you.

9 CHMN. CHENAL: Thank you.

10 BY MS. HOPKINS:

11 Q. Thank you, Mr. Rawlins.

12 I would like to now move to the CEC upgrade
13 section. Can you please summarize the technical aspects
14 of the project included in the CEC upgrade section?

15 A. (BY MR. RAWLINS) As previously described
16 several times, we will do it one more time here, Western
17 plans to upgrade its existing Apache-Tucson and
18 Tucson-Saguaro -- that's their names for it -- 115kV
19 single-circuit line to a double-circuit 230kV steel pole
20 line.

21 WAPA plans to upgrade up to eight of their
22 substations as part of that effort, but then there are
23 four additional substations that are not WAPA
24 substations that Southline Transmission proposes to
25 interconnect. And we will need to have ties to the WAPA

1 corridor that total approximately five miles.

2 The four substations that we proposed to
3 interconnect are:

4 AEPCO's Pantano 230/115kV substation, we are
5 going to need about a mile total of lines. There is
6 several connections, but less than a mile total. TEP's
7 Vail substation is approximately two miles of corridor.
8 TEP's DMP substation is less than half a mile. And
9 TEP's Tortolita 500kV substation will need approximately
10 1.5 miles. All those would be 230kV transmission lines
11 except for the DeMoss Petrie line, which would be a
12 138kV line.

13 Q. You mentioned that steel monopole structures
14 will be used in the CEC upgrade section. Can you
15 describe those monopoles?

16 A. (BY MR. RAWLINS) Slide 12, again, shows a
17 tangent, a suspension angle, and a dead-end structure.
18 One caveat I put on here, we have drawn the tangent
19 especially high, shown as 134 feet, I think. I think
20 probably about 115 feet will be more typical. But we
21 cross a lot of things, so we wanted to let everybody
22 know that there is going to be some tall poles in this
23 to make sure we have adequate clearance to the public as
24 well as other transmission, a lot of distribution
25 facilities.

1 We expect the structures will range in height of
2 100 to 140 feet. We expect span lengths in the 700- to
3 1100-foot range. That works out about to four to eight
4 structures per mile. Western is asking for 150 feet
5 wide right-of-way on their portion, so we are asking for
6 the same.

7 The conductor size would be a 1272 KCMIL ACSS
8 conductor, which is a special high temperature
9 conductor, a 230kV. During emergency conditions the
10 conductor could be limited thermally, so this allows
11 under emergency conditions for the conductor to operate
12 at 200 degrees C rather than 100 degrees C, is what we
13 have traditionally looked at for an ACSR conductor. The
14 230 line will only have one conductor per phase. They
15 won't have a bundle conductor like the 345.

16 Q. And what is the designed ground clearance for
17 the monopoles?

18 A. (BY MR. RAWLINS) I am sorry?

19 Q. What is the designed ground clearance for these
20 monopoles?

21 A. (BY MR. RAWLINS) I am sorry. Yes, I apologize.
22 We are looking at about 28 feet of ground clearance.
23 Again, the National Electric Safety Code requires
24 approximately 24 feet of ground clearance. So we would
25 be overdesigning by approximately four feet, again, to

1 account for construction and future considerations.

2 Q. Thank you.

3 Now we will move on to the substations that are
4 before the Committee, the CEC substations. We will
5 start with Pantano. Can you describe the expansions
6 contemplated at Pantano?

7 A. (BY MR. RAWLINS) Yes. The Slide 13 is an
8 aerial shot of the area by Pantano. The existing
9 Pantano substation is down in the southeast corner of
10 the slide. The rectangle or the polygon we are talking
11 about is, again, a siting area. I think we only need
12 about five acres and -- pardon me, but let me look it
13 up. I think that's shown as about 25 acres, is what
14 that polygon represents, and we are going to need about
15 five acres of that 25.

16 The horizontal lines going east-west represent
17 the existing WAPA right-of-way that goes through that.
18 AEPCO has a 230kV line just to the north of the WAPA
19 right-of-way. And that particular line then is broken
20 and is looped into the existing substation.

21 That existing substation is an old substation.
22 They have had some reliability concerns with it. And so
23 when we proposed building a new 230kV substation near
24 it, first of all there wasn't -- there was no way we
25 could interconnect or expand that substation the way it

1 is currently configured.

