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UNITED STATES DEPARTMENT OF ENERGY

NATIONAL ELECTRIC TRANSMISSION CONGESTION
STUDY WORKSHOP

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2 **Welcome and Presentation:**

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7 **Panel 1 Regulators:**

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15 KEITH D. WHITE
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24 **Panel 2 Industry:**

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26 JAN STRACK
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33 California Independent System Operator

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P R O C E E D I N G S

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(9:01 a.m.)

1 MR. MEYER: Good morning, ladies and
2 gentlemen. I'm David Meyer from the Department of
3 Energy. I have lead responsibility for the 2012
4 Congestion Study and so, welcome. Appreciate your
5 comments and your insights, your information, and
6 perspectives.

7 We'll start off with a brief presentation of
8 some of the context here for this study. First, the
9 Federal Power Act, as amended, requires the Department
10 to conduct a Transmission Congestion Study every three
11 years, and we did studies in 2006 and 2009, and so now
12 we're initiating the 2012 study.

13 I have definitions of congestion here and
14 other related information, but I won't, you folks know
15 that material quite well, I'm sure.

16 I do want to say that we recognize that
17 congestion, in a sense, is ubiquitous, fleeting, the
18 patterns change, and that it's not always economic to
19 mitigate congestion. Any of the mitigation strategies
20 have associated costs and so a fair amount of analysis
21 needs to be done to determine, A, is it appropriate to
22 undertake mitigation measures, and, secondly, if so,
23 how, there being at least three separate ways to deal
24 with this problem. And frequently it's a combination

1 of them that is the most appropriate.

2 But I also want to say that the Federal Power
3 Act directs us to identify the areas where congestion
4 is particularly significant, but it does not direct us
5 to prescribe solutions or to undertake mitigation. So,
6 it's a limited kind of role here.

7 In the earlier studies, we developed and used
8 a three-level conceptual framework for dealing with
9 analyzing congestion and we identified areas where we
10 thought congestion was critical, other areas where the
11 congestion problems are significant but they are not
12 severe, and, finally, areas we called conditional
13 congestion areas where there is a lot of potential in
14 terms of generation resources and where congestion
15 would result if substantial amounts of resources were
16 developed without associated transmission.

17 I want to say a few things about national
18 corridors. The Federal Power Act authorizes but does
19 not require the Secretary of Energy to designate
20 certain geographic areas as national corridors, and I
21 want to acknowledge that we tend not to use, there's an
22 acronym that people use for some of these corridors,
23 and a lot of people, however, don't know how to spell
24 it and others don't know how to pronounce it, so we

1 just say "national corridor". I think it's a much
2 classier term anyway.

3 But the national corridor may be designated
4 only after the issuance of a congestion study and after
5 the review and consideration of public comments on the
6 study.

7 And then, finally, identification of a
8 congestion area does not lead, necessarily or
9 automatically, to the designation of a national
10 corridor.

11 So, designation of a national corridor has
12 three principal effects. It emphasizes that the
13 federal government believes that it is very important
14 to mitigate the associated congestion, and it enables
15 the Federal Energy Regulatory Commission to exercise
16 siting authority with respect to transmission
17 facilities in the corridor under certain, very limited
18 conditions as spelled out in the Federal Power Act.

19 And, third, if the proposed facility is in a
20 national corridor and is also within the footprint of
21 the two listed power marketing administrations, those
22 entities may then exercise their third party finance
23 authority with respect to the proposed facility.

24 I want to give you a little background on our

1 process for this particular study.

2 We will have held four workshops -- two east
3 and two west -- to explain our process and to obtain
4 data, information, perspectives, guidance on
5 appropriate sources, and we want very much to, we
6 realize that there is a diversity of data sources out
7 there, data of various kinds, perhaps not as consistent
8 nationally as we would like, but still, the point is
9 that it's important not to rely on any single data
10 source to the extent possible. You need to triangulate
11 on the problem and see, do we get corroborating
12 indications from different kinds of data.

13 But we will use only publicly available source
14 material, and this time, unlike the previous two
15 studies, we intend to issue a draft report for public
16 comment and then after adjusting for those comments,
17 then we will issue a final report. And we welcome your
18 comments on this process. If you have suggestions or
19 proposed improvements, please, we welcome those inputs.

20 So, today, we realize that in this region, as
21 in other regions, things have changed in significant
22 ways since the 2009 study, and so we're looking for
23 your perspectives on what changes are especially
24 significant.

1 And we will have two panels, first we will
2 hear from state regulators, and then we will hear from
3 an industry panel, and then after those two panels,
4 there will be an opportunity for others who want to,
5 just as individuals or on behalf of their company,
6 companies or organizations, want to provide input, we
7 welcome that.

8 If you wish to do so, please sign up with
9 Sheri out front at the table. And I also want to say
10 that we are having a transcript made. This is because,
11 if we did not, a lot of the insights here just tend to
12 evaporate and not have the weight that we would like
13 them to have.

14 So, we're having the transcript made so that
15 we can refer back to it and make sure we have captured
16 what you had to say and that we're interpreting your
17 views accurately.

18 Before we get started on the panels, I want to
19 say that, I guess it won't surprise you that I'm not
20 planning to just sit down one weekend and whip out the
21 2012 congestion study.

22 We have several folks in the room here who are
23 going to be helping us on it. We have Lot Cooke, who's
24 from our general counsel's office. We have John

1 McIlvain, who's an engineer with the Office of
2 Electricity. We have Jim McGlone, who is also an
3 engineer from that group. We have Michael Li, who is
4 with the Secretary's office in the Department, and we
5 have Alison Silverstein, who's an analyst that many of
6 you know.

7 We also have ICF assisting us in this study.
8 Elliot Roseman is here from ICF. Sheri Lausin is at
9 the table. I think that's, here's Sheri.

10 So, with that, let's start with the first
11 panel. The panelists are listed by name and
12 affiliation on your agendas. I won't give more
13 detailed introductions. Many of you know these
14 individuals already, I'm sure, so let's get started and
15 I'll ask the panelists to come forward.

16 Commissioner Wagner, will you lead off for us,
17 please?

18 MS. WAGNER: Thank you, David. And, first of
19 all, thank you for inviting me and I'm staying at the
20 other hotel so I just rushed over here realizing it's
21 in a different room, so apologize if I'm a little bit
22 late.

23 But I appreciate the opportunity to be here
24 and to discuss with you more broadly some comments that

1 you probably heard in Portland from my colleague
2 Commissioner Savage and a number of Western
3 commissioners serve together on two entities, which
4 basically overlap, CREPC and SPSC, I'm not going to say
5 what the acronym is because I can never remember it,
6 but SPSC is the State and Provincial Steering
7 Committee. But our focus has been transmission issues
8 in the West and we've spent, I would say, the majority
9 of our time looking into these issues, and so we have
10 comments kind of based from that perspective and I also
11 have a few comments based on some Nevada-specific
12 examples.

13 So, whatever Commissioner John Savage said in
14 Portland that was brilliant, I totally agree, and if he
15 said anything goofy or strange, those are his own
16 comments.

17 So, I think we'll just jump right in. Between
18 CREPC, and especially SPSC, we've done extensive work
19 and provided input on WECC's 10-year and 20-year plans.
20 That was the intent of SPSC. And so I think that that
21 has given us a great opportunity to examine what are
22 the issues driving transmission and the need for
23 transmission, both in the near-term and in the long-
24 term.

1 And in typical SPSC and CREPC fashion, we have
2 adopted a couple of messages that we wanted to send to
3 DOE and FERC and I'm sure Mr. Savage clarified these,
4 but the first and foremost is working closely with
5 entities in the Western Interconnection that have
6 already studied and analyzed congestion.

7 I'm certain that DOE doesn't want to reinvent
8 the wheel and from what David was saying in his opening
9 remarks, you're going to be looking for fresh, publicly
10 available data to inform the decision as well as other
11 factors that are influencing the demand for
12 transmission.

13 And then, I think, the most important and key
14 focus from our perspective is that DOE and FERC should
15 not attempt to make the focus of the 2012 Congestion
16 Study purely on congestion despite the fact that it's
17 called a congestion study.

18 Our main message is that the conditions have
19 changed since 2009. A lot of transmission is being
20 built in the West and a lot of transmission is proposed
21 to be built in the West. If you look at even
22 nationwide, the West is investing in a lot of
23 transmission and not necessarily based on the need to
24 address congestion issues.

1 CREPC and SPSC believe and I believe as well,
2 that congestion is the wrong focus at this point given
3 our experience, particularly in the last year or so
4 working on our 10-year plan, and if congestion is the,
5 if the intent of the congestion study is to inform what
6 should become a national corridor, and thank you for
7 not making me say the acronym, there needs to be some
8 rigorous, non-congestion related criteria that informs
9 and to designate the national interest corridors or
10 national corridors.

11 And, so, in debating with my fellow
12 commissioners in the West, and jokingly, we kind of
13 wonder, is the intent or goal of the congestion study
14 because you have to do a congestion study it's
15 required, or is truly the goal to inform a national
16 corridor designations? And, so, I'm going to not be a
17 conspiracy theorist and I'm going to go on the fact
18 that we really want to, DOE really wants to try and
19 identify areas of need.

20 And, so, our recommendation and my
21 recommendation as well is that DOE needs to consider
22 other factors in these designations, or if it's going
23 to lead a designation, at least these should be the
24 criteria. First would be reliability, true

1 reliability, not reliability in the broad sense that
2 more transmission is better, but truly based on NERC
3 standards, areas that really seem to have issues with
4 reliability.

5 Secondly, need. Is the transmission needed to
6 deliver low-cost power to consumers? That's the
7 fundamental goal, I would say, of transmission is the
8 delivery of power at the least cost.

9 And, finally, and this is probably one of the
10 biggest ones, particularly in my home state of Nevada,
11 is public policy. Is new transmission necessary based
12 on public policy objectives like RPS or climate change
13 goals? And that, from my perspective in my state, that
14 has been the key driver for new transmission.

15 I'll offer a Nevada-specific example. NV
16 Energy, our investor-owned utility and LS Power, a
17 merchant, have jointly, or are jointly constructing
18 what's called the One Nevada, or On-line Transmission
19 Project, it's had several names, so, it's also known as
20 the SWIP line, but it essentially runs on the eastern
21 side of the state, north and south, interconnecting the
22 Sierra Pacific service territory and the Nevada Power
23 Service territory for the first time.

24 And the primary reason, and the reason why I

1 was able to vote on this when this came before the
2 commission was it was driven by public policy, Nevada's
3 RPS goals and what was driving that was in Northern
4 Nevada we have abundant geothermal resources, but not
5 as much load.

6 And in Las Vegas, obviously, is the big load
7 and we didn't have the ability to move more geothermal
8 resources, or any ability to move geothermal resources,
9 to the major load center of the state.

10 So, we kind of had outgrown our load as it
11 relates to our new geothermal resources coming on-line.
12 And vice versa, we also have a solar carve-out in our
13 RPS and, obviously, Southern Nevada is sunnier than
14 Northern Nevada, so in order to meet that carve-out, we
15 can have deliveries of solar to Northern Nevada, in
16 theory, not that the solar electrons know that they're
17 going up north. I was trying to make you laugh. Thank
18 you, for those of you who got that.

19 So, that's an example that, I don't think that
20 that line would have been constructed had it not been
21 for public policy, and a number of lines that I see on
22 maps, the new ones, seem to be appearing every day,
23 seem to be driven by that, but in our instance it was
24 the PUC and the load-serving entity and a merchant all

1 agreed to make this work.

2 And I think maybe my colleague from California
3 will kind of, perhaps highlight some of the issues
4 related with everybody's assumption that all power and
5 transmission won't lead to California, or at least to
6 Nevada and then not quite making it to California, but
7 that's a separate topic.

8 So, in my opinion, the next tranche of
9 transmission facilities will be focused on public
10 policy. In Nevada specifically, our governor just
11 convened a taskforce and an advisory panel to address
12 issues of exporting our renewable resources as an
13 economic development policy.

14 So, again, back to my point is that I don't
15 believe that congestion is driving the need for new
16 transmission, and that when looking to informed
17 decisions regarding national corridors, there's a host
18 of other things that should be considered and
19 specifically reliability, the actual need for low-cost
20 power, and public policy.

21 And, finally, this is my own aside, is DOE
22 seems to have a lot of efforts related to transmission.

23 We have now the rapid response teams for
24 transmission, the group led by Lauren Azar, help trying

1 to work through issues with the states regarding
2 transmission, the congestion study, and I would
3 encourage DOE to ensure, make sure everything is
4 complementary and not going down separate paths.

5 I think that probably goes without saying but
6 sometimes I wonder. It happens within our own states
7 with our own agencies, but we kind of, if we're not
8 working together, it's challenging for those of us in
9 the state that are trying to figure out where we need
10 to focus our time.

11 And then, finally, working with the states and
12 talking to us several years ago, Southern Nevada was
13 designated as a national corridor and that wasn't
14 supported by what we thought at the time, any facts.
15 And DOE ultimately took that designation off, which we
16 appreciated, but being up front and working with the
17 states initially and understanding what we think is
18 wrong, I think, would make a better basis for informing
19 the decisions of the national corridors.

20 So, thank you again, and that concludes my
21 remarks.

22 MR. MEYER: Mr. Hains.

23 MR. HAINS: Good morning. My name is Charles
24 Hains. Contrary to the billing on the agenda, I'm

1 actually not chief counsel of the Arizona Corporation
2 Commission, if you couldn't tell that from my age here.
3 I'm actually a lowly staff attorney, but I still feel
4 in great company here.

5 SPEAKER: Ask for a raise.

6 MR. HAINS: And a promotion too. That said, I
7 have to start out with a caveat here that not being a
8 commissioner that I can't speak for the commission as a
9 whole. At the Arizona Corporation Commission, when
10 they choose to take a position on issues, they have to
11 vote and provide a decision on each particular subject
12 they want to make a decision on.

13 Rather, what I'm doing here is I'm presenting
14 a staff perspective and a view of what I would
15 anticipate that the commissioners would view things
16 without actually having a vote supporting any of those
17 positions.

