

BEFORE THE
CALIFORNIA ENERGY COMMISSION

In the matter of,)
)Docket No.11-IEP-1E,11-IEP-1G
)
IEPR Committee Workshop on)
Transmission Needed to Meet State)
Renewable Policy Mandates and Goals)

IEPR Committee Workshop

CALIFORNIA ENERGY COMMISSION
HEARING ROOM A
1516 NINTH STREET
SACRAMENTO, CALIFORNIA

TUESDAY, MAY 17, 2011
9:00 A.M.

Reported by:
Kent Odell

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 Carla Peterman, Associate Member

STAFF

Grace Anderson
 Judy Grau
 Suzanne Korosec
 Paul Feist

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 Mohammed Beshir, California Transmission Planning Group
 Judy Grau, CEC
 Neil Millar, California Independent System Operator

PUBLIC

Rich Lauckhart, Black and Veatch
 Steven Kelly, Independent Energy Producers Association
 Eugene Wilson, Sierra Club, CA Energy and Climate Committee
 Carl Zichella, NRDC
 Daniel Hodges-Copple, Clean Line Energy Partners
 Ron Dickerson, Save the Foothills Coalition
 Jim Stewart, Sierra Club, California

Panel Discussion #1

Jon Eric Thalman, Pacific Gas & Electric
 Robert Woods, Southern California Edison
 Will Peer, San Diego Gas & Electric
 Stephen Keene, Imperial Irrigation District
 Mohammed Beshir, Los Angeles Department of Water & Power
 Lorenzo Kristov, California Independent System Operator
 Anne Mills, California Public Utilities Commission

Panel Discussion #2

Carl Zichella, Natural Resources Defense Council
 Tony Braun, Counsel to CA Municipal Utilities Assn.
 Neil Millar, California Independent System Operator
 Mohammed Beshir, Los Angeles Department of Water & Power
 Anne Mills, California Public Utilities Commission
 Ziad Alaywan, Z Global
 V. John White, CEERT
 Darlush Shirmohammadi, California Wind Energy Assn.
 Robert Jenkins, First Solar, Inc.

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P R O C E E D I N G S

MAY 17, 2011 9:05 A.M.

MS. KOROSEC: Good morning, everyone, we're going to go ahead and get started. I am Suzanne Korosec and I manage the Energy Commission's Integrated Energy Policy Report Unit.

Welcome to today's Workshop on Transmission Needed to Meet State Renewable Policy Mandates. This workshop is being conducted by the Energy Commission's Integrated Energy Policy Report Committee and we're joined today by Commissioner Peterman, who heads the Renewables Committee at the Energy Commission.

Today's workshop will contribute to the development of the strategic plan for increasing renewable generation and transmission infrastructure in California, which is part of the 2011 IEPR. Public Resources Code requires the Energy Commission to adopt a strategic plan for the State's electric transmission grid as part of the IEPR and, in past years, that strategic plan has been a standalone document; however, with this IEPR's focus on identifying the most effective ways to facilitate meeting California's 33 percent renewable portfolio standard and integrating 8,000 megawatts of utility scale renewables as called for in

1 Governor Brown's Clean Energy Jobs Plan, the requirement
2 for a transmission strategic plan will be met by the
3 Transmission Section of the Renewables Strategic Plan.

4 Just a couple of housekeeping items. Restrooms
5 are in the atrium, out the double doors and to your
6 left. We have a snack room on the second floor at the
7 top of the stairs, under the white awning. And if there
8 is an emergency and we need to evacuate the building,
9 please follow staff to the park that's kitty corner to
10 the building and wait for the all clear signal.

11 Today's workshop is being broadcast through our
12 WebEx Conferencing system and parties should be aware
13 that you are being recorded. We will make the recording
14 available on our website within a couple of days of the
15 workshop, and we'll also have a written transcript
16 available within about two weeks.

17 Our Agenda today begins with an overview of the
18 workshop goals and next steps, followed by presentations
19 on transmission plans for interconnecting large-scale
20 renewables. We will then move on to our first panel,
21 which will discuss challenges to interconnecting
22 renewables to the transmission system and recommended
23 actions to address those challenges.

24 We will then have a presentation on Western
25 interconnection regional planning as it relates to

1 renewables, followed by an opportunity for public
2 comments for those who may have a time constraints and
3 aren't able to stay until the end of the day. We hope
4 to break for lunch around 11:45, depending on how the
5 morning's discussions go.

6 We'll reconvene after lunch at around 12:45 with
7 our second panel on recommended actions to ensure timely
8 transmission system upgrades for renewable generation.
9 After the panel, we'll have a second opportunity for
10 public comments.

11 During both of the public comment periods, we'll
12 take comments first from those of you who are here in
13 the room, followed by comments from those participating
14 via WebEx. For those of you in the room who wish to
15 make comments, we ask that you fill out a blue card,
16 these are available on the table out in the foyer, and
17 you can give those to me at any time during the day.
18 And also, please indicate if you have a time constraint
19 and need to speak in the morning, rather than being able
20 to wait until the afternoon.

21 When we call on you to speak, please come up to
22 the center podium and use the mic so that we make sure
23 we capture your questions and comments on the record,
24 and it is also helpful if you can give our Court
25 Reporter business cards so we make sure your name and

1 affiliation are reflected correctly in the transcript.

2 For WebEx participants, you can use either the
3 chat or raised hand functions to let us know that you
4 have a question or comment, also whether you have a time
5 constraint, and we'll either relay your question or open
6 your line at the appropriate time. For those
7 participating only by phone and not through the WebEx
8 system, we'll open those lines at the very end of the
9 day at the public comment period.

10 We're accepting written comments on today's
11 topics until close of business May 24th, and the notice
12 for today's workshop, which is available on the table in
13 the lobby and also on our website describes the process
14 for submitting comments to the IEPR docket. And with
15 that, I'll turn it over to the dais for opening remarks.

16 CHAIRMAN WEISENMILLER: Thanks, Suzanne. I'd
17 like to thank everyone for coming today. This is going
18 to be an important workshop. I think all of you know
19 that this IEPR is really going to focus on the strategic
20 plan for renewable generation and transmission. Today
21 we're really going to try to flesh out the transmission
22 part, but at least the transmission part for the large-
23 scale, utility scale renewables.

24 I would like to thank Commissioner Peterman for
25 sitting in and also would like to introduce Michael

1 Picker on my left from the Governor's Office, again,
2 emphasizing the importance of this to both the
3 Commission and the Governor's Office. Again, we're
4 trying to cover a lot of groundwork today, so we
5 certainly encourage people to stay on point and we're
6 looking forward to an interesting and stimulating
7 conversation.

8 COMMISSIONER PETERMAN: Good morning. Once
9 again, glad to have you here with us. Looking forward
10 to your expert input and thoughts on these issues. It is
11 indeed very important for those of us working on
12 renewables and for Chair Weisenmiller and I, who also
13 serve on the Electricity and Natural Gas Committee. And
14 with that, I'll turn it over to the other people on the
15 dais.

16 MR. PICKER: Thank you. Since I don't have an
17 official role as a Commissioner, I get to speak my mind
18 and I just wanted to make a few comments based on my
19 limited experience in the field of renewables, and I
20 come to this as a newcomer, so some of this may be
21 really obvious to people who have been in the
22 transmission field for a long time, but I think it's
23 useful to have some sense of how other stakeholders who
24 have an interest in the growing renewables portfolio in
25 California, and how this affects our work.

1 And I would just remind folks that, when I first
2 came here, I was assured that my job was simply to deal
3 with the incredible obstacle of land use in terms of
4 large-scale renewables projects, that transmission was
5 pretty much sorted out by RETI and that there wasn't a
6 whole lot that I would really have to do in this arena.
7 And currently, this is probably at least 50 percent of
8 my portfolio, and unfortunately, none of the people who
9 sold me this bill of goods are still around for me to
10 blame on it.

11 But, having talked to the wires folks in the
12 last couple days, they assure me that the cost on an
13 annual basis of upgrading our antiquated bulk
14 transmission grid nationally is around \$12-15 billion
15 per year. And so, if that was extended to California,
16 we clearly would be spending around \$1.6 billion a year,
17 which is a hefty expenditure. However, it doesn't
18 really compare to what we've been spending, both in
19 taxpayer dollars and ratepayer dollars on our Renewable
20 Portfolio Standards, so it's an important piece of the
21 infrastructure that we need to support this rapidly
22 growing area of our electrical grid.

23 Last year, we tracked around 20 large renewables
24 projects over 200 megawatts and 13 of those projects got
25 permits last year, representing about 5,300 megawatts.

1 They're all in places where we don't have adequate
2 transmission to move those electrons to consumers.
3 We've already added another 1,200 megawatts this year
4 and we're tracking another 35 projects that represent
5 7,200 megawatts that expect to get permits and begin
6 construction this year.

7 So, clearly, this is unprecedented in growth in
8 areas that we don't currently have transmission. It's
9 related to the deadlines that are contained in Federal
10 stimulus dollars, but there's no doubt that the pace at
11 which bulk transmission upgrades are being completed has
12 significant impacts and poses some challenges to the
13 ability of these projects to both interconnect and to
14 finance.

15 I would just point out that the Energy
16 Commission issued a Land Use Permit for one project last
17 year in less than 11 months, and if it takes a year and
18 a half to two and a half years to go through the CAISO's
19 new Cluster Queue process, there's a lag time already in
20 the system. If we use the approval of those projects in
21 the cluster process as a basis for determining the need
22 for project upgrades or new transmission lines, then you
23 can add more time to that delay, four years. If you
24 figure that the average time to get through the planning
25 and permitting process at the CPUC is another three

1 years, we're at seven years, and if you add construction
2 time at the utility end of three to five years, then
3 we're talking about 12 years. We're permitting projects
4 and they're beginning construction on about a year time
5 schedule, and it can take us as long as 12 years to
6 complete the upgrades -- that's a worst case, but it's a
7 reality.

8 So there's a mismatch here and we clearly have
9 to figure out ways to plan better, to execute better, to
10 match the timelines at which we're swapping out older
11 carbon fueled electrical projects in our electric grid
12 and replacing them with renewables. Otherwise, it just
13 won't work. So that's one of the significant challenges
14 that we hope to find out solutions for in the discussion
15 today and through the rest of the IEPR.

16 There are other issues, including what's the
17 nature of the Western Grid, is it going to be a
18 balancing portfolio? Or is it going to be a one-way
19 pipeline to California that looks like radial system
20 from California to remote areas. Will California ever
21 be an Exporter? Can we come up with a way to create a
22 dynamic Western Grid that shares resources? What do we
23 do about the distribution grid where, in some cases, the
24 lines and the transformers can be as old as 80 years and
25 may not well be suited, that we don't have the safety

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1 systems and the design that will support 12,000
2 megawatts of distributed generation within the load
3 center areas? All these issues are pretty important for
4 us to begin to hammer out really quickly and I know that
5 we'll probably solve them by lunch today, so thank you.

6 MR. FEIST: Thank you. Commissioner Douglas
7 couldn't be here today, she's at the DRCP meeting in
8 Ontario today, and we expect that process will have a
9 bearing on transmission policies as we go forward. But
10 she asked me to thank all the participants and she'll be
11 reviewing the record carefully. Thanks.

12 MS. KOROSK: All right, we'll start with Judy
13 Grau to give us an overview of the workshop goals.

14 MS. GRAU: Thank you, Suzanne. Good morning.
15 As Suzanne mentioned, this workshop will contribute to
16 the development of the Energy Commission's 2011 IEPR
17 and, in particular, this supports the IEPR's focus on a
18 33 percent Renewables Portfolio Standard by 2020, and
19 integrating 8,000 megawatts of large-scale renewables as
20 envisioned in Governor Brown's Clean Energy Jobs Plan.

21 As we have done in past IEPR cycles, the
22 Commission began the transmission data gathering process
23 by adopting transmission forms and instructions on
24 January 12th of this year, and then we received responses
25 to these data requests from 14 electric utilities,

1 including both investor-owned and publicly-owned
2 utilities.

3 In March of this year, our IEPR Committee
4 revised its Scoping Order and directed that we produce a
5 subsidiary volume to the IEPR called the Strategic Plan
6 for Increased Renewable Generation and Transmission
7 Infrastructure in California, which we have shortened to
8 the name "Renewable Energy Strategic Plan." And, as I
9 believe Suzanne also said, this subsidiary volume will
10 meet the requirements of Public Resources Code 25324,
11 which directs the Energy Commission to adopt a Strategic
12 Plan for the State's transmission grid. And so,
13 therefore, instead of producing a standalone Strategic
14 Transmission Investment Plan, as we have done in 2005,
15 2007, and 2009, that work will be folded into this
16 Renewable Energy Strategic Plan.

17 And this is the list of the utilities from whom
18 we receive responses to our data requests, and this map,
19 which you also hopefully picked up a full color copy of,
20 because it's easier to read, based on the transmission
21 forms and instructions responses we received, we
22 prepared a comprehensive map that shows the major
23 transmission lines to support these renewable energy
24 mandates.

25 So, the CAISO projects, they are included in the

1 Draft 2010-2011 Transmission Plan, which we'll be
2 hearing about next from Neil Millar, that draft plan was
3 published on March 24th and it's scheduled for adoption
4 at the CAISO Board of Governor's tomorrow. This draft
5 plan was cited as an information source in the
6 Utilities' responses to our Forms and Instructions. And
7 so, for purposes of this map, we've grouped the projects
8 in the CAISO's Draft Plan as follows: the projects in
9 red, numbered one through four, have been approved by
10 the CAISO and have also received their Certificates of
11 Public Convenience and Necessity from the California
12 Public Utilities Commission. The projects in gold,
13 numbered five through nine, have been approved by the
14 CAISO via the large generator interconnection process,
15 but have not yet filed for their permit at the CPUC.
16 And the one project in purple, number 12, is the one
17 policy driven project identified by the CAISO in its
18 Draft Plan and, again, we will have Neil Millar
19 discussing this plan in more detail.

20 The Imperial Irrigation District in Los Angeles
21 Department of Water and Power approved projects were
22 cited in their responses to our adopted forms and
23 instructions. The ID projects are shown in blue, while
24 the LADWP projects are shown in green. And as I
25 mentioned, we have representatives from Panel 1 from

1 each of the investor-owned and publicly-owned utilities
2 who can speak to these projects in more detail.

3 We have four main goals for our workshop, first,
4 to describe the transmission system plans for
5 interconnecting large-scale renewables in California,
6 then discuss the progress made in the development of
7 transmission infrastructure to facilitate renewable
8 generation; we want to address the interaction between
9 California and the rest of the Western interconnection,
10 and recommend actions to ensure timely transmission
11 system upgrades for renewable generation. We have
12 sought to capture panelists who represent a wide range
13 of perspectives, so that we can capture all sides of the
14 complexity of these issues.

15 This workshop and any follow-up written comments
16 we receive will then be used to create the record for
17 the Transmission portion of our subsidiary volume
18 entitled the Renewable Energy Strategic Plan.

19 And so, with respect to the first goal, we have
20 two presentations that set the stage for the workshop.
21 These include Neil Millar's presentation on the CAISO's
22 Draft 2010-2011 Plan, and also a presentation by
23 Mohammed Beshir on behalf of the California Transmission
24 Planning Group, or CTPG, on their 2010 Statewide Plan.
25 And we will then have the first of the two panel

1 discussions, the first panel will focus on the
2 challenges to and progress made on interconnecting
3 renewables to the Transmission System. We've asked each
4 panelist to take no more than 10 minutes for their
5 opening remarks.

6 One thing on your slides, we have Robert Woods'
7 title incorrectly listed, his actual title is Director
8 of Electric System Planning for Southern California
9 Edison. And in this panel, Mo Beshir will be
10 representing LADWP, not CTPG, so he will have to change
11 his hat for that.

12 And then we will have the presentation by Grace
13 Anderson of Energy Commission staff on the Western
14 Interconnection Regional Trends and Initiatives. One
15 note here, there are two public comment periods, one in
16 the morning, and one in the afternoon, however, we ask
17 that you speak in only one of the two comment periods,
18 not both. We would ask that the morning comment period
19 be limited to those folks who have a time constraint and
20 are not able to comment in the afternoon. And, finally,
21 we ask that all public comments be limited to no more
22 than three minutes.

23 After the lunch break, we'll convene our second
24 panel to address the questions of what changes should be
25 made to the existing transmission planning, permitting,

1 and construction processes to ensure that appropriate
2 and timely upgrades that support renewables are
3 completed, and also what additional changes would enable
4 the planning permit construction cycle to be shortened
5 to ideally no more than three years, without sacrificing
6 the quality of the decisions, and this gets back to the
7 point that Michael Picker made about the disconnect
8 between how long it takes to plan a permit and construct
9 transmission vs. the generation it is seeking to reach.

10 We've asked each panelist to take no more than
11 five minutes in this panel for their opening remarks.
12 We have, again, Mo Beshir on this panel, now he's back
13 to represent CTPG. We also have Neil Millar on the
14 panel representing the CAISO, and Anne Mills is also
15 doing double-duty on this panel, too.

16 Then, finally, we will take public comments for
17 those folks who did not get a chance to speak in the
18 morning. And, just briefly, this is the schedule and I
19 believe we will put this up at the end of the day;
20 written comments will be due one week from today, late
21 August is when we will be publishing the draft version
22 of the Renewable Energy Strategic Plan, and we will then
23 have a workshop set for September 14th on that, and then
24 the rest of the IEPR schedule with the Committee Draft
25 IEPR in late September, hearing on October 12th, that's

1 already been set, and then the Business Meeting adoption
2 of the complete IEPR in November.

3 And so, with that, is Neil Millar available?

4 Okay.

5 MR. MILLAR: Thank you very much. First, I just
6 want to say thank you for the opportunity to address the
7 panel. And I'll move through a few slide presentations
8 that hopefully will provide some context for the rest of
9 the discussions through the day. There's a fair bit of
10 material, some of which has already been touched on, so
11 I'll move more quickly through that material.

12 First off, the 2010-2011 ISO Transmission Plan
13 was already referred to, it is going in front of our
14 Board of Governors tomorrow for approval, and this is a
15 fairly exciting time for us because this is the first
16 transmission plan brought forward under our new tariff
17 and under a revised planning process. It does provide a
18 number of key changes in terms of our planning process,
19 first is the additional opportunity for stakeholder
20 involvement through the development of a conceptual
21 statewide plan to ensure better coordination with other
22 control areas inside the state, as well as outside. It
23 does provide for policy driven transmission, which is a
24 major change for us. It also creates more opportunity
25 for independent transmission developers to compete on

1 particular solutions, for particular policy driven and
2 economically driven transmission elements, and more
3 opportunities throughout the process for stakeholder
4 participation and input.

5 The process itself is a three-stage process with
6 opportunities for input through the development of an
7 actual study plan and input assumptions; phase 2 is the
8 detailed analysis, landing on recommendations that
9 ultimately reach our Board of Governors for approval;
10 and the third stage, if there are projects that fit into
11 those categories, that is for the competition between
12 independent transmission companies and the investor-
13 owned utilities for the actual development of those
14 projects.

15 We refer to the Transmission Plan as a
16 "Comprehensive Transmission Plan" primarily because it's
17 coordinated with other control areas inside and outside
18 the state, as well as looking at all aspects of
19 transmission need inside our control area. That
20 includes reliability needs, the basic requirements to
21 keep the lights on. Next, we layer on the requirements
22 to meet policy objectives and, in this case, the primary
23 driver is the 33 percent RPS goals. And then, lastly,
24 we review the plans developed to that point to see if
25 there is congestion on the system, primarily affecting

1 thermal generation that would warrant additional
2 transmission upgrades. I do want to emphasize that
3 economics are considered in developing the least cost
4 solutions at each of the earlier two stages. The third
5 stage is focusing on generation congestion.

6 Before I touch on the policy driven projects,
7 the plan has also identified this year 32 reliability
8 projects totaling \$1.2 billion; most of those projects
9 are below \$50 million, but I've also identified on this
10 slide four larger projects that are also being brought
11 forward for approval.

12 When we look at the policy driven requirements,
13 the planning is focused primarily, first, under
14 renewable energy zones -- where are the resources that
15 we're trying to access, focusing on solar, wind
16 resources, and geothermal. And this slide simply
17 highlights where some of those resources are located
18 across the state. We then develop a portfolio approach,
19 looking at different ranges or ways in which the State
20 could meet the 33 percent RPS. Each of these is
21 focusing on slightly different conditions. I know there
22 is a lot of material on this slide, but hopefully this
23 will also provide a record of the information.

24 Last year, the ISO focused on four scenarios,
25 picking the middle of the road case, the hybrid case is

1 our base case for planning purposes, but also testing
2 what would be required under different scenarios looking
3 at higher in-state utilization, higher out-of-state
4 important, and also higher amounts of distributed
5 generation, how that would affect the planning. And
6 then the goal is to move forward with those projects
7 that most comfortably meet the needs of a number of
8 those scenarios as a way to handle the uncertainty about
9 how the State will actually meet the 33 percent RPS
10 goal.

11 This is the same information provided
12 graphically, so I won't spend much time on it. In terms
13 of meeting the 33 percent RPS standard, the ISO has also
14 considered in its planning process the projects that are
15 already moving forward, that have either been approved
16 through prior processes, or that are advancing through
17 the large generator interconnection process, as that
18 parallel process also identifies network upgrades. And
19 we assumed that those projects are moving forward until
20 there's a reason to doubt that, we factored that into
21 the planning, and then look at the additional
22 requirements. As was already mentioned, in this year's
23 plan, we have identified one upgrade project to
24 transmission relating to Path 42, a reconductoring
25 project that Southern California Edison would be taking

1 on, and while this is a policy driven project, this one
2 is not eligible for competition strictly because it is
3 an upgrade to existing Southern Cal Edison facilities,
4 given that it's modifying facilities they already own
5 and operate, it's not appropriate to put that out for
6 competition. The total project bill there adds up to
7 \$7.2 billion, but the new project being identified in
8 this plan is \$40 million.

9 I've also added this slide just to highlight the
10 degree of uncertainty that exists in how the State will
11 meet the 33 percent RPS goals. With the addition of the
12 generation projects that applied for interconnection
13 through the ISO's most recent Cluster 4 application
14 process, which were an additional 193 generation
15 projects that brought the total renewable generation in
16 the ISO's interconnection queue up to just below 70,000
17 megawatts. Now, recognizing that to reach the 33
18 percent RPS goal requires something under 20,000
19 megawatts, that just highlights the amount of
20 uncertainty that exists as to which particular projects
21 will be moving forward.

22 So, in conclusion, I just want to touch on a few
23 points, first, is that the transmission that is approved
24 to date and moving forward through the processes does in
25 the ISO's view provide a way to meet the 33 percent RPS

1 goals, it provides some cushion, as well, for some
2 uncertainty, and we don't believe it is appropriate to
3 move forward on approving additional new major projects
4 at this time. I have to qualify that, that this is
5 based on a particular set of assumptions, and as those
6 assumptions change, are updated as we move forward, the
7 ISO does intend to reassess its transmission needs as we
8 move through our next annual planning process, which has
9 already been initiated. We will be able to rely in the
10 next cycle on the CPUC portfolios that were developed
11 and finalized towards the end of last year, those will
12 be the portfolio cases that will be taken forward in the
13 2011-2012 planning cycle. And in the mean time, we do
14 believe that the focus within the State does need to be
15 on finalizing the permitting and moving forward with the
16 transmission that has been identified to date, also as a
17 way to address the uncertainty that exists in the wide
18 range of potential that exists for meeting the 33
19 percent RPS goals.

20 Those are my introductory comments for now. I
21 believe we'll be taking questions later through the
22 panel, but if there is anything else -

23 CHAIRMAN WEISENMILLER: A couple right now.

24 MR. MILLAR: Sure.

25 CHAIRMAN WEISENMILLER: The first one is, what

1 were the surprises that came out in this planning
2 process?

3 MR. MILLAR: I'm sorry?

4 CHAIRMAN WEISENMILLER: What were the surprises
5 or unanticipated results in this planning process?

6 MR. MILLAR: Well, I do believe for many of our
7 stakeholders, they were surprised that the projects
8 already underway were capable of delivering the amount
9 of renewable resources to the Grid that the plan can
10 accommodate. I think that was probably, for industry,
11 one of the fairly significant surprises.

12 CHAIRMAN WEISENMILLER: Great. And on your
13 slide that talked about the - when you talked about the
14 interconnection queue, could you provide us later a
15 breakout of where the projects are in the queue in terms
16 of the transmission locations?

17 MR. MILLAR: Yes, we can provide that.

18 CHAIRMAN WEISENMILLER: And you heard Picker's
19 earlier conversation about how we're trying to basically
20 accelerate the transmission process, do you have any
21 suggestions on how the ISO can do things quicker?

22 MR. MILLAR: The single biggest impediment in us
23 moving more quickly is the uncertainty around the range
24 of potentials. So, certainly, what helps us move
25 forward more quickly on approving generation -- or

1 approving transmission to accommodate the generation is,
2 as the load serving entities move forward with
3 contracting for resources, and those contracts are
4 approved, that takes additional uncertainty out of the
5 mix and allows us to move forward more quickly. In
6 terms of the timeline of the process we have, most of
7 that right now is driven by the opportunities for
8 stakeholder consultation, so tightening those timelines
9 and reducing opportunities for stakeholder consultation
10 carries a risk with it. There is that tension between
11 how quickly can we move and how quickly can we keep
12 stakeholders informed and giving them opportunities to
13 participate. That's something we're obviously more than
14 open to revisiting, but that's probably the most
15 significant timeline impact right now.

16 CHAIRMAN WEISENMILLER: Okay, and would you talk
17 a little bit more about the role of the LGIAs for the
18 ARRA projects in this Transmission Plan? How did that
19 drive the results?

20 MR. MILLAR: There were several changes here.
21 In our annual planning process last year, timelines were
22 shortened largely courtesy of a fair bit of overtime by
23 some of the ISO staff to produce quicker results, to
24 allow a number of the ARRA projects to move forward, and
25 meet their timelines. Now that those timelines have

1 been compressed, that's become part of the going forward
2 process, so that tightening of the process itself is now
3 part of the new process. The other changes that we made
4 were, going forward, there's an expectation or a
5 requirement that, in our annual planning process, we
6 will review the network upgrades, certain large network
7 upgrades that have been identified in the generator
8 interconnection process, and review those for further
9 opportunities to enhance those projects, or to merge
10 them with other projects, and we did seek a relief this
11 year from - a one-time relief - from FERC for that
12 process because that created an additional timeline
13 challenge and additional uncertainty for the ARRA
14 projects. So, in this cycle, we took the network
15 projects that were identified through the previous
16 generator interconnection process, assumed that those
17 will continue to move forward, and then did the rest of
18 the planning around those projects, as opposed to going
19 back and revisiting the need for those projects,
20 themselves, or if there were different ways to enhance
21 them. So, we did make those changes specifically this
22 year to accommodate the ARRA projects and to make sure
23 that that wasn't the reason that those were held up.

24 CHAIRMAN WEISENMILLER: Okay, and last question
25 was just in terms of, what were the results for the

1 independents in this process?

2 MR. MILLAR: Well, in this cycle, there are no
3 projects that are moving forward that would be eligible
4 for competition. The only policy driven project in
5 addition to the LGIA driven projects was the
6 reconductoring project for the Mirage-Devers circuits,
7 which are owned by Southern California Edison. So, in
8 this cycle, we haven't identified any additional policy
9 projects that would be eligible for competition.