2 So we looked at building an adjacent substation.
3 They expressed interest in essentially abandoning a good
4 part of their 230kV substation and bringing their
5 existing 230 lines into this new substation with a
6 better configuration. It is called a breaker and a half
7 configuration, which provides more reliability for them.
8 So that will be shown on a subsequent slide.

9 Q. Mr. Rawlins, I don't know if you can, but could
10 you use the pointer and show where you were talking
11 about the horizontal lines? It is kind of hard to see
12 on that slide. I just want to make sure the Committee
13 sees what you are talking about.

14 A. (BY MR. RAWLINS) Okay. I am sorry. This is
15 the existing substation in that corner. The WAPA
16 corridor is here. And the AEPCO 230 line runs just to
17 the north of that.

18 Q. Thank you.

19 Now we will take a look at the Pantano general
20 arrangement. And please describe that diagram.

21 A. (BY MR. RAWLINS) So this is Slide 14. And it
22 shows a proposed fenced area that's 344 feet by 310
23 feet. It shows that there will be the SWTC, which is
24 AEPCO now, their existing line would be cut and brought
25 in, we are proposing, on the north part of the

1 substation, and underneath that one circuit of the new
2 WAPA line, would come into this substation. The second
3 circuit would fly by the substation.

4 We are also showing there on the southeast
5 corner a tie back to the existing substation. There is
6 the existing substation as a single 115kV line that
7 exits it. So this would continue to serve that need.
8 We also have a future bay identified to the southern
9 portion of the substation to allow for AEPCO to -- for
10 future upgrades on their system.

11 Q. Thank you.

12 Let's move on to the Vail substation. Please
13 explain what is proposed at Vail.

14 A. (BY MR. RAWLINS) So in the northeast portion of
15 the slide is the existing Vail 345kV substation. The
16 dashed green lines that are shown are the entrances for
17 the lines, the 345kV circuits that come into that
18 substation.

19 So in the middle of where those lines come into
20 the substation is where we have proposed that the new
21 Southline substation would be located. I believe that's
22 approximately 27 acres, is that triangular portion. And
23 again, we would need approximately five acres of that 27
24 to build our new Southline.

25 CHMN. CHENAL: Member Noland.

1 MEMBER NOLAND: Thank you.

2 Mr. Rawlins, as you describe each of these,
3 would you describe the ownership breakdown of parcels as
4 to if it is public land or private land that you are
5 going to have to negotiate for as best you can.

6 Also, what is the structure down in the bottom
7 right corner? Is that a house?

8 MR. RAWLINS: I believe that's a gas turbine,
9 but I am not -- that's a compressor station, I am being
10 told.

11 MEMBER NOLAND: Pardon me? I didn't hear you.

12 MR. BECK: It is the compressor station for the
13 Kinder-Morgan gas line running diagonally through that
14 diagram.

15 MEMBER NOLAND: Thank you.

16 MR. RAWLINS: This site is located approximately
17 a mile south of I-10, as I remember, and I don't
18 remember any houses in this area. It is not really very
19 visible, but the substation itself you can see from the
20 road. But it would be hidden by that. I don't think
21 anybody would really notice the additions from I-10. I
22 am not aware, I don't remember what the ownership is.

23 MR. PATTERSON: Member Noland, I believe both
24 Vail as well as Pantano that we previously reviewed are
25 both on Arizona state lands. There might be a little

1 bit of private lands of TEP's up at the edge there, but
2 it would be primarily state lands, both for Vail and
3 Pantano that would be Arizona state landowner.

4 MR. RAWLINS: So as far as the transmission
5 connection, the route that's shown in the gray lines,
6 L-shaped gray lines, is the proposed route that we are
7 asking for approval on. One circuit of the WAPA circuit
8 runs east-west approximately two miles south of this
9 site. So one circuit of the upgraded WAPA circuit would
10 loop in and out of this new substation.

11 BY MS. HOPKINS:

12 Q. Thank you.

13 Please describe the current Vail general
14 arrangement.

15 A. (BY MR. RAWLINS) So there is a lot going on
16 here, but the majority of this site is existing Vail
17 substation. It is hard to see, but there is clouded
18 lines that represent the additions that we are
19 proposing. This, again, is absolutely subject to TEP.
20 This is what we proposed to TEP, what we think would
21 work. But they will have expansion plans, so it could
22 be different as well.