18 I kind of mechanically went through the six
19 questions that were posed within the workshop flyer,
20 but before getting into that, I was just going to
21 provide just a general perspective here that I think
22 that, you know, from Arizona's perspective we would
23 agree that as the 2009 Congestion Study noted, we don't
24 think there are any congestion issues inside of

1 Arizona. As it noted, we are on top of existing
2 congestion issues and staying well ahead of them.

3 As it noted, I believe, it stated that there
4 was adequate transmission for up to 10 years' worth of
5 growth in Arizona, so I think we would heartily agree
6 with that. And, I think, based on the recent history
7 of the ACC in terms of approving, permitting, and
8 getting transmission lines built, that the commission
9 is probably very proud of its history of getting
10 projects put in place.

11 Looking, well, before even getting into the
12 six questions, I would like to co-opt everything that
13 the commissioner here said that wasn't specific to
14 Nevada. I mean, I think we would agree with everything
15 that she was talking about in a general sense.

16 Talking about the first question here, again,
17 I believe that the commission would probably agree that
18 the Phoenix-Tucson area is not a congestion area, not
19 even an area of congestion concern at the moment.
20 There have been various projects like the near
21 completion of what we term in Arizona as the line
22 siting case, 126, it was at a Salt River project
23 transmission line basically looping the valley.

24 There are additional projects associated that

1 Arizona Public Service was involved with in completing
2 that loop, but we believe across the board that that
3 has helped provide opportunities to transport power
4 throughout the valley that obviously DOE noted those
5 benefits in terms of getting Phoenix-Tucson out of the
6 congestion area of concern situation.

7 We also think there are various smaller sub-
8 transmission lines that were approved in the Tucson
9 area that have probably greatly improved the ability to
10 move power throughout the Tucson area.

11 One thing that was posed by this question that
12 I think would probably cause some questioning was the
13 notion here of the conditional congestion areas. I
14 believe it was characterized as areas where there are
15 potential generation resources that are not being
16 developed because of lack of transmission to reach
17 those areas.

18 I took that to be getting at, you know, for
19 example, areas with rich renewable potential, and I
20 think, you know, one thing that I would want to point
21 out that transmission is not necessarily going to be
22 the necessary stumbling block on seeing renewable
23 projects developed out in those types of areas. There
24 are other things such as, for example, technologies

1 that may require access to certain resources, for
2 example, solar-thermal, the concentrating solar-thermal
3 plants. They use wet-cooling technology, they may need
4 access to water, and it's obviously in a desert.
5 That's not always going to be feasible.

6 Other things like the suitability of the land
7 for the type of development that's being put in. I
8 think there are other things aside from transmission
9 that may be stumbling blocks to those projects being
10 developed.

11 With respect to the second question, the
12 factors that DOE should consider when evaluating
13 congestion, I think the view, at least from the
14 commission staff's perspective and our sense of what
15 the commissioners would do, is that congestion is, at
16 least in the reliability sense, a self-correcting
17 problem when you have responsible regulators and
18 utilities working to tackle the problem as it comes up.

19 We have, in Arizona, very capability utilities
20 that monitor their transmission needs and they are very
21 forthcoming with applications to make sure the
22 transmission is in place before the need arises, before
23 you're looking at immediate brown-outs and losses of
24 transmission.

1 One thing, a case in point, is that in 2006,
2 obviously, the Phoenix-Tucson area was identified as a
3 congestion area of concern. But by 2009, it had rolled
4 off in that study, and one thing I would like to
5 encourage DOE to take from that is that, you know, the
6 state regulators and the utilities will be working on
7 these problems without necessarily having others bring
8 them to the forefront. We have initiatives, for
9 example, the Biennial Transmission Assessment that
10 gives a 10-year snapshot, I believe the commissioner
11 alluded to a 10-year program in Nevada.

12 It's a similar program where the utilities and
13 the commission work together to take a look at what
14 projects are on the way and that might be helpful to
15 DOE in factoring in what benefits will arise from those
16 lines that are anticipated to be coming in and factor
17 that in terms of determining that kind of actual
18 congestion is facing the region.

19 With respect to the third question, I don't
20 think that, I mean, I wouldn't contradict the
21 conclusion that there is no area of congestion or area
22 of congestion concern within Arizona at the level the
23 DOE's looking at.

24 I'm aware of some circumstances of reliability

1 congestion that may be at a more granular level than
2 what DOE would be looking at. A subject that comes to
3 mind is the connection between Tucson and Nogales.
4 There is presently only a radial transmission line
5 connecting the two and there was an effort that the
6 commission took with the utilities to have a second
7 line put in place for reliability purposes and that
8 actually was undermined by an additional, non-
9 commission related siting and permitting processes
10 involving the public landholders that the second path
11 was going to be routed through.

12 So, that's kind of the level where, you know,
13 I would be aware of any sort of congestion issue within
14 Arizona, probably far below the radar for what DOE's
15 considering for these purposes.

16 With respect to the fourth question, again, I
17 don't think there are any congestion issues in Arizona
18 that are presently worth mitigating aside from getting
19 that second line to Nogales constructed.

20 Looking at the fifth question, in
21 circumstances where it's not practical to mitigate all
22 congestion, what is the range of options? And I noted
23 from David's presentation earlier you pointed to, you
24 know, one thing we had in common was building

1 generation within the load pocket, something that I
2 don't know is necessarily going to be feasible or
3 possible in all circumstances, but, you know, as a non-
4 engineer and I'm an attorney, I'm repeating things I've
5 heard, but the possibility of, for example, taking
6 advantage of the lines that are already in place,
7 either upgrading the voltage or reconductoring them to
8 increase carrying capacity on the existing lines.

9 I don't know if that's going to be feasible in
10 all circumstances, but it might be worth considering.
11 Another thing is, you know, obviously something that
12 would be near and dear to the hearts of rate regulators
13 is, you know, rate-setting mechanisms that might assist
14 in the process. I'm thinking of things like demand
15 side management programs, energy efficiency, demand
16 reduction, and possible time-of-use rate structures,
17 things like that that would encourage the users to
18 modify their behaviors, so as to not overly stress the
19 grid.

20 Finally, with respect to the last question, I
21 would probably just toss out the usual suspects for
22 additional data points. CREPC has been mentioned. I
23 would also toss out there SWATG, the Southwest Area
24 Transmission Group. Those are beneficial.

1 One thing that I don't know may be on
2 anybody's radar, but DOE might consider looking at
3 sister federal agencies. ACC is presently a
4 cooperating agency with Bureau of Land Management
5 presently in the effort to identify utility corridors.

6 And one of the things that's part of their
7 analysis of utility corridors is looking at, you know,
8 for example, back to the areas of conditional
9 congestion, the renewables access. They are looking at
10 areas where renewables are highly suitable, and in that
11 vein, that might be something that DOE might want to
12 look at in places where you're more likely to see
13 transmission lines considered because it's simply, you
14 know, easier to get them approved in those places.

15 And, with that, that would conclude my
16 remarks. Thank you.

17 MR. MEYER: Thank you. Let's turn next to
18 Keith White.

19 MR. WHITE: We're waiting because I'd like the
20 other panelists, oh, there we are. Unlike the other
21 panelists, I have some slides. Things are always more
22 complicated in California.

23 So, on behalf of our commission I'd like to
24 thank you for the opportunity to speak. Our commission

1 is having a meeting today, so we couldn't send a
2 commissioner so I'm here, but as it's already been
3 noted, any formal positions we take on the congestion
4 study or any possible corridor designation will have to
5 be voted on and approved, will have to be approved by
6 our commission, essentially voted on.

7 Before I give a California perspective I'd
8 like to note that California has been fully
9 participating in the west-wide economic transmission
10 planning process, particularly since TEPPC started in
11 2006, and we fully expect and endorse DOE's use of the
12 results of that process in their congestion study.

13 And we very much welcome the Recovery Act
14 funds administered by DOE, which really beefed up the
15 Western study process and also made it possible for
16 much greater stakeholder participation, and I've been
17 participating in TEPPC since early 2006, so I've seen
18 things change and a much greater participation by
19 stakeholders with that federal money, and it's paying
20 for my trip today.

21 So, turning to the congestion study, the 2005
22 Energy Policy Act gave DOE very, very unclear scope or
23 guidance regarding congestion, as I think everybody has
24 acknowledged, and it also established a requirement to

1 consult with the states. So, given that situation,
2 it's particularly important in these studies that DOE
3 address and distinguish the different drivers of
4 transmission that I think you've already heard:
5 Reliability versus economic efficiency versus resource
6 priorities.

7 It's also important that if DOE looks beyond
8 congestion or conditions being currently experienced
9 and look to potential future congestion, that you
10 consider the conditions that would drive that future
11 condition and consider the likelihood and evidence for
12 those conditions occurring and their consistency with
13 state energy policy and also with actual market
14 developments.

15 So, I see I've forgotten to give you the first
16 slide, but that's, and that's what I've just said.

17 So, looking at the first rationale for
18 transmission reliability, I would point to some
19 relevant information sources in California. The ISO's
20 Transmission Planning and Local Capacity Studies, a
21 multiagency process addressing the once-through cooling
22 plant issues, that is (inaudible) plants that are
23 scheduled for retirement, replacement, or repowering.

24 The PUC's Long-Term Procurement and Resource

1 Adequacy Program, the Energy Commission's Integrated
2 Policy Report, and at the Associated Demand Forecast,
3 which drive a lot of planning in California.

4 And, particularly, I would point to the recent
5 substantial additions and upgrades of transmission and
6 generation in California in general but in particular
7 in the San Francisco and Southern California areas that
8 have been designated as congestion areas.

9 And I would also point to the importance of
10 looking at non-transmission solutions consistent with
11 state policy and priorities including the energy
12 loading order, emphasizing demand side and renewable
13 options.

14 Okay. Now, the second rationale for
15 transmission, essentially economic efficiency, energy
16 dispatch efficiency. DOE has relied heavily on the
17 TEPPC studies in the past and we expect that they will
18 continue to do so in the future including in the recent
19 WECC 10-year plan.

20 Looking specifically to California, there are
21 other important sources for this kind of information.
22 It includes the actual congestion costs on the ISO's
23 grid. This is an L&P, so it provides valuable
24 congestion information in that regard.

1 Also, the ISO's congestion studies are
2 conducted annually and they reflect the planning
3 assumptions under California's energy policy and
4 priorities, but in general I'd note that I don't
5 believe that economic efficiency or conventionally
6 defined "congestion" has really been an important
7 driver of transmission planning and expansion in recent
8 years.

9 I want to spend some more time on the third
10 rationale, supporting resource priorities. I think
11 we've already heard that that's quite important in the
12 West right now.

13 In California, transmission planning is
14 significantly driven by energy policy, including the
15 renewable portfolio standard, the greenhouse gas goals,
16 the energy loading order emphasizing demand side and
17 renewable options.

18 Pursuit of these goals is well underway and it
19 needs to inform DOE's next congestion study, and
20 furthermore, I'd point out to you that prospects for PV
21 and other distributed generation are growing. They're
22 supported by the governor's goals and by several
23 procurement programs administered by the PUC, and this
24 all has important implications for transmission.

1 And I'd also just point out that right now on-
2 going there are several efforts on several fronts to
3 facilitate the integration of distributed generation
4 into the grid. It's kind of a new and growing problem
5 and there's a lot of work going on to make that happen.

6 So, we are moving towards a 33 percent RPS
7 goal and this is driving a sizable part of the
8 transmission planning and expansion. And since the
9 DOE's first congestion study in 2006, the PUC has
10 permitted 28 transmission projects including four large
11 renewable projects with a cost estimated close to \$6
12 billion, as well as other high-voltage projects, other
13 renewable projects, and a fair number of these projects
14 are in the Southern California area that was previously
15 designated as a critical congestion area.

16 There are 11 projects currently undergoing
17 permitting, 43 projects are anticipated to file based
18 on information received over the next few years, and
19 these current and anticipated projects all reflect
20 planning and expansion for RPS needs, as well as
21 reliability, a considerable number of high-voltage
22 projects and a considerable number in Southern
23 California.

24 So, a very convenient, at least for me, metric

1 or indicator of transmission growth that is something I
2 could get my hands on easily is the growth of the
3 California ISO's High Voltage Transmission Access
4 Charge, that is dollars per megawatt hour charge for
5 accessing transmission, for using the transmission to
6 recover the cost of high-voltage infrastructure,
7 transmission infrastructure.

8 It goes into the TAC when those projects
9 become used, that is when they go into service. At the
10 time of DOE's 2006 and 2008 congestion studies, there
11 were a fair number of projects that were in the
12 planning and permitting stage, as we indicated at that
13 time. They're starting to increasingly move to
14 completion as this really, I think, very strongly
15 demonstrates that California is building transmission.

16 A lot of it, but certainly not all of it, is
17 for renewables. A lot of it's for reliability, too.

18 As you might have guessed, it's very important
19 for us to coordinate transmission and resource
20 planning. It's a two-way street that's exemplified by
21 the memorandum of understanding between the PUC and the
22 ISO.

23 Resource priorities and scenarios inform the
24 transmission planning process and we're increasingly

1 working on that. And going the other direction,
2 transmission plans and costs inform resource planning
3 and they inform actual procurement.

4 There have been a number of process reforms in
5 recent years to improve this coordination. Right now,
6 on-going, is a very important high priority effort to
7 further improve the coordination, but also to draw more
8 fully into this coordination the really, the hard nut
9 to crack, the generator interconnection process and
10 bring it more fully into the coordination with resource
11 and transmission planning. We're going to need a lot
12 of work on that and maybe a lot of, sort of,
13 understanding from FERC as well.

14 So, I mean, the bottom line here is,
15 transmission development cannot be separated from this
16 broader coordinated context of transmission and
17 resource planning in pursuit of our energy goals.

18 There's a third leg on this coordination
19 stool, that's environmental. Environmental planning
20 management are an important part of setting resource
21 and transmission priorities and this is something that
22 needs to be really well addressed in DOE's congestion
23 study.

24 You're probably all familiar with the

1 Renewable Energy Transmission Initiative, RETI. It was
2 established a few years ago. It's a broad stakeholder
3 process that uses detailed information analysis,
4 consultation, and it produced a blueprint of conceptual
5 transmission, resource zones, and areas to be avoided,
6 and it's been valuable in informing our planning in
7 recent years.