10 CHAIRMAN WEISENMILLER: Okay, thank you.
11 Michael.

12 MR. PICKER: First, let me thank ISO for its
13 good work in developing new systems for considering the
14 interconnection request, the Cluster process is a useful
15 innovation and it takes us part of the way to where we
16 need to go. So I wanted to follow-up a little bit on
17 Commissioner Weisenmiller's question about getting the
18 locations of the new projects in the interconnection
19 queue. This is something that I think we all need to
20 think about. The assumption has been, in part, that as
21 the Federal Stimulus Program started to go away and
22 these projects began to look at a development horizon
23 that was driven by the PTC, rather than the cash grant
24 in lieu of tax credits, that things might slow down.
25 The amount of interconnection requests you received at

1 the end of March kind of argues that there is still a
2 huge interest in developing generation to serve
3 California's load needs under the RPS standards. And so
4 some of this is likely to follow the RETI work, which
5 many developers continue to believe was instruction from
6 State Government, State agencies, as to where they
7 should locate. And so those clusters, then, help us to
8 define where we're likely to see large groups of
9 generators located. So, having that gives us at least a
10 land use perspective. And I guess my question is, is it
11 possible for CAISO, because you're the only people who
12 have real information about these internet connection
13 requests, to begin to do some long range perspective
14 planning that gives us tools to really evaluate and to
15 debate whether there are areas that we should encourage
16 first, and areas later, so that we can pace the growth
17 of transmission? I'm searching for a way that we can
18 get out of the box that we're in of land use coming in
19 advance of interconnection requests, and coming in
20 advance of upgrade and new transmission approval. What
21 are the tools that you can take from these early things,
22 these early connection requests, to begin to give us
23 some picture of what's coming at us over the horizon?
24 Do you have thoughts about that? Have you ever had
25 discussions about that?

1 MR. MILLAR: The issue of how to handle and
2 manage this level of uncertainty and marry that with the
3 rest of the information we have about generation
4 development is getting a lot of discussion because - I
5 was told we should never generalize when itself is a
6 generalization, but, in general, most of this additional
7 generation is already located in areas where we are
8 already moving forward with transmission, they're simply
9 much much more of it in each of those areas. So, that
10 indicates that there's fierce competition between
11 different renewable energy zones, as well as within each
12 of the renewable energy zones. So, I haven't seen
13 anything yet through the interconnection requests, the
14 additional interconnection requests, that would suggest
15 to us that the work done to date to both the renewable
16 energy zones is flawed. Now it's more of a question of
17 which projects will be moving forward, and will the
18 competition itself with load serving entities result in
19 one area being favored more strongly than others. I
20 think the tool there -- and I think I'm going to get
21 eventually to the answers, sorry -- I think the process
22 that we're actually working on is on the right track,
23 relying on a portfolio approach that helps us bound what
24 is a reasonable expectation for the State to want to
25 rely on these different zones, and then plan the

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1 transmission accordingly. The risk in that process is
2 that, with that information, if the generation isn't
3 firmed up, it just extends and continues the uncertainty
4 into the next cycle and the next cycle. So what we
5 really need, I believe, to provide that clarity is some
6 focus on the areas that transmission is underway on, and
7 then factor in any new intelligence that is learned into
8 the next cycles.

9 MR. PICKER: Okay, but even your observation
10 that many of these projects are clustered in areas where
11 there are already projects is useful policy information
12 if we can qualify it in ways that allow us to say that
13 it may be that we should expand existing corridors for
14 transmission, and we should start that now, and that
15 either the existing utilities or other transmission
16 providers should start looking for those opportunities
17 in the out years because I'm not sure that we have that
18 process underway.

19 MR. MILLAR: I don't believe we have yet. I do
20 have to point out that, with 70,000 megawatts in the
21 queue, and a peak load of about 50,000, starting a
22 transmission planning process that could accommodate the
23 maximum in each area, I don't believe, would be -- well,
24 for one thing, it wouldn't be financially prudent and,
25 for another, it would create huge stakeholder backlash

1 in each of those areas because the transmission
2 facilities required to take each area to its individual
3 maximum are far beyond the facilities that we already
4 have moving forward. And, practically, we don't expect
5 any one renewable energy zone to reach its maximum at
6 the expense of every other zone inside the state. So,
7 finding that balance, I think, needs to be done in a
8 pragmatic fashion.

9 MR. PICKER: I think that there is a challenge
10 of finding the right balance here, I'm not sure what it
11 is, but I know that we're too far one side right now.

12 MR. MILLAR: But planning for all of it would
13 take it to the other extreme.

14 MR. PICKER: That's correct. So, how do you
15 handicap it? What are the viability screens? And how
16 can you do that far enough in advance that it's useful
17 information?

18 MR. MILLAR: Agreed.

19 CHAIRMAN WEISENMILLER: Thanks.

20 MR. MILLAR: Thank you very much.

21 MR. BESHIR: Good morning. Thank you for the
22 opportunity to comment and discuss the CTPG work,
23 specifically the 2010 statewide transmission planning
24 activities. As you may know, the CTPG is a brand new
25 organization which was, for the most part, a good

1 portion of that work was done in 2010, and as you can
2 see, some of the logos there, and these are the
3 companies and entities that are present to the CTPG.

4 So just to summarize the introduction, the CTPG
5 is a coalition comprising all entities within California
6 which are responsible for transmission planning for the
7 Interstate and Intrastate Grid. We have publicly-owned
8 utilities, IID, TID, SMUD, and LADWP, as well as
9 California ISO, and investor only utilities, PG&E, SCE,
10 and San Diego Gas & Electric, as members or participants
11 in that organization. For the most part, the work we've
12 been doing really is transmission planning studies, so
13 we are not really involved in major economic analysis or
14 really trying to work out any major decision as far as
15 approval or authority or development of any specific
16 transmission projects. Essentially, we're really
17 looking from a need point of view to try to understand
18 what the need of the state is to meet certain policy
19 goals.

20 So one of the key activities for us, of course,
21 being the open or transparency process, so we have
22 engaged pretty large activities related to the public
23 with stakeholder meetings and, also, we do provide
24 pretty good service in providing and posing our comments
25 and answering questions to participants in most of our

1 activities, and we also have either WebEx, as well as
2 face-to-face stakeholder meetings on an ongoing basis.
3 So those are really the key things we've been working
4 on.

5 So, the key for us to identify transmission
6 additions for 2010 was to look at the 33 percent and
7 meet the State goal by 2020, and that was the main focus
8 of the work which CTPG did in 2010. And part of the
9 activities was to integrate the delivery of renewable
10 energy to load centers with reliability, as well as
11 operation needs of the Grid. We do understand, of
12 course, the benefit of a collaborative planning
13 approach, and we do believe that it significantly
14 reduces the economics and the environmental cost of
15 achieving the 33 percent, and that being really the key
16 focus of the activities before us.

17 So, for 2010, early on, we did set up what the
18 objectives for the studies were for 2010, and the
19 objective was to complete a statewide conceptual
20 transmission plan by the end of the year, and also work
21 with the stakeholders in developing that plan. We have
22 originally had different views and different ways we
23 have tried to figure out what needs to be done, there
24 was a lot of learning in the process, being the new
25 organization, but essentially it was developing multiple

1 scenarios and to try to find out what the likelihood of
2 the scenarios would meet the need for the 33 percent.
3 At the end, the idea was to really come up with
4 different ways of looking at it and identify what we
5 consider, given the probability of things and the
6 centers we have analyzed, to come up with what we call
7 "high potential transmission needs" and looking also at
8 the state balancing authority areas for development by
9 2011. So, that was really the key goal for us, so that
10 was done in 2010. The process, as I said, there was a
11 lot of learning going forward, so we started with
12 different phases, in fact, when we did get to this, we
13 didn't know we would have four phases, but of the four
14 phases I have shown here, show different things and
15 different activities we've done. In the early stage, of
16 course, in Phase 1, there was a lot of development
17 activities on the membership and organizational issues
18 associated with CTPG, and also work-out of the
19 stakeholder process, and luckily the stakeholder
20 process, we depended and used tremendously to our
21 advantage was a RETI process, and we used RETI a great
22 deal as far as from our stakeholder process is
23 concerned.

24 And originally, in Phase 1, the focus was
25 looking at the balancing authorities and looking at

1 their planning, and looking at the 33 percent from their
2 perspective and working out the plan from the balancing
3 authority point of view. In Phase 2, we did involve a
4 great deal of the stakeholder process, we did use RETI,
5 as I said, specifically in setting up the Net Short,
6 what the Net Short is going to be, and at that point we
7 defined the overall Net Short that we were going to
8 target was about 52 or 53 terawatts as a goal for us to
9 meet the Statewide 33 percent RPS by 2020. We moved, as
10 time goes to Phase 3, the key activity in Phase 3 was we
11 involved other entities outside the balancing
12 authorities, or the transmission providers, and
13 independent transmission providers to provide as a
14 mitigation, as transmission options, or concepts, they
15 may have tried to see if they can see, from the work we
16 have done, meets some of the needs of the transmission
17 for California. So we did go through that analysis in
18 Phase 3.

19 In Phase 4, it was working on looking at all the
20 phases we have done, tried to figure out what the high
21 potential transmission projects would be, and that led
22 to developing the statewide plan by the end of the year
23 in 2010. So, we just wanted to give you an
24 understanding of the kind of effort and work went
25 through that, and this is kind of the timeline. As you

1 can see, we did go through the whole year, going through
2 the different activities, and there were overlaps
3 between one phase to another phase as we find out that
4 we need to go to a second phase and address different
5 issues. We started that process, the stakeholder
6 process, developing the study plan, and working out the
7 activities and developing the scenarios that took many
8 months and leading to the Statewide Plan issued in
9 January 2011.

10 So, based on the work we've done, we came up
11 with a set of transmission projects we thought are
12 really essential to meeting the 33 percent by 2020. As
13 I will tell you shortly, this we didn't think was really
14 the full picture, per se, because the scenarios and the
15 way we have done the work really identified a set of
16 transmission which we thought were high potential, would
17 be the basic needs to meet the 33 percent, but there was
18 also recognition this has to be further refined, and
19 also be further looked at in 2011 and beyond.

20 The key transmission - in fact, I just
21 anticipate some of the questions - there was no really
22 major surprises, per se. A good portion of some of the
23 transmission lines were already being considered, or
24 looked at, or been in some way or another in some
25 processes from a development perspective. You may see

1 some transmission here which obviously are moving, but
2 they were in the base case, which are in the base
3 assumption, so they would show as a given transmission,
4 so you would not see, like for instance, the Sunrise
5 Transmission Project would not show up because it was
6 already in the base case assumed because it has gone
7 through a set of environmental approvals, so a good
8 portion of what was through in the environmental
9 approval, going through some balancing authority
10 approvals, would not show here because they would be
11 already in the baseline assumptions. So a good portion
12 of the transmission, as you can see, probably was in the
13 southern portion of the state, and based on the
14 scenarios we have done, this one we have looked at
15 different activities, but for the most part, we have
16 tried to maximize the in-state resources to meet the 33
17 percent. Furthermore, we did identify corridors, we
18 have done scenarios where we did see high potential
19 corridors which in future analysis we need to expand and
20 see the need of expanding those corridors. So we did
21 identify three major corridors which would meet,
22 depending on the safe policy, and how the renewables
23 would be coming to meet the 33 percent in the future, as
24 far as discussion and further analysis.

25 So, overall, even though the transmission

1 segments may be small, but we have identified up to 26
2 transmission items which could be reconductoring,
3 transformer connections, and what have you, in the 2010
4 Statewide Plan. And a good portion of this was really
5 to come up with what we think would be high, the needed,
6 and we would need to move forward to the next steps with
7 the balancing authorities, whoever needs to take that
8 information, which we made available, whoever needs to
9 move it forward, we thought that was parties that need
10 for this high potential transmission.

11 In addition to the high potential transmission,
12 we also identified what we would call medium potential
13 transmission. They didn't really meet the guideline or
14 the level we thought they may require for the high
15 potential, but they are also needed and, given a certain
16 set of assumptions, or scenarios, they could also be
17 high potential. And though we have identified 34
18 transmission items, also, which really meet what we call
19 the medium potential activities and, as I also said,
20 there were three transmission corridors which
21 identified, depending on out-of-state scenarios which
22 could meet - were maybe required for the 33 percent.

23 In the 2010 Statewide Plan, we identified not
24 only the transmission, but also looked at some of the
25 shortcomings of the way we have done the work, so one of

1 the things we tried to do was really correct some of the
2 errors, or correct some of the things we have done, so
3 that we could improve our process. There were a lot of
4 lessons learned. So what we've done is to, for 2011, we
5 did a pretty large planning process, so that we do
6 really go through this multi-phase approach, we do
7 involve the stakeholders early on, get all the input,
8 and in the development of the different activities. So
9 in the Phase 1, as you can see, we had identified major
10 items which we really need to work out and develop
11 consensus and understanding how we're going to really
12 approach the 2011 studies. So, the key approach was
13 what kind of base case we're going to work out, the
14 existing renewables we have in 2010 base cases, and
15 studies we have whether the renewables out there, are
16 they still staying, whether they are still continuing in
17 the process. So we need to re-tune and figure out those
18 issues.

19 A big component of the way we do studies is
20 really the OTC plans because of the ongoing activities
21 on the OTC, we want to figure out exactly if we can the
22 configuration and the level of the ocean-cooled
23 generation plans we have in the state, and how they're
24 going to be appearing in 2020, the different
25 configurations and uncertainties associated with that.

1 We're trying to figure out what we need to do, so we
2 have activities, and we have by the end of Phase 1,
3 we'll have a set of assumptions and understanding on how
4 we're going to do the 2011.

5 Net Short is a measurement component. Last
6 year, we depend and we worked very closely with the
7 RETI. Our plan is we are working with CEC this time, as
8 part of the IEPR, CEC is working, and we are looking at
9 the Net Short discussions, the ranges coming from 28 to
10 53 terabytes - terawatts. I guess that seems to be the
11 range, I guess, under discussion how we work that out,
12 we are still in discussion, and by the time we finish
13 our Phase 1, we'll have a set of assumptions and how
14 we're going to move forward with that.

15 Another, from a component where we have - we
16 understood from the 2000 [sic] work was, how we do the
17 study really has, of course, an implication or
18 identifies what the final transmission is going to be.
19 And the key component here is, when we do put renewables
20 in the system, something has to give, so some of the
21 existing fossil fuel generation has to be dispatched
22 out. How it is dispatched out is really a major
23 component on economics, on the environment, whether they
24 are in-state, out-of-state, that has a major component,
25 so we are spending a lot of time trying to understand

1 how the re-dispatching is going to occur on the existing
2 generation where more renewables are coming in the
3 different parts of the state, or out-of-state. From a
4 study point of view, maybe it's a little too technical
5 here, but we do have various system issues we look at
6 from a set state, the dynamics, and many issues. At
7 times, we cannot really do all the things you have to
8 do, so we are considering maybe a way to handle the
9 work, it's pretty extensive work we have to do, so we
10 are looking at how we do the dynamic stability analysis
11 and how to approach that process. One key component
12 here, of course, is a TEPPC, that is another entity
13 within the WECC, the Transmission Expansion Policy
14 Planning Committee. We are being approved as a member
15 of TEPPC in February, so we are officially a sub-
16 regional group right now, and we have a major activity
17 on the coordination aspect with TEPPC, and that is also
18 a component on putting the timeline, how we interact the
19 data with TEPPC, and all that activity is ongoing right
20 now and that is one work we are working on, the Phase 1.

21 So this is leading to what we're going to do in
22 2011, a continuation of what we've done in 2010, and
23 we'll definitely be interacting with people. Before I
24 finish, I just want to say - I want to invite, we have a
25 stakeholders meeting, in fact, we have one stakeholders

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1 meeting coming up on the 19th through WebEx, and really
2 encourage people to participate, go to CTPG.US, that is
3 the website where you can find all kinds of information
4 with activities on CTPG. Thank you.

5 CHAIRMAN WEISENMILLER: Thanks very much for
6 coming and for the presentation. I have a couple
7 questions. I'll start out with the observation that
8 people sometimes miss, is that the Governor's goal is
9 not 33 percent, I mean, that's not the ceiling, it's the
10 floor; and certainly the way he articulated his goal was
11 20,000 megawatts, 12,000 distributed gen, and 8,000
12 utility-scale, regardless of what that means in terms of
13 percentages. So, just in terms of making sure people
14 realizing the magnitude of what we're trying to do, and
15 certainly we want to work with you on OTC questions,
16 particularly as we move forward in this IEPR.

17 I think the thing that was really encouraging on
18 CTPG was that it's sort of -- first, it's historic in
19 the sense of getting all the IOUs and POU's in one place,
20 and one planning unit. And so I'm sure there has been a
21 lot of back and forth through the year, but certainly
22 congratulate everyone for getting this far, and we look
23 forward to moving forward next year and continue to
24 build off of stuff. It seems like some of the key
25 questions are, as you indicated, last year you were able

1 to build off a lot of what this agency did through RETI
2 as a stakeholder process, and I know when I've talked to
3 the FERC officials and Commissioners in the past, it
4 seemed like their priority for you last year was just to
5 go through that sort of IOU, POU planning dynamic, but
6 realizing over time this group really had to evolve much
7 more - I don't know if you're going to go for FERC 890
8 certification, or whatever - but to have a much more
9 robust stakeholder process and, as part of that
10 stakeholder process, certainly to bring in more of the
11 state in terms of Energy Commission and PUC. And it
12 seemed like you, as the ISO, are also challenged with
13 making sure your stakeholder process is robust enough
14 that it provides a mechanism for the independent
15 transmission organizations to also participate. So,
16 what is the game plan going forward in terms of getting
17 to a much more robust stakeholder process, involving the
18 State Government and also involving independents?

19 MR. BESHIR: As you said, I guess the focus last
20 year was really working those dynamics between the IOUs
21 and, you know, the POUs, that really took a lot of
22 effort, now that we have a master [inaudible] that I
23 guess I can say. We also worked on the stakeholder
24 process. Of course, RETI was very helpful in
25 establishing some of the early work we needed to do in

1 the stakeholder process. Now, we have pretty robust, I
2 would say, stakeholders; we have our own mailing list,
3 we have also - you know, people are really accustomed to
4 going to our website, we do have pretty active
5 participation from many members and many entities into
6 discussion. We do see the comments we are getting from
7 all over, including the State agencies, and from the
8 different independents. A couple things we have done,
9 in addition to the outreach and the stakeholder process
10 that exists, we have Executive Committee meetings and
11 that Executive Committee meeting, we have made it open
12 starting in January of this year, so it's an open
13 discussion, so anybody could come to the Executive
14 Committee meeting and discuss their issues and hear what
15 the discussions are, and input through the process. So,
16 that we have done and we're moving forward with that
17 process. So, I think we will learn as we go and, if
18 there is more that needs to be done, we will probably
19 provide that, but at this stage, we do feel what we have
20 provided seems to be from the reaction and the response
21 we are getting, it's really meeting the requirement at
22 this time. But, of course, there may be some
23 improvements we need and we'll go through the 2000
24 process and, if there are shortcomings, we will
25 understand they will move forward, but any suggestions

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1 you have, we're willing to accept.

2 CHAIRMAN WEISENMILLER: In terms of the - I
3 would say Executive Committee - are there any State
4 officials or independents on that, or environmental
5 groups?

6 MR. BESHIR: No.

7 CHAIRMAN WEISENMILLER: And switching gears, the
8 other question is, in terms of - could you provide us a
9 list of the high potential projects that you've
10 identified, which are not in the CAISO plan?

11 MR. BESHIR: I will do that. I guess the report
12 we have is pretty extensive, but we can go through, we
13 have a table which has all the high potential and I will
14 make that available for the record.

15 COMMISSIONER PETERMAN: And also, when you do
16 that can you also note which ones are POU projects and
17 POU balancing authorities?

18 MR. BESHIR: Sure, will do.

19 CHAIRMAN WEISENMILLER: Thanks for your
20 participation. And, as I said, thanks for getting this
21 group this far and looking forward to CTPG continuing to
22 move on and to evolve.

23 MR. BESHIR: Thank you very much.

24 MS. KOROSSEC: Next, we'd like to ask our
25 panelists to come up to the table and we'll begin the

1 panel. Judy?

2 MS. GRAU: Okay, I don't have any specific
3 remarks, I'm not serving as a moderator, per se, but I
4 just wanted to briefly introduce the folks we have
5 around the table. First, representing the investor-
6 owned utilities, we have Jon Eric Thalman for Pacific
7 Gas & Electric, Bob Woods for Southern California
8 Edison, Will Speer for San Diego Gas & Electric, and
9 then from the publicly-owned utilities, we have Stephen
10 Keene from Imperial Irrigation District, Mo Beshir,
11 again, now representing Los Angeles Department of Water
12 and Power, we have Lorenzo Kristov from the California
13 Independent System Operator, and Anne Mills with the
14 California Public Utilities Commission. And, again, we
15 have asked for opening comments of no more than 10
16 minutes, and then we'll take questions from the dais,
17 and then folks in the room, and anybody on our WebEx.
18 So go ahead with that. We ask our panelists to remain
19 seated and if you do have slides, we will pull them up
20 for you. So, I believe Jon Eric will be starting and he
21 does not have any slides. Is that correct?

22 MR. THALMAN: Yes.

23 MS. GRAU: Okay.

24 MR. THALMAN: Great, thank you. Thanks for that
25 instruction, I wasn't sure whether to stand or sit.

1 Thanks for the opportunity to make comments and to
2 participate in this workshop. As has been mentioned, a
3 lot of progress has been made since the early, you know,
4 the beginning days of RETI, and before that, and PG&E
5 wants to acknowledge that there has been a lot of work
6 and coming together to get us to the point we're at
7 today, and so we are in a good position in regards to
8 our environmental goals and the RPS standards.

9 I guess I would like to couch my remarks with a
10 metaphor that I can't take credit for, but I think our
11 effort as a state to get to where we want to go with our
12 RPS goals is kind of like a person putting on a shirt,
13 they're beginning to button the shirt, and they're very
14 focused on getting those first couple buttonholes
15 correct, and if they don't pull back and look at the
16 whole picture, there's a good chance they're going to
17 get down to the bottom of the shirt and realize that
18 maybe they're putting the wrong buttons in the wrong
19 buttonholes. To date, we've focused very - in a very
20 focused manner to get the renewable resources connected
21 to the Grid, and I think we're in a much better position
22 today, as has been highlighted by the ISO and others,
23 that that looks like we're going to be able to get the
24 33 percent connected to the Grid. I would like to
25 propose that those are the first couple buttonholes. We

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1 need to focus on where we are in the big picture. When
2 we get to the bottom of the short, are we going to be
3 matched up?

4 And I think there are a couple of assumptions
5 and topics that have been touched on, that we'd like to
6 highlight here. Mr. Picker, you pointed out we have a
7 decision to make as a state, are we going to be
8 exporting or not? A lot of the scenarios that have
9 looked at kind of those further buttonholes are focused
10 on some assumptions on whether we're going to be
11 exporting. If you look at some of the analysis and the
12 operability of the system, not just can we get the
13 renewables connected to the system, but can you operate
14 the system? Those assume that we are exporting large
15 amounts of power to the rest of the WECC. I'm not so
16 sure that the WECC is going to want our renewables, they
17 might, and they might not. They have their own
18 processes where they're looking to take care of their
19 states' issues. That's a key assumption we need to look
20 at. The reason that that's key for the state is - and I
21 will reference one slide that I'm not providing, but it
22 has been provided by the CEC, if you look at the
23 projects that are proposed to date, the progress that we
24 have made, there's something that should cause people to
25 question; there's a large amount of renewables in

1 Southern California, and there's not a lot of identified
2 transmission to get those renewables up to the northern
3 part of the state, so we are assuming as a state that we
4 have sufficient transmission to operate the system with
5 a large amount of renewables and to get it to the
6 northern load. The assumption of exporting renewables
7 is key to that. You're exporting to the WECC instead of
8 running the renewables up to the state, up to the
9 northern part of the state.

10 The second key assumption we'd like to highlight
11 is something that the CTPG showed in last year's
12 studies, and that is, yes, it's important where you
13 connect the renewables, but probably more important from
14 a transmission perspective, beyond just connecting the
15 renewables with transmission, is what you're going to
16 retire. The resources that you retire have a large
17 impact on the transmission that is needed to operate the
18 system. Currently, as Mo pointed out, that question
19 involves what's going to happen with once-through
20 cooling units, what is going to be the loading order,
21 how are the markets going to operate? I know that's
22 something the ISO is focusing on.

23 To date, we haven't fully addressed that. We
24 continue to use different - if I say back-down
25 principles, or research assumptions around what will

1 happen with the once-through cooling units, and that is
2 driven to a large part this policy of standing back and
3 saying, "Let's wait and let's see if we're going to need
4 more transmission to connect the state north and south."
5 I'd like to propose that we need to - the IEPR process
6 and the further ISO studies, and the PUC, that that's an
7 area we should focus on. As was pointed out, and as
8 everyone knows, lead times in building transmission are
9 long and if we don't begin to address those issues
10 today, then we very well may get to the bottom of the
11 shirt in 2020 or beyond and realize that we do not have
12 adequate time to build the transmission we need. Thank
13 you.

14 CHAIRMAN WEISENMILLER: One of the things I
15 guess I just wanted to follow-up on, it seems like the
16 issue we're facing, in part, is we've got one silo on
17 generation and one silo on transmission, so we're trying
18 to connect those silos better as part of this process.
19 And it seems like one of the areas that it connects is
20 through the resource adequacy determinations, and so
21 that gets to the issue of what are we doing on the
22 resource adequacy issues between the Southern California
23 Units and the Northern California PG&E units,
24 particularly the ones that are outside of the CAISO
25 balancing authority. Do you want to discuss that issue

1 for a second?

2 MR. THALMAN: What is the particular -

3 CHAIRMAN WEISENMILLER: Okay, well, basically
4 does PG&E see issues from resource adequacy
5 determinations in its procurement contracts, given
6 generating units in Southern California, including those
7 outside the ISO balancing authority?

8 MR. THALMAN: We have concerns that will the
9 current RA structure be sufficient with a large amount
10 of renewables. There are assumptions in the studies and
11 the market analysis that, you know, assuming you'll have
12 those units there, is it economic? That would be my
13 response. I'm not sure I'm fully addressing or
14 understanding the issue -

15 CHAIRMAN WEISENMILLER: Yeah, I'm trying to
16 figure out in terms of one of the things we need, I
17 think, looking at - obviously, my focus is very much is
18 in getting the ARRA projects interconnected, and one of
19 the issues that's emerging on the ARRA Project
20 interconnection is resource adequacy, and I think that
21 is an area where, as we're buttoning the shirt up, we're
22 discovering some of the buttons aren't aligning, and
23 it's time to rethink some of that, and I guess I'm
24 trying to figure out where PG&E is on the rethinking.

25 MR. THALMAN: I don't know that I have

1 particulars on that, but I think we're looking at that,
2 it's certainly part of the complete picture.

3 CHAIRMAN WEISENMILLER: Okay, well, certainly in
4 your written comments, if you can address the specifics
5 there of what we need to do to enhance the resource
6 adequacy issues for projects in Southern California. As
7 you said, given the split for PG&E between the north and
8 south, between many of the projects being in the south,
9 and most of your load being in the north around the Bay
10 Area, what do we need to do there? And also, I guess
11 the other thing to address more is sort of, as you
12 indicated, one of the questions is interconnection
13 between the north and south, and so I think we've
14 struggled for a long time on some of the upgrades, Path
15 15. But exactly what - where does that fit in the
16 priority queue of going forward on transmission?

17 MR. THALMAN: Okay, the second part of your
18 question, again?

19 CHAIRMAN WEISENMILLER: Okay, in terms of trying
20 to identify the key transmission projects, obviously
21 PG&E's focus on transmission has been much more going
22 north to BC, and I'm trying to understand the relative
23 priority between that and basically strengthening the
24 north-south connections within the state.