23 What we are proposing is to build a substation
24 just on the southwest corner. And we are showing that
25 as 344 by 310 feet, I believe. And it includes, again,

1 circuit breakers, bus work, switches. We have also
2 allowed room on the southern end for TEP expansion in
3 this area.

4 This is a TEP yard, a 345kV yard. The Southline
5 would be a 230kV yard, which means there would need to
6 be transformers between. And TEP's standard is to place
7 transformers under the A-frame structures, which are
8 approximately there and there. So we are talking about
9 two transformers that would be installed. There is a
10 small addition we are proposing as part of the Southline
11 work as well, but again, this could change if TEP has
12 different ideas.

13 CHMN. CHENAL: So Mr. Rawlins, the Southline
14 line will at this part basically parallel the existing
15 AEPCO line?

16 MR. RAWLINS: No. Well, I apologize. Yes, the
17 existing TEP.

18 CHMN. CHENAL: Or TEP?

19 MR. RAWLINS: But to the south, two miles to the
20 south, going east-west, is the WAPA line.

21 CHMN. CHENAL: Yes.

22 MR. RAWLINS: And we cross at that location two
23 of the TEP 345kV lines that come into this substation.
24 So we would parallel, we are proposing to parallel the
25 westernmost line to get into this area.

1 CHMN. CHENAL: Okay. I meant TEP, yeah, TEP
2 line. Thank you.

3 BY MS. HOPKINS:

4 Q. Now, let's look at DeMoss Petrie substation.
5 What are the proposed plans there?

6 A. (BY MR. RAWLINS) First of all, the red line
7 that comes from the southwest is the WAPA right-of-way
8 going back towards -- it goes back towards Apache. The
9 other red right-of-way is the WAPA right-of-way that
10 heads off to the north.

11 The yellow-green, yellow-green polygon on the
12 eastern side is the existing Tucson substation. It used
13 to have a lot more things in it. But currently there is
14 a portion that's, you can see underneath the color
15 there, that is the operating portion of the substation.
16 And there is quite a bit of extra room there to the west
17 of there. WAPA is proposing to build their 230kV
18 portion of their new 230kV substation, because this is a
19 115 substation currently. They are proposing to build
20 it in the triangular area on the west side.

21 TEP's DMP substation is outlined in
22 yellow-green, and it is currently a 138kV substation.
23 These two substations are not electrically connected,
24 directly connected currently. So the plan had always
25 been that we would need a 138kV line between the two.

1 We plan to place a transformer in the Tucson yard,
2 WAPA's Tucson yard, and connect into the DMP yard.

3 Recently TEP has informed us that they are
4 looking to rebuild that DMP yard, a portion of that, to
5 increase the reliability. And their primary option at
6 this point is to rebuild it on a parcel they already own
7 that's outlined in blue, which is directly adjacent to
8 the substation.

9 So the .7 mile, I think is what we said, or .5,
10 whatever we claimed it was between the two substations,
11 now may go down to a few hundred feet or so, a span or
12 two, if they do build it there. This would be one of
13 the last connections we would need to make, so it
14 wouldn't happen until probably the end of the project.

15 There are a number of -- this will be on the
16 tour tomorrow. It is a heavy industrial area northwest
17 of downtown Tucson. There are a lot of lines, two
18 substations there, plus a lot of distribution lines. So
19 there will definitely need to be some coordination here
20 between WAPA and TEP and Southline to decide exactly how
21 the lines want to come in here. It may make sense for
22 Western, for instance, to abandon some other
23 right-of-way to make it easier for TEP to connect their
24 two substations together, and perhaps go south of that.
25 But that is to be determined.

1 MEMBER NOLAND: Mr. Chairman.

2 CHMN. CHENAL: Member Noland.

3 MEMBER NOLAND: Yes. Very quickly, you said the
4 red line is the WAPA right-of-way?

5 MR. RAWLINS: Correct.

6 MEMBER NOLAND: Can you tell me how wide that
7 right-of-way is?

8 MR. RAWLINS: It is currently 100 feet.

9 MEMBER NOLAND: 100.

10 MR. RAWLINS: 100 feet. Their plan is where
11 they can -- and we will talk about this later in my
12 presentation, but their plan is, where they can, to
13 expand that to 150 feet if they can get the
14 right-of-way. So I believe those, yes, those lines
15 drawn on there are 150 feet wide right now, or on there
16 now, whereas they currently have a 100 foot wide
17 right-of-way.