8 Now we're kind of moving beyond RETI. There's
9 currently the BLM Solar Programmatic EIS. It's a
10 multi-state effort across several Southwestern states
11 identifying areas available for solar development
12 versus excluded from solar development, and it's
13 identified several priority development areas, two of
14 which are in California and they coincide well with
15 areas from which we're obtaining a lot of the renewable
16 procurement in recent years and in coming years.

17 Another thing to look at is the Desert
18 Renewable Energy Conservation Plan. This is a
19 California-only effort but it's a joint effort with
20 state and federal agencies, several agencies involved,
21 broad stakeholder involvement, essentially all the RETI
22 crowd I think has sort of migrated to, this is where
23 the action is now, and this is looking to go beyond
24 RETI and beyond the Solar Programmatic EIS and further

1 identify areas that are available versus that are
2 excluded for development and the Joint EIR is expected
3 by the end of next year.

4 So, on with the end. I just want to give you
5 a picture at the end. So, on the left, just to help
6 you visualize, a little snapshot of part of the area
7 covered by RETI. Conceptual transmission segments
8 overlaid on a mapping of land use, environmental and
9 energy resource information. And on the right is the
10 outline of the DRECP area, the area being addressed by
11 the new DRECP.

12 And that's it.

13 MR. MEYER: Well, thank you all. That was
14 very helpful and useful.

15 I want to mention that Jason Marks from the
16 New Mexico commission was planning to be here, but for
17 reasons not fully detailed to me, but at any rate, he
18 was not able to come, but we appreciate his efforts to
19 be here in any event.

20 I have a couple of things that I want to
21 address in response to the comments offered. One,
22 Commissioner Wagner mentioned the RRRT, the Renewable
23 Rapid Response Team. This is an interagency group
24 involving senior people from the Department of the

1 Interior, Department of Agriculture, CEQ, DOE, and
2 FERC, and they meet roughly every two weeks, either in
3 sit-down meetings or by conference call.

4 And this group was initially focused on the
5 development of renewable generation capacity, as in the
6 BLM solar areas, but it quickly became apparent that
7 there needs to be a focus on associated transmission.
8 So, this group really has sort of two wings under it,
9 one is focused on the generation potential, the other
10 is on the associated transmission projects.

11 But in any event, the fundamental objective of
12 this group is to ensure that there is good coordination
13 among the several federal agencies and where
14 appropriate we also bring in the Department of Defense
15 that has a lot of land areas that are highly relevant
16 here.

17 So, there is this very active coordination
18 effort underway. And it's led by, on our side, by
19 Lauren Azar, who is also deeply interested in the
20 congestion study, so there is that kind of
21 coordination. Mike Li is working with Lauren on the
22 rapid response team work as well as on the congestion
23 study. So, I think that is, we are managing to keep
24 these things in sync.

1 I should say, however, that there has been
2 some mention recently, probably brought to your
3 attention, of seven transmission projects that have
4 been flagged as sort of pilot projects for this
5 coordination effort, and the idea was first to, these
6 are all projects that are in mid-review, and without
7 putting a thumb on the scale and trying to somehow
8 interfere or modify the objective review that has to be
9 made, the idea is, are there process improvements that
10 could be made with respect to those projects just to
11 ensure a more timely review process?

12 But beyond that, there is an intent to learn
13 from those particular projects to try to identify areas
14 of improvement that are systemic, that could be applied
15 to many of the other projects that are further back in
16 the pipeline and, so, I think once we've learned what
17 we think there is to learn from those seven projects,
18 we'll put up another group of pilot projects and just
19 continue to roll those projects over in that way.

20 So, let me go back now to some other points
21 that I wanted to raise with you.

22 In the earlier studies, some of our
23 respondents have been a little frustrated with what
24 they consider to be a lack of sufficient granularity,

1 you know, we designate broad areas as areas of concern
2 or critical congestion areas or something like that,
3 and they're saying, is it possible to give us more
4 relevant detail within those areas to show some
5 gradation across the affected area or other particular
6 pinpoint areas that ought to be called out.

7 And, so, I just wanted to get your reactions
8 and suggestions on the granularity question, and then I
9 also want to ask you to focus particularly on the
10 pending EPA regs and what changes you expect in terms
11 of, I think it's fairly likely that those regs are
12 going to induce changes in the flow patterns and so the
13 congestion may move around somewhat as a result of that
14 implementation.

15 So, without asking you to be either
16 clairvoyant or to reveal confidential information, if
17 there are things you can tell us about what to expect
18 with respect to the implementation of those regs.

19 And both of those points, I should say, are
20 equally applicable to the industry panel as well, that
21 is the granularity question and the EPA regs question.

22 So, with that, I'll get the responses from the
23 panel.

24 MR. WHITE: With regard to granularity, I

1 think we were really concerned about the lack of
2 granularity in the way Southern California was
3 designated as a congestion area.

4 I mean, focusing on the granularity as opposed
5 to the overall designation, just the granularity itself
6 was really not there and I think, as I remember trying
7 to understand the core designation documents, which I
8 went back and I can't seem to find them anymore, but
9 they seem to emphasize the renewable energy potential
10 as a basis for having it be as big as it was, the
11 designation, and as I tried to point out today, there's
12 a lot of on-going, very detailed planning and resource
13 transmission environmental coordination and I think all
14 this needs to be considered, and I think it's a model,
15 perhaps, for some other areas in the country. And I
16 think that argues, certainly, against being so non-
17 granular when you designate such a broad area.

18 And, in fact, there's a wealth of information
19 now that indicates where the resources are coming from,
20 both from a state policy perspective and from our
21 commercial development perspective, and there's also
22 the environmental resource transmission planning
23 coordination that I mentioned that indicates what's
24 happening, where it's happening.

1 So, I don't think there's any reason to be
2 that broad in the future. As to where, how narrow you
3 get, that's a difficult problem, and, I mean, I've
4 heard people talk about project-specific, and I think
5 that's a whole other can of worms that I'm not really
6 prepared to help you think about that right now.

7 So, I'll let maybe the others talk about the
8 granularity.

9 MS. WAGNER: Thank you. I would completely
10 agree with Keith's remarks. When Southern Nevada or
11 Clark County was designated as a corridor in 2006, I
12 think the first reaction, well, what does that mean?
13 It could have meant a lot of things. Luckily, we were
14 able to be de-designated, if that's a word, but I would
15 support a greater level of granularity. I think you
16 can look to processes like in California, to RETI and
17 some of their even, the evolution of where RETI has
18 gone.

19 In Nevada we had RETAAC, which is somewhat
20 equivalent to RETI, and some of the bigger issues in
21 Nevada are related to Department of Defense.
22 Department of Defense not only has one of our biggest
23 landholders, obviously, next to the federal government,
24 and within the federal government, it's the fly zones

1 are significant.

2 Early maps, they used to call them the red
3 light/green light maps, early maps from the Department
4 of Defense pretty much indicated that you could never
5 build transmission or wind in Nevada. They have since
6 modified that, but that goes to the granularity
7 aspects.

8 And along those lines, the environmental
9 impacts, clearly, in Southern Nevada, the desert
10 tortoise issue and in the remainder of the state, sage
11 grouse issues, and we're certainly working to identify
12 those areas, but I think the granularity, greater
13 granularity would give more credibility to any sort of
14 designation.

15 MR. MEYER: Well, let me add that
16 fundamentally we agree that the granularity, without,
17 well, within some limits. I mean, you can pinpoint
18 transmission constraints in a very granular way, but I
19 think people would legitimately say, well, so what,
20 because the solution may be somewhere else, but
21 nonetheless, we are interested in providing more detail
22 in a granular sense, but the data has to be there.

23 And now, of course, there is more data
24 available that's relevant, and so we are very

1 interested in trying to provide, make the documents
2 more useful and more focused, and so, any further
3 comments on granularity before we go to EPA, the
4 impacts of EPA regs?

5 MR. HAINS: I would just echo the same things,
6 the comments of the others. Again, I think, from the
7 ACC's perspective, I mean, when there was the national
8 corridor presented in Arizona, my recollection is it
9 encompassed three entire counties and when, you know, I
10 was trying to describe this to industry folks back
11 East, back when I was in DC one time, and explain to
12 them, like three counties in Arizona is like several
13 states back East, and so that was obviously too much.

14 I don't know how fine-tuned you need to get
15 it, but, yeah, definitely you need to get it finer
16 tuned than that.

17 MR. MEYER: Well, on the county boundaries,
18 when we designated those corridors, we were very
19 mindful that you needed to set clear boundaries because
20 corridor designation does have jurisdictional
21 significance, and so it's very important to have
22 boundaries that are readily identifiable and we don't
23 want to have to send survey crews out in the field to
24 determine, you know, what's in and what's out.

1 But in other parts of the country where
2 counties tend to be smaller, yes, it was a little
3 different, but we recognize that it would be possible
4 to pick other kinds of landmarks and highways, township
5 boundaries if there are township boundaries, or
6 railroads, perhaps, you know, some other readily
7 identifiable landmarks.

8 So, yeah, shall we turn to the impacts of EPA
9 regs?

10 MR. WHITE: Are you referring to Order 1000?
11 Or are you referring to something else?

12 MR. MEYER: No, no.

13 MR. WHITE: Oh, EPA.

14 MR. MEYER: EPA. Yes, yes.

15 MR. WHITE: Okay.

16 MR. MEYER: The once-through cooling, the MACT
17 regs, and the other parts of the package that EPA has
18 announced. You know, it's okay to say, let your
19 industry colleagues comment on it if you wish.

20 MR. WHITE: I really have familiarity only
21 with the once-through cooling and I know it's been a
22 very difficult thing to deal with. There have been
23 numerous studies recently. There's been probably the
24 best study that's come out, at least from a CAISO

1 perspective, last fall, and all I can say is, we're
2 dealing with it and identifying how much capacity is
3 needed in the area if certain things happen with these
4 once-through cooling plants.

5 Some have already been scheduled for
6 replacement or repowering, some for retirement, I guess
7 there's a few question marks, and it's very much on
8 peoples' minds in California and everybody's devoting
9 their attention to it. But there's the need for local
10 capacity in that area has been reduced by a lot of the
11 transmission, the (inaudible) that have been going on,
12 that's reflected in the CAISO's local area capacity
13 studies.

14 There will always be a need for some local
15 capacity in these areas and right now that's what
16 California's really working on, is just how much local
17 capacity will be needed in that area, especially
18 considering the (inaudible) development that would be
19 occurring both on the outskirts of the South coast
20 area, for example, and also distributed within that
21 area.

22 That's really all I have to offer is that
23 we're really working on it and some of the challenges
24 have been reduced by the transmission additions and

1 some newer generation additions, which need to be, both
2 of which need to be factored into your study.

3 But what the precise answer is, is still being
4 assessed.

5 MR. MEYER: I understand. Yes. Any other
6 comments on this subject?

7 MS. WAGNER: But I can't comment? The
8 commission is both formally and informally monitoring
9 all of this and the impacts. Nevada has, we used to
10 have significant load growth and now we have virtually
11 no load growth to declining load growth. So, we kind
12 of have some, in my opinion, some breathing room and
13 some time to assess the effects.

14 We don't have a lot of coal, just pretty much
15 two big facilities, one north, one south, so we're
16 monitoring it. We have a couple, one pending docket
17 that's specifically looking at all issues related to
18 the Reid Gardner Coal Plant, and we're working with our
19 NDEP or Environmental Protection Agency, I should say,
20 as well as our utility, the governors' office, kind of
21 keeping an eye on it without having to make any radical
22 decisions.

23 At this point, we don't have any issues with
24 once-through cooling because we have no water, so that

1 kind of eliminates that concern, but we still have
2 regional haze and MACT issues to address. But we're
3 monitoring at this point.

4 MR. HAINS: I've got nothing to add. I'm
5 totally unknowledgeable about these EPA regs.

6 MR. MEYER: I'm going to turn now to some
7 questions that my DOE colleagues, and Alison as well,
8 may want to raise. So, Alison?

9 MS. SILVERSTEIN: Thank you. Alison
10 Silverstein, an advisor to DOE. Commissioner Wagner,
11 you recommended criteria for national corridors and
12 although the congestion study is very distinctly not
13 the same as the national corridors, clearly they're
14 interrelated.

15 The factors that you recommended don't sync
16 with the statutory directives that we were given to
17 prepare the congestion study or loosely to the corridor
18 designation. Do you have any suggestions, since,
19 regrettably, commissioners as well as departments have
20 to actually pay attention to their statutory
21 requirements, do you have any suggestions for how DOE
22 could better incorporate the factors that you've
23 identified?

24 MS. WAGNER: Sure. And I recognize that you

1 have a requirement to do a congestion study, but I
2 think what our position is, and I think John Savage
3 covered this probably in greater detail, because I have
4 his written comments in front of me, but you can have
5 your congestion study and the congestion study can
6 identify with the congestion criteria I raised.

7 Take that and couple it with other issues that
8 we raised. So, here's the congestion study, but here
9 are all the other things that can help inform the
10 national, a national corridor. So, recognizing that
11 you have to do your job.

12 MS. SILVERSTEIN: So, let me try this a
13 different way. The congestion, first, you want us to
14 broaden the scope and content of the congestion study
15 to lay a foundation that recognizes all of these other
16 factors.

17 MS. WAGNER: I would say that's...

18 MS. SILVERSTEIN: In order to better feed the
19 corridor designation. Let me ask a sort of potential
20 vehicle question. In 2006, DOE sort of heroically
21 invented this concept of conditional congestion areas
22 and at the time they were pretty specifically focused
23 on, here are the renewables and the chicken and egg
24 issue, and if you wanted to do renewable development,

1 then transmission congestion is contingent upon that.

2 Is the conditional congestion area concept
3 potentially expandable to serve your recommendation?

4 MS. WAGNER: Maybe if you could come up with a
5 different name for it.

6 MS. SILVERSTEIN: It was a lot of work coming
7 up with that name.

8 MS. WAGNER: And I see what your point is.

9 MS. SILVERSTEIN: Is it a policy conditional?
10 Is it an economics conditional? Is it a...

11 MS. WAGNER: I think maybe just conditional.
12 Or, you know, how do you define conditional congestion,
13 because to me those two words don't necessarily go
14 hand-in-hand because it's congestion, I think you're
15 studying what is actually occurring now.