25 MR. THALMAN: Okay.

1 MR. PICKER: Actually, my question is somewhat
2 along similar lines. The Commissioner asked about
3 differences between the CAISO plan and the CTPG plan,
4 and I looked a bit at the Central Valley because of the
5 increasing amount of solar that's being considered in
6 Western Kern County, and potential that they're going to
7 be constrained from reaching northern markets and
8 constrained from meeting southern markets, and I notice
9 that CAISO really has a long vehicle planned in the
10 Central Valley all the way from West Kern all the way to
11 the connection to the south Contra Costa networks, but
12 that CAISO only really looks at the Borden to Gregg leg.
13 What do we take from that? What do you take from that
14 since it's in your service area?

15 MR. THALMAN: Our approach on that, or
16 understanding on that, is that the ISO is taking a
17 measured step, they're looking at it one step at a time,
18 and they're looking at - Neil Millar pointed out, they
19 have a large interconnection queue and I think when you
20 get the geographic location for that, you'll see that
21 there's a large amount of that queue that is in that
22 Central Valley area. The certainty to what extent that
23 will develop, they're hesitating to approve more
24 projects, and so the Borden-Gregg line work is an
25 indication of how confident they feel on that. Our

1 urging to them is that that, combined with the
2 operational needs to move power up and down the state
3 justifies moving forward more projects in that area. If
4 we pull back and we look at from a state perspective,
5 meeting the RPS targets, what percentage is going to be
6 driven by -- the cost of this goal is going to be driven
7 by the energy purchase price, and what cost will be
8 driven by the cost to build the transmission, and then
9 the prospect that prices can be influenced by congestion
10 and lack of transmission, that we believe it's warranted
11 to move quickly. That, added with the fact that the
12 construction times we've talked about.

13 MR. PICKER: Well, you make some discrimination
14 when you assign contracts with projects, do you have
15 more confidence in your ability to make an economic
16 decision about who you contract with than, say, CAISO or
17 CTPG? Which do you have more confidence in, in terms of
18 helping us to shape our future decisions about where and
19 how much and when we need transmission?

20 MR. THALMAN: I think we look at it from a
21 strategic standpoint and you control the variables that
22 you have within your shop. I'm not so sure I want to
23 speak for our energy procurement group on that topic.

24 MR. PICKER: This is a challenge because some of
25 the projects that we see at risk because of the lack of

1 timely transmission are both subject to decisions made
2 by the transmission side of a utility and the
3 procurement side, and clearly there is a firewall
4 between them, but it seems like even there, we ought to
5 have better ways to make similar kinds of decisions in
6 the interest of having more buttons buttoned together as
7 we go up our shirt.

8 MR. THALMAN: I think we agree.

9 COMMISSIONER PETERMAN: Hello. I want to make
10 sure I understand your reference to the assumption in
11 our scenarios that we're exporting to the WECC. And so
12 can you clarify why you brought it up? It was done in
13 connection with talking about the assumption also that
14 we have transmission to the north. Was there a
15 connection there? Or were you just stating that those
16 were two assumptions that we have?

17 MR. THALMAN: I don't think there's necessarily
18 a direct connection to them, it is part of the overall
19 picture. The point I'm trying to point out is that,
20 when we look at a whole WECC integrated operating type
21 of a study and we say, "Will this work? Will we be able
22 to operate this system," then invariably we end up
23 exporting a large amount of - assuming the large amount
24 of resources in the southern part of the state are
25 exported to the WECC and do not move up north through

1 the state, and that assumption then leads to the result
2 that says, "Oh, it looks like we're okay, we do not need
3 a backbone transmission up and down the state."

4 COMMISSIONER PETERMAN: And then, is the
5 expectation that the renewable in the north is met with
6 generation in the north or imports?

7 MR. THALMAN: A combination of both. It ties
8 into the second point I had, and that was what are you
9 going to back down? In those scenarios, you end up not
10 backing down as much of the traditional resources in
11 Northern California. Yes, you still are importing from
12 the northern part of the U.S. from the Northwest, but
13 for the most part, the difference is the fact that you
14 back down more resources in Southern California and
15 you're relying on a larger percentage of the renewables
16 to feed the load in Southern California, and in a sense,
17 Northern California continues - if you really looked at
18 the flow of the electrons, but that's not our goal with
19 our RPS target, but you're assuming that that's how it's
20 going to work - and it might work that way, but that's
21 the assumption.

22 COMMISSIONER PETERMAN: Thank you.

23 MR. WOODS: Good morning. I'm Bob Woods with
24 Southern California Edison, Director of Electric System
25 Planning. And what I would like to talk about this

1 morning are the challenges and then the progress and the
2 recommended actions. First, let me thank Chair
3 Weisenmiller, Commissioner Peterman, Mr. Picker, Mr.
4 Feist, thank you very much for allowing us the
5 opportunity to provide input to this process.

6 In terms of challenges, the first thing I would
7 like to look at is the system operability and, within
8 that, safety and reliability primarily resulting from
9 intermittency and the lack of real time control of some
10 of these generation resources. The impact of generation
11 on our ability to actually operate the system by
12 transferring load between circuits and substations is a
13 concern to us, as well as unintentional islanding, which
14 results - well, has been seen in Spain and results from
15 a large concentration of generation resources in an area
16 that exceeds the traditional generation and low loading.

17 In the past, we've had a lot of spinning
18 generation, turbines and such, and there's a concern
19 that the new type of generation will not have this
20 ability to ride through temporary faults, and the
21 concern is that we may drop large portions of generation
22 quickly. And that will, in fact, result in effects to
23 our voltage. What we want to try and do, of course, is
24 maintain steady state voltage regulation and the
25 intermittency of generation coming on and dropping off

1 will present some challenges to maintaining that steady
2 state voltage regulation that we have in the past.

3 In addition, we want to make sure that when we
4 put our workers on the line, that we can clear the lines
5 and be assured that they do stay cleared and safe for
6 our works.

7 Another concern is, when you add a lot of
8 generation to a particular area, really, almost any
9 generation, you can create short circuit duty which is
10 basically the rating of the equipment to withstand
11 faults, and in some cases we have seen where the
12 addition of generation has resulted in the overduty
13 of circuit breakers and we've had to change those out to
14 a higher rated circuit breaker which ultimately results
15 in costs. A concern that we have will be power quality,
16 we're not sure if the new type of generation will
17 introduce harmonics and how we deal with that.

18 Traditionally, when we built our system, we
19 built it generated and we started with the big wires all
20 the way out to the small wires on the end. Today, that
21 is shifting. We can connect generation almost anywhere,
22 and it will result in some potential changes to the way
23 we design our system, the way we operate our system, and
24 also the way we try to protect our system.

25 Another concern of ours is the interconnection

1 costs, both from a developer perspective and a utility
2 perspective and, of course, the resulting impact to
3 rates. The interconnection process itself, of a
4 particular challenge to Edison, is the fact that we have
5 865 renewable interconnection requests in the queue
6 today. This really does have resource implications for
7 me, personally, in terms of power system planners and
8 distribution engineers, the ability to get this work
9 done and meet some strict guidelines. Another thing is
10 land use. As Mr. Picker indicated, projects are taking
11 a long time and there is a concern that our current
12 requirement to hold land in rate base for a certain
13 period may be slightly outdated, given the current
14 requirements that it is taking.

15 Over on the progress, there has been progress,
16 there has been considerable progress in the process.
17 The large generation interconnection process, going from
18 a serial study to the cluster study, has improved things
19 tremendously. Taking that to the small generator
20 interconnection process has also helped, the recognition
21 that enough small generators could impact the system
22 similar to a large generator has been a big help, and I
23 think will yield tremendous progress in the future in
24 terms of assessing the overall impacts to the system.

25 As far as major SCE transmission projects, we

1 have been working with the Governor's Office, the State
2 and Federal agencies, and CAISO. We provide regular
3 updates in the form of bi-weekly conference calls, one-
4 on-one meetings, things like that, regular quarterly
5 meetings with the ISO where we review our projects,
6 review the progress, and I'm happy to say at this point
7 there really are no red flags in the major projects that
8 we've reviewed.

9 In terms of recommendations and streamlining the
10 permitting process, we have stated before and we
11 continue to believe that the greatest time savings are
12 from those projects that CAISO identified as approved by
13 ISO, but not yet permitted because we think that the
14 newer processes are going to be better than the previous
15 processes, and we will continue to move forward. We do
16 support reforms that reduce the overall permitting times
17 and believe in the non-Legislative approach. We do
18 think one of the biggest impacts to the whole process
19 has been the increasing collaboration that's occurred
20 between the State and Federal agencies, and the
21 applicant before, during, and after the application
22 process, trying to avoid duplicate analysis surveys, but
23 yet still manages to maintain agency independence. We
24 do support conformance of the legal agency imposed
25 mitigation measures to make sure that they match the

1 measures required by the resource agencies. We believe
2 information requirements and detail levels in CEQA and
3 NEPA documents should meet, but not significantly
4 exceed, the legal requirements. That's it.

5 CHAIRMAN WEISENMILLER: Thanks. A couple
6 questions, one of them was, comparing the generation
7 permitting process here and the transmission permitting
8 process at the PUC, the Energy Commission has the
9 functional equivalence process on CEQA, the PUC
10 obviously has the standalone CEQA and CPCN process, and
11 I guess we're struggling with lessons learned to
12 understand whether the functional equivalence or how
13 much that accelerates, or doesn't, but in terms of - has
14 Edison given any thought to whether that sort of process
15 might help in the transmission part?

16 MR. WOODS: I'll be honest with you; I'm not
17 that involved in that aspect of it, more the planning
18 end, so I'd be happy to provide a response to it, put it
19 in our written comments.

20 CHAIRMAN WEISENMILLER: Okay, that would be
21 good. The other question, I noticed in terms of - in
22 the streamlining, is you don't mention DRECP, and again,
23 that's certainly where we lost Commissioner Douglas
24 today as we try to push that forward with at least the
25 hope that that's going to help on streamlining the

1 permitting processes.

2 MR. WOODS: I didn't mention that specifically,
3 but I do believe that is part of the collaborative
4 process that we talked about. And as we talked about
5 last week, the hope of using something like that process
6 to develop a more collaborative approach to identifying
7 the transmission corridors that may be required in the
8 future, and preparing well in advance.

9 CHAIRMAN WEISENMILLER: Okay, and for this group
10 on the record, I mean, in terms of the ARRA
11 interconnection projects, which are you most concerned
12 about in terms of the timelines?

13 MR. WOODS: I'm not sure, well, I think anything
14 West of Devers is probably an issue, or getting power
15 from east of Devers through West of Devers is, of
16 course, a concern of ours. There appears to be a choker
17 there and we are, as I think most people are aware, we
18 are negotiating with a number of agencies trying to
19 expedite that process. But we do believe that we can
20 meet our commitments, what we have done is we've worked
21 with CAISO to try and develop an interim measure, which
22 will facilitate connecting generators sooner.

23 CHAIRMAN WEISENMILLER: Okay, and does Edison
24 have any suggestions on how the resource adequacy
25 approaches could be enhanced or improved going forward?

1 MR. WOODS: I'm sure smarter people in Edison
2 than me can provide input into that.

3 CHAIRMAN WEISENMILLER: Okay, so will you hit
4 that in your written comments also?

5 MR. WOODS: Yes.

6 CHAIRMAN WEISENMILLER: Okay, thanks.

7 MR. PICKER: Very quickly, I want to thank the
8 SCE transmission staff for their extraordinary efforts
9 to help expedite the conclusion of large generator
10 interconnection agreements last year, to be able to help
11 projects to qualify for financing under ARRA and other
12 government financing programs. I also have to say that
13 staff is working very hard to develop tools to expedite
14 the permitting of projects. I think the challenge that
15 we still face, even if as we gain efficiencies by
16 coordinating better in the permitting process is the
17 front end where people form the intention as to where
18 we're going to build new transmission. And so I think
19 that we will have to all work together to improve that.
20 But I do want to thank you for the hard work of your
21 staff in terms of actually improving some of the back-
22 end planning and approval processes.

23 And so, out of the 865 interconnection requests
24 you have, could you quickly characterize which - what
25 number actually within your distribution grid and which

1 are large-scale projects? I would be surprised if you
2 have 865 projects over 200 megawatts trying to connect.

3 MR. WOODS: I couldn't give you the exact
4 numbers, but you're right, a large portion of them are
5 down at the distribution level which, again, do require
6 significant resources, but I couldn't give you the exact
7 breakdown. If you'd like, I can provide that -

8 MR. PICKER: At some point, it would be very
9 handy because we are starting to see a whole set of
10 different kinds of challenges as we try to figure out
11 how to interconnect 12,000 megawatts within the
12 distribution grid, and I'm curious to see what kind of
13 workload you already have. So, thank you.

14 MR. WOODS: Absolutely. And I'll pass on the
15 comments. Thank you.

16 COMMISSIONER PETERMAN: I would just echo Mr.
17 Picker's interest in seeing that breakdown, the
18 different types of projects, particularly interested in
19 the distributed generation side, and in terms of
20 Edison's CSI procurement to date, it's lagging a bit in
21 steps behind the other utilities, and so I was just
22 curious to see if the interconnection was one of the
23 issues driving that.

24 MR. WOODS: I don't know for sure, but we can
25 certainly check into that. Thank you.

1 CHAIRMAN WEISENMILLER: Thanks again.

2 MR. SPEER: Good morning. My name is Will Speer
3 from San Diego Gas & Electric. I would also like to
4 echo my colleague's comments. We appreciate the
5 opportunity to speak here today. I took a little
6 different approach, I've kind of looked at the projects
7 that we have ongoing today. Everybody is familiar with
8 the Sunrise Powerlink, but I wanted to highlight some of
9 the challenges in licensing and some of the obstacles
10 that we overcame. As you see, it was a four-year
11 process, so we need approval from CPUC, Bureau of Land
12 Management, and United Forest Service. We had over 43 -
13 and I noticed there was a little missing a word there,
14 but over 43 public hearings just getting this project
15 licensed, 11,000 pages for the Environmental Impact
16 Report, the largest in California's history.

17 Additionally, we implemented 320 environmental
18 and cultural mitigation measures totaling a thousand
19 separate tasks, so it's ongoing, it's a very difficult
20 process. We also purchased 9,300 acres of habitat
21 mitigation, which is one of the largest land
22 preservation efforts in the region's history. We are
23 proud to say construction is underway, we have the
24 towers going up, it's moving along, we are looking for
25 an in-service date next year, so I appreciate

1 everybody's support on this project, it's vital to the
2 future.

3 Another large project that we're undertaking
4 right now is Eco Substation, it's in Jacumba, it's going
5 to eventually be a 500 230 to 130 AKV Substation. It's
6 main goal is the same kind as Sunrise, it's to integrate
7 renewables. Obviously, we're familiar with the
8 availability of wind and solar resources in the
9 Southwest area, so this will be another substation that,
10 when we get it approved and constructed, will bring
11 resources into the California ISO.

12 We are in process right now. We haven't been
13 approved for everything yet, but as you can see from
14 some of my bullets, that we applied to CPUC in August of
15 2009, we got notice to prepare our environmental impact
16 report in December 2009, we're expecting for a final
17 decision in the fourth quarter this year, and we're
18 hoping for a 2013 - we're targeting 2013 in-service
19 date.

20 The other slide I've got here is - this is a
21 pretty busy slide, but I figured it does a pretty good
22 job of showing what we're all up against. This is kind
23 of - this is our picture - these are through Cluster 3
24 of the projects that will want to connect in the
25 southwest region. A few years ago, all we had here was

1 Imperial Valley to Miguel, the 500 KV line. As you can
2 see right now, I think this slide does it justice, what
3 we're up against, but currently there's over 4,000
4 megawatts of solar that wants to connect on IV 230 bus,
5 the Eco Substation I mentioned has 1,140 in the cluster
6 to connect. Hassayampa-North Gila has another 2,400
7 megawatts of solar. So, within cluster 3 alone, it's
8 5,500 megawatts. When you add the recent cluster 4
9 projects, it's 6,300 megawatts that want to connect to
10 SDG&E. And our peak for 2020 is 5,600 megawatts, so
11 definitely we've got a challenge. We know all these
12 projects aren't going to come to light, but we figure -
13 our plan is with some of this infrastructure built, the
14 Eco Substation, obviously Sunrise Powerlink, some of the
15 work we're doing on Imperial Valley, we'll be able to
16 bring this generation to the California ISO.

17 The only other piece I had, I know you guys are
18 interested in the RA deliverability question and we echo
19 the response of everybody else. I think it's a concern
20 in the future. I know the issue is how do these
21 renewable resources get RA credits, and obviously it's
22 worth - you know, they need RA credits to be viable, so
23 I don't have an answer for it, I think it's something
24 that all the utilities need to work on together with the
25 CAISO and try and improve the process. So that's all I

1 have.

2 CHAIRMAN WEISENMILLER: Thanks. I guess the
3 question I have for you, when the Sunrise Powerlink
4 decision was voted out by the PUC, the PUC was
5 struggling with the question of how to focus its use by
6 renewables, I mean, a variety of different decisions.
7 And I think you were directed to do some outreach and to
8 do some special procurement. How has that worked out,
9 and just in terms of -

10 MR. SPEER: It's working out well. Given the
11 location of Sunrise and, you know, the vast amounts of
12 resources in the Imperial Valley area, we've been pretty
13 successful so far. We've lined up contracts with
14 developers and the process is working, so...

15 CHAIRMAN WEISENMILLER: I mean, what sort of
16 loading do you expect on the line from renewable power
17 at this stage?

18 MR. SPEER: Most, if not all, I believe. I
19 mean, obviously it's connected into the Grid, so we will
20 schedule enough power to get over the thousand megawatt
21 rating at this point, but obviously it's interconnected,
22 but we will secure contracts just to meet that.

23 CHAIRMAN WEISENMILLER: Okay. And in terms of
24 the RA interconnection projects, I guess there are a
25 couple that involve you? I just wanted to check on

1 their status.

2 MR. SPEER: I'm sorry -

3 CHAIRMAN WEISENMILLER: I mean, in terms of the
4 ARRA projects that we approved, I think particularly
5 Calico and some of the others involve SDG&E, and I just
6 wanted to check on the status of those interconnections.

7 MR. SPEER: Most of them are moving along. I
8 brought the list with me, too. I think we're doing
9 well. At least half of them are moving along pretty
10 well. There's been some challenges on the developer
11 side with some of those projects and some of them not
12 coming, other issues on their end and their permitting
13 and the problems they've encountered, but overall it's
14 been working.

15 CHAIRMAN WEISENMILLER: Okay, it sounds like
16 even the ones that have problems, given the nature of
17 the queue here, you have your back-up projects for that
18 capacity.

19 MR. SPEER: Yes. We have ample amount of
20 resources in that area.

21 CHAIRMAN WEISENMILLER: Okay, thanks.

22 COMMISSIONER PETERMAN: I would just say I
23 really like this slide, by the way, showing the
24 transmission. It's actually surprisingly intuitive.
25 And what did you say the total expected megawatts from

1 the Cluster 4 study?

2 MR. SPEER: For SDG&E, it was 6,300.

3 COMMISSIONER PETERMAN: Thanks.

4 MR. KEENE: Good morning. My name is Steve
5 Keene, I'm Assistant Manager for Policy and Regulatory
6 Affairs at Imperial Irrigation District. I'd like to
7 thank you for the opportunity to appear here as a
8 panelist in this morning's workshop. IID believes that
9 Imperial Valley renewables are going to be a key to
10 helping the state meet it's 33 percent and beyond RPS
11 goals.

12 As I'm sure you are aware, there's a great deal
13 of activity and renewable development in the Imperial
14 Valley right now. Currently, we have 44 projects in our
15 interconnection queue representing over 3,000 megawatts
16 of renewable energy. The breakdown by resources appears
17 in the slide there because you can see a great deal of
18 solar and geothermal, a little bit of biomass.
19 Currently, we don't have any wind in our queue. We have
20 also transitioned to a cluster interconnection process
21 and our first transitional cluster is nearing the end of
22 that process, and that transitional cluster has 13
23 projects with 1,225 megawatts, all of which is seeking
24 delivery into the California ISO. The facilities
25 studies for that transitional cluster have identified

1 \$300 million worth of upgrades to our system. Most of
2 that, about \$275 million of it, are net work upgrades
3 for which the generators will up front those costs and
4 then be reimbursed with transmission credits. About \$25
5 million of the \$300 million are directly assigned costs
6 for the gen-ties.

7 We have recently on May 3rd tendered the
8 Generation Interconnection Agreements to the
9 transitional cluster customers, and we're in the process
10 now of finalizing those interconnection agreements with
11 a targeted execution date of June 16th. The preliminary
12 indication from the developers in the transitional
13 clusters is that they all intend to move forward and the
14 proposed in-service date for those upgrades that were
15 identified for this transition cluster is December 31st,
16 2013.

17 Now, the transition cluster identified certain
18 upgrades, the first of which is the Path 42 upgrade.
19 This was a joint project with Southern California Edison
20 and it's a result of two years of work that we've done
21 with the California ISO, Southern California Edison, and
22 the CTPG process, and I think it's a good example of a
23 POU and an IOU working together on a joint project such
24 as this. And as you know, the SCE upgrades to Path 42
25 are part of the California ISO's transmission plan

1 that's going to their Board this week. Path 42 is a
2 reconductoring of an existing line and the preliminary
3 studies indicate that it's going to increase our
4 deliverability into the ISO by about 855 megawatts.
5 Another of the transition cluster upgrades is the
6 Highline to El Centro line and this is an upgrade of an
7 existing 92 kv line to double circuit 230 kv. When this
8 is completed, it will, along with the IV to El Centro
9 upgrade, we will then have a complete double circuit 230
10 kv path from the Imperial Valley Substation, which is
11 our SDG&E intertie, to the Mirage Intertie with SCE.

12 Another of the transition cluster upgrades is
13 the Midway to Bannister Phase 2, and this is an
14 additional 5.5 miles. Phase 1 was an 8.5 mile segment
15 of Midway to Bannister, and that is now completed.
16 Phase 2 will extend this line an additional 5.5 miles,
17 and Phase 3 will ultimately extend it another 16 miles
18 to interconnect with the new Bannister substation on our
19 L line on the west side of the Salton Sea Resource Area.
20 And in addition to the transition cluster upgrades, IID
21 is also in the process of building the Imperial Valley
22 to Dixieland 230 kv line. This is a reliability project
23 for IID, but it will also allow us to increase our
24 export capability at IV by more than 300 megawatts. So
25 that's the status of the transition cluster and the

1 upgrades associated with it.

2 I'd also like to take a few moments to briefly
3 address the resource adequacy issue because it's come up
4 several times this morning, and this has been an issue
5 that we've been wrestling with for over the past six
6 months, and I've had numerous meetings with various
7 people, many of whom are in this room today, some are
8 even on this panel, and it's a vexing problem for
9 renewable developers, interconnecting to the IID system.
10 Currently, there's insufficient RA import capability
11 available at the IID interties with the ISO. It does
12 not allow for deliverability of renewable resources from
13 the Imperial Valley. The RA imports are undervalued or
14 else they're not available at all, as it is the case
15 with the Imperial Valley Substation, where the RA -- or
16 the current maximum import capability is set at zero.
17 And this is because of the methodology that the ISO has
18 relied upon, which looks at historic schedules, and the
19 Imperial Valley Substation IID is a net importer from
20 the ISO, therefore, when you look at the historic
21 schedules, there's been nothing being exported to the
22 ISO and the RA is set at zero at that intertie.

23 The insufficient RA import capability at the IID
24 interties limits the use of IV renewables to meet the
25 LSE's RA requirements. We believe the CAISO's proposal

1 to amend the methodology utilized to calculate the
2 maximum import capability for RA goes a long way towards
3 addressing this problem for IV renewables. But our
4 primary concern at this time is that the proposed change
5 in the methodology is going to take some time to be
6 fully implemented. And it may take until the spring of
7 2012 until a revised MIC is posted for the IID
8 interties. In the interim, the LSE's will be undergoing
9 an RFO process for renewable procurement this summer.
10 In addition, ongoing bilateral negotiations for PPA's
11 are expected to take place throughout the rest of the
12 year. The LSE's procurement personnel have told
13 generators that they cannot sign a PPA with IV projects
14 until the final revised MIC is posted. So, for the rest
15 of this year, that number of zero at the Imperial Valley
16 Intertie is going to remain until the new methodology
17 kicks in. We should all be striving to ensure that the
18 Imperial Valley projects are not excluded from the
19 upcoming RFO process and other procurement opportunities
20 that may take place this year. These are projects that
21 are located in a highly ranked CREZ within the State of
22 California, and include a great deal of baseload
23 geothermal energy. They are resources that could be
24 accessed through relatively inexpensive transmission
25 upgrades to the IID system, utilizing existing

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1 transmission lines and corridors, with minimal
2 environmental impacts.

3 Development of these resources is vital to the
4 economic recovery of the Imperial Valley, that will
5 bring much needed, well-paying jobs to an area that
6 desperately needs it. And thank you.

7 CHAIRMAN WEISENMILLER: Thank you very much for
8 participating today. I would say that I know one of the
9 high priorities, certainly for this Commission and
10 certainly for the Governor's Office, is in fact to
11 achieve that economic development potential in Imperial
12 Valley through the renewables, to provide - I know when
13 I went through the Blythe cases, the unemployment rates
14 in that area are very high, you know, and it was
15 certainly one of the ways to try and deal with that is
16 through the renewable development, so bottom line is, in
17 this document, to put a high priority on addressing the
18 resource adequacy issues so that we can develop the
19 renewables in Imperial Valley and then have that
20 marketed to the rest of California. Obviously, there's
21 always balancing the public policy, but your area is a
22 region that needs that economic development desperately
23 and certainly we need the renewables from there as part
24 of our mix.

25 I think - I was going to step back for one

1 second, I forgot to ask the gentleman from SDG&E the
2 status of the - one of the things we're looking at today
3 is independent transmission, so what is the status of
4 the citizens participation in Sunrise?

5 MR. SPEER: It's in front of the CPUC today. We
6 don't have - we have a proposed and an alternate
7 decision, but I'll have to get back to you on specifics.

8 CHAIRMAN WEISENMILLER: Okay, and how long has
9 it been there?

10 MR. SPEER: I will have to get back to you.

11 CHAIRMAN WEISENMILLER: Okay, that's fine. So,
12 on Imperial, sorry, getting back to you, actually one of
13 the issues that you really raised in the Sunrise case,
14 Imperial Valley, IID did, was the concern that Sunrise
15 might encourage bypass of your system through direct
16 connects. I was wondering what the current status of
17 that was.

18 MR. KEENE: Well, the position that IID took in
19 the Sunrise proceeding was that we were supportive of
20 the project. We differed with SDG&E initially on the
21 proposed route; their favored route was called the
22 Northern Route and it kind of skirted up through the
23 eastern side of our service territory, and then crossed
24 the mountains through the Anza-Borrego Park. That
25 particular route came dangerously close to the Salton

1 Sea Resource Area and would have presented a great
2 threat of bypass at the IID System. Currently, IID has
3 1,000 megawatts of excess capacity on its KNKS line.
4 All of this transition cluster is going to benefit from
5 that excess capacity because that's 1,000 megawatts on
6 the KNKS path that they do not have to build. So, we
7 were concerned about a Sunrise route that came too close
8 to - or, really, cut through the heart of the IID's
9 system and created a risk of bypass. Ultimately, the
10 route that was selected, and the route that is being
11 built right now, is the southern route, which
12 essentially parallels the southwest Powerlink. That
13 route does not really present a threat of bypass to us,
14 the ISO and San Diego Gas & Electric area already there
15 and they have the southwest Powerlink. So, we were
16 supportive of Sunrise as a necessary transmission line
17 to export IV renewables, we were just interested in
18 which route it was going to take, and we are satisfied
19 with the route that was ultimately chosen.

20 COMMISSIONER PETERMAN: What is the status of
21 network upgrades and transmission planning for the about
22 1,900 megawatts that were in the transitional cluster?