18 MEMBER NOLAND: Okay. The lines on there --

19 MR. RAWLINS: The lines are drawn at 150 feet.

20 MEMBER NOLAND: They are, but they currently
21 only have 100 --

22 MR. RAWLINS: 100.

23 MEMBER NOLAND: -- foot right-of-way?

24 MR. RAWLINS: Instead of 150, yes.

25 MEMBER NOLAND: Okay, thank you.

1 BY MS. HOPKINS:

2 Q. I have turned to Slide 18. Can you describe
3 what we are looking at here?

4 A. (BY MR. RAWLINS) So this is an aerial view of
5 that DMP substation. Our original intent had been to
6 attach to the lower or the southeast corner of that, but
7 that's up in the air at this point.

8 Q. And please describe the DMP general arrangement.

9 A. (BY MR. RAWLINS) And so this is a general
10 arrangement plan. Again, you can see in the southeast
11 corner that there is a little bit of a clouded area.
12 That's all the additional equipment we were planning to
13 install in that substation. So it likely won't go there
14 now.

15 Q. Let's move on to the Tortolita substation. What
16 are the proposed plans at Tortolita?

17 A. (BY MR. RAWLINS) All right. So this is an
18 aerial view of the area. The majority of the facilities
19 in this area are owned by APS. It is their Saguaro
20 substation, their generating plant in that area.

21 TEP built a 500kV substation in that
22 yellow-green polygon to the southeast. And the
23 Southline project is proposing to build the -- it is
24 Western's, Western -- let me back up there.

25 Western's right-of-way is the red line that's

1 the northernmost line going into Saguaro substation.
2 There is not enough -- that's a 115kV line currently
3 going into a 115kV substation. They had a small 230kV
4 substation that there is not enough room to expand.

5 And it is very congested in that area anyway, so
6 Western has proposed that they would build a new
7 substation on the other side of the highway, which is
8 the other, the rectangle polygon that has been called
9 either new Saguaro, or they are proposing to use the
10 name Sasco. It would be their new substation name.

11 So they would like, they would propose to bring
12 one circuit of the new 230 double-circuit line into
13 Sasco, maintain connectivity at 115 from Sasco to the
14 existing substation at Saguaro.

15 And then the CEC portion that we are discussing
16 here today is actually the leg that comes south of
17 Sasco, crosses the highway, and makes its way into
18 Tortolita. That's approximately 1.5 miles. It would be
19 a single-circuit line in that corridor. We proposed to
20 TEP to connect into the northwest corner of their
21 substation, but it does involve a new crossing of I-10
22 just south of -- there are several crossings in that
23 area, but this would be one more in that area.

24 Q. Turning to Slide 21, please describe this image.

25 A. (BY MR. RAWLINS) So this is an aerial view of

1 Tortolita. It is, again, TEP's 500kV substation. What
2 we have proposed is to bring the line into the northwest
3 corner of the substation via a new right-of-way that
4 heads to the west.

5 The polygon there is -- I can't remember how
6 many acres it is, but we are not talking about much.
7 That's mostly existing substation. Our proposal is to
8 expand just the corner up there. But again, that will
9 be subject to an interconnection agreement with TEP as
10 to how we would actually interconnect with this
11 substation.

12 Q. Please describe the current Tortolita general
13 arrangement.

14 A. (BY MR. RAWLINS) So the majority of this slide
15 shows the existing substation facilities for 500kV.
16 Again, we have a clouded area that shows how we would
17 propose to interconnect. So the current plan is that we
18 would expand the corner of their yard and interconnect
19 into their 500kV. We would be coming in at 230kV, so we
20 propose a transformer in that northwest corner of the
21 yard.

22 Q. You have testified that all the plans you have
23 been describing are subject to interconnection
24 agreements with the local utilities. What is the status
25 of those interconnection agreements?

1 A. (BY MR. RAWLINS) They are currently
2 being -- Mr. Patterson testified earlier on this
3 subject. But Southline is in the process of negotiating
4 those interconnection agreements. Each one will include
5 an impact study that will identify costs and the
6 connection details.

7 Q. Earlier you described two types of structures'
8 inclusion for the project. Can you compare those
9 structures to one another and what currently exists on
10 the upgrade section?

11 A. (BY MR. RAWLINS) So this diagram on Slide 23
12 shows a 115kV H-frame, typical design, approximately
13 75 feet. Some of these are much taller than that, but
14 fairly typical height for existing WAPA lines.