16 MS. SILVERSTEIN: Let me ask a different
17 question then and maybe it will inform this. Let's
18 talk about the timeframe for congestion identification
19 for the study. The 2006 and 2009 studies focused very
20 much on recent and current congestion using the data,
21 recognizing that there's always a time lag between the
22 information that's available and by the time the study
23 comes out the data are stale anyway.

24 If the DOE continues to use forward-looking

1 data and analyses, as everybody pretty much has, well,
2 with the exception of a couple of Easterners, have
3 recommended that the Department do, how far forward
4 should they look? Two years? Five years? Ten years?
5 I mean, at what point does the future that you're
6 looking at become, we know that it's going to be wrong,
7 but at what point does it become irrelevant?

8 MS. WAGNER: Right. And based on my
9 experience, just limited with the SPG within WECC, but
10 looking at the 10 year plan. I think 10 year, I mean,
11 you're absolutely correct. You know it's going to be
12 wrong, but I think that's the appropriate timeframe.

13 And I agree with what you're trying to get at
14 is I have this situation where I look at all these
15 proposed transmission projects that terminate in
16 Southern Nevada. That's a problem, because there's no
17 mechanism for them to get to California.

18 So, something like that that is identified, I
19 don't think that that should be necessarily designated
20 as a corridor, but it goes to the fact that we have an
21 abundance of transmission projects terminating in one
22 area is a problem.

23 And I'll just do my personal aside on the
24 issue, one of the big things that I think we need to

1 accomplish in the near future is what projects are real
2 and what projects are not. That's becoming frustrating
3 to me that every time I see a new map of the West, I
4 see one more transmission project.

5 MS. SILVERSTEIN: Coming to Nevada.

6 MS. WAGNER: Coming to Nevada, terminating in
7 Southern Nevada with no access to where the load is
8 possibly going to be or the demand.

9 So, I want to start separating what's for real
10 and what's necessary, and I think that the WECC 10 year
11 plan went a long way in identifying that, but to your
12 point, yes, I think those are the things that you
13 consider for, you know, potential future congestion
14 concerns. But we know that they'll change.

15 MS. SILVERSTEIN: Thank you.

16 MR. WHITE: Can I answer?

17 MS. SILVERSTEIN: Please do. I'm actually
18 going to ask both of you for your views on both these
19 questions.

20 MR. WHITE: I think I started out emphasizing
21 that one of the things that DOE really needed to
22 consider, given the fact that, number one, their scope
23 given by the Energy Policy Act is, you know, really
24 broad, you've got a really tough job because they give

1 you a lot of leeway but a lot of, you know, sort of
2 grief and uncertainty too.

3 But also the fact that you are required to
4 consult the states is that if you choose, and if you
5 noticed in the language, it only says that corridors
6 will be designated in areas experiencing congestion, so
7 we understand that, you know, all planners kind of
8 understand that it makes sense to look beyond the
9 present time.

10 But when you do look beyond the present time,
11 I emphasized at the beginning, that it's important to
12 consider what are the conditions that you're assuming
13 when you're looking at that future time, and you need
14 to be very explicit and clear about what you're
15 assuming and the weight that you attach to your
16 findings about that future time has to depend upon the
17 extent to which those conditions are likely, to the
18 extent to which they're consistent with state energy
19 policy and priorities, and to the extent to which
20 they're consistent with actual commercial developments.

21 And, so, I suppose it's not necessarily a bad
22 thing to look at possible futures and say, well, there
23 could be congestion under these futures or those, but I
24 wouldn't attach a strong weight to that or, for

1 example, any weight towards designating to corridors,
2 certainly, unless it met the conditions that I just
3 mentioned.

4 MS. SILVERSTEIN: I'm pleased to say that my
5 only concern at the moment is getting a good, solid
6 congestion study in place and the corridors will have
7 to fend for themselves when we get through that.

8 MR. MEYER: But on this question of
9 conditional congestion, to me the, we do have to try to
10 find ways to distinguish between possible development
11 and likely development, say, and that's not easy. But
12 it seems to me that if we want to develop the
13 conditional concept further, we are going to have to
14 give attention to that.

15 MR. WHITE: And, as you mentioned earlier,
16 it's going to be important to look at multiple sources
17 of information, and I provided, for within California,
18 I suggested several of those sources and, I mean, it
19 will be important to be very clear about your basis for
20 assessing the likelihood of those conditions occurring
21 on a very, you know, sound sort of actual publicly
22 accessible basis for assessing the likelihood of those
23 conditions.

24 MS. SILVERSTEIN: And unless Mr. Hains wants

1 to jump in on this issue, I've got one more question,
2 if I may?

3 MR. HAINS: Go ahead.

4 MS. SILVERSTEIN: And let's go back to the
5 topic of granularity. You all mostly answered David's
6 question about granularity with respect to
7 identification of corridors; so, let me step back to
8 granularity within the context of congestion area
9 identification itself.

10 How broad versus how granular should we get in
11 this? Should we be looking at continuing to talk about
12 areas, for instance, San Francisco, the Bay Area was
13 identified in two studies as an area of concern.
14 Southern California is a slightly larger chunk, but in
15 the Eastern discussions we would say, this is not an
16 area of concern but there are very specific pinpoints
17 that are congested, but that congestion of this
18 specific facility does not bring the area to the level
19 of being, does not make the area a point of concern,
20 it's just that there's this congested spot.

21 Do we want to be identifying congestion areas
22 with respect to, should they be blobs or should they be
23 pinpoints? Particularly given that some of you are
24 working very hard, if you see a pinpoint, a specific

1 area of congestion, that you're by God going to fix it,
2 so how should we handle this going forward in 2012?

3 MR. WHITE: I think you really have to rely on
4 the information. In some cases it might be a pinpoint,
5 in a lot of places there are multiple points on the
6 grid where you can solve a problem and it's not a
7 pinpoint. I don't think there is any one answer.

8 MS. SILVERSTEIN: Should there be any reason
9 why something that is a pinpoint of congestion should
10 rise to the area of being identified as an official
11 congestion area? Or pretty much we need to see a whole
12 lot of congestion in a specific zone before we say
13 that's a congestion area?

14 MR. WHITE: Well, if you can identify one
15 point that's clearly the place that the transmission or
16 some other solution is needed to resolve a clearly
17 identified problem, then that point could possibly be a
18 congestion area, but I doubt very much that that's
19 usually the case.

20 MS. SILVERSTEIN: Remember, our job is not to
21 recommend where stuff should be fixed, our job is just
22 to say, there it is. So, just to be clear.

23 MR. WHITE: Well, most times there it is not
24 going to be one point or even one line.

1 MS. SILVERSTEIN: Thank you. Any other
2 comments? Thank you very much.

3 MR. MEYER: I have one last point to raise
4 with the panel, that is, are you generally, for the
5 purposes of the congestion study, are you generally
6 content with the non-wires solutions options, that is,
7 do you see them as essentially baked into the RTEP
8 projections or do you see significant potential that
9 ought to be considered that is not captured in the RTEP
10 projections?

11 MS. WAGNER: When you say non-wire solutions I
12 am assuming demand response, DSM programs?

13 MR. MEYER: Yes.

14 MS. WAGNER: I would, as the chair of the
15 subcommittee on DSM for SPSC, we have and WECC has, or
16 TEPPC has responded accordingly that those, that
17 there's significant analysis done within all of the
18 states and we look at it every year, and that is, as
19 you said, baked into what TEPPC is looking at, and we
20 keep changing the names of things, but I think that's
21 the common case now, takes those considerations.

22 So, I would say, that would be a good starting
23 point. I think that it's thoroughly analyzed and I
24 think states have the opportunity to weigh in, correct

1 data, you know, look at the projections to make sure
2 it's realistic. I mean, because we have goals and then
3 we have what we actually achieve, and I think we've
4 done a good job of narrowing down and getting a
5 meaningful amount of data that goes into creating the
6 common case.

7 So, I think, I don't know that you would need
8 to spend additional time on that. I think what we have
9 is good.

10 MR. MEYER: Okay, good.

11 MS. SILVERSTEIN: David? One more question
12 related to that, please. Did the 2009 study do an
13 adequate job of recognizing and incorporating the
14 efforts that your respective states are undertaking on
15 different generation and non-wires solutions, all the
16 demand side stuff, in terms of how that affects
17 congestion and your ways of addressing it going
18 forward?

19 MR. WHITE: Can I first finish answering the
20 last question and then I'll answer that one?

21 MS. SILVERSTEIN: Please do.

22 MR. WHITE: With regard to non-wires
23 solutions, that mainly addresses reliability as opposed
24 to, you know, efficient dispatch or accessing new

1 resources. And a lot of those problems are fairly
2 localized. I mean, for California, what the previous
3 congestion studies were getting at, I think, in terms
4 of reliability is, is feeding the Peninsula and
5 possibly other parts of the Bay Area, and feeding
6 coastal Southern California, so that's fairly localized
7 relative to the scope that TEPPC addresses.

8 So, TEPPC addresses, it's an economic study,
9 so it addresses efficiencies or west-wide system
10 utilization and dispatch and it certainly addresses
11 accessing new resources in different areas. TEPPC
12 doesn't really do any detailed reliability studies and
13 it certainly doesn't do local area studies such as in
14 Southern California and in the Bay Area. So, you do
15 need to look for other sources.

16 And we've been happy with what's going on with
17 the TEPPC studies and we've been involved both in the
18 common or the base case and also a high DSM case, and
19 the states would have input on how the common case has
20 been developed and also on how, as Rebecca has
21 mentioned, on how the high DSM case is developed, and
22 we're happy with where that's going. It's going to
23 reflect, it's going to help us understand how the
24 implications on a west-wide basis of a more distributed

1 generation, demand side-oriented future might look
2 like, but it doesn't necessarily get into all these
3 local issues.

4 You still, I mean, if you're going to look at
5 local area reliability, that's a place to start to look
6 at some of the west-wide dispatch under those
7 conditions, but you'll still need, and to use the word,
8 a more granular look at the load areas and that's where
9 we're concerned that the non-wires alternatives get
10 adequately assessed. We have a loading order that
11 emphasizes renewables and demand side options and
12 there's some generation that's been added in our load
13 areas recently as well as transmission.

14 So, that was the first question.

15 MS. SILVERSTEIN: And my question was, were
16 you satisfied with the way that the 2009 study went
17 through and looked specifically at new and central
18 station and distributed generation, at energy
19 efficiency, at changes in load, at all of the different
20 state initiatives and their economic activities that
21 could change the likely, the distance of congestion
22 going forward? Is there something we can do better in
23 terms of recognizing that? Understanding that the
24 sources have changed and the policies have changed, was

1 the process of identifying and incorporating them
2 appropriate?

3 MR. WHITE: You know, the 2009 study is kind
4 of a blur to me. I remember the 2006 because it was
5 the first time and we were all excited and we had the
6 big meeting to kick it off and the 2009 just gets kind
7 of lost in everything else we've done over the years,
8 but...

9 MS. SILVERSTEIN: It was gripping. The
10 movie's coming out soon.

11 MR. WHITE: But I did kind of review the
12 rationale for maintaining the critical congestion
13 areas, was that we maintain the critical congestion
14 areas or was it maintaining the corridors, the critical
15 congestion area and the other congestion area? Are we
16 the only state that has the honor of having two
17 separate congestion areas?

18 MS. SILVERSTEIN: Yes. Yes, you are.

19 MR. WHITE: Okay. And I was a little
20 concerned because part of the rationale in both cases,
21 south and north, was, you know, we're concerned that
22 California isn't getting it done, that they have a, I'm
23 paraphrasing and I'll admit I'm paraphrasing, but it's
24 kind of emotionally the way I received it is, maybe

1 kind of slow in planning and permitting and developing
2 infrastructure, I think, of both transmission and
3 generation, and I'm trying to indicate with what I
4 showed this morning, that we are doing a lot of stuff
5 and a lot of it doesn't show up in what I showed you.

6 We only, the PUC only permits transmission
7 additions that involve major changes such as to towers
8 or right-of-way or something. It does involve some of
9 the reconductoring and some of the equipment that's
10 upgraded along the lines and in the substations, and
11 when I showed you the growth of the high-voltage AC,
12 that's the high, and we didn't permit the TransBay
13 cable, so that's not there and that's a big reliability
14 addition for the Bay Area. It enabled one power plant
15 to finally be retired.

16 And when I showed you the AC going up, that's
17 high-voltage AC. There's other stuff that's going on
18 that's not high-voltage AC.

19 So, that was my main thing, I guess,
20 emotionally that really struck me in the 2009 study,
21 that California is not getting it done and that's part
22 of the reason we're a little concerned and I just want
23 to say a lot is getting done and Californians are
24 paying for it.

1 MS. SILVERSTEIN: Thank you. Any other
2 feedback on that point? Mr. White, by the way, I
3 would be delighted to work with you, Dr. White, to get
4 all of these data sources and make sure that we have
5 this information appropriately reflected in any study.
6 Thank you.

7 MR. MEYER: Any other questions from members
8 of our crew here? We have a few minutes, if there are
9 members of the audience that want to comment on some of
10 the things that have been discussed here or perhaps you
11 have questions you would like to put to the panelists
12 to get into the record. Hearing none, seeing none, we
13 will take a break and resume in 15 minutes.

14 (Recess)

15 MR. MEYER: Ladies and gentlemen, if you'll
16 take your seats. We'll get started with our industry
17 panel. We'll turn to these folks, Mr...

18 MR. SMITH: You're not trying to say Bob
19 Smith, obviously.

20 MR. MEYER: No, the gentleman from Southern
21 California Edison, is he not here? It appears not. He
22 may have transportation problems or something like
23 that, he may come in late. If so, we'll welcome him as
24 the opportunity arises.

1 So, let's go on then to, and from there on
2 we'll proceed in the order listed and, once again, I
3 won't introduce these people. Their names and
4 affiliations are listed on your agenda, and so, Bob
5 Smith, will you lead off for us, please?

6 MR. SMITH: Sure, David. Thanks. Well,
7 appreciate the opportunity to be here. I'm Bob Smith
8 with Arizona Public Service and I have responsibility
9 for asset management and planning, both transmission
10 and distribution at Arizona Public Service.

11 And I did have the opportunity to actually
12 work with David and Alison on the first congestion
13 study when they collaborated with WECC, six, seven
14 years ago, and I think it's been an interesting
15 evolution of efforts since then, so I applaud you in
16 your efforts.