23 MR. KEENE: Well, what's in the transitional
24 cluster now is only 1,225 megawatts, the upgrades that I
25 just outlined this morning are those upgrades necessary

1 to the IID System to accommodate that 1,225 megawatts.

2 COMMISSIONER PETERMAN: And so the difference of
3 about 1,900 to get to the about 3,100 of the total
4 projects you have, have those not been planned yet?

5 MR. KEENE: No. Those will be studied as part
6 of the next cluster.

7 COMMISSIONER PETERMAN: Okay.

8 MR. KEENE: Or, actually, there's three other
9 clusters behind this transitional cluster, and that's
10 where the 1,900 are spread out among.

11 COMMISSIONER PETERMAN: Great, thanks.

12 MR. PICKER: Help me try to understand this a
13 little bit. You expect around 3,100 megawatts of new
14 renewable generation to move forward through the process
15 in Imperial, and how does it get out of Imperial? I
16 mean, your peak demand in Imperial is significantly
17 higher than that, and you already have generation in
18 place, and so I know that there's an effort underway to
19 expand the existing 600 on Path 42 to roughly 1,200;
20 SWIPL is almost fully subscribed, and then how much is
21 going to go out through the Sunrise Powerlink, and where
22 do you find yourself completely bottled up? That's the
23 first question, is do you think there is adequate
24 capacity, transmission capacity, to be able to move this
25 power out of Imperial? And where do you see the

1 bottlenecks?

2 MR. KEENE: Well, we're confident that we can
3 build the transmission necessary to deliver at the ISO.
4 Whether the ISO can receive it is really an issue that
5 would have to be addressed through their planning
6 process each year. Right now, I think that they are
7 prepared to receive the 1,225 megawatts that's in the
8 transitional cluster and future clusters would have to
9 be studied in their future transmission planning years.

10 MR. PICKER: And so what happens after it gets
11 to CAISO? Do you have any sense of the bottleneck that
12 Mr. Woods was talking about at West of Devers for power
13 that's coming north from Path 42? What does that mean
14 for -

15 MR. KEENE: Well, we are aware of the West of
16 Devers bottleneck and we - there is some interim
17 solutions that are part of this year's transmission
18 plan, is my understanding, and I think that there are
19 longer range upgrades that Edison has proposed that are
20 several years out.

21 MR. WOOD: Yes, we have, as I indicated, we are
22 trying to work on an interim plan to assist and we're
23 still in the feasibility portion of it, to come online
24 around 2013. The ultimate West of Devers fix is
25 scheduled more like 2017-2018 timeframe at this point.

1 That's where we have to actually rebuild four 220 kv
2 lines from Devers to San Bernardino and Vista Sub and
3 Grand Terrace.

4 MR. PICKER: So, many of the utilities have
5 multiple roles as both transmission providers and then
6 procurers of power; do you have any sense of how
7 confident your procurement staff are in these general
8 plans that you have to move power? What kinds of risk
9 do they think that makes for them in terms of
10 contracting with these projects in Imperial?

11 MR. WOODS: I think the only issue at this point
12 would be the timing and when we sign contracts, we have
13 to be aware of the timing. But once we get those lines
14 built, the Path 42 connection, and the West of Devers
15 lines built, I think we have a high degree of confidence
16 we'll be able to deliver.

17 MR. PICKER: Okay. Thanks.

18 MR. BESHIR: Good morning again. Mo Beshir from
19 Los Angeles Department of Water and Power. Again, thank
20 you for the opportunity to come and discuss about
21 LADWP's work on this panel. I guess the discussion or
22 the question is what other progress has been made and
23 what challenges, so, again, the way I would like to
24 discuss is maybe go through some of the activities and
25 transmission development plans for LADWP, and partly we

1 go through some of the progresses and some of the
2 challenges we face with each of the different projects
3 we have. So, if we can go to the next slide, going back
4 a few years, this was really a key component of our
5 transmission development activity to meet our long term
6 resource issues from a renewable perspective. So the
7 activities we spent was really to understand what are
8 the renewables available close to our transmission
9 lines, and how do we meet our long term renewable
10 resource development activities. And we chartered a
11 process to identify the different transmission
12 developments we needed to do to meet our issues. So
13 I'll go through one-by-one and really identify some of
14 the highlights, and some of the key components, and some
15 of the challenges.

16 In the far north, we have the STS Transmission,
17 what we call IPPDC Transmission Line, along that in Utah
18 we have opportunity for large solar wind and also some
19 geothermal activities, so early on identifying that
20 opportunity, we in part embarked in a development and
21 expansion plan for the DC line. The DC line opportunity
22 for us was to increase the capacity from the then rating
23 of 1,920 to 2,400 megawatts using new technologies and
24 activities necessary to make that available, not only
25 that having to increase the capacity, but also to work

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1 on technology to integrate wind so that we can
2 dynamically schedule just wind from Utah to Southern
3 California. So that work took a few years, happy to say
4 that project is completed, we have 480 megawatts of
5 additional capacity from the Utah side, all the way
6 going to Southern California. In addition, of course,
7 associated with that, we have 300 megawatts of wind,
8 Milford Wind 1 and 2 integrated, we have as far as the
9 development activities to look for additional wind
10 opportunities, and maybe some additional geothermal in
11 that area, and maybe further development and expansion.
12 For the nature of that development activity from a
13 transmission point of view, it has very little impact
14 from the environmental perspective, so it was a pretty
15 straightforward, the timeline. As far as the actual
16 development of the converter upgrades were 24 months
17 from actual spec to finishing the project, there was a
18 contractual issue, of course, but also associated
19 control and design consideration. So that was really
20 the key consideration there, but there are more
21 opportunities as we go forward for more integration of
22 additional renewables. So, DC in a sense did provide
23 really a good opportunity for us to expand the
24 capability. Going on the middle, we do see as a Barren
25 Ridge Renewable Transmission project, that is to access

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1 extensive renewables from the Tehachapi and some solar
2 also in the High Desert. We have a project called
3 Renewable - Barren Ridge Renewable Transmission and that
4 consists of building double circuit to kv line, in
5 addition to also reconductoring existing 230 kv
6 transmission, that capability also is integration of
7 those resources into our Castaic pump storage
8 facilities. So, I did discuss last time I was here the
9 integration aspects on how we plan to integrate the
10 large solar and wind, which is coming into that area,
11 into our pump storage facilities, and the Transmission
12 Expansion Plan does provide that capability, to be able
13 to do that. That project is ongoing, we are through the
14 environmental process of the transmission upgrade
15 expected to be in service in 2015 time period. Further
16 north, we do have a large wind facility, as well as
17 contracts in accessing small hydro, as well as solar
18 wind from the northwest, and we do have one of the
19 largest DC lines in the world, accessing - for going
20 from Shiloh Station up in Oregon, or the Oregon
21 Washington border, to Southern California. We are
22 working with BPA and the different participants looking
23 at further expansion of the project. We have tested
24 some processes through the CTPG process to see what
25 upgrades the system would hold. We have an opportunity

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1 to look up to 800 megawatts. We are still in the
2 feasibility analysis with BPA and Southern California
3 Edison, other parties who shall have ownership and
4 participation in that transmission. Hopefully the next
5 step is, if we do get the upgrade necessary, also to be
6 able to dynamically schedule a bunch of the possible
7 wind from the northwest to Southern California. In the
8 South, large geothermal resources, but we have other
9 larger projects previously where we were trying to
10 access large geothermal resources; those transmission
11 projects are not being reconfigured now. Presently, we
12 are working with IID on the Path 42 upgrade process, we
13 are participating in that process, and hopefully that
14 will allow us to access some geothermal resources into
15 the IID system. So those are really the major aspects
16 in transmission development for us. Overall, we will
17 meet our 33 percent or plus by 2020, our projection is
18 we will be able to meet it with all the resources we
19 have, with our transmission development we have on line,
20 but also beyond what is required for LADWP, we have
21 other SCPPA members, we jointly plan and have
22 participation and measure most of these development
23 activities, as well as other independents which have
24 transmission interconnection under large generator
25 interconnection processes to our transmission

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1 development activities. And we will be able to meet
2 their need, as well. That's it.

3 CHAIRMAN WEISENMILLER: Thank you. A couple
4 questions, one of them is one of the ARRA projects that
5 we permitted was the NextEra's Beacon Project, which I
6 believe had planned to interconnect on your system
7 perhaps wheel through?

8 MR. BESHIR: Yes.

9 CHAIRMAN WEISENMILLER: What is the status of
10 that interconnection?

11 MR. BESHIR: The interconnection work is
12 completed. The original, of course, as you may
13 remember, the original project was a solar thermal
14 project, so the original work was completed, went
15 through the facility studies, all the way with the
16 thermal facility, so solar thermal. The current
17 configuration is thin film concept, so we are going
18 through some additional restudy of the project. We are
19 almost completing that activity right now on the
20 restudy. So, as far as from LADWP - from the study
21 point of view, it is feasible and could be integrated.
22 The key component there is to be able to access 50
23 megawatts, it would require the expansion of the
24 transmission line. And that expansion of that
25 transmission line is not going to occur until 2015, so

1 it is in the environmental process to get the full
2 tranche of 50 on top of the other - in the queue, we
3 have a whole bunch of wind, other solar would require
4 the expansion of the whole transmission line.

5 CHAIRMAN WEISENMILLER: Okay, so this could
6 become another resource adequacy issue? If you are
7 willing to and are selling the power to one of the IOUs
8 to the extent that you're at a different balancing
9 authority, you could have issues similar to what IID has
10 at this stage.

11 MR. BESHIR: We are in discussion, in fact, we
12 just started to have that discussion with NextEra, along
13 within the same discussion, just starting, but
14 definitely it would be in the same resource adequacy
15 considerations. But we do have - the delivery points
16 which may occur for this would be at the Sylmar Station,
17 which we have extensive capacity exchange within CAISO,
18 where most of the DC exchange between LADWP and Edison
19 is where that occurs, as well as the Palo Verde Power
20 transfer between Edison and LADWP, also occurs as that
21 transmission, so this is large transmission capacity
22 available in that interconnection.

23 CHAIRMAN WEISENMILLER: And one of the issues I
24 think I probably raised in the 2005 IEPR was sort of the
25 level of interconnection between Edison and LADWP, it

1 seems like generally they don't quite have moats between
2 them, but there is certainly not a very rich amount of
3 interconnection. Have you studied the potential for
4 greater interconnection in the Edison - or with Edison?

5 MR. BESHIR: Over, I guess, periodically we do
6 look into that, on an ongoing basis, as needs arise. We
7 have - today we have three major interconnection points
8 at El Dorado, at Victorville-Lugo, as well as Sylmar.
9 So those are really the - and a tremendous power does
10 move through those interconnection points. We have one
11 other interconnection we call Laguna Bell, which is
12 already continuously to be open. But we have used that
13 for emergency purposes and because of the loop flows and
14 inadvertent flows, we cannot really connect to that, but
15 we continuously look at opportunities for
16 interconnection and, as we speak, we are also going
17 through a study with Edison looking at some of the OTC
18 issues and some future and potential interconnection
19 considerations.

20 CHAIRMAN WEISENMILLER: That's good. Yeah, I
21 mean, my concern was looking at the OTC questions in the
22 sort of South Coast area, trying to get more
23 interconnections within the basin as we go forward, and
24 the OTC context might be important.

25 MR. BESHIR: *Yes, we are engaged in a study*

1 *together right now.*

2 CHAIRMAN WEISENMILLER: Also, in terms of any
3 potential looking at essentially doing more scheduling
4 on the ties, not just hour by hour, but more than 15-
5 minute, or at least shorter periods between the
6 different balancing authorities?

7 MR. BESHIR: We haven't done that yet. As we
8 speak, starting March 1st, we have changed the
9 configuration of Sylmar where we have put a bigger
10 bubble where we had different Edison and LADWP Stations.
11 Now, we are considering that, as one station, one
12 scheduling point, so we do see benefit from being able
13 to do that, but definitely, as we move forward to look
14 at other opportunities, including, you know, inter-hour
15 scheduling along the tight points.

16 CHAIRMAN WEISENMILLER: I'm assuming inter-hour
17 scheduling between the - or among the California
18 balancing authorities, if not on the interties should
19 provide some additional economic benefits and also help
20 with renewable integration, so I think that was one of
21 the issues we'll certainly be teeing up as part of this
22 effort.

23 MR. BESHIR: I agree. In fact, the opportunity
24 is there because we do have some PTO's, California
25 Participant Transmission Owners, who are within the

1 SCAPA family and we have joint transmission, joint
2 generation, so we do have continuous scheduling back and
3 forth between the CAISO balancing authority and LADWP
4 balancing authority. So, opportunity definitely exists
5 for that.

6 CHAIRMAN WEISENMILLER: Okay. Thank you.

7 MR. KIRSTOV: Good morning. I'm Lorenzo Kristov
8 with California ISO. Thank you for including me in this
9 panel. I think there are a number of topics that I can
10 pick up on from comments raised by other parties to
11 address specifically the question asked about challenges
12 and what we're doing, and the progress we're making. I
13 think the place I would like to start is just to
14 reiterate what I think everyone knows is one of the
15 biggest challenges is the uncertainty about what the
16 path of development of renewables will look like, and
17 we've been aware of that and grappling with it for the
18 last couple of years based on the recognition that,
19 following upon the great work of RETI, that there are
20 many many areas that have the potential resource mix and
21 we could build transmission to connect all of them at a
22 very high price and have a lot of it go under-utilized,
23 or we can take a lot of time getting the right
24 decisions, and then we find that we've taken too much
25 time and the transmission isn't ready when we need it.

1 So that's the tension that we're trying to really
2 balance in everything that we're doing as we make
3 reforms to the processes that we have in place. Our
4 interconnection process, our transmission planning
5 process up until we made changes last year, and a lot of
6 the way that we operate our markets, all of these were
7 predicated on not having huge amounts of variable energy
8 resources, they were predicated on building transmission
9 to accommodate a few percentage points of load growth
10 every year and, really, that was it, and incremental
11 additions to the generation fleet now and then,
12 sometimes big units, but for the most part no huge
13 wholesale change-out in the generation fleet. So, all
14 of those assumptions really that went into the designs
15 of these processes have been overturned, and that's why
16 we've been struggling with different policy initiatives
17 to change the processes, and make them work better for
18 this new world.

19 In the specific context of the question
20 regarding transmission development, I think one of the
21 most important things is whatever can be done to narrow
22 the range of possible areas that are going to be
23 developed. And I think the DRECP could be an important
24 contributor to that. There is no point in things -
25 projects moving through the ISO process quickly getting

1 approved, and then hitting a downstream bottleneck. We
2 would rather be able to anticipate more of those
3 bottlenecks up front, or siting challenges, or
4 permitting challenges, etc., so whatever can be brought
5 to bear. And this was a theme of a Memorandum of
6 Understanding that ISO developed with the Public
7 Utilities Commission last spring as part of reforming
8 our transmission planning process, and that focused on
9 how can we modify the ISO's planning process so that the
10 projects moving through that have a higher chance of
11 success in the permitting process at the CPUC, and that
12 comes down to the extent to which we look at
13 alternatives to address different transmission needs,
14 and also the robustness of our stakeholder process
15 because, through both ISO planning and the later
16 permitting siting processes, the public engagement is a
17 crucial piece, so we have been continuing to meet with
18 PUC over the last many months, taking that MOU as a
19 point of departure, and each time trying to make it more
20 practical, implement the details of it and make it work.

21 So when it comes to the narrowing the broad
22 range of locations and narrowing the uncertainty, that's
23 really in the formulation of the generation portfolios,
24 what do those portfolios look like? What are the ones
25 that have high probability of success because load

1 serving entities are signing PPAs with them, areas that
2 we hope will become more and more clear about where the
3 environmental challenge is, so which ones are less
4 likely to develop and which ones more likely? And then
5 be able to, through this concept of what's been termed
6 "least regrets," basically you look at the options of
7 where the generation can locate, you try and narrow that
8 down into a few scenarios as Neil Millar outlined in his
9 presentation this morning, and then you look for
10 transmission upgrades that will meet the needs of more
11 than one scenario, so that if the development over the
12 next couple of years takes one path or another, you're
13 still making transmission choices early on that have a
14 high probability of being needed and minimize risks of
15 unutilized capacity being paid for by ratepayers.

16 One element that we built into our transmission
17 planning redesign last year that we're looking at again
18 to try and enhance and make more useful is this concept
19 of Category 1 and Category 2 transmission upgrades. In
20 this new policy driven category where we identify public
21 policy objectives, working on 33 percent RPS for the
22 moment, Category 1 facilities would be ones that are
23 identified that merit approval now because, looking
24 across the scenarios, the range of potential pathways
25 that the development can take, these transmission lines,

1 we know, are substantially needed and will be useful
2 under alternative scenarios. Category 2 are ones that
3 may appear in one or two scenarios, but maybe not in the
4 most likely scenario, and that we say, well, if
5 development takes a certain pathway, then these will be
6 needed, but rather than approve them now, let's wait
7 another year and revisit them. The piece of that that
8 we were thinking a little bit more about is, is there a
9 way to strengthen this Category 2 notion so that, when a
10 project is identified as Category 2, it's more than
11 just, "Let's look back, look at it again next year." Is
12 it possible to allow some work to progress on it, some
13 of the really - the ground work that is not
14 construction, but things related to engineering and
15 study processes, and so on, so that if a year or two
16 down the line a Category 2 gets converted into a
17 Category 1, well, some of the groundwork for that has
18 been done, and now the development timeline can be
19 shortened. So, that's something that we built in as a
20 concept. I think we need to think a little bit more
21 practically about what the difficulties and challenges
22 are of making that a more practical and beneficial
23 process. And then, again, the total process, I would
24 emphasize again, is between the ISO planning process or
25 interconnection process, and then all the way through

1 permitting where the robustness of the stakeholder
2 process all the way through is really critical because
3 all of the stuff has huge public interest.

4 Let me go into one element that was - and we are
5 identifying innovations where possible that meet
6 specific problems, so in the example for ARRA projects
7 that we're negotiating LGIAs last year, this also
8 relates to uncertainty. A project which initially comes
9 in with an interconnection request and says, "I'm going
10 to build, say, 1,000 megawatts," just picking a number,
11 but it turns out that that 1,000 megawatt project,
12 unlike a huge conventional gas combined cycle facility,
13 in the world of solar development could be broken down
14 into different segments or stages, phases, 250
15 megawatts, and we build that and get a PPA for that, and
16 then maybe the next 250 comes a little bit later, and
17 after that - well, the way the process was written, the
18 way the rules of the LGIA were written, a project has to
19 complete the 1,000 megawatts that it signed up for in
20 order to be deemed legally in fulfillment of its
21 Interconnection Agreement, so we found that this was a
22 challenge for certain interconnection customers last
23 year and we created a device called "partial
24 termination," which essentially allows the generation
25 developer to identify a staged or phased project upfront

1 in the structure of the LGIA, with provisions that say,
2 if the generator ultimately doesn't build the last
3 phase, or the last two phases, but it does complete part
4 of it, then it does not default on its LGIA, there's
5 actually a predetermined cost that it pays to get out of
6 the later part of its LGIA. We worked that out in the
7 last couple of months of last year, it went into non-
8 conforming LGIAs that we filed with FERC and FERC
9 approved those. We're now in our interconnection reform
10 process we've currently got going on, we're looking to
11 make that a permanent feature of Interconnection
12 Agreement pro forma, so that any interconnection
13 customer that wants to use it could adopt it.

14 Finally, let me touch a little bit on the
15 deliverability issue and resource adequacy. First of
16 all, I just - and this may be obvious to many folks, but
17 I think it's worth stating, that the word
18 "deliverability" has too many meanings and they're used
19 interchangeably, so just to be clear, there is what we
20 adopted as a little convention was, well,
21 "Deliverability" with a capital "D" is this thing that
22 is related to resource adequacy eligibility. And it's a
23 test that's performed on the peak load hours of the
24 year, and there's a very important fundamental
25 reliability concept that has to do with resource

1 adequacy, which is that, when you hit those peak load
2 conditions, you can get 100 percent of your RA capacity
3 - if you need it - allowing potentially for outages of
4 some of that capacity, but you can get it all and it can
5 all come into the system to meet your peak load
6 conditions. If you compromise that technical
7 requirement of resource adequacy, then you're increasing
8 the risk that, in some situations, you're not going to
9 have enough supply that can get in to serve peak load.
10 So, that's Deliverability with a capital "D" and it's
11 based on studies assessed during the peak load hours of
12 the year. Then, there's what we've called
13 "deliverability" with a smaller "d," a lower case "d"
14 and that has to do with meeting the RPS requirement,
15 which is, over a calendar year, 33 percent or whatever
16 target that might ultimately become, of the energy
17 that's consumed is from renewable resources. And in
18 order to study that, we're looking at production
19 simulations over 87, 60 hours of the year, and counting
20 up how many megawatt hours are coming from the renewable
21 resources, and does it add up over the course of the
22 year to 33 percent. Now, in some hours, it's going to
23 be a lot less, in some it's going to be a lot more, but
24 it's a different standard of deliverability and one of
25 equal concern, but it's just a totally different concept

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1 and it's measured and verified in a different way. So
2 when we're looking at transmission planning for upgrades
3 to meet the policy criterion, we're looking at upgrades
4 that are going to enable us to get 33 percent renewable
5 energy on an annual basis. Finally, there's a third
6 concept which is not usually called "deliverability,"
7 but in a way it's a variation on the same theme because
8 it has to do with the operating challenges of variable
9 energy resources, and what everyone is aware of is that
10 they are hard to predict, that they are volatile, and
11 they can deviate by large amounts in very small periods
12 of time, and they represent new operating challenges.
13 So, when we think about being able to accommodate larger
14 quantities of renewable energy, we also have to think
15 about this third concept, the operational one, and how
16 are we going to deal with that? Now, that also comes
17 into play when we're dealing with import and export
18 capability, as well, because you know, as you know, the
19 Western Grid is really one big machine that is divided
20 up into 38 or so different balancing authority areas;
21 each one of them has to maintain balance within its own
22 footprint. And yet, when there's high volumes of
23 renewable resources, that becomes more of a challenge.
24 So, in smaller areas that are having, say, a high
25 quantity of renewable resources interconnected to their

1 systems, and yet need to maintain balance in their
2 systems, the way they have to do that is to be able to
3 export the variability, essentially have the neighboring
4 balancing authority area, in this case the ISO who will
5 be the recipient of a lot of it, be able to manage not
6 only the variability of its internally connected
7 renewable resources, but also to manage the variability
8 that's coming across the interties. And so, we've
9 developed and we're taking to our Board tomorrow, in
10 fact, the Proposal on Dynamic Transfers, which will
11 expand something we call "Dynamic Transfers to Renewable
12 Resources," to enable them essentially to change the
13 interchange between the ISO and the adjacent balancing
14 authority area on an instantaneous basis to reflect the
15 deviations. So that's a good thing in the sense that
16 more resources from outside the ISO can come in and
17 provide renewable energy, but it's also a greater
18 challenge because now we're balancing for a larger
19 proportion of the load.

20 Finally, on the RA expansion that was brought up
21 with relation to IID, but also the methodology that we
22 use for determining import capability, we have an
23 initiative in progress right now, and while it's true -
24 well, just let me tell you a couple of timeline
25 milestones because I think that will help clear up where

1 we're going with this - we're working on the generation
2 portfolios and finalizing those now in collaboration
3 with the Public Utilities Commission, to get a baseline
4 scenario that will say, "How many megawatts of renewable
5 generation in each of these areas connected by an
6 intertie are in this baseline portfolio?" And so we get
7 a number for, say, the IID balancing authority area,
8 which is - I don't know exactly, but let me say it's
9 around 1,500 megawatts; now, we will have that target
10 number by the summer, and that number reflects a target
11 based on the baseline generation scenario, but also a
12 commitment in what we're building into our transmission
13 planning studies as to what we're going to accommodate.
14 In other words, putting the number out there doesn't
15 make it available right away, but it does say that this
16 is the number we're building into our transmission
17 planning criteria, and we're going to, if necessary,
18 identify upgrades to accomplish RA deliverability for
19 this 1,500 megawatts. Now, in order to determine when
20 those 1,500 megawatts actually become available, we have
21 to do the deliverability studies on the Grid, and that
22 takes place over the fall and up through the end of the
23 calendar year. And that goes back to the primary
24 objective of RA, that we need to demonstrate that it's
25 all actually going to be deliverable to the system if we

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1 need it to meet peak load, and that's the deliverability
2 studies; then, around the end of the year, as we're
3 formulating our Comprehensive Transmission Plan, that
4 comes out in a draft at the end of January, it gets
5 finalized at the end of March, that plan will identify
6 are there transmission upgrades that are needed for this
7 1,500 megawatts of targeted import deliverability, if
8 so, what are those upgrades? And what's the timetable
9 on which those upgrades will be ready so that we can
10 look out year by year and say, "What's the progress
11 towards that 1,500 megawatts that we expect to see year
12 by year over the 10-year horizon, based on now the plan
13 of implementing these transmission upgrades, assuming
14 the upgrades are approved, etc.?"

15 So the timetable takes until March, end of March
16 in the Final Comprehensive Plan, to lay out a committed
17 timetable to these upgrades that will be built to get
18 those 1,500 megawatts. But the actual selection of
19 1,500 as the target, and the commitment and planning
20 process to build to preserve that target, will happen
21 this summer. And I think I'll stop there. Thanks.

22 CHAIRMAN WEISENMILLER: Okay, thanks. I think
23 it's probably useful for everyone in context to
24 understand most of these projects that we're looking at
25 under ARRA are project financed, and project financed

1 contracts - I did a lot of due diligence before V. John
2 got me into this current role, you know, people look at
3 the contracts and the strengths of the contracts, and
4 how they fit together. And so, one of the key things to
5 the banks first is regulatory certainty, you know, there
6 is always the statement at times that, you know, at
7 least in China, as opposed to California, they let you
8 build the projects before they abrogate the contracts.
9 Well, here, it seems a fairly risky venture and that
10 certainly affects cost and, again, the sort of
11 commitments the banks will make. And the banks tend to
12 look at the key provisions of the contracts, so one of
13 the first contracts signed is the PPA, and the PPA
14 specifies a price, specifies a date, has liquidated
15 damages if you don't meet that, and specifies a delivery
16 point. And then people go off and get permits and
17 stuff. Now, it seems like partially at FERC, or
18 whatever, where these two different silos, one
19 generation and one transmission, so after everyone has
20 gone through, gotten their permits, based upon a PPA
21 that, again, specifies price, date of delivery, and
22 place of delivery, then we start looking at the
23 transmission system. And at that point, we may say,
24 "Oh, by the way, there's lots of transmission capacity
25 elsewhere, could you move the project?" Well, the PPA

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1 is structured, you can't move the project. You know,
2 you're stuck there. And also, there's a delivery date,
3 and so if you got to PPA saying you were going to
4 deliver the power at 2014, and suddenly the transmission
5 study comes out and says, really, it's 2017, then you're
6 left to how does that work? How do you, you know,
7 you're in breach of your PPA at that stage, or you're
8 going to be at a breach and facing liquidated damages,
9 and depending on the force majeure clause, and most of
10 these don't have Reg outs in California in the PPAs, you
11 could be in a situation at that stage where you're
12 effectively in a breach because of the transmission
13 system, which you didn't know at the time of the PPAs.
14 And certainly, when you talk to the developers, you
15 know, if they knew they were submitting a contract to
16 deliver power in 2017, as opposed to 2014, there would
17 certainly be a different price. So, in some way, we
18 have to harmonize better the generation transmission
19 pieces, otherwise, again, unless we can sync these up,
20 the general perspective in the financial community is
21 going to be that California is just not a place to do
22 business. And I think, again, that's not acceptable for
23 State Government. I mean, we have to harmonize these
24 things in a way that facilitates the development. So,
25 again, I think in terms of that gets back to Michael's

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1 question, how do we speed these things up? And how do
2 we get the generation transmission planning much more in
3 sync? So you're saying next year we'll really know a
4 lot of this stuff. Well, we need people - people had to
5 close financing to meet the ARRA deadlines, I mean, we
6 might have a different world post-ARRA, but at this
7 point, we really have to provide some regulatory
8 certainty for the projects that were permitted.