15 Next to that is our proposed 230kV steel pole.
16 As I mentioned before, it is shown at 134 feet. We are
17 expecting average to be, typical, to be more in the
18 150 -- 115 foot range.

19 Next to it is a 345kV double-circuit pole
20 structure that could be utilized in, you are saying, in
21 special cases. And to the far right side is the 345kV
22 double-circuit configuration lattice tower configuration
23 that we expect will be the primary structure type used
24 on the new build section.

25 Q. You have provided several photographs to further

1 show what these structures look like. Can you please
2 describe what we are looking at here on Slide 24?

3 A. (BY MR. RAWLINS) Slide 24 or sheet 24 is a
4 picture of a typical 345kV transmission line. It is of
5 a similar configuration to what we are proposing. It is
6 kind of what we expect it is going to look like, minus
7 the trees.

8 Q. And what about Slide 25?

9 A. (BY MR. RAWLINS) So this is the same pole
10 structure, actually, that Mr. Patterson had a picture of
11 in his presentation taken from a different angle.

12 This is on the WAPA line. In the background you
13 can see an H-frame. The structure location here used to
14 be an H-frame, and for some reason, years ago, they
15 needed to raise the structure. And they knew that their
16 plan was to build a -- convert this to a double-circuit
17 230 line, so they went ahead and installed the
18 double-circuit 230 pole and strung the wires on one
19 side. So that is what Western is proposing their pole
20 to look like, and it is very similar to what -- we would
21 essentially match their design, would be our intent.

22 Q. Earlier you mentioned the necessary right-of-way
23 for the project facilities. Please provide the
24 Committee some additional details regarding the
25 requested right-of-way.

1 CHMN. CHENAL: Let me interrupt just for a
2 second because we have been going for an hour, so I am
3 going to ask Colette.

4 (An off-the-record discussion ensued.)

5 CHMN. CHENAL: Let's finish.

6 MR. RAWLINS: So this slide shows two different
7 right-of-way diagrams. The one on the left applies more
8 to the Western part of the project than it does to the
9 CEC upgrade part of the project.

10 What it shows is that Western has an existing
11 100 foot wide right-of-way. What they would like to do
12 when they are out in the sticks, if you will, when they
13 can get the additional right-of-way, what they would
14 like to do is keep that existing line in service while
15 they build a new parallel line.

16 So their proposal would be that they would
17 build -- or they would basically overlap the existing
18 right-of-way by 25 feet and would build the line
19 parallel to that, and then would abandon 75 feet of the
20 existing right-of-way and acquire an additional 100, 125
21 feet of right-of-way to come away with a 150-foot
22 right-of-way.

23 Again, that would -- they understand that won't
24 work inside the Tucson city limits where there is a lot
25 of people. And in that case they are planning to stay

1 with their 100 foot wide right-of-way. That's my
2 understanding, they cannot acquire the 150. And they
3 could end up centering it on the -- and not keep that
4 line in service.

5 And utilizing the entire 100 foot wide
6 right-of-way and acquiring the other 50 feet to one side
7 or other, that's one option as well, but they expect in
8 populated areas they will have to stick with that
9 100 foot wide right-of-way. They may have to use a
10 different structure configuration than what was been
11 shown in this presentation to achieve that, but that's
12 what they are hoping.

13 On the right side is what we are showing as a
14 200-foot right-of-way for the new build portion. The
15 dark lines are shown as -- are the access along the
16 right-of-way. There are areas in New Mexico where we
17 will build down line access because we are not
18 paralleling something. But in the Arizona portion we
19 parallel, so we don't believe we need to build any down
20 line access as shown. Instead there is a spur road
21 going off to the side showing, is what we would expect,
22 that we will take that to the existing access road and
23 directly to each structure site.

24 And there will be a lay-down or, as mentioned
25 previously, each of these there will be a construction

1 pad at each structure site that's used for assembling
2 the structures and erecting the structures and crane
3 use. There will be other temporary sites used within
4 the right-of-way, and then for stringing.

5 And also, looking in the lower right-hand
6 corner, it talks about a regeneration station. We
7 haven't really talked, but we will have OGW, optical
8 ground wire, on these transmission lines for
9 communications. And a few places along the line we will
10 need to install regeneration sites.