17 I do have some slides, not because Arizona has
18 gotten any more complicated since, soon-to-be chief
19 counsel, Mr. Hains spoke earlier, but because I'm an
20 engineer, a planner, and we need slides.

21 So, these are the thoughts of Bob Smith, but
22 they've also been vetted and approved by Lindy Fisker,
23 our director of federal regulatory, and Jennifer Spina,
24 in the back, who was trying to explain to me last night

1 exactly what level of attorney she is. I'm still not
2 sure, but she's way up there. She's our FERC attorney.
3 And, really, at APS, you can't do any better than that.

4 So, what I wanted to cover today, and I'll
5 touch on some of the questions but I'm not going to
6 necessarily talk about every one specifically, but
7 luckily I'm going to confirm the comments we heard from
8 Mr. Hains earlier and maybe just go into a little more
9 detail about the plans we have for the Phoenix-Tucson
10 area that certainly mitigate any congestion as far out
11 as we study.

12 And then I wanted to talk a little bit about
13 Southern California and while the recent studies with
14 the assumptions that California has offered up into the
15 studies doesn't show congestion with the current plans
16 to meet the WREZ requirements in California, I do think
17 that there is some potential for conditional
18 congestion, and I'll give you some slides to sort of
19 illustrate what that might look like.

20 One I think we've talked quite a bit about
21 already today, and that is that, well, what if
22 California decides to rely more on out-of-state
23 renewables than the current assumptions, and
24 specifically if it looks to areas like Arizona or

1 Nevada for solar or wind from New Mexico or the Rocky
2 Mountain area. So, under the conditions that was to
3 happen, I think it's clear there would be transmission
4 congestion into California.

5 The other one, and this is something you may
6 not have heard too much of this concept, but I think
7 it's really critical, that I believe even if California
8 does implement the renewables within California to meet
9 their WREZ requirements as currently planned, there's
10 going to be a significant need for firming resources,
11 more than likely gas combined-cycle plants, to be able
12 to provide ancillary services to firm the variable
13 nature of the renewable resources, and I think there's
14 a real chance that California will struggle to be able
15 to do that totally within the boundaries of California.

16 So, that's another kind of potential
17 conditional congestion that you might see.

18 And then, finally, I'll offer a few comments
19 on potential data sources for the congestion study, and
20 I don't think I'll offer up anything that hasn't
21 already been said here today or certainly in Portland
22 in the earlier session.

23 So, back in the 2006 study, one of the things
24 that was offered up as data for DOE in conjunction with

1 WECC to consider were reliability must-run generation
2 studies in the Phoenix and Tucson load pockets that had
3 been performed as part of the biennial transmission
4 assessment that's performed for the Arizona Corporation
5 Commission. Mr. Hains talked a little bit about that
6 this morning.

7 And what it showed was that there was a
8 significant local generation requirement because of the
9 difference between the ability to import power and the
10 peak load, and I think maybe it was the top 20 percent
11 of our load duration curve, we relied on generation
12 within the load pocket. It wasn't really economically
13 significant because most of that generation was in the
14 money in the near term, but to make sure that we didn't
15 get into economic congestion in the future, we had to
16 add transmission to our plans.

17 At the time, I think we probably had
18 conceptual plans but what happened three years later
19 was that those conceptual plans had turned into firm
20 transmission plans that the utilities in Arizona, APS
21 and SRP, and the Phoenix area load pocket and Tucson
22 Electric Power in the Tucson area load pocket actually
23 turned in, in their 10-year plans that they filed with
24 the ACC in January of every year, and those plans

1 provided total mitigation for those load pocket,
2 reliability, must-run generation concerns.

3 What I'll do today is provide, in the way of
4 an update, the fact that these aren't just plans
5 anymore, they're actual projects that are being
6 implemented, and, in fact, some of those pieces of
7 these projects have already gone in service.

8 So, the plan projects that are responsible for
9 mitigation of potential congestion in the Phoenix-
10 Tucson area, there's the Palo Verde, Delaney, Sun
11 Valley, Morgan, Pinnacle Peak project. I don't know if
12 there's a pointer here. But that's this project here
13 that goes from the Palo Verde hub around the far west
14 side of the Phoenix Valley, up around the north side,
15 and actually we've put this piece of it in service
16 between Morgan and Pinnacle Peak in 2010.

17 The other pieces we'll be building in, I
18 believe, 2013, is the in service date to go from Palo
19 Verde to Delaney, where we've had requests for
20 interconnection of a number of solar facilities. In
21 2015, and I don't know if you can really see these
22 names or not, but we'll build to this Sun Valley
23 substation from Delaney and build on into our 230
24 system into the Phoenix area from there.

1 And then, finally, in 2016, the last leg from
2 Sun Valley up to Morgan. And then the Southeast Valley
3 Project, which is a similar project as Salt River
4 Project, is managing that goes along the southern part
5 of the Phoenix area, I guess it's not showing on this
6 map yet, but we'll go into it in a second here, the
7 last project is Pinal Central to Tortolita, which is a
8 TEP project.

9 So, this just shows you in more detail the
10 project from Palo Verde all the way across to Pinnacle
11 Peak, 83 miles of new 500 kV transmission, 26 miles of
12 it is already in service, as I mentioned, the Morgan-
13 Pinnacle Peak project.

14 This is a joint participation project. A lot
15 of the EHV, in fact, almost all of the 500 kV in
16 Arizona, is jointly owned by a number of utilities
17 because of joint ownership in the remote power plants
18 that those transmission systems were built for. In
19 this case, these projects are basically enabling us to
20 bring additional resources from the Palo Verde hub into
21 the Phoenix area, and the participants are APS, the
22 Central Arizona Water Conservation District, which is
23 basically the CAP project, the canal that runs from the
24 Colorado River down to Tucson, and SRP. And it's

1 increasing the ability to import power and reliability
2 throughout the Phoenix area.

3 The second major project, as I mentioned, was
4 the Southeast Valley Project, 100 miles of new 500 kV
5 transmission lines, and this one's mainly going south
6 and east into Phoenix. Fifty miles are already in
7 service. The Hassayampa is at the Palo Verde hub down
8 to Pinal West. That portion is in service and
9 interconnects with transmission going to Tucson.

10 You can see the participants there, Salt
11 River, Tucson Electric, Southwest Transmission
12 Cooperative, and then a number of electric districts
13 that serve primarily irrigation load down in the area
14 between Casa Grande and Phoenix. And, again, this
15 increases the system reliability and imports into the
16 Phoenix area.

17 And then the third project, the Pinal, I did
18 want to mention, I'm sorry, but these two projects have
19 the Certificate of Environmental Compatibility within
20 Arizona, so we have our Arizona permit from the line
21 siting committee, and for the most part, all of the
22 pieces of these projects are fully permitted, rights of
23 ways are procured, there's design, the only exception
24 is the last piece of this project that will be built

1 from Sun Valley to Morgan, the CEC that we received
2 from the Arizona Corporation Commission was not fully
3 compatible with the BLM's land management plans. And
4 we are currently trying to negotiate a change in those
5 plans to allow us to build this portion of the line
6 consistent with the CEC.

7 Whether we're going to be able to do that or
8 not is yet to be seen. So, that is one risk for one of
9 these projects that is necessary to mitigate the
10 congestion in Phoenix.

11 The project that Salt River is managing is all
12 permitted and designed, so these projects are well on
13 the way and will be built.

14 Tucson does not have the permit from the state
15 yet for this project. I think they're in the process
16 of getting the permit together for that. So, this is
17 the Pinal Central-Tortolita Project, 38 miles of new
18 500 kV transmission. Tucson Electric Power, SRP, and
19 SunZia, which is a project proposed to bring renewables
20 from New Mexico into Arizona, again, provides
21 additional EHV source, increasing import capability and
22 reliability into the Tucson area.

23 So, those are the projects that are in place
24 that, again, total agreement with all the utilities and

1 the Arizona Corporation Commission. We're in good
2 shape in the Phoenix-Tucson area for a long time.

3 Okay, what I want to do now is shift the focus
4 into the Southern California area and talk a little bit
5 about these potential conditional congestion
6 situations.

7 What this is, is a map of basically the right-
8 of-way for the Hassayampa-North Gila line. It's a 500
9 kV line that runs from the Palo Verde hub area down to
10 Yuma. This is the line that tripped offline on August
11 8th when we had the system event in the Southwest.

12 You can see these large areas here that we
13 have significant requests for interconnection. I guess
14 the first point is that in the APS generation queue in
15 Arizona, there were 10,000 megawatts of generation
16 requests. And you can see that about two-thirds of
17 that is in these specific areas identified in the Yuma
18 area along the existing 500 line at the Palo Verde hub
19 and a little south of there in the Gila Bend-Buckeye,
20 down west of Phoenix, what we refer to as the Gila
21 Bend-Buckeye area.

22 So, there's a lot of really high-potential
23 solar, relatively inexpensive land, relatively easy to
24 permit, so developers want to build solar resources in

1 this area.

2 So, if you can think of conditional congestion
3 as, well, if these folks did manage to build and of
4 course find a buyer, which is also very key, you would
5 need additional transmission.

6 The other type of conditional congestion that
7 I had mentioned is around the ability to firm the
8 energy of the variable resources and, again, you know,
9 I think California is going to have some real
10 challenges here with their OTC issues, their ability to
11 permit, and, again, I think it requires gas-fired
12 generation to be able to provide these firming
13 resources.

14 In the Palo Verde Hub area, there are 6,000
15 megawatts of gas-combined cycle generating units that
16 could provide these types of ancillary services. The
17 existing California, this is not totally accurate,
18 after the Four Corners transaction goes through, the
19 CAISO transmission from the Palo Verde hub will consist
20 of Edison's 100 percent share of the Palo Verde-Devers
21 line, San Diego's share of the Hassayampa-North Gila
22 line, and that totals 2,965 megawatts.

23 So, this is something that, to my knowledge,
24 all the congestion analysis and the economic production

1 cost studies that are done to date does not take into
2 account the differentiation between the transmission
3 that the Cal-ISO has control over that wouldn't have an
4 additional transmission charge, California, as opposed
5 to the entire Path 49, which is all the transmission
6 going from Arizona into California of 9,300 megawatts.

7 And the economic implications of only, I'm
8 getting a little ahead of myself here. The bottom
9 bullet, the resources from the Palo Verde Hub into the
10 Cal-ISO are within about 350 megawatts of this number,
11 and those resources consist of Palo Verde energy that's
12 scheduled into California, so Southern Cal Edison's
13 share, L.A.'s share, SCAPA share. It consists of the
14 Mesquite Power Plant that is scheduled into, I believe,
15 SDG&E, certainly into the Cal-ISO.

16 And then in the '13 timeframe, I believe, the
17 Agua Caliente solar facility will go into service, and
18 they have a PPA through PG&E, so they'll be scheduled
19 into the Cal-ISO.

20 So, at that point, the only room to schedule
21 additional resources, whether it's renewables, beyond
22 what's currently expected, that would be developed
23 either in Arizona or New Mexico that want to get to
24 California, or ancillary services to firm the variable

1 resources in California, there's only a difference
2 between 2,965 and 2,633, so, again, about 350
3 megawatts.

4 So, we think that there's a real, well, a
5 potential need, certainly, that would require
6 additional transmission between Arizona and California.

7 So, we have two projects that we believe will
8 help this situation. One is the existing, well,
9 there's a firm plan for APS to build the North Gila
10 Number 2 line. It's a parallel line, basically in the
11 same corridor as the existing Hassayampa-North Gila
12 line, 110 miles of new 500 kV transmission would
13 provide a second EHV source into Yuma increasing import
14 capability and reliability, but also it would
15 facilitate the interconnection of additional renewable
16 resources along this corridor. On the previous slide
17 we saw the areas where significant number of solar
18 generators had requested interconnection.

19 Now, there is some concern that you can build
20 this second line and you're limited on the ability to
21 move it on into California because of bottlenecks
22 between North Gila and Imperial Valley. There are some
23 other proposed projects to mitigate that, but even if
24 you wanted to get to California back up through the

1 Palo Verde hub, APS is also proposing to build what
2 would effectively be the Arizona portion of the
3 previously proposed Palo Verde-Devers Number 2 line,
4 which Edison is already building the California portion
5 and APS has been working for roughly nine months with
6 an entity called Electric Transmission of America.

7 It's a company that consists of subsidiaries
8 of Mid-American Power and AEP and we don't have a
9 formal joint venture formed, however we've been working
10 under an MOU to do some joint work and have basically
11 suggested to the Cal-ISO that they should consider this
12 project in their plans as an ability to move resources
13 from New Mexico, Arizona into California and provide
14 transmission for potential ancillary services.

15 This should be of no surprise, but as far as
16 data that you might want to use for the congestion
17 study itself, the interconnection queues of the various
18 utilities in the desert southwest, WECC, and you heard
19 all about this in Portland, production cost analysis,
20 their 10-year plan, their 20-year plan I don't have
21 here, the WestConnect 10-year plan.

22 I guess what I did neglect here is certainly
23 there are individual transmission plans from the
24 utilities like APS and Salt River that are posted. The

1 biennial transmission assessment studies from the ACC
2 would be very informative.

3 So, that's really all I had prepared. I
4 guess, maybe to address a couple of the other things I
5 heard this morning, Commissioner Wagner from Nevada had
6 listed a number of things that she would like
7 considered in this study. Frankly, in my mind, I
8 didn't, first of all, I agreed with all of those as
9 important things to consider and I didn't see anything
10 that was necessarily incompatible with my feeling of
11 the breadth of potential definitions for congestion.

12 Another thing that was asked was about
13 granularity and I guess it appears to me that there's a
14 difference here between the granularity of, say, a
15 potential area of concern or a conditional congestion
16 area and a potential national corridor that might be
17 viewed as a potential solution to that. So, let's talk
18 about Southern California.

19 If Southern California, if this conditional
20 congestion of the need for ancillary services from
21 Arizona came about, I think the area truly would be the
22 southern part of the Cal-ISO, because the need for
23 those firming resources is really for the entire Cal-
24 ISO BA.