9 MR. KRISTOV: Well, my reference to next March
10 Transmission Plan was really in relation to the RA
11 deliverability problem at the imports, which I think
12 affects some developers, but does not affect the large
13 majority of the development of resources like the ones
14 in-State, they're not affected at all by that because,
15 for them, deliverability is a different animal, it comes
16 through the interconnection process, and I think the
17 degree of certainty is greater there, provided that the
18 transmission upgrades we identify in the in the
19 interconnection process will move forward to permitting.
20 Okay, so the issue, really, that I was talking about
21 with this timeline was the import RA deliverability, and
22 I understand that's a concern, but part of the portfolio
23 notion is to identify a quantity of megawatts out there
24 that are in the generation scenario. That does not
25 necessarily mean that PPA's have to be signed already,

1 that parties can still be signing those after we set the
2 target.

3 CHAIRMAN WEISENMILLER: Some of that will be the
4 case, but, again, I think I and the Governor's office
5 put a high priority on the Imperial County projects, you
6 know, and those are indeed in the state and an area
7 where we need the economic development.

8 MR. PICKER: I think that we all have good
9 plans, but they don't match up very well, and they're
10 effective to narrow purposes, but not to the larger
11 challenge we face of buttoning up our shirts with all
12 the buttons in the right places, and so that's the
13 central issue here. I'm not going to say at this point
14 that we absolutely actually should in the future
15 consider all the projects that come forward to the land
16 use process, it may be that we make the policy decision,
17 the transmission planning, actually determines which
18 projects will get built and where. Currently, what I
19 think is happening is that projects are driven through
20 the process by where the good land use planners are.
21 That's a variable that is knowable, I know it, and I can
22 pretty well handicap where areas are going to need
23 transmission and where we're going to have constraints
24 because I spend a lot of time with the local land use
25 planners. But I don't see that that enters into any

1 consideration here, so maybe we should simply make the
2 determination that, since we're all transmission
3 planners in the room today, and you have the podium,
4 that the decisions you made are going to govern where we
5 have renewable resources, that may be no better or no
6 worse than what we currently do. All I'm saying is that
7 what we've got doesn't match up, and you guys are out of
8 line with what other people are doing, and they're out
9 of line with what you're doing, and it won't work.

10 MR. KRISTOV: Well, certainly at the ISO, you
11 know, we're not the resource planners for the State and
12 I'll go back to where I started, is that, to the extent
13 policy makers narrow down the areas, the locations for
14 development, then that simplifies the transmission
15 decisions because we can focus on those areas where
16 you've all determined are the optimal places to build
17 generation.

18 MR. PICKER: Well, I'd like to think so, but
19 that was part of the goal of the RETI process and it
20 doesn't seem to have resolved it.

21 MR. KRISTOV: Well, it seemed like there wasn't
22 enough certainty when you have 38 or so areas and
23 scores, that still left too much leeway. Is there a way
24 to narrow it down further to that, to a smaller number
25 of areas?

1 MR. PICKER: Well, a certain official in a
2 balancing authority simply suggested that everything
3 that doesn't fit the existing design plan for
4 transmission should simply fail. And that's a policy
5 position, it's not a - all I'm saying is that we haven't
6 really had the debate as to how we do this, and we're
7 not going to have that debate as long as people continue
8 to move in their separate directions without really
9 having an underlying discussion. Somehow or another, I
10 don't think we're really getting there here, either.

11 CHAIRMAN WEISENMILLER: Anne, go ahead.

12 MS. MILLS: On that note of trying to get there,
13 I guess, and my frustration, I'm Anne Mills from the
14 California PUC. I want to start by apologizing because
15 our permitting expert, Billy Blanchard, was originally
16 asked to sit on the panel, which he also was drawn away
17 by DRECP, so I will address some of what Billy wanted to
18 address about permitting, specifically, and on the
19 environmental review side, can address some questions on
20 that, but I'm also going to touch on need, which is what
21 I personally focus on more, so I'm better equipped to
22 address those sorts of questions. And I've already
23 noted a few from, Chair Weisenmiller, a few questions
24 you had that I unfortunately can't address today, but we
25 can get back to you on.

1 So, just stepping back and looking at the
2 progress we've made so far, between the Tehachapi
3 project, the Valley to Colorado River, Sunrise
4 Powerlink, and the El Dorado Ivanpah, the projects that
5 we've permitted to date, we expect that those can
6 deliver about 8,100 megawatts of renewable resources.
7 If you add in the thousand megawatts that the ISO is now
8 saying you could achieve with just wind and solar
9 diversity in the Tehachapi, that gets us to 9,100
10 megawatts, so I just wanted to point out that number in
11 relation to the Governor's plan that we would have 8,000
12 megawatts of large-scale renewables by 2020. You could
13 say we're there on a transmission basis, but of course
14 we are planning for more because there is a lot of
15 commercial interest out there and projects moving
16 forward.

17 The other projects underway right now at the PUC
18 include the Eco Substation that San Diego talked about,
19 Edison's Red Bluff Substation, and Edison's Colorado
20 River Substation. We expect decisions on all three of
21 those substations, which are primarily focused on
22 interconnected renewables in mid to late 2011, and then
23 we expect to see applications for more projects coming
24 in in 2012 and 2013, including the West of Devers
25 upgrade that Edison talked about, the Pisgah - Lugo line

1 that would access renewables in the Pisgah CREZ, and
2 also the Carrizo Midway upgrade where our staff has been
3 working very closely with staff in San Luis Obispo
4 County to make sure that the permitting they're doing on
5 the generation side actually looks at the transmission
6 fully so that we don't have to do any duplicative or
7 additional environmental work when the permit to
8 construct comes to the Commission. And then there may
9 also be other projects as included in the ISO plan and
10 to come out of the transmission planning process. So
11 that's just a note on some progress.

12 In terms of challenges to date, on the
13 environmental review side, obviously we've had delays
14 and difficulty just getting permits from multiple state
15 agencies and federal agencies, and I think the
16 coordination with the federal agencies, in particular,
17 has been a challenge in terms of timing, but we're
18 trying to make progress there. With any sort of long
19 linear project, there are significant cultural and
20 biological concerns to address and lengthy requirements
21 for surveys. We've seen difficulties in obtaining
22 tribal land approvals, which of course is also holding
23 up some of the West of Devers work. There are often
24 visual concerns, residential and park areas, just
25 controversy that drives a need for making sure that we

1 have a really robust alternatives analysis that can
2 withstand legal challenges. Of course, in the past,
3 we've all seen significant conflicts with park and
4 wilderness areas, and then all of this work requires
5 time with environmental documentation for both NEPA and
6 CEQA processes. Again, because we often see our
7 decisions challenged and the only way they're going to
8 stand up is if we've fulfilled our entire requirements
9 under CEQA and NEPA.

10 So that all is related to the environmental
11 siting process in the permitting process. In parallel
12 to that, the PUC has to look at the need for the line,
13 and weigh that also against the cost. So, when it comes
14 to need, I think this does - we really are trying to
15 address this problem of, you know, uncertainty about the
16 future, commercial interests maybe going one way, maybe
17 land use would give you a different answer, maybe the
18 existing transfer capacity on the transmission system
19 would give you another answer. So we are trying to work
20 very closely with the ISO and the CEC and other
21 stakeholders to look at our reasonable pictures of the
22 future and then work with the ISO to plan the
23 transmission around those pictures. That's why we
24 signed the MOU with the ISO a year ago, and we're making
25 a lot of progress now, I think, on that coordination.

1 In the near term, I think the main issue that we
2 see, or that we're anticipating upcoming with some of
3 these transmission projects that will be coming into the
4 PUC is the reliance primarily on the interconnection
5 process, to identify them. Under the current ISO
6 tariff, they really can't do any cost benefit assessment
7 of those lines, and so the PUC in its past decisions has
8 specifically said that we can't rely only on
9 interconnection requests to find need pursuant to our
10 statute, so we don't want to create more uncertainty and
11 have a line that's approved in the ISO process, and then
12 challenged and, you know, evaluated from scratch at the
13 PUC. But we do have to find a project needed and, if
14 that hasn't been assessed in the ISO process because of
15 their restrictions under their tariff, that's going to
16 create some uncertainty because we do need to find it
17 needed.

18 This becomes even more of an issue when we know
19 that we're only building these projects for resource
20 adequacy, essentially for deliverability a few hours of
21 the year, which kind of gets to, I think, some of the
22 discussion we've already had. We need to make sure
23 these lines are good investment for ratepayers and,
24 honestly, a lot of these projects are coming in fairly
25 expensive, and so the PUC has been very interested in

1 opportunities for independent transmission and having
2 lines identified out of the interconnection process is
3 also an issue on that note because projects that are
4 identified out of the LGIP don't have the opportunity
5 for independents to compete to build those lines.

6 I want to mention here that, just because of
7 these concerns, we know the ISO shares some of these
8 concerns about not being able to do a cost benefit
9 assessment, and so we very much support the work they're
10 trying to do right now under what's called the GIP2
11 process, their Generation Interconnection Process
12 Reform, and we look forward to working with them on
13 reform of this process that provide more certainty to
14 everyone concerned.

15 I think that's where I'll stop, but I'm happy to
16 answer questions.

17 CHAIRMAN WEISENMILLER: Thanks. I guess my
18 questions were - I was involved in the PUC on Sunrise
19 review and, as part of that, the Tehachapi going along,
20 my recollection is there was not an economic assessment
21 there, but it was based on the fact that those lines
22 were facilitating renewables. Is that correct?

23 MS. MILLS: Yeah, and we don't have to - there's
24 a specific portion of the Code that allows us to permit
25 transmission for access to renewables, but we still need

1 to find that the cost of that line is rational compared
2 to the generation that it's accessing. So, in the case
3 of Tehachapi, we found that the cost of the project
4 relative to the 4,500 megawatts of RPS generation that
5 it would access was reasonable.

6 CHAIRMAN WEISENMILLER: Right, but again, and at
7 that point certainly there was a lot of discussion,
8 particularly in Sunrise, on a rebuttable presumption
9 issue that the PUC put out the decision saying, you
10 know, one of the things we need to do is move away from
11 repeated bites at the apple on these issues, and at
12 least in that point, though, the context - the PUC had
13 voted out the decision to give the rebuttable
14 presumption to the CAISO on need, although I think it
15 was on reliability projects and not on renewables at the
16 time, and Sunrise actually wasn't implemented because of
17 just timing issues, and I don't think it's been
18 implemented since.

19 MS. MILLS: Yeah. The rebuttable presumption is
20 actually given to the ISO's economic assessment of a
21 line. And the decision that gave the rebuttable
22 presumption also laid out very specific things that -
23 specific standards that the ISO would have to meet in
24 order for us to be able to defer, just because of our
25 requirements around public process and due process and

1 notification, and all of that. So, I think you're right
2 that that actually hasn't been - we haven't been able to
3 rely on that rebuttable presumption to date. But,
4 again, in the case of projects coming out of the
5 Interconnection process, there isn't any economic
6 assessment of those lines, so it wouldn't apply in any
7 case.

8 CHAIRMAN WEISENMILLER: Right, but again, they
9 are facility renewables, so you get back to the other
10 leg and certainly the leg that's been more traditionally
11 used, again, in that context I think for Tehachapi, the
12 ISO was struggling to come up with an economic
13 assessment and eventually just pointed to the renewable
14 use, and that was the basis for the PUC decision.

15 MS. MILLS: Right, it was, but again, weighed
16 against the cost of the project. And that's what we're
17 starting to get concerned about some of the projects
18 coming out of the ISO process is the cost of those
19 projects relative to the generation that they're
20 accessing.

21 CHAIRMAN WEISENMILLER: And so that gets back
22 again to the LTTP stuff which basically resulted in the
23 original contracts for the projects. Again, it's sort
24 of how do we have within the PUC one shot at cost, just
25 given the timing and issues there, how do you have a

1 coherent generation and transmission determination on
2 stuff?

3 MS. MILLS: Right. Well, the LTPP process
4 didn't result in the RPS contracts we have now, and
5 several of the projects even that are coming out of -
6 that have signed LGIA's and are resulting in lines
7 coming out of the LGIP process don't even have PPAs,
8 some of these are still trying to negotiate PPAs. What
9 we've done in the LTPP process, and this coming ISO
10 planning cycle will be the first time we actually
11 implement this, is we've now tried to take a look at
12 what we think our reasonable visions of the future,
13 including SUs around, you know, what projects have PPAs,
14 but also where do we think projects are most likely to
15 get permits, and all of that, and now the ISO is going
16 to consider those. We're working on the one base case
17 that the ISO would use and our intent is that projects
18 that are consistent with those scenarios would have a
19 very smooth need determination process at the PUC
20 because we've already in the LTPP weighed those
21 alternatives and weighed the costs and the values of
22 these projects, and these are alternatives we thought
23 were reasonable.

24 CHAIRMAN WEISENMILLER: Okay. Thanks.

25 MS. KOROSK: All right, then, I'd like to thank

1 our panelists and we are ready to move on to our next
2 presenter, who is Grace Anderson.

3 MS. ANDERSON: My name is Grace Anderson and I'm
4 with the California Energy Commission. And I wanted to
5 thank - it's good to see you and thank you for keeping
6 your eye on the Western Interconnection horizon, and
7 leaving room on your agenda for us to go over four
8 western region trends that, if they continue to evolve
9 in a successful direction, can support California's
10 efforts to meet its renewable energy goals.

11 The four trends I've identified are related to
12 the priority for renewable integration, the progress on
13 real transmission projects, the central focus of the
14 Western Planning, which is for renewables, and then,
15 finally, a sustained interest in multi-state expansion
16 projects. I'm going to go through all four of these
17 very quickly and then pause and talk about, well, what
18 might these mean for California policy. Each one, I
19 could spend a whole day on, and many people have spent
20 many days on them, but if you bear with me, I'm going to
21 move very quickly, at a very high level.

22 One of the most interesting, fairly recent
23 developments is that the WECC, the regional entity for
24 the Western Interconnection, is exploring the benefits
25 and costs of establishing an energy imbalance market.

1 This would be a real time centralized energy dispatch,
2 it would be voluntary, it would be security constrained,
3 it would look at energy and balancing needs, resource
4 and transmission characteristics, energy offers, and it
5 would create the optimal five-minute dispatch. This is
6 a very high interest to the Western states. Through
7 their State Provincial Steering Committee, they have
8 contributed money to the benefit cost assessment of this
9 possible market, they hope to host a major gathering of
10 the CEOs and regulators later this summer to identify
11 whether there is support for moving ahead with this
12 voluntary market. They are urging WECC to make a go/no-
13 go decision, whatever it is, by the end of this year.
14 Obviously, the goal in terms of renewables is to
15 distribute variability across a larger footprint. There
16 are major unresolved issues and I certainly don't want
17 to predict this is actually going to happen, but I
18 wouldn't under-estimate the West, I've seen it
19 accomplish a lot in the last 10-12 years, so more will
20 be revealed on this.

21 So, my second topic under renewable integration
22 is something called the Joint Initiatives. This, again,
23 is a voluntary set of players who identify important
24 initiatives and work together to see if they can find
25 solutions. There are three that have been under

1 development for several years, and they really are
2 reaching fruition in 2011. I'm not going to go into the
3 details on each of these, except to say that inter-hour
4 scheduling is really focused on standardization of
5 business practices. Ten Western utilities are already
6 implementing 30-minute schedules and 15 more, including
7 several in California, are moving toward, all things
8 being equal, working for this scheduling at least for a
9 first phase of unexpected requests by July of this year.
10 Dynamic scheduling system of the DSS system is already
11 implemented, and that is focused on communication so
12 that we can move from 1:1 bilateral transactions to more
13 of a clearinghouse where multiple transactions between
14 multiple BAs can occur simultaneously.

15 Finally, ITAP, I'm not going to speak about
16 this, but it's in the product development and software
17 phase, it's going to be designed to have web-based
18 visibility of inter-hour bilateral energy and capacity
19 transactions. So, again, more will be revealed on all
20 three of those fronts.

21 So, the third topic related to integration is
22 very quickly on dynamic scheduling. Lorenzo mentioned
23 this, and I'll just say that the West really has brought
24 together the best of the technical people from all the
25 utilities to try to better understand not only our

1 dynamic transfer capabilities, but the potential limits
2 on those dynamic transfers and they've completed their
3 first phase of work and they've concluded that increases
4 in dynamic transfer capability requires system
5 enhancements and, of course, the ISO and the BPA have
6 done very detailed studies on this and reach somewhat
7 different conclusions. Lorenzo mentioned that the ISO
8 is making some changes and this group has identified
9 some options that would increase the ability of the
10 system to respond automatically, which is particularly
11 important for BPA. I'm not going to go into these, but
12 the whole goal is to export that variability to the load
13 areas that can absorb it better.

14 So my next trend is related to the real
15 transmission projects in the broader West and you've
16 heard today that there is a lot of work underway and we
17 are building and investing in California, and the same
18 is true outside of the state. One way we organize this
19 kind of thinking is from the Sub-regional Planning
20 Group, SPG perspective, we have a vibrant SPG function
21 in the Western Interconnection. For the first time this
22 past year, the sub-regions organize themselves so that
23 they can have a coordination group, and that group
24 integrated eight SPG plans, those that were completed in
25 2009 into two maps that merged them altogether, and you

1 can't see this writing very well, but they are all on
2 one map, which is a breakthrough. And I just will say
3 that this coordination group went through a quite
4 detailed process and reached consensus on what it
5 considered the 30 foundational projects which would have
6 a very high probability of being online by 2020. And
7 these are the larger, over 345 kv projects, so there are
8 more than this in the West, but this is the main line
9 group, and one thing that is important about these is
10 that they are included in the base case, the reference
11 case, for the region-wide planning effort I'm going to
12 talk about in a moment. What's important about this
13 also is that these projects are mainly within individual
14 sub-regions, they're really designed to provide load
15 service reliably, and they do access some renewables and
16 conventional resources. These are not the group of
17 lines that would be very long and multi-state and large,
18 those are in a group called potential projects, which I
19 am not showing the map of. So, CTPG, I want to say, and
20 the ISO have been active in the sub-region coordination
21 group, and going forward as this list is updated, it
22 will be more reflective of the 2010 work of both of
23 those SPG's.

24 My third trend, if I remembered to change these
25 slides, is that we have a greatly enhanced effort

1 underway related to transmission planning in the Western
2 Interconnection, actually developing the first ever 10-
3 year plan, and I want to state that this planning is
4 focused on delivering renewables. And this work is
5 supported by over \$26 million from the ARRA funding from
6 DOE. It's important because the TEPC which - thank you
7 for introducing that acronym, I wasn't going to be brave
8 enough to do it, has a reference case which is compliant
9 with statutory RPS west-wide, so we're not doing a
10 fossil case vs. a renewable case, we're doing a
11 reference case that's statutorily compliant and then we
12 are looking at different ways one might achieve that,
13 how transmission congestion might change with a high DSM
14 case, with a low carbon case, or with changes in the
15 operation of the existing coal fleet. The Western
16 states are engaged through a steering committee and I
17 thank Michael Picker for going with me to some of these
18 meetings, and I believe Commissioner Peterman may be
19 joining us in the future. What's unusual and, for the
20 first time also, is that all the load forecasts and all
21 the renewable requirements have been vetted through the
22 states, they specifically developed these cases and they
23 also have requested specific changes, changed cases such
24 as are listed here. CTPG, its members, and ISO staff
25 are engaged at quite a level of detail and I would just

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1 also say here that, looking forward, we really are going
2 to have greater integration with the CTPG and I would
3 add my compliments to the remarkable progress that they
4 made in really just one year. It's going to help bring
5 the California assumptions and perspectives into the
6 regional process.

7 So, with that, I will say that late yesterday
8 they posted actually a copy of a 50-page summary of this
9 plan, I haven't looked at it, I'm a little anxious
10 because I expect it's going to have some results in it
11 that might be different than California's vision, but
12 we're working with them on that. So, if I look at this
13 next slide, it just demonstrates the important point
14 that we are planning for renewables in the West, the
15 lion's share of incremental resources that were added
16 are renewable, most of them in California, I will say.
17 The only fossil that was added was what was already
18 under construction and reported to WECC, and then what
19 was necessary to address the OTC policies in California,
20 as was recommended directly by the utility
21 representatives involved.

22 My next trend, my last trend, is that we
23 definitely see continued high levels of interest in long
24 lines delivering remote resources to California loads.
25 It's the high quality wind resources, in particular,

1 that drive this market interest, and I want to emphasize
2 that the utility and independent developers rely on FERC
3 Order 890 and it's framework, which requires that the
4 region review the congestion implications of really any
5 set of generation and transmission that someone is
6 interested in examining. We don't just make these cases
7 up, they're filed through an orderly process that's
8 complaint with Order 890. The WECC expansion cases that
9 were requested under Order 890 do show benefits, these
10 benefits can be large, some of this, a lot of it extends
11 from the wind profile diversity, and significantly lower
12 costs than the resources that are being developed closer
13 to load. I put a question mark next to lower cost
14 because Anne and I are working diligently with the WECC
15 staff to better understand why their results show so
16 much more benefit than California's, we know it has to
17 do with their assumptions about capacity factors, their
18 assumptions about the cost of incremental transmission,
19 the methodology which compares the very best of the
20 remote resources with the least economic of the
21 California resources, but we really don't have a
22 comprehensive understanding yet of why the results are
23 so different, so a lot of the things that we try to
24 address in the regional picture are related to the
25 uncertainty of the path of development, that's what's

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1 been talked about here today.

2 So, just this next slide helps you see that
3 there are many projects, there are different kinds of
4 projects, and of course, procurement is the essential
5 piece of the puzzle and we haven't worked through that
6 related to specific projects, and Mr. Picker has talked
7 about the dynamic Western Grid and, of course, some of
8 these projects might lend themselves to that approach
9 more than others, and we have a voice in speaking to
10 that. And Candidate in Northern California is an
11 example of a project that's on this list that is looked
12 at from a regional perspective. So, with that, I'll
13 just maybe leave this on for a minute and say that,
14 well, these are the Western trends and initiatives, I'm
15 certainly not suggesting that all solutions are in hand
16 by any means, but if these are realized successfully,
17 then it really can help California achieve its own
18 policy goals. For example, the EIM could allow five-
19 minute schedules, which would reduce transmission
20 congestion, it could increase integration at a lower
21 cost. The joint initiatives could standardize and
22 create tools for 30-minute scheduling. We're learning
23 how to understand what dynamic transfer improvements are
24 needed and implementation could lead to increased
25 intermittent integration at lower costs. The additions

1 of the sub-region transmission projects strengthen the
2 Western Grid and increase our ability to interconnect to
3 renewables that serve other states or California. The
4 plan can illuminate paths to a lower carbon future and
5 identify potential benefits from a regional perspective.
6 Obviously, this can create tension, but the challenge to
7 us is to keep an open mind to look at the potential
8 optionality benefits of lines and corridors that come
9 into the state and could potentially backstop some of
10 our own solar and transmission lines. Finally, the high
11 quality of remote resources put competitive pressure on
12 California's procurement, which could equal a lower cost
13 in-state procurement result with more renewables being
14 developed and interconnected under the cost cap under
15 the new legislation.

16 So, I'm going to end here. If any of these
17 initiatives have caught your attention, we'd be happy to
18 provide written details for the body of your document.
19 And I'll just end by reminding ourselves that plans are
20 useless, but planning is indispensable and we're doing a
21 lot of it. Thank you.

22 CHAIRMAN WEISENMILLER: Thanks, Grace. I think
23 the question I have is sort of building off of
24 Michael's, is that it seems like a lot of - flip back to
25 your slide 11 -

1 MS. ANDERSON: There we go.

2 CHAIRMAN WEISENMILLER: There we go. It seems
3 like a lot of these are essentially trying to work off
4 of the feature of that if a project interconnects with
5 the California balancing authority, it's considered a
6 sort of higher tier for RPS purposes, so it seems like
7 we're seeing a lot of what I assume are DC gen-ties
8 getting to the California balancing authority from these
9 remote locations. And that gets to, I think, Michael's
10 point about trying to essentially have something that's
11 much more of a West Coast vision, shall we say, the
12 power flows back and forth, as opposed to everything
13 hitting California.

14 MS. ANDERSON: Well, you're certainly right
15 about that and the results that will appear in the WECC
16 10-year plan shows that the DC kind of gen-ties really
17 have the most economic attractiveness from a regional
18 perspective, they show the highest cost savings. So, if
19 this West Coast division is going to be articulated in
20 the context of the Western planning, you know, we need
21 to speak up about it. You know, I don't mean to be a
22 devil's advocate, but we really have to look at the
23 market and see what renewables in California are going
24 to be competitive and in which of the western load
25 centers to have a complete puzzle picture of what it is

1 we're going to develop and who we're going to sell it
2 to, and then what lines would make sense. And, you
3 know, I really want to say that the WECC staff is trying
4 to think outside the box, and they are hearing - Michael
5 has made two really very good presentations in the State
6 and Western Region forums, and if we're serious about
7 this export path and we could be thinking about the DC
8 lines that go both directions, and take the California
9 solar and geothermal resources to the SPP through the
10 interconnections between the two, the west and the
11 south, maybe we can get some of our solar power north,
12 we certainly have a long history of moving our power to
13 the northwest, and vice versa, so Canada and Northern
14 California is another candidate. This is a concept, but
15 I haven't been able to sell it yet very well out in the
16 west.

17 CHAIRMAN WEISENMILLER: It seems like the long
18 gen-ties, the problem is going to be what are the
19 benefits for the states between here and there in terms
20 of on the permitting process. The one thing that is
21 sort of surprising is, given the BPA situation, or just
22 dealing with the wind capacity integration issues
23 overwhelming their system, and I guess at this point
24 you're looking at shutting down the wind given the
25 hydro, that aside from the COI upgrade, there isn't more

1 attempts to increase the capacity between here and
2 there.

3 MS. ANDERSON: Well, when I originally wrote
4 this presentation, it was all about planning and the
5 plan, and I narrowed that down and took a lot of
6 information out, but the results of the 10-year planning
7 studies have indicated that the major areas of
8 congestion in statutory RPS future are moving power out
9 of Montana and then moving power from north to south
10 into California on the COI and the PGCI, so those are
11 the two areas of concern that will be highlighted in
12 terms of congestion in the 10-year plan. We do see very
13 significant interest in the British Columbia, Canada to
14 Northern California line and that's one of the important
15 opportunities that is being examined in the planning
16 process. We see some low-hanging fruit, that's what
17 they call it, in upgrading some of the lines, you know,
18 out of Montana and into the northwest, that however
19 isn't going to help with the problem that you've
20 identified which is that would simply result in more
21 wind coming from Montana and getting congested in the
22 BPA system. So, we don't have real clear solutions, but
23 at least as it's been described to me, Canada and
24 Northern California has quite strong support from BPA
25 and it's a Brownfield project and they view it as a way

1 to get some of the wind off of their system and down to
2 California, so that the development can continue there,
3 but yet they don't have to absorb all the variability.
4 We are in an over-generation system in the northwest
5 right now and it's almost a crisis, I mean, it is a
6 crisis up there and so exactly how we're - these are all
7 very good examples of the challenges that a 33 percent
8 future and higher, you know, can bring in the real
9 operation of the system, and integration of the
10 renewables. So I just want to emphasize, there's a
11 heartfelt intrinsic commitment to understanding and
12 bringing renewables on the system west-wide, so that the
13 work that WECC is doing is very important.