11 The only other thing on this, there is a small
12 box that shows that it angles along the line. We would
13 typically, over about 30 degrees of an angle, we will
14 install -- we will have stringing sites that are
15 temporary that go outside the 200-foot wide
16 right-of-way.

17 BY MS. HOPKINS:

18 Q. Thank you, Mr. Rawlins.

19 Slides 27, 28, and 29 show one-line diagrams.
20 We don't need to discuss those in detail. I just want
21 to provide the Committee an explanation of what a
22 one-line diagram is in case they would like to look more
23 closely at what these are.

24 A. (BY MR. RAWLINS) I included those in case we
25 had any electrical engineers on the Committee that were

1 interested. But this is a one-line diagram that's an
2 electrical representation; it is not a physical
3 representation of the entire project.

4 It is broken into three different slides. The
5 first one is the eastern end of the upgrade section, and
6 it includes Tortolita on that. The second, the slide on
7 28 is the eastern end of the upgrade portion. And it
8 includes DMP, Vail, and Pantano. And the final slide,
9 Slide 29, depicts the electrical diagrams for the new
10 build section, and it includes Apache.

11 Q. Thank you.

12 CHMN. CHENAL: Excuse me.

13 Member Woodall.

14 MEMBER WOODALL: Pardon me. Were the electrical
15 diagrams provided to Staff of the Arizona Corporation
16 Commission?

17 MR. RAWLINS: I am sorry?

18 MEMBER WOODALL: Were the electrical diagrams
19 provided to Staff of the Arizona Corporation Commission?

20 MR. RAWLINS: I don't know.

21 Doug, do you?

22 MR. PATTERSON: I know there is a one-line in
23 the WECC Phase II report that we sent, but I will check
24 to see if this one --

25 MEMBER WOODALL: I will make sure that Zack

1 Branum is made aware of these. Thank you. Appreciate
2 it.

3 MS. HOPKINS: Thank you, Mr. Rawlins.

4 That concludes our questions today for
5 Mr. Rawlins.

6 CHMN. CHENAL: Thank you very much.

7 Do any of the Committee members have any further
8 questions of Mr. Rawlins?

9 (No response.)

10 CHMN. CHENAL: Okay. Thank you, Mr. Rawlins.

11 Counsel, where are we with respect to this
12 panel? We almost finished by noon, but not quite.

13 MR. GUY: The next question is for the schedule
14 tomorrow, and then I will -- we probably will not be
15 more accurate. We have concluded our direct examination
16 of this panel. We can dismiss this panel, from the
17 applicant's perspective.

18 CHMN. CHENAL: Let me first ask if the
19 intervenor present or representative counsel has any
20 questions of the panel.

21 MR. JACKSON: I do not, Your Honor.

22 CHMN. CHENAL: All right. Thank you very much.
23 Okay. Thank you very much for your testimony,
24 gentlemen.

25 Well, I think -- is there anything further,

1 Mr. Guy or Ms. Hopkins, that you would like to present
2 today? Not today, but given where we are it sounds like
3 we will finish up here now and come back tomorrow for
4 the tour at 8:00, which will conclude around noon.

5 Just for housekeeping items, will lunch be
6 graciously provided tomorrow as well?

7 MR. GUY: Lunch will be provided tomorrow around
8 noon, yes.

9 CHMN. CHENAL: All right. And I want to just
10 confirm with the Committee that we want to proceed
11 tomorrow afternoon after lunch with the hearing. I
12 think that was pretty unanimous. That was what our
13 discussion was. So let's talk about tomorrow afternoon.

14 Who do you -- you have the environmental panel,
15 Mr. Guy, and how long do you think that will take? I
16 just want to get it on the record so we can have side
17 bets off the record.

18 MR. GUY: I think the environmental panel is
19 going to go to not only with their prepared direct, but
20 I think we are going to want to talk to those witnesses
21 about some of the conditions applicable to the WAPA
22 upgrade section and the Southline new build section. So
23 I think when you combine their prepared direct with that
24 discussion, we are probably looking at six hours. I
25 don't think we will finish them tomorrow. I think we

1 will go over into Friday morning.

2 CHMN. CHENAL: And then let's assume, given our
3 collective track record, that we will be into Friday
4 with them. Did you have anyone -- who are the witnesses
5 after the environmental panel?