1 As far as a corridor that could be used to
2 relieve that congestion, that could be as simple as,
3 it's right here, because the resources are at the Palo
4 Verde Hub, a lot of future resources could be developed
5 at the Palo Verde Hub. You get to the Colorado River,
6 you've connected into Edison's existing system, and,
7 you know, I'm certainly not going to commit that we
8 could built the entire line within 150 feet of the
9 existing line, but I don't think you have to go more
10 than 10 miles on either side away from it to designate
11 a corridor. And I believe that would be much more
12 granular than certainly what was in the first two
13 studies.

14 So, with that, I'll conclude my remarks.
15 Thank you.

16 MR. MEYER: Well, thank you very much, Bob. A
17 lot of good information there. Let's turn next to Jan
18 Strack from San Diego Gas & Electric.

19 MR. STRACK: Thank you. So, David told me
20 before this workshop started that I basically had 8 to
21 10 minutes to talk, and that reminded me of what
22 Elizabeth Taylor told each of her husbands. She said,
23 don't worry, honey, this won't take long.

24 Okay. So, I'm going to touch on a few things.

1 I think it's useful to back up just a little bit here
2 and talk about, try to get a handle on what we're
3 really talking about here. Ultimately what we're
4 talking about is, you know, what's the best way to meet
5 the country's public policy goals, and obviously
6 renewables is a big part of that. What's the best way?

7 And speakers before us have already kind of
8 touched on a lot of this stuff and I think a lot of
9 this gets to alternatives, what alternatives get
10 considered, like non-wires alternatives, and with
11 respect to congestion, it's been said already but I
12 think it's worth repeating, that all congestion doesn't
13 need or shouldn't be eliminated.

14 You have to manage all congestion, obviously,
15 because that's how we make sure the grid's always
16 reliable, but clearly not every instance of congestion
17 needs to be mitigated.

18 So, let me go to some of the questions here.
19 First question: Are the 2009 critical congestion areas
20 still valid? Well, with respect to Southern
21 California, it was designated in 2009 as a critical
22 congestion area and we feel that was appropriate based
23 on information available at the time. But now is the
24 time to revisit that decision, and there's a number of

1 reasons, and some of this has already been touched on,
2 but a lot of new transmission is actually being built
3 right now, and I've listed three of the major ones
4 here, but there's a number of other ones as well.

5 There's some additional study work that the
6 ISO has recently released, and I think Xiaobo here next
7 to me is going to probably touch on some of that work,
8 so the results of that are out to look at.

9 And the California Transmission Planning Group
10 has been doing some study work and they're also
11 producing results, which are pointing in certain
12 directions. For example, the CTPG work that we're
13 seeing, and this is a little bit of a contrast to what
14 you've heard from Bob here, but what our work is
15 suggesting is, you can add quite a few renewables in
16 the Palo Verde area and the Southern Nevada area, and
17 we're actually not seeing much in the way of
18 congestion-related problems coming into California.
19 There's an awful lot of existing transfer capability
20 there.

21 Some of this might get to this whole issue of
22 between, Bob mentioned the ISO transmission where
23 there's no contract path involved versus, sort of, what
24 I call the contract path fiction, which ties up

1 transmission, in my view, unnecessarily, so maybe
2 that's part of what's going on there.

3 But in any event, our technical studies at
4 CTPG don't really show there's much of an issue, at
5 least in that portion of the system.

6 So, next is conditional congestion, and in the
7 previous 2009 study, and I think people have alluded to
8 this already, it was a fairly broad, geographic kind of
9 look at where the renewables would be, and there's a
10 lot of renewable potential in the Western United
11 States, a huge amount.

12 And just to give you an example, in California
13 there's already 70,000 megawatts of generation, mostly
14 renewable, in the ISO's interconnection queue, setting
15 aside LA and the other balancing authorities, and Bob
16 even mentioned there's like 10,000 megawatts in the
17 Arizona queue. Well, that 10,000 megawatts just in
18 Arizona alone can meet two-thirds of what California
19 needs to get to their 33 percent renewable goal.

20 My point being that not all the stuff's going
21 to get built, in fact, a lot of it's not going to get
22 built, and in terms of making the DOE congestion study
23 useful, I think it's imperative that this time around
24 the DOE actually make a concerted effort to sort of

1 scale back those renewable development potentials to
2 levels that actually equal what the states throughout
3 the WECC are requiring or with respect to what their
4 goals are, so that we're actually dealing with a more
5 realistic set of renewable resources, and along with
6 that, actually, a more realistic set of locations for
7 those renewable resources.

8 I think that's important because it's going to
9 allow us to make important decisions about where
10 conditional congestion is going to exist. It just
11 isn't helpful really to just sort of draw a broad band
12 of color on the map and say this is where we're going
13 to have conditional congestion. I don't think that's
14 helpful for decision-making.

15 So, the more specific you get, this goes to
16 that granularity issue, the better off we're going to
17 be.

18 And also, and ultimately, as I said earlier,
19 this is going to help facilitate the ultimate decision,
20 which is, do you want to build transmission to mitigate
21 congestion which may exist in these areas, or are there
22 other alternatives, which are better solutions for
23 doing that. But at least that will set up the question
24 and allow us to really focus on it, that helps us get

1 to some decisions, because we need to make decisions to
2 move forward here.

3 Factors that you look at, again, this has
4 already been discussed, Bob brought this up about the
5 renewable integration requirements. Clearly, that's a
6 big one and it plays into congestion. One thing that
7 the ISO is seeing in their studies, which makes a lot
8 of sense, depending on which coastal generation in the
9 L.A. Basin area, for example, gets repowered, it has a
10 significant influence on flows outside of the L.A.
11 Basin. So, the more generation in the L.A. Basin tends
12 to push back on flows into the L.A. load basin. So, it
13 has potential impacts on congestion.

14 As well, Bob talked about maybe some of those
15 resources for integration coming from Arizona, which I
16 think is quite possible, but, again, I don't think it's
17 correct to assume that all of it comes from one
18 particular area, all of it comes from Arizona, all of
19 it comes from Nevada, all of it's within California.
20 Those kind of broad numbers are just too large to be
21 realistic. I think you have to sort of focus down on
22 what's likely.

23 And I think Keith White had mentioned this
24 earlier, and I fully agree with him, we need to start

1 zeroing down on what's likely to happen, not what might
2 happen, because I don't think that really leads to
3 good, crisp decision-making.

4 Another factor that's going to play here, it's
5 a very important one, is where the fossil generation is
6 going to be displaced by these renewable resources.
7 What CTPG studies have shown is maybe as much as half
8 of the fossil generation that gets displaced as we add
9 renewables is actually going to be located outside of
10 California, and that has significant implications for
11 flows on the interties into California. To a large
12 extent, or, to some extent, it can unload those
13 interties and actually makes room for more imports of
14 renewables, it could reduce congestion, but it is an
15 important factor in deciding where congestion could be
16 significant.

17 Then, of course, distribution level generation
18 is another key element. The closer you put generation
19 to load, generally speaking, the better off you are.
20 It puts less burden on the transmission system. On the
21 other side, of course, there's potential issues on the
22 distribution system and California's looking deeply at
23 that now.

24 And I just put another just quick note on here

1 that, you know, as the cost-competitiveness of
2 renewables gets closer to that of gas-fired generation,
3 the limits that I think are appropriate based on the
4 state's RPS requirements, those limits then may not be
5 applicable anymore. I think today they're still
6 applicable, but as that competitiveness narrows, I
7 think you'll be looking at more renewables, but for now
8 I encourage the DOE to actually focus down on what the
9 states actually require in terms of the renewables.

10 Another question was, what options are
11 available for mitigating severe congestion? Well, I
12 think severe congestion is a pretty ambiguous term. I
13 know what severe is, and non-severe. I think in the
14 end what's important is, is it economic to mitigate the
15 congestion or not? It's either economic or it isn't
16 economic, and I think that's where ultimately the work
17 that we're doing has to lead.

18 So, to do that is basically looking at, and
19 this is pretty standard cost-benefit type analysis, but
20 a lifecycle analysis of the transmission, and new
21 transmission has, you know, some benefits I've listed
22 here, to reduce or eliminate congestion with cost
23 savings, there could be lower (inaudible), again a
24 savings. Some of this, especially in the ISO, you

1 could have significant value from an enhanced capacity
2 value for capacity planning purposes, that's another
3 potential economic value. Those values, though, have
4 to be then traded off against what the cost of the
5 transmission is because there may be other alternatives
6 that are more effective to get there.

7 And the one that really hasn't been mentioned,
8 but it's implicit in the ISO's existing congestion
9 management protocols, is what I called out-of-economic-
10 merit-order generation re-dispatch, which is another
11 way of simply saying, when the desired uses of the grid
12 exceed what the grid's capable of, somebody has to step
13 in and say, that generator has to be moved out of merit
14 order and that other fossil generator has to be moved
15 out of merit order, and that way you manage the
16 congestion, eliminate any reliability concerns. Of
17 course there's a cost to that and that cost is what you
18 then would compare against the transmission solution.

19 But, again, it's the full range of
20 alternatives need to come into play when we decide what
21 we're going to do about congestion when we identify it.

22 I'm not going to do too much with this slide,
23 I kind of already said this. Consequences of
24 congestion, in my view, when you boil it all down, the

1 consequence is an economic consequence. What's the
2 cost to ratepayers? And is it worth trying to do
3 something about that cost or is it better for
4 ratepayers just to live with it? That's really what it
5 all boils down to in the end.

6 And, lastly, the data sources, and I think a
7 lot of these have been touched on already, the one that
8 I find particularly intriguing is, and this has been
9 referenced the 10-year Regional Transmission Plan that
10 came out of WECC, there's a table, Table 71, in that
11 report and in the very last column, the tenth column of
12 that report, they actually provide some analysis that
13 says, if you put 12,000 megawatts of renewables in
14 different states, 12,000 gigawatt-hours of generation
15 potential in different states, assess what the cost of
16 that would be to run the entire grid, then drop in a
17 major interstate transmission line and then see what
18 the cost of that would be. What kind of savings would
19 you have and how would those savings compare to the
20 levelized cost of the line?

21 And they do that for a whole series of states,
22 for a whole series of proposed interstate transmission
23 lines. But what's, I think, unique about the column 10
24 is when you put the 12,000 gigawatt-hours of renewables

1 in, naturally there's a lot of congestion on the
2 existing system and it gets really to the heart of the
3 question here. Is it worth mitigating that congestion
4 from the consumer standpoint?

5 Now, I think, admittedly, all these studies
6 are pretty rough. When you're looking out that far in
7 time with all those assumptions, it's like one step
8 better than a guess, but I do think it's worth DOE
9 taking a look at that, at column 10 on Table 71. The
10 ISO's recent annual reports are an excellent source of
11 information, that was mentioned earlier, on recent
12 congestion within the Cal-ISO system and my review is
13 that it's actually been fairly modest in recent years,
14 and, again, that's at least partially owing to some of
15 the new transmissions going into service.

16 And then the Cal-ISO recently released the
17 preliminary results of their 2011-2012 transmission
18 plan, and in there there's some really interesting
19 analysis done from an economic perspective on
20 particular congestion points in the Cal-ISO system.
21 And Xiaobo here, I assume, will talk a little bit more
22 about that, but I would recommend the DOE look at those
23 as well.

24 And then, lastly, I mentioned this earlier,

1 DOE might want to look at the CTPG studies. While
2 they're snapshot studies, so you don't really get a
3 feel for how many hours per year you see these
4 "congestion problems", they do provide some indication
5 of where we might see problems and where we don't think
6 we're going to see problems, and like I've said here, I
7 think the West River system into California, we're just
8 not seeing a lot. There could be some problems in
9 Central California and in the Pacific Northwest.

10 Again, though, a lot of this goes to where you
11 assume the generation is going to be developed, it's
12 sort of case-specific and I think, as other people have
13 mentioned today, I think it's important that we start
14 drilling down now towards what development, portfolios,
15 renewables, are actually the most likely to occur, not
16 what might occur.

17 So, that's my remarks.

18 MR. MEYER: Well, thank you. Again, a wealth
19 of useful information and insights there. I think,
20 let's turn next to Mario Villar, who is with Nevada
21 Energy.

22 MR. VILLAR: Good morning. Thank you for the
23 opportunity to be here. Like the others, I don't have
24 prepared remarks or a presentation, so I'll just make

1 some comments on where we're at and what we've done
2 since the 2009 study, and I want you to know I came
3 fully prepared because I am completely congested and
4 severely constrained in my voice, so I hope to
5 apologize for that.

6 As Commissioner Wagner earlier stated, the
7 State of Nevada has been looking at renewable
8 development for economic development for quite some
9 time. We've had the Renewable Energy Transmission
10 Access Advisory Committee that was created by Governor
11 Gibbins, and that concluded its review of renewable
12 development in the state in 2009, actually proposed a
13 report and recommendations in July of that year.

14 We identified a significant number of
15 renewable energy zones in the state along with the
16 specific amount of (inaudible) might be developed in
17 each particular zone, and actually we're ranked
18 somewhat as to what the feasibility of those zones may
19 be with respect to possible transmission development.

20 We at NV Energy have been following that
21 process for quite some time and participated in it. As
22 a result of that, and in our on-going efforts to look
23 at potential economic development in the state for
24 renewable resources, we've undertaken quite a number of

1 initiatives.

2 We obtained approval from the commission for
3 studies of transmission facilities that may be required
4 to serve those zones. This was back in 2009. Those
5 studies were to look at potential routing for those
6 facilities and to identify, in a very broad basis,
7 environmental constraints that may be associated with
8 those routes.

9 We have narrowed that down even more since
10 then and the state has also undertaken additional
11 efforts. There was 2009 legislation which required the
12 commission to adopt renewable energy zones. The
13 commission designated those zones, I think it was at
14 the end of 2009.

15 They were essentially the same zones that we
16 had looked at in the RETAAC process.

17 We, as a utility, were also required to file a
18 conceptual plan on how to serve those zones, which we
19 did in July of 2010 and there were over \$4 billion
20 worth of transmission facilities to serve all those
21 zones.

22 We have since tried to refine that even
23 further because, while we have an RPS (inaudible) in
24 the state, we're supposed to be at 25 percent by 2025,

1 we had made significant progress in achieving those
2 goals. We probably don't need any additional
3 renewables until probably 2017 or beyond that at this
4 stage, so a lot of the renewable development that may
5 come about in the state on a going-forward basis, is
6 going to have to depend on exports.