14 MR. PICKER: I think you both have captured a
15 lot of the discussions that we've had with people about
16 the Western Grid and WECC's planning. I'll just say
17 that we're writing a letter to WECC from the Governor's
18 Office kind of outlining the Governor's Office
19 perspective on this that should be delivered fairly
20 soon.

21 MS. ANDERSON: And thank you for that, and thank
22 you for coming to Seattle and delivering the details of
23 the commitments to transmission and renewables in
24 California. I don't believe that the West really
25 understood that. I'm thinking that, to the extent the

1 Governor's letter can move toward looking at some of
2 what's in the plan, and some of what's in the - you
3 know, this is a biennial process, somewhat similar to
4 the ISO's, and the study program for 2011-2012 reflects
5 requests from developers for much higher levels of
6 remote renewables than we've looked at for this 10-year
7 plan, and they are going to be increasingly inconsistent
8 with what we're doing here and it's important to
9 communicate that. Thank you for your time.

10 CHAIRMAN WEISENMILLER: Thanks. And now to
11 public comment.

12 MS. KOROSSEC: All right. We did ask for public
13 comment to be limited to those with time constraints and
14 I have three people that were identified with that. Our
15 first will be Rich Lauckhart from Black and Veatch.
16 Rich, if you want to come up to the center podium?

17 MR. LAUCKHART: Yes, I'm here to give Black and
18 Veatch's view of renewables, where they will be built in
19 the West. We're particularly qualified to give a view
20 because we are extremely engaged in all aspects of that
21 business in North America and particularly in the West.

22 We have a 25-year view that we put out, a
23 baseline view of where power markets are going, it's not
24 a stakeholder-driven view, it's a view that we prepare
25 and market, and use it in due diligence analysis and

1 various economic analysis. It's a baseline view. We
2 certainly understand we don't have clairvoyance about
3 the next 25 years. But if we look at the view and look
4 at where renewables are going to be built in that view,
5 renewables in our baseline view are located in the
6 states pretty much where the RPS requirements are, and
7 that means that most of the renewables that we have, in
8 our view, that are being used to meet California RPS are
9 located in California. And these are the reasons that
10 we came up with that view: one, renewables in other
11 states can be somewhat lower costs than renewables in
12 California, busbar cost and the \$70.00 through \$100.00
13 megawatt hour range, but that's not dramatically cheaper
14 than you can build them in California, and then, on top
15 of that, of course, you have to add the transmission
16 cost and losses incurred to get the power to California;
17 second of all, a lot of that out-of-state resource is
18 wind; the wind pretty much generates more at night than
19 during the day. It's not as useful when it's generating
20 at night; third, the cost of transmission associated
21 losses needed to move these, if you have to build new
22 transmission, is significant; fourth, more importantly
23 than the cost of this long transmission lines to bring
24 them in is the concern about the ability to permit them
25 and that's what you were just saying, is what are the

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1 intervening states' benefits here. Can they be
2 permitted? Can somebody count on those transmission
3 lines to be available? So, fifth, utility resource
4 planners in California, these resource planners of these
5 utilities that are here today, they recognize all these
6 issues. These are not surprises to them. They
7 understand that, and for that reason they are mostly
8 contracting for renewables inside of California.

9 There are some exceptions to that, but mostly
10 they are contracting inside of California. California
11 has significant solar resources and we've heard there is
12 70,000 megawatts in the queue, not all solar, of course,
13 but a lot of it is solar. And while the busbar cost of
14 solar is higher than \$100.00 a megawatt hour, maybe on
15 the order of \$140.00 a megawatt hour, the sun produces
16 its energy during the daytime when we need it, not at
17 night when we have our lighter loads. Recent declines
18 in the cost of solar have made it very difficult for
19 these out-of-state resources to compete with in-State
20 California resources. BC-based renewables are
21 particularly challenged because they don't have tax
22 credits that they get for renewables that are being sold
23 to the United States, they don't get those tax credits,
24 that's a major competitive disadvantage for their
25 resources. California legislation has greatly

1 restricted the use of renewable energy credits, you
2 know, the stuff has to now either be - it has to be
3 either located, connected to the CAISO Grid, or
4 dynamically transferred between firm transmission plus
5 something on the balancing authority regime.

6 Now, some California utilities - and Mo is one -
7 have found ways to bring resources in over pretty much
8 existing transmission lines, they've said, "I have some
9 capacity there, it's available, or I can increase that
10 capacity somewhat, and I can bring some renewables in,"
11 they're doing that. But that isn't really the issue
12 with most of these out-of-state guys that are trying to
13 bring stuff to California. So, it's going to be a
14 challenge, it's a big challenge for these out-of-state
15 people to compete to sell in California and, for that
16 reason, our baseline view is not much of it is going to
17 happen. Now, having said that, I need to make sure - I
18 think you guys already know this - that there are some
19 very competent people working on renewable projects far
20 away from California and new transmission lines to bring
21 it here, in the hopes of helping us meet our renewable
22 goals here cost-effectively, and giving them some
23 business. And if they are able to bring those to us, if
24 they can bring those good projects, and it's projects
25 that we conclude that we want, then of course California

1 needs to make sure that they have transmission inside
2 the state to be able to accommodate that. But, you
3 know, until that actually gets moving, it's a little
4 premature to start planning for transmission in the
5 state for these projects that are not quite at the
6 status of being able to be sold to utilities here.

7 CHAIRMAN WEISENMILLER: Thanks, Rich, we are
8 certainly looking forward to your written comments.

9 MS. KOROSK: All right, next we have Steven
10 Kelly from Independent Energy Producers.

11 MR. KELLY: Thank you, Commissioner. Steven
12 Kelly with the Independent Energy Producers Association.
13 And I want to spend a few minutes bringing a slightly
14 different perspective to the issue of transmission,
15 that's the perspective from the generation community,
16 particularly the independents. I want to speak a little
17 bit about kind of bringing a historical perspective,
18 kind of IEP's goals, and then maybe make four specific
19 recommendations when we think about this problem.

20 First, it's important to recognize that, from
21 the generation perspective, the development of renewable
22 resources is extremely competitive today, there are
23 hundreds of companies, thousands of projects, tens of
24 thousands of megawatts being developed and proposed and
25 thought through. The reason transmission is important

1 is because there is a limitation on the development of
2 those projects. There's going to be a limited number of
3 corridors and a limited number of investment
4 opportunities to build transmission to access these
5 resources. That makes the competition even more
6 important and the way that the transmission is developed
7 needs to take into consideration the competitive impacts
8 of the transmission projects that are being proposed.
9 We have spent 10, 15, almost 20 years, working to
10 improve transmission access and making it non-
11 discriminatory, and we've essentially succeeded in that.
12 And that was resolved pretty much at the Federal level
13 through FERC. We're now looking at something slightly
14 different, it's the issue of corridors and where the
15 transmission is going to be built, and to who is it
16 going to access, and that is now becoming primarily a
17 State issue, even though the Federal Government, FERC,
18 has some authorities in this regard, this is going to
19 probably remain a State matter. That means that it's
20 important to the generation community to know in advance
21 where these transmission lines are going to go, to know,
22 for example, within a corridor whether it's going to go
23 to the left-hand of a corridor, or the right side of a
24 corridor, is it going to go to the middle of the
25 corridor, or all the way to the end of the line? These

1 things are critically important from a generation
2 competition perspective. We're in a world where most of
3 this is being developed and designed by the utilities,
4 as was discussed this morning in that CTPG and the ISO
5 are fairly well utility dominated in the development of
6 these plans. Many of these utilities are actually
7 involved in developing their own transmission projects
8 and their generation projects. That creates a
9 competitive issue that I just want to make sure that
10 this Commission is focused on as we move forward.

11 IEP was involved in the RETI process, as you
12 know, we sat on the Stakeholders Steering Committee, and
13 felt that process was very instrumental in moving
14 transmission planning forward with a lot of stakeholders
15 at the table. And we regret the fact that it kind of -
16 its demise. Since that time, most of the transmission
17 planning has been undertaken by the CTPG as the primary
18 input into the ISO statewide comprehensive plan. I just
19 want to give a little bit of - it's my experience
20 working with the CTPG -

21 CHAIRMAN WEISENMILLER: Steven, you have to
22 speed it up.

23 MR. KELLY: Okay.

24 CHAIRMAN WEISENMILLER: Why don't you jump to
25 the four points?

1 MR. KELLY: Well, the four points are, first, we
2 would like to see better coordination and planning
3 schedules, something Mr. Picker was mentioning this
4 morning; rather than build off a metaphor of a shirt
5 with buttons, we might want to consider a pullover
6 sweater to have this coordinated planning happen at one
7 time, so we don't get the disconnect between the buttons
8 and the shirt. Secondly, I'd like to see more
9 availability of real-time access to the data that is
10 used for the transmission planning studies, the base
11 cases and also the scenarios. I don't believe this is
12 particularly confidential and it ought to be available
13 to the public. Third, it's important, I think, for all
14 the state agencies to work on a set of common planning
15 assumptions in this regard. It is difficult to plan
16 projects when the planning goes through a CTPG process,
17 an ISO process, and the CEC and the IEPR, and the PUC,
18 and those, and different planning assumptions come to
19 the table, so we'd like to see the agencies work to
20 bring common planning assumptions to the table, and then
21 fourth, and probably the most important, we'd like to
22 see the planners work on a publicly available, what I
23 call an Assumptions Workbook, which lays out the
24 assumptions that are being used for the various planning
25 studies and describes the changes in those planning

1 assumptions as they occur over time, or as they move
2 from one agency to another. I had requested that kind
3 of information when RETI transferred over to CTPG and we
4 were not able to get any kind of explicit information
5 about what the changes in the assumptions were, but I
6 think this information is particularly helpful for
7 stakeholders who don't have the time and resources to
8 spend the incredible amounts of time in the details of
9 these planning things, so I think bringing up to the
10 fore at least a workbook on the assumptions would be
11 very helpful for stakeholders to follow this process.
12 And those are my comments.

13 CHAIRMAN WEISENMILLER: Okay, thanks, Steven.
14 We're looking forward to your written comments, too.

15 MS. KOROSSEC: Next, we have Eugene Wilson from
16 Sierra Club of California.

17 MR. WILSON: Good morning, my name is Gene
18 Wilson, here on behalf of the Sierra Club, California
19 Energy and Climate Committee. Thank you for the
20 opportunity to address the workshop on renewable
21 transmission. Our concern is to urge the Commission to
22 consider more fully how the goal of 12,000 megawatts of
23 distributed generation in the Governor's Clean Energy
24 and Jobs Plan will affect transmission needs. In
25 particular, new utility ratepayers need to pay billions

1 of dollars for transmission that is proposed; how will
2 that need for additional transmission be affected by the
3 build-out of the 12,000 megawatts of distributed
4 generation? Will the obstacles that the Commission has
5 identified in terms of delays in the building of this
6 transmission be resolved to some extent by the 12,000
7 megawatts of distributed generation? None of the
8 presenters that we heard this morning, that I heard,
9 addressed that topic at all. The transmission structure
10 is apparently going to take up to a decade to build out,
11 distributed generation can be built out much more
12 quickly. The Public Utilities Commission has studied a
13 high DG scenario in connection with the modeling of the
14 33 percent RPS standard. The high DG scenario modeled
15 15,000 megawatts of DG. In that modeling study,
16 considerably less transmission was required than was
17 required under the hybrid study. The comments here may
18 not entirely reflect the transition to a higher DG
19 scenario. So, we urge the Commission to consider
20 carefully how the deployment of 12,000 megawatts of DG
21 will affect the transmission needs and our ability to
22 roll out renewable energy resources economically and
23 quickly. Thank you.

24 CHAIRMAN WEISENMILLER: Thank you for your
25 comments and for your participation in these workshops

1 and the other IEPR workshops.

2 MS. KOROSEC: And our last comment is from Carl
3 Zichella from NRDC.

4 MR. ZICHELLA: Good morning. I'll be on the
5 panel next, so I don't want too much time, but I wanted
6 to comment briefly on the west-wide issues that were
7 raised by Grace and followed up on by the commenter from
8 Black and Veatch. I've also been a stakeholder in the
9 WECC-wide transmission planning processes, and a number
10 of us who have been interested in renewable energy
11 integration across the west have been particularly
12 interested in maintaining and having California exercise
13 its market power to encourage renewable energy
14 development in some of the high resource areas elsewhere
15 in the west. The reason is quite simple, our goal isn't
16 33 percent, that's not the goal, and California's
17 efforts to get renewables into the system is to mitigate
18 climate impacts on our state. We have enormous market
19 power, we can waste that market power by closing our
20 doors, keeping ourselves focused inward, or we can look
21 at doing things that encourage a broader energy market
22 across the west, that encourages our neighboring states
23 to develop their renewables in a way that helps us phase
24 out coal plants that we would not otherwise have much of
25 a handle on getting rid of. The coal fleet in the west

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1 is quite old, we have some great opportunities with new
2 Clean Air Standards to get rid of many of those
3 facilities. If we're able to have bilateral
4 relationships of the kind Michael was talking about, it
5 would go both ways and we would be able to do some
6 really creative things to retire more carbon out of the
7 system, accomplish our client mitigation goals, and
8 create jobs not only here, but elsewhere throughout the
9 system, to create a momentum for renewable energy
10 development across the West. I wanted to mention these
11 things, we've had conversations with the staffs of
12 Governor Sandoval in Nevada, Governor Burr in Arizona,
13 and I had dinner last week with Governor Kitzhaber in
14 Oregon. There's intense interest in cooperating with
15 California on two-way exchanges of power, seasonal
16 exchanges of power, that haven't been contemplated by
17 the kinds of analyses we've heard so far this morning,
18 especially not from the Black and Veatch perspective.
19 There is a chance here to do something really big and I
20 hope that we'll be able to take advantage of our market
21 influence to make it happen.

22 CHAIRMAN WEISENMILLER: Thanks, Carl, looking
23 forward to seeing you this afternoon. I was going to
24 say, obviously, when Grace was talking, I was referred
25 to West Coast Vision in the '80s, that was a major

1 effort between this Commission and Bonneville and others
2 to come up more with a regional approach to try to look
3 at seasonal diversities, load diversities, resource
4 diversities, and to try to figure out ways that overall
5 we can work together; obviously, that fell apart in the
6 energy crisis. But, anyway, it certainly is part of the
7 things we're struggling with, but as you know we also
8 certainly follow the California law. Thanks.

9 MS. KOROSEC: Chair Weisenmiller, we're running
10 about 45 minutes behind, so I wanted to ask if you
11 wanted us to maybe take a shorter lunch or go ahead and
12 give folks a full hour?

13 CHAIRMAN WEISENMILLER: I think we should go for
14 the shorter lunch.

15 MS. KOROSEC: All right, why don't we come back
16 at 1:15?

17 CHAIRMAN WEISENMILLER: Exactly.

18 MS. KOROSEC: Great. Thank you, everybody.

19 (Recess at 12:34 p.m.)

20 (Reconvene at 1:17 p.m.)

21 MS. KOROSEC: Judy, did you want to say anything
22 before we start the second panel?

23 MS. GRAU: I just want to make one correction to
24 one of the slides I had this morning. I had 14 entities
25 that had responded to our Transmission Data Request.

1 The actual number was 15, I left off IID; however, I did
2 correctly note that they sent the forms and instructions
3 because I had their projects on my graph, but I
4 neglected to put them on the actual slide. Okay, so now
5 we're going to start our second panel discussion. I
6 think we may be missing one or two, and I believe - is
7 it Carl Zichella and V. John White would like to go
8 first if that is not a problem for the other panelists,
9 because they have time constraints.

10 For this panel, none of our panelists have
11 Powerpoint presentations, we wanted this one to be a
12 little more free flowing, and we've asked them to keep
13 their opening remarks to five minutes. And so, with
14 that, we will start with Carl, and then we'll go to V.
15 John White, and then just around the room. Okay, thank
16 you.

17 MR. ZICHELLA: Good afternoon, Mr. Chairman. My
18 name is Carl Zichella. I work for the Natural Resources
19 Defense Council. It's a pleasure to be part of this
20 workshop today. The questions we were asked to think
21 about were what changes we would make in the
22 transmission planning, permitting, and construction
23 processes to ensure appropriate and timely transmission
24 upgrades for renewables, and secondly, how we might go
25 about shortening the planning, permitting, and

1 construction cycle to about three years, nothing like a
2 light lift for us to think about.

3 I think we heard a lot of good conversation in
4 this morning's session, much of it is very applicable to
5 this conversation. I think, clearly, we have a lot of
6 planning going on in a lot of different places in the
7 State of California, and it's difficult to get to a
8 decision point without participating in a number of
9 different processes. I think Steve Kelly's comment at
10 the end of the morning session was very much on the
11 mark. So, one of the things I think we could really do
12 to help ourselves is to better coordinate planning
13 across the various entities that are doing it, and have
14 more of a real time collaboration on what's going to be
15 built, where, and when. I think, in order to help that
16 process, we've learned a lot from the RETI process and
17 other stakeholder driven processes such as the WECC
18 transmission process, the planning process that Grace
19 Anderson spoke about, but stakeholder participation
20 would be a key and integral part of such an effort,
21 along with, I think, a very high degree of transparency,
22 so that people really understood what we were talking
23 about in terms of what the assumptions were. Having a
24 common set of assumptions that were based upon the best
25 available information, obviously, would be a great aid

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1 to that process.

2 Secondly, I think that we need to utilize
3 processes that institutionalize - or, rationalize,
4 rather - transmission decisions. There are several
5 processes, you alluded to one earlier yourself, the
6 Desert Renewable Conservation Plan, that when completed
7 should greatly enhance and accelerate transmission
8 construction and project location throughout California,
9 and actually it's a model that I've been encouraging
10 others to look at throughout the rest of the Western
11 United States because the idea of looking at generation
12 and transmission together, and also looking at the
13 conservation decisions that need to be made, are hugely
14 beneficial in terms of timing, in terms of getting the
15 generation and the transmission synchronized, in terms
16 of when it will be ready, and also in terms of keeping
17 the various stakeholder groups and constituencies that
18 care about the natural resources engaged in helping to
19 make the best locational decisions from a geospatial
20 perspective that we can.

21 One of the key goals for the State of
22 California, when we talk about climate mitigation has to
23 do with what kind of future we're going to have for the
24 species and habitats in our state. And decisions we
25 make about infrastructure that are going to last a half

1 century or more, it's critical for us to also consider
2 the conservation judgments that we have, so we can have
3 climate adaptation that enables us to preserve these
4 resources for future generations. We are really really
5 blessed in this state to have some of the greatest
6 diversity in the entire continent and species and
7 habitat, so protecting those, I think, goes hand in
8 hand. So, the DRECP is a critical tool. Along with
9 that and related to it is the Solar Programmatic
10 Environmental Impact Statement. We need to make sure
11 that those two things, the DRECP and Programmatic
12 Environmental Impact Statement that BLM adopts are
13 synchronized in terms of its goals and the locational
14 decisions that are made. Also, I think we need to look
15 at some new ideas that are emerging that can help us do
16 things better and more quickly, and one is the idea of
17 doing master planning with end zones. This is an idea
18 that's emerged in the Central Valley by an innovative
19 group of developers looking at using retired farmland in
20 the West Lands Water District for large scale renewable
21 energy development, doing it in a master planned way,
22 inviting a number of generators to come in to an area
23 that has already had environmental review done to it,
24 being able to locate their sort of along the lines of an
25 industrial park, and being able to make transmission

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1 decisions, then, for the longer term, can help us look
2 at other grid stability and reliability issues such as
3 how we get more out of the Helms pump storage unit, how
4 we can better match the generation profiles from
5 Tehachapi, how we might be able to wheel Arizona Solar
6 Energy to Northern California markets and so on. So,
7 master planning with end zones is an idea that has not
8 been fully explored, it's an innovation and I think it's
9 a very promising one.

10 Finally, I think we heard a bit today, this
11 morning, and I was heartened by it because it's an idea
12 that came out of RETI, which I was an original
13 participant of, to coordinate the IOU and POU decision
14 making about both procurement and transmission.
15 Transmission planning has been looked at, it was
16 something that began in RETI to look at it altogether,
17 to have all of the public and private entities
18 participate together, it was carried further by the
19 California Transmission Planning Group, and I think we
20 need to institutionalize these relationships and create
21 opportunities for us to get more out of the Grid by
22 having better balancing opportunities between and among
23 IOUs and POUs. I know that's a little bit of a touchy
24 thing between them, but I think, as you heard from Mo
25 Beshir and others this morning, there's an increasing

1 effort to both make the interconnections between them
2 better and give better opportunities for balancing than
3 we had previously enjoyed. Having better grid
4 utilization and strategic upgrades to the Grid, to
5 facilitate that, it seems to me is one of the fastest
6 things we can do to get transmission to happen. It's no
7 accident that much of what we're doing in California
8 with regard to transmission is really taking advantage
9 of the existing system, or upgrades that are related to
10 what have been commonly called the "Garamendi
11 Principles" in California since the '80s. They were
12 guiding principles in RETI and I think they have stood
13 us in good stead because we have not had a great deal of
14 controversy, with the exception of the initial false
15 start with the Sunrise Powerlink, with some of the
16 transmission decisions that we've had. We're building
17 up Tehachapi segments, only one of those segments had
18 any real controversy attached to it. We have the
19 Western Rivers to Devers transmission line that has been
20 approved with environmental support, I might add, for
21 the first time I think that you've seen in the State of
22 environmental groups formally supporting a transmission
23 proposal. There's much more that needs to be done and I
24 would add to the list of things that need to be done
25 looking at the Midway to Gregg transmission upgrade that

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1 opens up the Central Valley Resource areas that have so
2 far been discounted somewhat because they weren't an
3 original RETI zone, they weren't part of the original
4 planning processes, or emphasized to the extent that
5 they could have been by the CTPG or the ISO, and I think
6 that there's considerably more commercial interest in
7 that part of the state than we have previously seen, and
8 many, as I just alluded to, real grid benefits to
9 putting transmission enhancements in that part of the
10 state.

11 Moving along to the second question, about three
12 years, I think many of the same ideas apply to how you
13 might try to get within a three-year construction
14 planning and timeline. I think we need to look at
15 interim siting guidelines that get us to the point where
16 we can start to use the results of the DRECP and the
17 Solar Programmatic Environmental Impact Statement. I
18 think we need to look at coordination of the agencies as
19 we do in the first question, and also, I think if we're
20 going to go to a timeline that is that aggressive, we
21 may need to think about some sort of functional state
22 authority that oversees transmission in California,
23 helps do that coordination, helps direct it, coordinate
24 it, and issue decisions about transmission in a more
25 timely way.

1 There's a certain amount of what we need to do
2 to build transmission that takes a certain amount of
3 time, and I just don't know if it's possible to cut all
4 the corners. I think that we have seen, once you get to
5 a point where you have an approval, construction can
6 actually proceed more rapidly than people think. We're
7 seeing timelines around three to five years, instead of
8 five to seven years, or even 10 years in many cases, for
9 lines to be built. Of course, it depends on the length
10 and the routing of those lines, but we can certainly do
11 a better job throughout. It may take more of a radical
12 approach, though, I think if we're looking to try and
13 institutionalize the three-year timeline for
14 transmission planning and construction in the State of
15 California. I'll stop there.

16 CHAIRMAN WEISENMILLER: Thanks, Carl. I guess
17 the question I have for you is - we all talk about
18 getting better stakeholder participation in these
19 various processes, and to some extent that's more or
20 less your middle name, is stakeholder on the
21 transmission area. Looking at the CAISO, actually,
22 obviously we can talk about the Energy Commission, too,
23 but the Energy Commission, CAISO, CTPG, and then the
24 PUC's LTPP stuff, how effective are the mechanisms there
25 for stakeholder involvement? And what do we have to do

1 to facilitate that?

2 MR. ZICHELLA: Well, I think they vary, but,
3 again, I would come back to something Steve Kelly said,
4 and it's very difficult for anybody to participate in
5 all of them. You know, you're creating a situation
6 where, for an average person to be a stakeholder in
7 transmission planning and the follow through and all the
8 various moving parts of all of this, at the end of the
9 day, you're asking somebody to basically give up their
10 life or their career in order to participate in
11 everything. And it's very tough. One of the things
12 that RETI gave us was everybody was at the table
13 together. And that's what gave me the idea to have some
14 sort of transmission authority to help facilitate that
15 and make it easier. And there are also levels of
16 accessibility that we see. I think the Energy
17 Commission, and all credit to you, is a lot easier
18 process, say, than going over to the ISO. The ISO is
19 really an inside baseball kind of game. It's very tough
20 unless you're really very experienced, you've been at
21 this for a long time, to be able to participate in a
22 very significant way over there. It's not that they're
23 holding you out, it's just that the quality of the
24 information, how it's put together, you know, I'm on all
25 of their email mailing lists and a lot of it is very

1 tough to figure out, you know, which of these things is
2 truly important to engage with when you have limited
3 time and resources. So, I think there's a lot of
4 processes and I think, similarly, the PUC can be a
5 little difficult for stakeholders to participate. And
6 the connection between all these things is not always
7 clear. And that's why I think having better
8 coordination from the beginning and having stakeholders
9 engage at that level is really where you'll get the
10 biggest bang out of them, and they'll get the biggest
11 opportunity to have quality input.

12 CHAIRMAN WEISENMILLER: And it sounds like one
13 of your recommendations, too, is that the regulators,
14 both here, the PUC, and the CAISO, really consider
15 seriously the BLM PEIS and the environmental comments
16 there. How do we get that into the various forms? I
17 mean, obviously you could say submit it here as part of
18 this record, but how do we get it into the other forms?

19 MR. ZICHELLA: It's a good question. I mean,
20 I'm seeing this in other places, too, in the Western
21 Electricity Coordinating Council, you know, they have
22 sub-regional planning groups, as was mentioned by Grace
23 Anderson. At one of their meetings for their State
24 Coordinating Committee, I asked them what they were
25 doing to incorporate the information from the Solar

1 PEIS, and the answer was almost, "What's a solar PEIS?"
2 You know, so I think, first of all, we have to get all
3 the various pieces before people and integrate them into
4 those processes, they need to be considered. We're
5 doing geospatial analysis to find the places that are
6 most easy to put projects in both of those processes and
7 I think DRECP is the one that really will have a greater
8 utility which is why they need to be linked, the
9 Programmatic Environmental Impact Statement, and the
10 Desert Renewable Energy Conservation Plan because those
11 potentially have huge value, the generators to the
12 amount of transmission we build, where it goes, and the
13 possibility of opening the most promising areas,
14 including areas like the West Mojave, for example, which
15 has not been on the radar screen quite as much as it
16 should be, because of some of the land use issues there,
17 among other things. You know, this is something that we
18 can overlook. I think a lot of the planning that's been
19 done to date has been based upon the RETI analysis which
20 is a good thing, that was really the first time we'd
21 ever done it, but I think in RETI we also realized there
22 were many shortcomings to the data that we had to use.
23 So, the Desert Renewable Energy Conservation Plan fixes
24 that problem. So, if we're only looking at RETI data,
25 we could make some wrong judgments there. So, I think

1 we have to have an iterative process where best
2 information gets integrated into the process.

3 CHAIRMAN WEISENMILLER: And I think part of the
4 challenge we're facing, I think it was alluded to this
5 morning, and maybe Anne will deal with it more later, is
6 that obviously we went from the RETI screening criteria
7 that you came up with, or you and Joanna, then in the
8 PUC process the Aspen Consultants tweaked that some, and
9 now that's going into the LTPP, coming out of that would
10 be the scenarios for the policy driven analysis. And so
11 that, as I understand, is the flow now. Exactly where
12 DRECP or the solar PEIS fits into that process, which
13 will then go next year and drive the CAISO's processes,
14 again, I think it's important to try to do the linkages
15 so that we have, a) things have to occur quickly, but
16 there are the best information as we go through these
17 very steps.