6 MR. GUY: So the remainder of our direct case
7 would be the two environmental witnesses, a discussion
8 about the additional information you have requested with
9 respect to the conditions, and then we will probably
10 call Matt Virant. We may have to call more than one
11 witness back as we compile the list of follow-up
12 questions that we have promised to address. And so that
13 can be done Friday, or we could reserve that person
14 until Monday in Willcox if we want.

15 CHMN. CHENAL: Well, we can think about how we
16 want to proceed, you know, talk about it some more
17 tomorrow. We know tomorrow will be taken up. We have
18 to be in Willcox Monday. We have the tour Tuesday
19 morning. We want to finish by Wednesday, which we will.
20 We will.

21 I guess what we are going to have to discuss on
22 Friday or Thursday is how much we want to go on Friday.
23 Do we want to leave early on Friday, reserve a little,
24 but not too much, for Willcox, giving us plenty of time
25 to go over the conditions and discussion of the CEC? I

1 want to have enough time to do that. I don't want to
2 inconvenience anybody, but I want to give ourselves
3 enough time to spend a lot of time on that.

4 Member Noland.

5 MEMBER NOLAND: Mr. Chairman, I don't remember
6 the schedule. Did you plan any public comment time in
7 the evening in Willcox?

8 CHMN. CHENAL: That's why we have to be in
9 Willcox, yes, Monday evening at 6:00. It is appropriate
10 because the line is down there, the new build section.
11 I think that's, A, appropriate, and, B, the statute
12 requires it.

13 So let's break for this evening. Tomorrow we
14 will discuss, you know, what we want to do with Friday,
15 how far we want to go on Friday. I mean it is kind of
16 compressed to leave here Friday afternoon and come back
17 to Willcox Monday morning, so we might want to break
18 early on Friday and reserve a little for Monday. I
19 don't know if we can begin the deliberations before the
20 tour. Maybe we can be a little creative there even,
21 because we don't want to waste any time in Willcox.

22 Member Woodall.

23 MEMBER WOODALL: I just want to be clear that in
24 terms of having a description in the certificate of just
25 what area we are talking about, typically there is an

1 Exhibit A that depicts the location of the line. And I
2 don't know whether you will be able to put something
3 together before our deliberations, but I am really
4 looking for something that would tell anyone who might
5 look at it just exactly where this is by geographic
6 references.

7 And I don't know what you have put together so
8 far, but I want to let you know I would be very
9 uncomfortable in voting for a CEC if it wasn't really
10 clear about just what area we were authorizing
11 construction of a transmission line in. And I wanted to
12 give you advanced notice of that, because it is
13 conceivable that people might have to be doing extra
14 work. So I just want to be very candid up front about
15 that.

16 MR. GUY: That's good insight and feedback. And
17 we will have something for you to review no later than
18 Monday, because that's when we might start the
19 deliberation.

20 MEMBER WOODALL: Thank you. I appreciate that
21 sensitivity to my concerns.

22 CHMN. CHENAL: Okay. Anything further? Any
23 other items from any of the members? Any other
24 housekeeping items from the applicant or anybody in the
25 audience?

1 (No response.)

2 CHMN. CHENAL: One more question. Is there any
3 public comment this evening? Is there anyone who is in
4 the audience that wishes to speak and make public
5 comment?

6 (No response.)

7 CHMN. CHENAL: Okay, doesn't look like it.

8 All right. Let's adjourn. We will see everyone
9 tomorrow morning at 8:00 a.m. here. Thank you.

10 (The hearing recessed at 4:34 p.m.)

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1 STATE OF ARIZONA)
2 COUNTY OF MARICOPA)

3 BE IT KNOWN that the foregoing proceedings were
4 taken before me; that the foregoing pages are a full,
5 true, and accurate record of the proceedings all done to
6 the best of my skill and ability; that the proceedings
7 were taken down by me in shorthand and thereafter
8 reduced to print under my direction.

9 I CERTIFY that I am in no way related to any of
10 the parties hereto nor am I in any way interested in the
11 outcome hereof.

12 I CERTIFY that I have complied with the
13 ethical obligations set forth in ACJA 7-206(F)(3) and
14 ACJA 7-206 (J)(1)(g)(1) and (2). Dated at Phoenix,
15 Arizona, this 5th day of December, 2016.

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20 COLETTE E. ROSS
21 Certified Reporter
22 Certificate No. 50658

23 I CERTIFY that Coash & Coash, Inc., has complied
24 with the ethical obligations set forth in ACJA 7-206
25 (J)(1)(g)(1) through (6).

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