7 As a result of that, in being fully cognizant
8 of our responsibilities to ratepayers and knowing full
9 well the commission is concerned with what the cost of
10 transmission may do to our transmission rates, we
11 proposed earlier this year what we call a Renewable
12 Transmission Initiative, and I'll provide maps for you
13 later, David.

14 The Renewable Transmission Initiative is an
15 effort to solicit interest from market participants to
16 develop transmission for export out of the state,
17 primarily into California, similar to what Bob said
18 that he had in Arizona with respect to the
19 interconnection queue that he has.

20 In our case, we have a large interconnection
21 queue, but our RTI is not tied to the queue per se. We
22 have somewhere in the order of 7,000 megawatts of
23 generation, of renewable generation, roughly, in the
24 queue, but the SOI or the RTI, which requested interest

1 from market participants and was not tied to the queue
2 per se. You did not have to be in the queue to
3 participate in the RTI initiative.

4 And what we did there is we identified three
5 particular points of delivery into California and four
6 points of delivery into our system from the identified
7 renewable energy zones that the state designated.

8 So, there were a combination, possible
9 combination of 12 points of delivery and receipt that
10 people may be interested in.

11 We received significant interest from market
12 participants. I think the SOI closed in September,
13 September 16th, and we didn't get the full amount of
14 the queue in terms of megawatts, but we got close.
15 What we did is a structure process where we submitted
16 to potential participants, study agreements to proceed
17 with the study to identify the actual transmission
18 facilities they're willing to fund for the studies.
19 Those responses are due back by the end of the day
20 today.

21 After that we will look at the potential
22 development that might be required for those
23 facilities. We'll go back to the customers and tell
24 them what the potential cost of the facilities are, and

1 we have structured this as a participant-funded
2 process.

3 So, the initial efforts now, first of all,
4 there was no cost to participating in the SOI. This
5 one there will be some costs associated with the
6 studies, but the studies are not costly to someone who
7 has experienced interconnection costs. So, we expect
8 that there will be a response with respect to that.

9 When it gets a little bit more expensive is
10 later on when we're going to seek participation from
11 potential market participants to fund the right-of-way
12 acquisition and permitting activities with the
13 corridors that may be required for those facilities.
14 That will be some time probably around the April
15 timeframe of next year.

16 And if we do proceed, we will need some
17 Federal Energy Regulatory Commission approvals, because
18 this is different from the normal (inaudible) process
19 that we have, as it is a process whereby we're trying
20 to aggregate participants as opposed to the one off
21 approach now that we have, which doesn't lend itself to
22 a very structured or cost-efficient transmission
23 development.

24 That's the status of where we're at now with

1 respect to transmission development in the state. I
2 think we have, as Bob said, significant potential for
3 renewables. However, it's all dependent on what
4 happens in California. Like I said, most of our needs
5 have been met at this stage and California policies
6 will dictate whether or not what we see now as
7 conditional congestion will actually be actual
8 congestion at some point.

9 But it is not being left unaddressed. We're
10 looking at what facilities may be required and whether
11 people are willing to support those facilities and as
12 Commissioner Wagner said, there is an energy taskforce
13 that the new governor has just created and we're
14 participating in that and we're trying to put together
15 a business case to bring back to the governor as to
16 what renewable development may make sense for the state
17 vis-à-vis export to California, the state, and also
18 working with CAISO and with California Intertie to try
19 to develop those resources and see what makes economic
20 sense.

21 But, ultimately, whether we have congestion or
22 not, it's irrelevant in public policies, because they
23 want to have the generation built within the state for
24 job creation, et cetera. If ultimately the customers

1 are not willing to undertake those transmission
2 facilities, it doesn't matter whether you have virtual
3 congestion or whatever you want to call it. It's
4 ultimately a question of economics and public policies.

5 I don't want to repeat a lot of the comments
6 that were made by Bob and Jan in terms of the sources
7 of information that are out there. I think they
8 covered most of those. The only one that I think may
9 be missing is the RETAAC in the RTI processes that we
10 have as far as Nevada is concerned. I'll provide those
11 to you later today.

12 MR. MEYER: Very good. Well, thank you. We
13 will pursue some of those leads. Thank you. We will
14 turn next to Dr. Wang from the California ISO.

15 MR. WANG: Thank you, David, and other DOE
16 staff for the invitation to this forum. My name is
17 Xiaobo. I'm working at California ISO, in the
18 department of market and infrastructure development.
19 My major responsibilities or working focus is on the
20 so-called economic planning studies, in other words,
21 congestion studies, which are the focus of
22 justification or decertification of policy-driven and
23 economic-driven transmission upgrades to mitigate the
24 grid congestion.

1 So, my speaking points today, I line up my
2 speaking points along with the six questions from DOE
3 with the write up.

4 The first question from DOE was the 2009
5 congestion study, so what has been changed since then?
6 Was the 2009 study valid or not valid?

7 My comment was that the 2009 study is
8 definitely valid and that was based on the 2008 market
9 conditions in California. And, however, in 2009 was a
10 very important event. California ISO launched a new
11 market design, which is known as MRTU at that time. In
12 this new market design, they made a major shift of the
13 congestion management authority from the zone authority
14 to a full network model, or, in other words, the nodal-
15 based L&P model. So, in that manner, the grid
16 congestion is managed in a more comprehensive manner
17 and, but at the same time, it makes it pretty difficult
18 to compare the 2009 and 2008 impact, in 2008 and to say
19 whether the congestion is becoming more severe or less
20 severe.

21 So, it was a paradigm shift in the congestion
22 management model, but in general, we observe
23 (inaudible) congestion patterns in the ISO-controlled
24 grid, even back in 2008. And then following the

1 economic downturn in 2009 and 2010, they still are
2 experiencing congestion here and there, but overall,
3 it's not extremely severe.

4 The second question from DOE, is the, I'll
5 just state it, was regarding when the study evaluates
6 the congestion and identifies the congestion areas,
7 what factors should DOE consider? And my comments
8 would, I would say in congestion areas, in addition to
9 studying and tabulating the historical congestion, it's
10 equally important to study the future congestion,
11 especially based on the significant renewable
12 development in California and also everywhere in the
13 Western Interconnection.

14 Regarding which factors affect the future
15 congestion in the Western Interconnection, a very
16 simplified statement would be that load and resources
17 drive this congestion at all times. But more
18 specifically, in California there are some of the
19 important factors there like the renewable build-out,
20 once-through cooling generation retirement and
21 repowering. And also the on-going energy efficiency
22 programs, demand management, and distributed
23 generation. And all these factors play a big role when
24 we go into the future affecting the levels of

1 congestion, how severe it's going to be, where it's
2 going to happen.

3 It's also important that we have to cover a
4 number of credible, or possible resource scenarios so
5 that we're prepared for the congestion that happened on
6 this renewable scenario or under a different renewable
7 scenario such that in transmission planning and
8 justification, when we find there is a congestion
9 that's affecting multiple renewable scenarios, and that
10 is probably the congestion which warrants the most
11 attention, that is probably the transmission project
12 that needs to be approved. So, in comparison with some
13 other project, which only creates congestion in a
14 particular situation, in other words, there's probably
15 less likelihood of problems into the future.

16 The third question from the DOE is about
17 conditional congestion in short. First of all, we
18 struggled a little bit with the words conditional
19 congestion, but we realized this terminology refers to
20 the situation where you have a large quantity of the
21 proposed new generation that's connected at the grid,
22 but there is a lack of transmission or the transmission
23 has not been planned for those, especially in the case
24 of renewables.

1 Several prior speakers already touched on this
2 topic and I pretty much agree with that concept, and
3 Jan and Keith and Bob and others have all talked about
4 this, and in California we practically need something
5 like 15,000 megawatts to 20,000 megawatts of additional
6 renewables in order to fulfill the 33 percent RPS
7 target.

8 And currently in the CAISO generation queue,
9 we have about three times as much the renewables
10 sitting there and waiting to be studied and naturally
11 you understand, not all of the renewable proposed
12 generation will materialize. We see a very frequent
13 coming in/dropping out of renewable projects, and here
14 and there, and because of the physical reasons, because
15 of contracting issues, financial issues.

16 And, furthermore, if we talk about the
17 potential of the renewable resources, so even in
18 California, once again, I'm just talking about the
19 amount of renewables in the queue, which is 3 times as
20 much as we needed, but the potential renewable resource
21 only in California is probably at least 10 times as
22 much as needed for the network of 33 percent.

23 And further on, if we look throughout the
24 Western Interconnection, the amount of potential

1 renewables is practically unlimited to fulfill the gap
2 of 33 net short. And, therefore, if you talk about the
3 conditional congestion, in a narrow sense, for the 33
4 percent RPS, every year California ISO calculates and
5 evaluates the transmission needs for the RPS resources,
6 you find the CPUC and then we do the transmission
7 planning and get the feedback to the PUC. And then
8 PUC, in turn, the next planning cycle, instructs us
9 with revised study assumptions and with revised study
10 plan. But anyway, each year when we do the
11 transmission planning, we cover a number of different
12 plausible RPS scenarios, and this year we have studied
13 five alternative RPS scenarios.

14 Some have the flavors of high imports from out
15 of state, some has the flavor of high distributed
16 generation within California, some other ones reflect
17 the contractual tendency of the renewable development.
18 But anyway, so the future is uncertain. We try to
19 cover a wider range of uncertainties in order to come
20 up with the transmission to meet the 33 percent RPS
21 target.

22 And, therefore, in this narrow sense,
23 transmission has been pretty much developed, planned,
24 and every year we, I'm not saying we are saying it's

1 done. We are not done, and things are always changing.
2 Every year we are kind of adapting ourselves to a new
3 situation, but every year in time we try to come up
4 with the transmission solutions to accommodate PUC-
5 defined RPS scenarios.

6 So, in this narrow sense, there is, we don't
7 see a lot of conditional congestion. We do see the
8 usual congestion here and there in the grid, which
9 happens, which are pretty normal, which are not the
10 congestion that are hurting renewables, but are the
11 "remaining congestion" which have caused thermal re-
12 dispatch.

13 In a broader sense, if you look beyond the 33
14 percent RPS for California, and definitely there is a
15 lot of conditional congestion, so you often hear that
16 people cry out, and hear, oh, I have a resource here,
17 and you don't have transmission. Then another
18 developer would say, here, I would like to propose
19 several thousand megawatts of renewables in this
20 region, and in that sense, conditional congestion is
21 (inaudible). The fourth question from the DOE says,
22 what is the consequence of congestion? What are they
23 and how should this congestion be mitigated? So, given
24 the environmental conditions and market conditions and

1 all sorts of conditions. And, actually, I just said,
2 touched on the topic, I said, in renewable transmission
3 planning, so we just don't narrow ourselves on a very
4 specific requirement of 33 percent RPS scenario, but we
5 cover a pretty wide range of RPS scenarios defined by
6 PUC, so, account for the uncertainties, so we are kind
7 of prepared.

8 So, not only are we doing the renewable-driven
9 transmission, at the same time, we are treating the
10 three times as much as, I mean, very loaded and
11 overheated generator in the connection queue, we have
12 an established process to study all those renewable
13 generation in order to provide a relevant network
14 upgrades to reliably connect and deliver the renewable
15 energy into the grid.

16 The fifth question from DOE is regarding, if
17 you have congestion and it's not economic or practical
18 to mitigate it, what do you do about it? So, in
19 transmission planning and California ISO, we applied a
20 structured approach in transmission planning. The
21 approach is to satisfy the reliability needs and policy
22 needs and the economic considerations.

23 So, in other words, transmission planning has
24 three drivers: A reliability driver, policy driver,

1 and the remaining one is the pure economic issue, to
2 mitigate congestion.

3 The first two reasons are hard criteria,
4 reliability; you've got to meet the reliability
5 criteria with no violations, with no criteria
6 violations for the NERC, WECC, and ISO planning
7 standards. That's a hard criteria. The reliability
8 issues are normally, many of them are (inaudible)
9 localized and many of them are receiving end to the
10 load side. A few of them are kind of system-like, like
11 the Transbay cable.

12 And the policy-driven transmission is largely,
13 we often see it on the resource side, so driven by the
14 renewables, of course, and some of them are kind of in
15 the middle of the system where you strengthen the
16 transmission grid. I think the best example is the
17 Nevada example, the north and south interconnection
18 between the two utilities and that was kind of a
19 policy-driven thing.

20 So, once you satisfy the reliability and
21 policy needs, and basically you establish a feasible
22 system, but on this feasible system, you may still have
23 congestion, which is managed by the market, and this
24 remaining question, generally speaking, is a pure

1 economic issue. In other words, if you have very
2 severe congestion which lasts several thousand hours in
3 the year, which causes a huge amount of payment
4 increase, I think it's worthwhile to mitigate that
5 congestion, but if, instead, if the congestion only
6 lasts a few hours in a year, it's pretty light and
7 spending a lot of money on it, you'll not have a
8 justification in the cost-benefit analysis.

9 So, we all know that in California it's
10 extremely expensive to build any transmission. The
11 cost of building transmission in California is about
12 three times as much as the average than other states in
13 the Western Interconnection. And mitigating congestion
14 based on economic reason, pure economic reasons, is a
15 challenging job.

16 But here and there in the ISO congestion
17 analysis, we do find sometimes some low-hanging fruits
18 for the potential economic upgrades. We are also
19 actively studying the proposed economic-driven
20 transmission upgrade for the imports, one of the
21 examples, the Delaney/Colorado River/Gila line, which
22 was mentioned by Bob in his presentation. There are
23 other things, but at the end of the day, it's an
24 economic test whether the benefit will exceed the cost

1 of building the transmission line to mitigate remaining
2 congestion.

3 The last question from DOE is about what data
4 sources, what references can you use for the upcoming
5 2012 congestion study? In the Western Interconnection,
6 on the regional level, on the highest level, so we have
7 the WECC, the TEPPC study groups, we're conducting
8 annual studies actually, it's a biannual transmission
9 plan. This is on a 10-year planning horizon.

10 So, this is a very good source to look at the
11 congestion on the regional level. Regional level means
12 transmission from one state to another state and
13 transmission across the major WECC path. We have, how
14 many, 40 or 50 transmission paths in the WECC system.

15 And in the subregional level, in California,
16 one source of information on the congestion study is
17 the ISO's annual transmission plan, where we devoted
18 two or three sections to the policy driven transmission
19 studies and also the economic driven transmission
20 studies on the congestion analysis.