18 MR. ZICHELLA: I completely agree. I mean,
19 that's what we need to do, we have to link them up and
20 we have to use the best processes, methodologies, and
21 information that we can. We started something in RETI
22 and I don't think anyone in RETI expected that to be the
23 end of the conversation, improvements were always
24 expected. We're doing a similar process across the
25 Western United States using a process very similar to

1 the one we used in RETI to integrate geospatial
2 environmental information and transmission planning
3 across the whole interconnection, so the things that we
4 started there have become a model to be used, but not
5 just to be static, must be done that way, improved upon
6 so that they're used in the most useful way going
7 forward. And the DRECP has a lot of scientific
8 information about habitat information that's going to
9 help us get projects in the best possible places and get
10 incidental take permits in weeks instead of months or
11 years. This is the thing that helps a project get off
12 the ground, gives you more assurance that your project
13 can be built, gives you a better opportunity to raise
14 money to build it, and more assurance that you'll have
15 transmission for it. I mean, this is - we are under a
16 real crunch here, 33 percent aside, meeting an 80
17 percent reduction in carbon across the Western United
18 States, and in California by the middle of the century
19 is a tall order. And the clock is running on us, so we
20 have to be more efficient in how we go about this. And
21 these linkages and the coordination between the various
22 planning entities is absolutely essential. And we can't
23 expect stakeholders to be dropped between four different
24 processes that are all making a part of the same
25 decision.

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1 CHAIRMAN WEISENMILLER: V. John.

2 MR. WHITE: Thank you, Mr. Chairman, Michael,
3 Paul. I'm John White with the Center for Energy
4 Efficiency and Renewable Technologies, and I'm glad to -
5 first of all, thank you for accommodating my schedule
6 and also letting me go after Carl because I can start by
7 saying everything that he has talked about are things
8 that we agree with. I want to try to get a little more
9 specific in response to the questions.

10 I want to go back to something Michael said
11 earlier this morning about determining factor in being
12 able to be successful with regard to permitting is going
13 to be minimizing conflict and controversy with the land
14 use decision, and yet the process that we have now is
15 one that is driven by the BPA's, driven by the queue
16 position, driven almost exclusive of those same kinds of
17 considerations, and so there's a lag time between those
18 processes and the environmental constraints that are
19 going to probably be the principle determinant of the
20 ability to go faster. I think the past year, the
21 extraordinary cooperation that has gone on between and
22 amongst State and Federal agencies, and between and
23 among California agencies, is still a relatively new
24 habit, and the old habits die hard. And I think that we
25 have to - one suggestion that I have for the last

1 comment that Carl made is you need to raise the stakes
2 and raise the engagement levels of the agencies so that,
3 at some point, I'd like to see a meeting where we have
4 ISO Board members, PUC Commissioners, and CEC
5 Commissioners, all on the same dais, all hearing about
6 these problems, and at that level getting a higher level
7 of commitment to engage with each other. I think that
8 the problem Carl alluded to now of what we have as
9 stakeholder input, basically informed, but not in
10 substance, because it usually is not a driving factor in
11 the process and usually comes late in the process. I
12 think that one of the things that we have to do, though,
13 even within the agencies, is to have this habit of mind
14 of listening and talking to each other to be sustained
15 and continue. We are actively engaged in the Desert
16 Renewable Energy Conservation Plan, but find at the
17 moment that it's primarily a conservation strategy
18 document. It is not yet been informed significantly by
19 the energy resource opportunities in the desert. We're
20 working to improve that and are hopeful that that will
21 occur, but at the same time, you have a near total lack
22 of engagement by some of the other key agencies that
23 should be in that process, including the PUC, as well as
24 some local governments, and so the DRECP has to be more
25 inclusive and informed of each other's process, but if

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1 we're going to try to overlay the results from the DRECP
2 on the transmission planning process, after the
3 transmission planning process is already pretty far
4 along, that's not going to help us get to that goal.
5 And Sunrise is more than just a sort of an - Sunrise
6 still colors the debate in the desert and a lot of this
7 narrative about we can do this all with DG comes from
8 the failure of the sponsor of that project to take
9 seriously the concerns and interests of those folks in
10 the environmental community who told them, we among
11 them, "Don't go through the park." \$150 million and
12 four years later, a huge amount of conflict occurred and
13 they decided not to go through the park. Okay, that's
14 not a failure of the regulatory process, that's a
15 failure of leadership by the proponent. And we have to
16 avoid those kinds of paralyzing mistakes.

17 I also think that, while it's gratifying to have
18 all of the nice things said about the project, we had
19 the privilege to direct over four years of the Renewable
20 Transmission Initiative. The lessons are already being
21 unlearned. The comment this morning that the CTPG is
22 not making its assumptions available is not especially
23 transparent, sending out an email to people and having
24 an internet phone chat is a sufficient stakeholder
25 involvement, that's not going to cut it because, in

1 fact, you're leaving out very important constituencies
2 that need to be included, but the agencies are also not
3 without blame because one of the things that led to the
4 demise of RETI was the refusal of the agencies to be
5 willing to work together on a sustained basis and abide
6 by a rough consensus, they all said, "We've got our own
7 process and our process will govern." And so that's
8 where we're back to.

9 Now, I think it's good that the Munis and the
10 IOUs are staying together because, as Carl said, this is
11 a critical part of the link, it's a critical part of not
12 building too much transmission, and a critical part of
13 making the balancing authority area work. And this
14 requires, again, high level engagement, not just with
15 staff. We have the fortunate coincidence where the new
16 General Manager of the Los Angeles Department of Water
17 and Power started his career at the California Energy
18 Commission when Richard Maullin, the new ISO Board
19 member was the Chair, okay, that's a relationship that
20 we should build on and foster dialogue so that we can
21 get the ISO and DWP working together and having an
22 agreement that will enable us to have much more
23 flexibility on a system, much less consumption of fossil
24 fuels, and much better coordination on transmission.

25 I will also say that our organization is

1 attempting to recreate the spirit of RETI, we have plans
2 to launch a collaborative that would include engagement
3 with these various proceedings so that there's a home
4 for people to come, that aren't participating as
5 actively in the other proceedings, we've worked with the
6 environmental groups, worked with some of the Munis,
7 worked with some of the independent transmission
8 developers, all of whom want and believe this is a good
9 process that we've been through; but the first time we
10 had a conference call, we got a note from CTPG that
11 their lawyer had recommended that they not participate
12 in these meetings - the CTPG members not participate in
13 this new collaborative that we're trying to get underway
14 to try to recapture some of that collaborative spirit
15 because of antitrust issues. Somehow we would be
16 engaging in antitrust, that they would feel
17 uncomfortable participating. Now, that's a little bit
18 like being called ugly by a frog, okay? And I just
19 think it's suggestive of the problem when the silos get
20 too deeply embedded. We think that there's
21 opportunities for us to do better going forward, we
22 think some of these critical infrastructure backbone
23 lines have to be moved forward, the Midway-Gregg line
24 isn't just for the West lands project, the Midway and
25 the Gregg line is important for SMUD to have an

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1 opportunity, particularly if it could be some kind of
2 joint project with PG&E, because one of the weaknesses
3 in California's Grid is that the projects in the south
4 have trouble selling to the north. And as a result,
5 there's been an informal preference on the part of both
6 PG&E and SMUD to buy from out-of-state resources through
7 which they have access to the north and to the east. So
8 that's a line that somehow didn't get moved forward in
9 part because we don't know why, exactly, but PG&E was
10 more interested in the British Columbia line than they
11 were interested in this one. So, that's a line that
12 we've got to solve quickly, as part of whatever planning
13 we're doing.

14 The other thing we have to recognize is that the
15 Imperial Riverside East Corridor is already congested,
16 we have severe resource adequacy problems with Imperial
17 and the ISO, so we could have a perverse outcome down
18 there where the baseload geothermal resources and high
19 quality solar resources end up getting treated less
20 favorably from a resource adequacy standpoint than
21 intermittent wind resources in other parts of the ISO
22 system - that's insane, okay? We can't do that.

23 So, I think in addition to all the hard work and
24 the good will that has been agenda over this past couple
25 years by the work that you and Michael and others have

1 done, we've got to bring the new appointees into that
2 family, keep it at a high level so Commissioners are
3 talking together and helping lead their respective
4 staffs, rather than getting captured by the staff, and
5 have an opportunity to go faster because we're making
6 smarter decisions. I think we've got to find a way to
7 get the transmission interconnection planning process
8 reconciled with the land use constraints that we're
9 going to face if we're going to go faster, and I think
10 making all of this more connected and accessible and
11 transparent, we can get there because we actually have
12 made much much more progress in the past two or three
13 years than most people outside of California would have
14 thought, I think that's so much of the out-of-state
15 momentum that is still present because people just
16 haven't been able to imagine that we would get ourselves
17 together enough to build three major transmission lines
18 and get a bunch of projects approved and get the
19 interconnections done. But, to be successful in the
20 next five years, as we've been in the last two, we're
21 going to have to raise the level of our game and raise
22 the level of cooperation to new heights, and we look
23 forward to working with you and others going forward to
24 try to make that happen.

25 CHAIRMAN WEISENMILLER: Great, thank you, John.

1 What would be the three top things from your perspective
2 to get to the three years, the three highest priorities?

3 MR. WHITE: Greater connectivity between and
4 among all of these agencies that we have with a piece of
5 this authority, and not just on an occasional, but on a
6 regular basis, so that there is able to basically not
7 have a situation like we're going to have this week
8 where the PUC sends a letter to the ISO saying, "Your
9 Transmission Plan didn't have enough competitive input
10 and so, therefore, you ought to consider delaying it,"
11 which will screw up, you know, interconnections. That
12 kind of stuff, we need to avoid. So the first thing is
13 greater connectivity and cooperation, second is greater
14 understanding of the very real land use constraints that
15 are going to affect projects that we have been assuming
16 are going to drive this process, and third is to have
17 greater linkages between the Federal agencies that we
18 have, that have a piece of this, particularly BLM and
19 U.S. Fish and Wildlife Service and, again, that gets
20 back to the land use - that one agency, as we've learned
21 throughout this process, can delay everybody else's
22 successful work if they're not brought in, and somehow
23 accommodated. And it's not so much a matter of changing
24 or giving in as a matter of people need to understand
25 what these constraints are and we need to not

1 marginalize them. I think that we're doing better, but
2 not nearly good enough.

3 CHAIRMAN WEISENMILLER: Okay, my last question
4 is just your take on the question I asked Carl about
5 what do we need to do to enhance the stakeholder
6 processes at the various agencies.

7 MR. WHITE: Well, I think I would agree with
8 what Carl said, but my further suggestion is to create a
9 single forum where all the Commissioners and key staff
10 are present, and so we can do from a stakeholder
11 standpoint, we can do one set of comments, and one set
12 of testimony, and touch everybody's base while we're
13 there, and hopefully foster - I'm not a big fan of
14 reorgs because I think they take too long and are too
15 destructive, but you could do a virtual reorg where you
16 had a council of people that had all the decision making
17 power together and meeting periodically to allow public
18 debate and discussion about some of the key issues
19 before them, and then listen to it all together and
20 maybe you engage in conversations together, as well as
21 among staff.

22 CHAIRMAN WEISENMILLER: Thanks, John. Tony?

23 MR. BRAUN: Thank you, Mr. Chairman. Tony Braun
24 on behalf of the California Municipal Utilities
25 Association today. Thank you for including me in this

1 panel, which I hope we will have a robust discussion
2 after the prepared remarks, and I think I'm going to
3 alter my approach a little bit because we've got a lot
4 of things that have been discussed today and maybe it
5 would perhaps be the most effective use of time to
6 really build on that.

7 There are roughly 45, 46 publicly owned
8 utilities in the state, they are extremely diverse,
9 large and small, high renewable portfolios, and ones
10 that are coming up to speed, but they have a lot of
11 things in common, 1) they are all equally subject to the
12 AB 32 and SB 2X requirements, and what might come after
13 that, and they're all load serving entities. And that
14 means they're very very sensitive to the cost of the
15 initiatives, both on the generation and transmission
16 side, and how those are going to affect the end use
17 customers that are their primary charges.

18 Mr. Picker talked about land use, I think it was
19 almost to the day we were sitting in a workshop two
20 years ago in the last IEPR cycle, and the current - the
21 then IEPR Committee Chair kept asking the same people
22 around the dais, what's the biggest issue? What's the
23 biggest issue? What's the biggest issue? And it was
24 land use, land use, land use. And when we get into some
25 of these questions, we'll note that we're talking a lot

1 about issues that we've made a ton of progress on, but
2 the primary issue that seemed to have come out of that
3 IEPR cycle was that somehow the land use needed to be
4 more in the upfront part of the consideration process,
5 and I'm not sure how much progress we've made on that.
6 But I cannot emphasize enough, also that came out of the
7 last IEPR cycle, was frankly a lot of collaboration and
8 cooperation amongst the ISO, and the POUs and the IOUs
9 about the transmission that they were already planning,
10 that was on their books, and how that could be better
11 communicated to the policy makers and to stakeholders at
12 large, and that was the genesis of the CTPG, and it had
13 a lot more cumbersome names, it was the California Joint
14 Transmission Planning Work - I can't remember what they
15 were called - but what we now have is the CTPG and
16 immediately there were concerns about lack of
17 stakeholder involvement and secrecy and assumptions,
18 and things like that, but in my couple decades of
19 experience in working in the utility business, those
20 concerns, I think, morphed from we can't see what you're
21 doing, we don't know your assumptions, we don't know
22 your data, you're giving us too much information, you've
23 got too many meetings, so I don't know what the right
24 answer to that question is, but it's just evidence that
25 we've come a long way from everything was done in a

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1 little closed circle to, now, what I think the challenge
2 is: do you have the expertise and the resources to be
3 able to meaningfully participate in these processes? I
4 think that is the primary challenge from a stakeholder
5 point right now.

6 The question for number two is, you know, what
7 can we do in the future going forward? And I think, as
8 a segue, I think we have to understand, at least from my
9 perspective, what we're doing right now. This isn't a
10 market-driven approach to renewable planning and
11 resource development, this is a centralized planning
12 approach, it is two or three entities that are going to
13 call balls and strikes as to what are their favorite
14 projects, what are the favored generators that get
15 contracts, and everything and where the favored routes,
16 and everything that comes from that, this is an
17 integrated resource plan for a broader than one utility
18 footprint. And once I think you get over that and say,
19 you know, that's what we're doing, that is necessitated
20 by the complexities of the siting, by the complexities
21 of the procurement process, by the complexities of the
22 fact that we are socializing the high voltage grid, we
23 are asking multiple parties to pay for the cost,
24 multiple billions of dollars of transmission investment,
25 that this is not something where these costs are

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1 integrated into the bid prices of the generators, or the
2 generators themselves are bringing a billion dollars to
3 build a particular line, that is not the model we've
4 adopted in California. We're socialized in the
5 transmission costs, we're trying to decide what the
6 highest priority projects are to get done. And so, once
7 you're over that hump and you say, "Okay, we're doing
8 integrated resource planning, we're going to declare
9 winners and losers, how do we best streamline and pick
10 what's the biggest bang for the buck?" And I think we
11 need to consider some hard choices. Maybe we should
12 have tiers of projects. Since we're declaring winners
13 and losers anyway, why not put the most emphasis on the
14 projects we think can get done the fastest and the
15 cheapest? Those, I think, would include utilizing
16 existing rights of way, those may include areas and
17 corridors and rights of way which are already permitted.
18 They would, I think, utilize a procurement process
19 through our POU boards and through the PUC, which tries
20 to take into account all the costs of delivering that
21 renewable resource to load, not just the energy costs,
22 but the integration costs, the capacity issue. I think
23 maybe if we have that comprehensive approach to it, we
24 get past some of these RA issues because, clearly, we
25 don't need resource adequacy capacity from the 70,000

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1 megawatts that are in the ISO queue, so why would that
2 be driving a large section of our procurement process?

3 We're calling balls and strikes anyway, why not
4 have tranches of priorities where we are really going
5 to, you know, say "these look like the best ones to do
6 now," and working off the assumption that we can't do
7 them all at the same time, that there's just not enough
8 manpower to get that done, and this is going to leave
9 certain projects, both transmission and generation on
10 the side of the road, it probably will disfavor some POU
11 projects, but I don't know other ways to get past this
12 roadblock because obviously we can't even process the
13 volume of projects that we have in the queue right now

14 POU and IOU collaboration - we've come a long
15 way on CTPG, the renewable bill talks about joint
16 development of projects, I've worked closely with
17 Imperial Irrigation District and Edison and the ISO to
18 identify the Path 42 upgrades, which were an excellent
19 example of all the entities getting together to identify
20 and move forward with a cost-effective upgrade. There
21 is, I think, other ways to take advantage of the fact
22 that the POU's often have pre-permitted rights of way, or
23 they may be able to use their own CEQA lead agency
24 authority to assist in getting priority projects done,
25 and that most of the major lines that were sited in

1 California historically are jointly owned. So, isn't
2 there a way to perhaps utilize that historical model in
3 today's context to further the joint development to
4 share costs, to utilize some of the legal authorities
5 that are out there right now that may be able to
6 streamline the permitting and siting process. So, I
7 think three things I would add to try to streamline,
8 one, not everything is going to move forward, so we need
9 to pick winners and losers and we're doing that anyway,
10 so I think we just need to understand that's what we're
11 doing and move on; and two, perhaps it's time to really
12 prioritize what we're targeting and really put teeth to
13 the least cost type of selection from not only
14 transmission, but a generation procurement point of view
15 so we can have the best mix of generation and
16 transmission that will serve the overall power needs for
17 Californians, both the POU and IOU customers.

18 CHAIRMAN WEISENMILLER: Thanks. I think both of
19 us probably were thinking in part of the workshop that I
20 think was under Chair Pfannenstiel, trying to understand
21 how to do joint - why weren't there more joint projects
22 between the IOUs and POUs, and at least at that point, I
23 think the POU response, it was partially the different
24 models of the utility and the different visions of
25 transmission between how the ISO would operate it and

1 the POU, so have we made any progress towards potential
2 joint projects?

3 MR. BRAUN: I think there's been progress in
4 that general issue that you just talked about and we
5 could get into a myriad of details about how the
6 transmission systems are utilized and things like that,
7 but it's my observation that people care much less about
8 the sort of market theories behind one model vs. the
9 other, and are much more interested in how can the two
10 models coexist. And frankly, it's not that hard.
11 Whether it's the COTP or the SWPL, the DC-tie, these
12 lines have rights held by IOU participating transmission
13 owners, and ownership or rights held by the POUs. And
14 they are managed. And they can be managed going forward
15 in the new project. And so I would anticipate that,
16 actually, I'm hopeful that the ground is fertile for
17 those kinds of discussions because it's just my
18 observation that a lot of those market theory type
19 arguments are yesterday's newspaper and they're not
20 interested in pursuing them any longer.

21 CHAIRMAN WEISENMILLER: That's good. As you
22 know, it's difficult enough to build transmission lines
23 in California, that having to somehow build a POU
24 transmission line and an IOU transmission line, it's
25 going to be very very challenging, as opposed to a joint

1 line that uses the corridors more effectively.

2 MR. BRAUN: I think that's everyone's working
3 assumption.

4 CHAIRMAN WEISENMILLER: What is the Muni
5 perspective on the independent transmission? Obviously
6 WAPA, I think, was with its ARRA money trying to
7 leverage a number of independent projects. Have they
8 gone anywhere? Does that fit with your model?

9 MR. BRAUN: Again, this is a practical issue.
10 Who is best suited to build a particular project? And,
11 generally, to us it comes down to cost. There is
12 nothing magical to us about an independent building a
13 particular line. If the independent is cheaper, we
14 would greatly encourage that cost base competition. If
15 the IOU is cheaper, there is no advantage that we see to
16 having the independent build the line. They are all
17 going to the same place for rate recovery and that is
18 through the ISO's tariff, through FERC to get a
19 regulated rate of return. Some of the frustrations
20 we've had in the ISO process have been how will the
21 competition manifest itself because, to us, it's not a
22 matter of just having - if there are multiple options,
23 there is automatically going to be cost-based
24 competition. There is no mechanism that we can see
25 where that actually occurs. I know the ISO has worked

1 on that through their new RTTP process, but that's all
2 potential. The independent projects, the Path 15, the
3 Trans Bay Cable, they're all subject to the same rate
4 arguments at FERC that the POU's have had historically
5 with the IOUs. So, we don't see a cost of money
6 advantage, we don't see any cost of construction
7 advantage, we don't see any more willingness to take a
8 risk, so I think this is the proof is in the pudding
9 here, we don't oppose independent transmission, but we
10 want to see that it actually brings benefit, as well.

11 CHAIRMAN WEISENMILLER: Thanks. Neil.

12 MR. MILLAR: Thank you. I'll keep these
13 comments fairly brief because I'll just point back to a
14 few of the points that were made, either earlier today,
15 or in the earlier panel today. In terms of the
16 improvements, I agree with your earlier comments that
17 there have been improvements made in coordination, which
18 I think is the single biggest area for making the
19 overall process more efficient and more effective,
20 coordination between the different agencies and between
21 the ISO and the different agencies, so that the work
22 that we do, we simply haven't moved to constrain the
23 bottleneck down to the next party in the process. I do
24 think we have some good successes to point to there in
25 the work with the CPUC on developing portfolios and

1 using their portfolios as the basis for planning. Also,
2 as Anne mentioned this morning, one concern with network
3 projects coming out of the generation interconnection
4 process was that the ISO tariff did create the
5 opportunity for us to advance projects that the CPUC
6 would have difficulty approving and we are working on
7 means to address that because that's not helpful for
8 anyone if we're simply moving a project through the
9 process for someone else to have to re-test and perhaps
10 reject at a later stage in the process.

11 Also, just building on that, the memo that was
12 signed about a year ago, that we've been able to bring
13 more effect to is, I think, another sign of where we're
14 looking for opportunities to improve that level of
15 coordination and those, to me, are the more meaningful
16 stages of what can we do differently to make the overall
17 process more effective, reduce the amount of review and
18 re-decision that sometimes is going on through this
19 process. And, as I mentioned earlier in my own
20 presentation, the more certainty that's developed more
21 quickly around where generation resources are developing
22 enables us to focus the transmission planning efforts
23 more succinctly and helps remove some of the uncertainty
24 that then otherwise ripples through into the actual
25 siting processes. It's very difficult to get a

1 transmission line built anywhere, even when you can
2 prove it's needed; when you simply suspect it's needed,
3 it's a much harder sell. So that kind of certainty, the
4 public who are often - many of the processes focus on
5 stakeholder groups as opposed to actual landowners
6 themselves, the more certainty that's given at that
7 stage simply helps downstream efforts to get the
8 projects approved more quickly.

9 I've heard a few comments about the transparency
10 and the need for planning assumptions to be more
11 visible. I encourage anyone to actually take a look
12 quickly at the ISO process right now because we are in
13 the midst of finalizing our planning assumptions for our
14 2011-2012 cycle. Those planning assumptions are public.
15 I think - I haven't been in California that long, but my
16 experience has already been that the assumptions get a
17 lot more attention once people actually see the
18 decisions that fall out of the analysis, as opposed to
19 when you're putting the assumptions up for comment at
20 the beginning of the process. It always reminds me of a
21 Jerry Seinfeld episode where an emergency is announced
22 in the plane, he's taking a flight somewhere, and after
23 they make the announcement, there's an emergency, he
24 says, "Oh, they are going to replay the safety
25 announcement, aren't they?" Because nobody listens

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1 until there's an emergency. And I feel sometimes our
2 consultation on our planning assumptions falls into that
3 category, they don't get a lot of scrutiny until people
4 see what they are leading to. The good news for us,
5 though, is that we do have another annual cycle for
6 people to bring in their revised comments.

7 The other part, though, as part of that, I was
8 participating here both to try to provide some examples
9 of where we're looking, but also to hear and get some
10 ideas on where there are problems cropping up
11 downstream, that we can get going even in advance of
12 getting direction, but where we can look at to try to
13 make the overall process more effective because success,
14 to us, is actually getting the right lines built at the
15 right time, not just getting our approvals. If that
16 ripples through and affects someone else, and delays the
17 process later on, that doesn't look like success. I'll
18 leave at that for now. Thank you.

19 CHAIRMAN WEISENMILLER: Thanks.

20 MR. BESHIR: In fact, I don't really have much
21 to add, but I will maybe just outline some of the things
22 I had similar to what Neil said and also what was said
23 previously. Talking from the CTPG point of view, and
24 since then, I guess, domain is really the planning,
25 number one, of course, is really the coordination

1 aspect, that seems to be the key factor because that
2 really leads to whatever we want to do. CTPG by itself
3 cannot really meet the obligations or the need of the
4 planning, we do need to get information from all the
5 different parties, including the balancing authorities,
6 California Energy Commission, from the Net Short aspect
7 point of view, so all of the parties really need to
8 support each other, so coordination is a key focus for
9 us, and the faster, the more effectively and efficiently
10 we could do those coordination, I think, really serves
11 us well, and also could shorten the process a great deal
12 if we can really manage that, but the different pieces,
13 and we don't really live in California only, we also
14 need to really coordinate with all the parties within
15 the Western Electricity Coordinating Council, so TEPC
16 does play a big role and having membership in TEPC is
17 going to really serve, as well. So that is number one.
18 And number two is the stakeholder process. I think, as
19 we say, we are learning as we go, we have - initially,
20 we have started, I guess, there were a lot of things to
21 be said, but I think we have perfected that process, but
22 I think we do also - it's going to be always room for
23 improvement, so we are going to look at you to give us
24 comments through electronically or come to our meetings,
25 either website - through the WebEx, or face to face. So

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1 that's really the process we think is going to help us
2 perfect some of our processes and get the input and so
3 we can do the job better and serve, I think, the
4 communities, the public better, also, by getting that
5 information. So that's number two, for me, is really
6 the stakeholder. The third, similar to what Neil said,
7 is the assumptions, the planning assumptions. And one
8 thing we are doing right now is we are trying to bring
9 that way ahead of the process. So, as we speak, for
10 2011, we haven't really started studies yet, we are
11 working through the assumptions. So we are going to
12 have a workbook available for everybody to see what are
13 assumptions are for some of the key aspects before we
14 even start cranking any Ks or any studies. So, we are
15 taking meticulously through the process, put all the
16 major assumption points which make a big difference in
17 the studies, and we are encouraging people to see this
18 before we actually do the study and later on, I guess,
19 as Neil was saying, we really want to do that, we want
20 to really bring that and get your comments early on in
21 the process. Fourth, I guess, is the comprehensive
22 planning, I mean, the planning - there are different
23 layers of different things that we could do, resources
24 becomes an issue, but I think some kind of smart
25 planning concept, you really need to be involved so

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1 that, at the end of the day, we will have addressed some
2 of the key issues and so that we will have
3 comprehensively looked at from the Bas, the balancing
4 authorities' point of view, the independent transmission
5 folks, the different aspects of the performance of the
6 power system, all that is really included, and inclusive
7 in that planning process. And finally, I guess, is at
8 the end of the day we really needed to look at the end
9 point, whatever we come up with, we really have to be
10 user friendly and useful to the people who are going to
11 take it to the next step from a planning to actual
12 implementation, and so there is a big effort, we are
13 spending on our documentations and trying to make sure
14 how we're going to package and structure our reports and
15 our conceptual plan so that it will be useful and it
16 will be easy to be implemented down the road. So those
17 are really the five items I have in my list.

18 CHAIRMAN WEISENMILLER: Okay, thank you. Anne.

19 MS. MILLS: Okay, I'm going to try not to repeat
20 myself too much from this morning, but I think we do -
21 I'm also going to try to refrain from making the LTP
22 sound like the center around everything, around which
23 everything should resolve. But I think we do see the
24 coordination between the PUC and the ISO as the
25 coordination that we've worked on very closely over the

1 last year and I think we have a pretty good plan for
2 going forward, is really key for smoothing of the
3 transmission and permitting bit, and I'll talk about
4 something about construction in a second.