21 The ISO worked with the utilities and PG&E,
22 Edison and San Diego on all these studies based on the
23 unified study assumptions and also for the kind of
24 potential of promising projects and any justification

1 for the approval of the transmission projects.

2 And, of course, the WECC 10-year transmission
3 congestion analysis, in ISO we do the 5-year congestion
4 analysis and the 10-year congestion analysis. We do
5 the in-between years congestion analysis in addition to
6 the 10-year plan.

7
8 And our reliability studies focus in even more
9 detail, so we do 1, 2, 3, 4, 5, and a 10-year
10 transmission plan, and there you can see a lot of
11 details in the reliability-related transmission
12 (inaudible).

13 And, of course, I still recommend that the DOE
14 continue to use the ISO's Market Monitoring Report for
15 any analysis of the past congestion which happened in
16 the system, and the 2009 congestion report was largely
17 based on the historical congestion that happened in the
18 market.

19 That's all my comments for now.

20 MR. MEYER: Thank you. I have a couple of
21 questions I want to follow up on and then my colleagues
22 may have some as well.

23 To Dr. Wang, I want to be sure I understand
24 how you think we can best determine where the renewable

1 capacity is likely to be developed given that, as you
2 say, the amount in the queue is three times larger than
3 the likely need.

4 Now, I thought maybe what you were saying was
5 that you look at a number of alternative development
6 scenarios and then you might, from those development
7 scenarios, you might then say, well, there is a subset
8 of transmission development lines that are needed to
9 serve a wide range of these possible futures, and so
10 that's the transmission development that you think is
11 most likely to occur.

12 Am I on the right track here?

13 MR. WANG: Yes.

14 MR. MEYER: Okay. And then, the further
15 implication of that is that if that transmission
16 development occurs in a timely way, it would keep pace
17 with conditional congestion as it materializes, so, in
18 effect, it would tend to damp down any conditional
19 congestion problem?

20 MR. WANG: You're right. The first part of
21 your comments you mentioned what is the source of
22 information regarding the renewable development, and
23 there is an excellent source, and not only is it
24 excellent, but it's also very official. The source is

1 the PUC-defined number of alternative renewable
2 development scenarios to meet the 33 percent RPS. That
3 basically governs and drives the transmission need, so
4 we follow that.

5 And based on the transmission analysis, we
6 provide feedback to the PUC and they sometimes make
7 some adjustments of the resource plan if there is some
8 very severe difficulty or extremely high cost of
9 building transmission along a certain corridor, they
10 will, they kind of comprehensively consider the
11 generation and transmission. Like Keith pointed out in
12 the early morning, these things cannot be separated.
13 And renewable resources and transmission should be
14 considered together, not separately.

15 MR. STRACK: Let me add a little bit. To me,
16 the place to start is power purchase agreements to sort
17 out, you know, the wheat from the chaff. I'm not
18 saying that's the only way, but to me that's a powerful
19 indicator. And the PUC, I think, and this is somewhat
20 what Xiaobo is talking about, is developing the
21 discounted core of renewable resources, which are
22 project-specific, location-specific, and actually
23 constitute about half of the net short right now in
24 California.

1 So, we actually know where a substantial
2 portion of what I consider to be likely-to-be-developed
3 renewables are, and how big they are, what their
4 technology is. I think, you know, DOE ought to start
5 by looking at that kind of information. And that kind
6 of information hopefully could be found in neighboring
7 states as well or other states, and that would form a
8 nucleus of where you start whittling down the gigantic
9 potential we have into something that's actually more
10 manageable.

11 MR. MEYER: And those, the information on the
12 power purchase agreements is in the material that
13 you've suggested to us earlier?

14 MR. STRACK: The PUC, I'm sure Keith can hook
15 you up with that. It's public information, the
16 discounted core. The CTPG, we've used it, it's all out
17 there.

18 MR. MEYER: Okay. Okay. Alison, do you have
19 some questions?

20 MS. SILVERSTEIN: I do. Thank you. If we go
21 by the language in the statute that tells the
22 Department to look at existing congestion, I have a yes
23 or no question for each of you. Jan, you mentioned the
24 congestion in Southern California that may not be

1 economic to mitigate, each of you has talked about
2 economics, but the fact is the Department's charge is
3 to look at congestion, period, not whether it's
4 economic to mitigate or for some other reason.

5 So, the yes or no question for each of you is,
6 in your state, existing congestion today, yes or no?
7 Dr. Wang?

8 MR. WANG: Yeah, we do have existing
9 congestion and for any of the congestion we don't avoid
10 the congestion, but instead we explicitly list all
11 those congestions and rank them by duration and
12 significance.

13 MS. SILVERSTEIN: Thank you.

14 MR. WANG: In our congestion analysis. And
15 that is, at least, one source of information that DOE
16 may refer to and in that table not only we have very
17 specific pinpoint of congestion spots, but we also
18 generalize that into the areas.

19 MS. SILVERSTEIN: We'll come back to that in a
20 second. Mr. Strack, yes or no, California congestion?

21 MR. STRACK: He's already said it. The answer
22 is, yes, and I'd look at the ISO's reports. They
23 actually do a pretty good job describing it.

24 MS. SILVERSTEIN: Thank you. Arizona?

1 MR. SMITH: Our current processes for
2 assessing congestion.

3 MS. SILVERSTEIN: Existing.

4 MR. SMITH: Existing processes, yes, show
5 congestion.

6 MS. SILVERSTEIN: Thank you. And Nevada.

7 MR. VILLAR: Every system has congestion in
8 it, the question is whether you're looking at it and
9 whether you're mitigating it or doing something about
10 it when it is worthwhile. In our system we look at it
11 on a regular basis. We don't think there's anything
12 that merits inclusion in the DOE report.

13 MS. SILVERSTEIN: Perfect. Perfect, very
14 helpful answers. Thank you. And if you're in DOE's
15 shoes looking at the appropriate timeframe for the
16 study, how far out should we look for congestion based
17 on the work that you all and these various sources you
18 recommend have already looked at? Do we look at 2
19 years, 5 years, and 10 years? Where do we draw the
20 line, particularly given all of the factors that you
21 all have discussed as to all the things that could
22 change going forward?

23 You've each talked about look at all of the
24 different scenarios and futures, which actually is

1 probably your job, not so much DOE's. Where do we draw
2 the line with respect to how far out do we look for
3 congestion or look for your evidence of congestion?

4 MR. SMITH: So, if you're looking for
5 congestion that can potentially be solved by
6 transmission?

7 MS. SILVERSTEIN: No, just congestion.
8 Remember, it's not DOE's job to solve it, it's DOE's
9 job to say, "there it is". To the degree that we can
10 do that in a constructive fashion, that's gravy, but
11 the statutory charge is, where is there congestion and
12 where is that congestion significant? How far out do
13 we go?

14 MR. SMITH: So, on Dave's introductory slide,
15 I believe transmission was one of the possible
16 mitigations for congestion.

17 MS. SILVERSTEIN: Yeah. You all mitigate it,
18 we just say, there it is.

19 MR. SMITH: For that particular congestion,
20 there's no sense in looking out any closer than the
21 next six years, because you can't plan transmission and
22 development within a six-year timeframe.

23 Certainly, you want to be looking at
24 congestion today through the next 20 years.

1 MS. SILVERSTEIN: Given all of the many
2 scenarios that you all develop and the many
3 uncertainties and the many futures, is it reasonable
4 for DOE to be, if DOE looked out 20 years based on the
5 studies that you have done today, would you all be
6 sitting here in 3 years for, God forbid, the 2015
7 congestion study, scoffing at us for looking out 20
8 years based on a study that we knew was going to be out
9 of date in a year and a half? You'll say, clearly,
10 everything that happened with the EPA regulations
11 rendered all of those things purely speculative and
12 irrelevant. Given those kinds of considerations, is it
13 reasonable to look out 20 years, or should we be
14 drawing the line at 5 to 10?

15 MR. SMITH: So, fair question, and there's not
16 much to look at, really, beyond 10 years, so I would
17 say 10 years.

18 MS. SILVERSTEIN: We have another head nod for
19 10 years. Other views?

20 MR. STRACK: Well, in my view, you know, we're
21 planners and we're trying to plan for a sensible
22 transmission infrastructure. Given the lead times that
23 I see, I think there's nothing wrong with stretching
24 that horizon out to like 2030. Obviously, the further

1 out you go, the wider the uncertainty bands get, but
2 our job is to actually try and do that kind of
3 planning, so I would look out further.

4 MS. SILVERSTEIN: We support planners looking
5 out 30 years, I'm just trying to figure out what a
6 credible congestion study should look at. Dr. Wang?

7 MR. WANG: I would say for DOE congestion
8 study 10 years, and extra efforts would be also 5 years
9 in between and definitely the DOE can continue to look
10 at the historical congestion for the past several
11 years.

12 And I would add, deviate from your question,
13 that I think one of the very valuable points of DOE
14 congestion analysis is it provides a nationwide
15 perspective, because we are here in the Western
16 Interconnection, we know our congestion in every
17 detail, but we don't know the comparison nationwide.
18 The nationwide comparison could be a very valuable
19 asset.

20 MS. SILVERSTEIN: Thank you. Two more
21 questions, if I may. First is with respect to evidence
22 that things have changed. As you know, the 2012 study
23 is looking at a very different world than 2009 and 2006
24 did. There have been a lot of transmission plans

1 developed across the West for decades, but not much
2 transmission was built for decades. And this has been
3 recognized in the development of the WECC foundational
4 project list of high probability projects that are
5 likely to happen.

6 How much weight should the DOE study give to
7 plans and studies versus actual accomplishments?

8 MR. VILLAR: What was the last part of the
9 question?

10 MS. SILVERSTEIN: Well, when we looked at
11 Arizona in 2009, we said Arizona has done the following
12 27 different things in terms of construction, in terms
13 of efficiency policies, in terms of permitting, and
14 stuff is being built and load is being moderated, et
15 cetera, et cetera, as a result of those changes.

16 But those were actual accomplishments as
17 distinct from plans. How much weight should the
18 Department give to plans and studies as opposed to
19 actual accomplishments?

20 MR. VILLAR: I haven't looked at the
21 foundational studies that WECC has, the foundational
22 projects that WECC has in a while, but some of them,
23 when I looked at them before, as I recall, the SWIP
24 project was there and so was our on-line project, which

1 are both components of the same one.

2 So, there's some duplication, perhaps, in some
3 of the studies that may be there, whether Great Basin
4 South develops, the other two portions of the SWIP
5 project are done, remains to be seen.

6 We're under construction on the on-line
7 portion of it, but I think the Department ought to look
8 at what projects are there and make some assessment as
9 to what the liability of those projects are.

10 Even TransWest Express, which is one of the
11 projects that is on the fast track, as I understand it
12 at this point, still doesn't have fully baked
13 customers, if you will, so there's commercial
14 implications and state policies that are going to drive
15 as to whether some of those projects, which a lot of
16 people are very serious about developing, will actually
17 come through to fruition.

18 MR. SMITH: So, Alison, I think you really
19 need to look at both. In fact, inasmuch as the plans
20 that we had that informed the 2009 study have been
21 partially accomplished since then, that should just
22 indicate the credibility of those plans. So, I think
23 you look at those accomplishments and say, hey, good
24 plans. They've actually realized some of those. They

1 still basically have the same plans, so we're really
2 pretty sure those plans are going to happen.

3 MS. SILVERSTEIN: California's views?

4 MR. STRACK: I think if something's
5 accomplished, you recognize that. I mean, I think
6 that's an easy part. I think from the standpoint of
7 identifying congestion, where it could be an issue,
8 where it could be material, I start getting pretty
9 skeptical about including things that don't really have
10 a lot of momentum or even, you know, balancing
11 authority approvals or major environmental permits.

12 I think then you start you're speculating at
13 that point and, frankly, I think it's more useful to
14 identify what the existing system plus things that are
15 actually likely to occur are going to do in terms of
16 identifying where congestion is going to shows up. I
17 don't think you want to mask the congestion by assuming
18 something's going to be there which may not actually
19 develop.

20 MS. SILVERSTEIN: Thank you.

21 MR. WANG: By nature, long-term transmission
22 planning, you see a long list of proposed big
23 transmission lines here and there in the system, and
24 that's pretty normal, but in reality, only a small

1 portion of those big transmissions will materialize.

2 But, still, conceptual transmission is a
3 necessary part of the long-term transmission planning.
4 It has to be in the report and (inaudible) the
5 possibilities. That's fine.

6 MS. SILVERSTEIN: Thank you all very much.
7 Very helpful information.

8 MR. MEYER: Well, thank you. Clearly, I and
9 my colleagues have a little homework to do and we will
10 get onto it.

11 MR. COOKE: Can I make an announcement?

12 MR. MEYER: Sure.

13 MR. COOKE: Of importance? I'm Lot Cooke with
14 the General Counsel's Office at DOE. We've been
15 talking about 216A congestion studies, but the Federal
16 Power Act 216H calls for DOE to coordinate all federal
17 permits for authorizations of electric transmission
18 facilities and on Tuesday we published a Notice to
19 Proposed Rulemaking on how we're going to accomplish
20 this. It's at 76 Federal Register 77432. And we're
21 accepting comments on that proposed rulemaking.

22 Comments are due January 27th, so we
23 appreciate anybody who wants to take a look at that and
24 give us any comments they have. Thank you.

1 SPEAKER: Can you give us the Federal Reg cite
2 again, please?

3 MR. COOKE: Yes, 76 Federal Reg 77432,
4 December 14, 2011.

5 SPEAKER: Thank you.

6 MR. MEYER: I'm going to take the panelists
7 off the hook. Thank you very much. Let's give them a
8 round of applause. (Applause)

9 Now we've come to the point in the process
10 here where if there are members of the audience who
11 want to offer comments to get into the record, please
12 come forward and do so. So, last chance. Seeing none,
13 the meeting is adjourned and thank you all for your
14 participation.

15 (Whereupon, at 12:30 p.m., the PROCEEDINGS
16 were adjourned.)

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18

19 CERTIFICATE OF NOTARY PUBLIC

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21 I, Carleton J. Anderson, III, notary public in
22 and for the Commonwealth of Virginia, do hereby certify
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