5 But just a note about LTTP and why we were
6 hanging our hat so much on this. You know, looking at
7 2020, it's not just about the 33 percent RPS, it's about
8 our energy efficiency goals, our CHP goals, the CSI,
9 OTC, which has been mentioned, AB 32, in general, so, I
10 think from the PUC's perspective, we really need in the
11 LTTP to take a look at all of these policies together,
12 what that looks like in 2020, what the integration needs
13 are of the renewables, aside from the transmission, and
14 what all of these costs are, so that's why we've
15 developed these four scenarios. The ISO has not done an
16 integration study on all of them, we're going to find
17 out the transmission needs. We're getting the full
18 production cost modeling from the utilities. And with
19 that full picture, then, we think we're going to be in a
20 better position to say, you know, is this the road we
21 should go down? Is this the road we should go down?
22 Are there lines that are common to all of them? Are
23 there fossil units or, you know, a certain amount of
24 flexible storage that is also common to all of these
25 scenarios? Should we also be directing the utilities to

1 invest in that so that we can integrate all these
2 renewables that we bring on? But we need that full look
3 and that's why we're taking the approach that we are in
4 the LTTP. Obviously, that's only for the IOUs at this
5 point. The scenarios we developed were statewide, and
6 we used the best information we had, which was the
7 information that the POU's had submitted to the ARB about
8 their plans for RPS in our scenarios, and so the ISO, I
9 believe, actually did a statewide analysis in their
10 integration look. But, clearly, that is one weakness in
11 the LTTP is that we only have jurisdiction over the
12 utilities, the investor-owned utilities, and so our
13 whole modeling is really investor-owned - focused on the
14 investor-owned utilities. So, with that in mind, and
15 Carl, I'd love to hear how we can make the PUC process
16 more navigable since you said that that was a challenge,
17 besides the many many appeals I made at RETI meetings,
18 which you were subject to, about trying to talk through
19 - this is where we see this going, this is why we think
20 there needs to be this coordination. So, please,
21 everyone come and participate here.

22 We did try to update RETI's environmental
23 scoring to recognize some things that hadn't been
24 included, but we got a lot of pushback on that and we
25 reversed direction on many of those specific things. So

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1 we do really see this coordination between the state's
2 resource planning authority and the transmission
3 planning authority, as really crucial to getting - to
4 identifying what we need and making that determination
5 in the permitting process very smooth.

6 A few more comments on RETI. I think the PUC is
7 very much - I don't see RETI as dead, personally. The
8 decision was that RETI's, you know, all contracting
9 issues aside, that RETI's work was being incorporated
10 into formal processes, there had always been envisioned
11 that, at the end of RETI, that these formal processes
12 would have to incorporate the RETI information, and so
13 there would need to be updates, I mean, Carl mentioned
14 DRECP and the Solar EPIS, we very much anticipate and I
15 think that letter to RETI stakeholders did anticipate
16 that RETI's work would need to be updated as DRECP work
17 came out, Solar EPIS, new transmission lines, so we very
18 much hope that that stakeholder process will come back
19 together and update that information, but I think what
20 became clear in RETI was that there wasn't going to be a
21 determination by that stakeholder group. When you had
22 the IOUs and the POUs, and the developers at the table,
23 there wasn't going to be a prioritization of, "This is
24 going to be the one or two projects." I mean,
25 developers weren't going to be willing to step back and

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1 say, "Okay, you can have it," you know, "Despite the
2 millions of dollars I've put into this project, I don't
3 actually need transmission." And, you know, the
4 utilities, I don't think, were going to make that - were
5 going to be willing to make the sacrifices either, so
6 the way we saw things going, even though we had always
7 anticipated that RETI could prioritize, and that would
8 have been in the RETI mission statement, it became clear
9 that that stakeholder group wasn't going to be able to
10 do it, and so it would have to be in the agency
11 processes.

12 Just a quick note on construction. This three-
13 year cycle for planning, permitting, and construction
14 does seem very very ambitious. Assuming that we get
15 planning and permitting down, the one thought I have on
16 construction is that we have this Assembly Bill 1954
17 which passed last year, which specifically allows the
18 PUC, even though we think this was allowable before it
19 more explicitly allows the utilities to come in and ask
20 for assurance beforehand that they can invest in certain
21 preconstruction activities, even investing in long lead
22 time equipment before they get assurance of the PUC
23 determination, so that as soon as they get that
24 determination they don't have to spend a year waiting
25 for transformers and whatever else, whatever other long

1 lead time equipment there is, they get their
2 determination and they can start building. And if they
3 don't get that determination of need, they can recover
4 the costs that they've spent. So we hope that that
5 would eliminate some of the gap between approval and
6 construction, but otherwise, on construction lead times,
7 I would defer to the utilities.

8 CHAIRMAN WIESENMILLER: Okay, thanks. Ziad.

9 MR. ALAYWAN: Yeah, I'll keep my comments brief.
10 Thank you very much for inviting me here. I'm going to
11 focus, I think you heard a lot of good suggestions here,
12 I'm more - I'm not a process guy, I'm more just sort of
13 look at the results and see if the process has worked,
14 and looking at this, if you look back in history a
15 little bit, the cost of transmission for the ratepayer
16 starting in the year 2000 was about \$2.00 per megawatt
17 hour. Right now, it is about \$7.00 per megawatt hour,
18 it tripled, even though the load, the consumption has
19 not increased that much. With all this transmission, we
20 expect that that number is going to become \$14.00 per
21 megawatt hour by 2020, the cost is going up quite a bit.
22 Look at the ISO planning process, it's really not a
23 planning process, that is economic project that is an
24 Independent Transmission project that has been shut off,
25 basically. I work with both utilities and independent

1 Transmission, I happen to know a few things about these
2 projects. For example, one independent project has a
3 permit, it actually has a permit to construct a 500 kv
4 line in Southern California, 110 miles, and was not -
5 and it's a 1,000 megawatt line, \$350 million, and it was
6 not selected. And these guys have a permit. And so I
7 look at these results and I shake my head, as a guy who
8 has been doing this for 25 years, and you know, sort of
9 like something is missing here. So, I don't know what's
10 going on behind the doors, but I look at the result and
11 it's very questionable. You have another independent
12 project that has proposed underground West of Devers,
13 which is a very bottleneck, as you heard today, proposed
14 underground line that goes along the railroad with
15 basically working with the railroad and acquiring right
16 of way from the railroad, which is environmentally
17 friendly, which is actually cost-effective, believe it
18 or not, with the new technologies, that wasn't really
19 been studied. I think, unfortunately, is we are not
20 doing transmission planning the way I know what
21 transmission planning is because transmission planning
22 is basically you're looking at various alternatives and
23 you pick the least cost alternative, both from economics
24 point of view, from land use, from different variables.
25 We're not doing that. This is unfortunately going to go

1 to the PUC and the PUC is going to be left with the bag,
2 trying to respond to people, saying, "Well, my project
3 is more environmentally friendly, I'm lower cost than
4 the other projects, and we're going to go into this
5 years and years of trying to figure this out.

6 I think, as a not just giving you the bad news,
7 I think it's - this is not very difficult. I think if
8 you look at Texas, which is I happen to be involved in
9 that process, I think the process there worked very
10 well. They came up with different scenarios, they
11 looked at economics, they looked at alternatives, they
12 looked at land use, and they put it out for bid. And
13 they selected eight entities, a few of them are
14 independent transmission. And I don't know why this is
15 so complicated in California. And so I tend to think
16 that you don't need folks like me who are
17 engineers/operators, and really this is not that
18 difficult. I think the politics are very heavy in this
19 and what this is leading to is very high costs with
20 everybody, so that's sort of - another point to offer,
21 you know, as an observer into this, I think there is a
22 lot of improvement that can be made to the process. I
23 think, clearly, the ISO has stated that the independent
24 transmission don't have the right to build, own, and
25 operate in California, I think the result of the ISO

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1 Transmission Planning Study was not surprising because
2 they sort of said that from the beginning, so all 40
3 independent projects were, you know, shut out of taking
4 a serious look at them. So I think, unfortunately, we
5 have to find a way, are we going to accept this regime
6 that we have today, which is leading to higher cost, or
7 are we going to come up with something that is more like
8 an integrated planning, if you will, where we look at
9 all of these things and we decide what is best for the
10 state? Thank you.

11 CHAIRMAN WEISENMILLER: What is your cost of
12 capital compared to the utilities?

13 MR. ALAYWAN: The cost of capital, I mean,
14 traditionally the cost of the capital for independent
15 transmission is a little bit higher than the utility,
16 but the O&M and the other buckets are lower, so it kind
17 of balances out in terms of from what I saw, different
18 numbers, so in certain areas the cost for the
19 independent transmission is a little bit higher. The
20 rate of return is set by FERC, so I don't think this -

21 CHAIRMAN WEISENMILLER: But it is higher. So
22 what is - is there a cost cap with the independents, or
23 not in the bids? Are they fixed bids or cost plus?

24 MR. ALAYWAN: Well, the independent
25 transmission, the folks that I've been working with, has

1 put forward the proposal in which they would not go
2 above 25 percent of their bid cost, so they sort of have
3 a cap on it to make sure there is no, you know, I come
4 in, I low bid the project, and I end up with twice as
5 much. Of course, that's something that's not
6 acceptable. I think some folks have realized that, you
7 know, so they have put forward some kind of proposal in
8 which they would fix costs plus a percentage, you know,
9 fix percentage.

10 CHAIRMAN WEISENMILLER: Yeah, that's not too
11 different than utility cost estimates, which always have
12 some contingency factors.

13 MR. ALAYWAN: That is correct. So it's a little
14 bit disturbing to see projects that are proposed by
15 independent transmission. Not all of them are good
16 projects, in my view, but there are a few that are very
17 good and they ought to be looked at very seriously, and
18 they're much lower cost, and at least a couple of them,
19 they have permits, and they basically really are waiting
20 and nothing is happening, so one of the things that you
21 have asked for, what can you do in - I mean, some of
22 these projects can come on line two, three, four years
23 before the approved projects, or have yet to be approved
24 tomorrow, or whatever is going to happen, and so there
25 is some ways where we can cut costs and bring things

1 faster if that's what the objective is.

2 CHAIRMAN WEISENMILLER: Yeah, but it has to be
3 consistent with the tariff. Next speaker.

4 MR. SHIRMOHAMMADI: Mr. Chairman, Mr. Feist, my
5 name is Darlush Shirmohammadi, I am the Transmission
6 Advisor to California Wind Energy Association. My
7 presentation - unfortunately, I wasn't here in the
8 morning, so if I'm repeating anything that was said in
9 the morning, please forgive me.

10 Recently, I used a technical business magazine
11 article, code from a Wiseman Electric Transmission
12 Business, who said in U.S., and particularly in
13 California, no one has the authority to have a
14 transmission project built while everybody gets plenty
15 of opportunity to kill it. When I read it more
16 carefully, I said that that code was for me, by the way,
17 that article. So we don't build transmission for a
18 multitude of - fast enough, good enough, cheap enough,
19 for a multitude of reasons, and I'm going to talk about
20 three major ones. And I'm going to offer some solutions
21 to address one of the ones that I think we can put our
22 arms around it; the other two, to me, are still
23 hopeless.

24 The main three reasons that I see, one is we
25 plan for transmission reactively, we go after solving

1 transmission problems only when the need for
2 transmission has reached a crisis stage, and it seems
3 everybody is praying that somehow the need for
4 transmission will go away and we can achieve our
5 economic and policy objectives through some magical wand
6 or something, so that's one reason, crisis-based
7 transmission planning. The other one is the opposition
8 by environmental and affected community groups, which is
9 completely understandable, not necessarily good reasons.
10 When we're dealing with these folks, we treat them
11 mostly - I mean transmission developers - unfortunately,
12 we treat them mostly as outcasts for whatever reason,
13 and whatever is offered to them looks like clumsy sales
14 job, that's mainly intended to satisfy the regulators.
15 So, eventually a settlement is reached with these
16 groups, but it's done at the tail end of the whole
17 thing, it's when you have tried everything, you have
18 litigated everything, and so on, and eventually - I'm
19 wondering why we don't get them together from the
20 beginning, maybe some regulators would not get them
21 together in the same room from the beginning and say,
22 "What do you want to go along with this thing?" Let
23 them get whatever settlements that they need to reach,
24 start getting that from the beginning, not after the
25 years of back and forth.

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1 The third reason is that entities in California
2 who are involved in planning and permitting, they tend
3 to repeat each other's work, not always, but sometimes.
4 And worse yet, sometimes some of these entities take on
5 an activist role in doing the job and, if they like a
6 transmission project, somehow everything happens so
7 smoothly around that, if they don't like it, for good or
8 bad reasons, that things can get - everything that was
9 done by another entity would have to be repeated, would
10 be questioned, and everything gets slowed down. We need
11 to make sure that these things don't happen, that they
12 stay objective, the process stays objective, and there
13 is no overlap.

14 With these three factors that I mentioned, I'd
15 like to focus my attention on the first one, which - and
16 I do that because I think that this is - the issue of
17 overcoming this crisis-based planning, dealing with
18 crisis-based planning, reactive and - I'd like to focus
19 my attention on that one simply because I think we can
20 put our arms around it and simply because we have
21 mechanisms to make that happen, and in that regard, as I
22 will present some material below, you'll see the key
23 role that California ISO will play in that capacity. In
24 fact, you'll see that almost the entire set of my
25 comments evolve around CAISO.

1 First, I would like to talk about a ton of good
2 things that CAISO has recently done. They came up -
3 they studied and approved the build-out of the Sunrise
4 Powerlink. Of course, they don't look at the route,
5 they look at the need from system point of view, I'm
6 glad the route took care of itself eventually. But that
7 was - and they did that in advance of the need coming
8 up, and that's what really important because, by doing
9 it, the transmission build-out started before the crisis
10 hit. They again did the same thing with Tehachapi
11 Transmission Project, again, they studied it and
12 approved it, the Board of Governors approved it, ahead
13 of the curve, before the crisis hit, so two very
14 visionary actions by the California ISO. They studied
15 and approved the change of configuration of DPV2 from
16 something that would bring fossil-based generation into
17 California to a project that would help interconnect,
18 integrate I-10 corridor renewable projects, again, on a
19 proactive basis. And most importantly, they modified
20 the transmission planning process recently to allow for
21 proactive planning for policy-based needs, most notably
22 renewable integration and interconnection. This is very
23 critical because it allows us to stay ahead of the
24 curve, I mean, based on the tariff, the implementation
25 of the tariff on a consistent basis, which would call

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1 for development of regional least cost transmission -
2 least regrets transmission projects. It puts us ahead
3 of the curve. Make sure that we have transmission
4 before the crisis hits. And, of course, all the delays
5 are going to come later on, but at least they have
6 started the process earlier. So, furthermore, what
7 CAISO did, it indicated that these type of transmission,
8 proactively planned transmission could be developed
9 based on competition, which should lead to faster,
10 cheaper transmission projects.

11 One of the most important factors in the
12 proposal in this new transmission planning proposal, of
13 course, was the development of least regrets
14 transmission plan. The critical - the importance of
15 that is not only that we're going to basically plan for
16 transmission ahead of the schedule that is least likely
17 to get stranded, which is a good thing, we don't want
18 that investment to get stranded for many good reasons,
19 but also least regrets transmission planning will lead
20 to upgrades that benefit many renewable projects and
21 will benefit - and will be built ahead of those projects
22 - many transmission in many areas, and we'll build those
23 transmission projects in time for those projects to
24 benefit from, as opposed to coming up with these
25 upgrades, least regrets upgrades which are mainly bulk

1 system upgrades. At the time, as part of basically a
2 reactive crisis-based GIP process in which these
3 projects would basically sink very good renewable
4 projects; as opposed to helping them, in can sink them.
5 So CAISO has done a lot of good things to - by the way,
6 I'm not looking for a job at CAISO, as you will see
7 soon, you will see that I have - I am going to talk
8 about the other side of the coin, as well - CAISO has
9 done a lot of good things, the most important of which
10 has been basically revamping the transmission planning
11 process to deal with proactive planning for policy to
12 meet State's policy needs.

13 When we saw all these things happening, based on
14 the experience and the tariff, we were very encouraged
15 and we were looking forward to seeing the 2010-2011
16 Transmission Plan and what we unfortunately saw is that
17 CAISO punted on all the proactive planning and rather
18 than developing a proactive regional, least regrets
19 plan, they sort of collected a bunch of projects that
20 have come out of some disparate planning activities by
21 utilities, by themselves, and they call it the 2010-2011
22 Transmission Plan, they further went ahead and
23 proclaimed that, "Well, we have enough transmission."
24 Well, if we develop everything on rooftop, we don't need
25 any transmission. That's not the answer we were looking

1 for, we were looking for a good explanation of a - a
2 good process to develop regional least regrets
3 transmission on a proactive basis, as opposed to a
4 declaration that we don't need any more transmission.
5 Well, at least if you do that, do it on following your
6 own tariff.

7 On the very specific basis, I noticed some of my
8 colleagues mentioned this, we were disappointed that
9 CAISO failed to identify reinforcements between PG&E and
10 Edison systems and we think that there is a lot more
11 than simply a Midway-Gregg line that people were talking
12 about, neither in that regard. Without those upgrades,
13 we think that PG&E customers who pay about 40 percent of
14 all the transmission upgrades in Edison's service
15 territory are really not going to benefit from all the
16 renewables that are being interconnecting to the Edison
17 system.

18 So, in short, and going back to the first point
19 that I thought was playing a big role in delays in
20 planning and permitting and building transmission, and
21 that's sort of crisis-based transmission planning, well,
22 reactive-based transmission planning, I think if CAISO
23 goes and just implements its tariff, well, we have at
24 least dealt with those issues. The other issues based
25 on years of experience in transmission in the State, I'm

1 not sure how successful we'll be to bring transmission
2 developers and environmental groups together in the same
3 room without somebody committing a murder in that or
4 other - or ensuring that the entities that deal with
5 planning or permitting and so on will definitely
6 cooperate with each other enough to prevent redundancy
7 in activities and so on. Anyway...

8 CHAIRMAN WEISENMILLER: Thank you. I guess the
9 one question I have is, Ziad obviously pointed to the
10 increase in cost for transmission as an indication,
11 assuming that we're building lots of transmission, where
12 you were saying that, in fact, we're not building
13 enough?

14 MR. SHIRMOHAMMADI: That's right. The fact that
15 the cost - I think what Ziad is mentioning is not saying
16 that we are building too much transmission, we need
17 transmission, there is no doubt that we need
18 transmission, his point is that maybe the transmission
19 being - I'm just conjecturing - that building
20 transmission the way it's being built, by maybe IOUs and
21 not by independents, is making the cost go up in this
22 fashion. I don't think anybody can deny that we need
23 more transmission - not only for renewables, but also
24 for better operation of the Grid. It is well
25 established by FERC and other bodies that, given the

1 comparative cost of transmission vis a vis cost of
2 generation, and the added competition that could come
3 from having access to more renewables based on more
4 transmission, that they actually have treated it as a no
5 brainer, that no transmission is not an issue. Of
6 course, there are environmental issues, there are other
7 factors that prevent us from just building too much
8 transmission.

9 CHAIRMAN WEISENMILLER: Okay, and I guess the
10 last question for you, you had mentioned the north-south
11 reinforcement as really being necessary. Again, looking
12 primarily from the renewable lens, are there any other
13 big missing projects?

14 MR. SHIRMOHAMMADI: The reinforcements, I mean,
15 beyond north-south reinforcements that you talked about?
16 Yeah, some projects that would increase our ability to
17 interchange with our eastern balancing - neighboring
18 balancing areas, Arizona, Nevada, and they don't have to
19 be transmissions that go into those areas, but also
20 transmission that could be both transmission that will
21 be built in California and also across the border into
22 those states.

23 CHAIRMAN WEISENMILLER: Okay, thank you.

24 MR. JENKINS: Hello, my name is Robert Jenkins.
25 I'm with First Solar. Thank you for inviting me to be

1 here today. I think First Solar has the unique position
2 here being the only actual developer here at the table,
3 but we are at heart a PV module manufacturing company,
4 capacity of about 1,500 megawatts per year, DC this
5 year, expanding up to 2,300 megawatts next year, 2,800
6 megawatts. So we have quite a bit of product to move,
7 that's a lot of resources to get on the ground. We're
8 also very active in many markets in the southwest. In
9 the CAISO, alone, we have 2,100 megawatts of PPAs, about
10 4,000 megawatts in the queue right now, many more that
11 have been in the queue at one time, but we're at 4,000
12 at this point.

13 My career, the first couple decades, let's
14 describe it that way, it doesn't sound quite so bad, the
15 first couple decades were up to my elbows in
16 transmission planning and, in the last decade, it's been
17 more focused on independent generation, interconnection,
18 both from a developer standpoint and also from the
19 utility standpoint and the procurement side of the
20 organization, so looking at projects, looking at things
21 that are important for procurement. Taking that lens
22 and looking at the questions that were asked, I'd like
23 to take the second one first because it's a hard
24 question, but I think it's a fairly quick answer, and
25 that is planning, permitting and construction cycle

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1 reduction to three years. There have been many efforts
2 to try to do this and there's been some improvements
3 overall in the permitting side, there's been some
4 improvements in the construction side, but really, to do
5 something in three years, you're relying on better
6 utilization of the existing infrastructure. You really
7 can't expect to permit a new line or a new corridor
8 within this timeframe.

9 So the focus there really needs to be more on
10 how do we either increase the capacity, or the capacity
11 factor of the transmission lines. There's been - well,
12 it's been maybe a couple decades ago, the big thing was
13 to put high temperature conductors on lines, increase
14 capacity. We pretty much played that trick out. We
15 need to be thinking about new more innovative ways to
16 increase the capacity of existing assets, DC light seems
17 to be something that is picking up now, that might
18 present opportunities for unutilized lines, but we need
19 to be thinking about the next technology that allows us
20 to better use the assets we have.

21 Also, with renewables, which are generally lower
22 capacity factor resources, how do we increase the
23 utilization of the lines that we have, whether it be
24 through diversity of supplies, or there was some
25 discussion about energy storage, the intelligent siting

1 of energy storage such that it does increase the
2 utilization of existing assets. But there's really no
3 silver bullet in this.

4 One thing I do miss when I look at the system
5 now vs. the system that was handed to us those three
6 decades about was there was a more of a look toward the
7 future in the system design. Generally, a transmission
8 line was designed with either some mechanical strength
9 in the line to accommodate future upgrades, to
10 accommodate future growth, future system needs. You
11 seldom ever built a single circuit line, you always
12 built a double circuit line, maybe only string one side
13 of it. I've seen a number of 500 kv lines I approved
14 recently that are generally all single circuit, and I
15 think we need to be looking a little further ahead of is
16 it really the best use of rights of way to build single
17 circuit lines and should we be thinking about more into
18 the future, and putting those assets in the ground to
19 allow quick response to changes because I don't think
20 we're doing it today. We seem to have this just in time
21 planning mentality that tends to always leave us just
22 behind the time.

23 So, if we can't really speed up the permitting
24 construction process, let's focus a little bit more on
25 the planning side of it. What we find today and we see

1 in the transmission queue is the planning in California
2 is sending out missed messages. First off, the
3 transmission incubation time is so long, it requires
4 quite immature projects to get into the queue, you can't
5 wait until your project matures because you'll never
6 succeed and that's because the allocation of capacity
7 occurs at the front end. You get in very early, you get
8 your transmission cost identified, you get your
9 allocation, and then you start working trying to mature
10 your project. And somehow we need to be thinking about
11 reversing that and how do we have a process that
12 encourages more mature projects to be in the process,
13 but then the process needs to move quickly at that
14 point.

15 We also receive inconsistent telegraphing on
16 siting and that causes projects to hedge their bets by
17 putting in multiple projects at different locations,
18 trying to anticipate really what the buyer wants, or
19 trying to anticipate really what the permitting agencies
20 want, trying to anticipate what the land use might turn
21 out, so we end up with a multiple - many times the
22 overall - just trying to address all these missed
23 messages that we're receiving. So if we had a
24 consistent messaging from all the entities, one that
25 really - I'm sorry Carl left - but one that we really

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1 hear a lot is, "Well, we'd like to use disturbed lands,
2 private lands, disturbed lands," we're doing a large
3 project on private disturbed lands right now, and I'll
4 tell you, it's not very easy - they're telling you to go
5 someplace maybe over the public lands, the public lands
6 are telling you to go to private lands. We're getting a
7 lot of these kind of mixed messages, so getting that
8 consistent. We also spend a lot of the process time and
9 planning on cost allocation issues. There's a portion
10 of planning that identifies what sort of upgrades the
11 system needs, then there's this whole other aspect of
12 planning that really spends a lot of time on cost
13 allocation, who should pay what? And if we can find a
14 way to make that more efficient, I think that will
15 really make the whole planning cycle much more efficient
16 in addressing cost allocation because, really, in the
17 end the costs really go back to the end user, so do we
18 really want to spend that much time?

19 I look back over the planning process where we
20 got today and I'm really glad to see that CAISO has -
21 I'll call it a foundation plan, that plan I'm sure will
22 modify as time goes, but we now have a foundation plan
23 for renewables. It is a demand-based plan whereby it is
24 looking at what is demand for renewables, rather than if
25 you tried to develop a supply-based plan, which the

1 interconnection process does, you end up with a huge
2 plan with many lines that will never be built, now we
3 have at least the starting point for a demand-based
4 plan. So that is a good element of it. But we need to
5 be thinking about the flexibility of the plan. Some of
6 the components of the plan are really triggered by one
7 or two anchor tenant, and we need to be thinking about
8 what happens and be anticipating, you know, what are the
9 contingencies that may happen in the plans and how do
10 you address those? But having the flexibility in the
11 plan such that we can accommodate changes when they
12 happen, have that pre-understood, if you will. Also,
13 when you have these plans, some aspects of the plans are
14 quite clear, there's many developers, many
15 opportunities, it lines up with - Tehachapi comes to
16 mind - move quickly with those. The parts of the plan
17 that are a little more uncertain, I think there are
18 opportunities to keep the plan moving forward, as Anne
19 was mentioning, getting some of the preconstruction
20 activities done, making avenues there for cost recovery,
21 whether it be independents or whether it be utilities,
22 so they can go and proceed with some of these pre
23 construction activities and be ready to pull the trigger
24 when you need to, but if we wait until everything is
25 certain, it will take forever before it gets planned to

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1 be done.

2 The last element, though, I think all the
3 planning kind of gets sideways if we ignore at the very
4 end how - I think Tony said - about how it's all being
5 socialized anyway, how is this capacity being allocated
6 - not the cost so much, we talked about that earlier,
7 but the capacity itself? For example, we mentioned the
8 queue being 30,000 some megawatts; if the land use and
9 the procurement and all these other things line up, that
10 I want the project that is number 27,000 of that 38,000
11 in the queue, there's no - and there's transmission
12 being proposed in the area, there's no clear line of
13 sight how that project gets access to that transmission.
14 And so we could spend years after the transmission is
15 built trying to figure this out. So, here we are, we've
16 rushed the planning process, we've got that done, and
17 we've advanced the construction process, but we hadn't
18 figured out how to get the projects connected to the
19 capacities being installed. So, I think some time
20 understanding how that process would work would be well
21 spent, as well. That's all I have to say. Thank you.

22 CHAIRMAN WEISENMILLER: Thank you. I think
23 actually what I'll do at this stage - obviously, we're
24 hoping to have a round robin and we're not going to have
25 a round robin, I think most of the people at that end of

1 the table got to reflect on everyone else's comments and
2 a couple people - this is the second panel, so I was
3 going to ask Tony if he had any reaction to what's been
4 said so far.

5 MR. BRAUN: Just very briefly, you know, we
6 socialize our high voltage grid in the ISO, a tariff
7 methodology right now, and it's frankly something that
8 we pushed for as a POU community since the get go, in
9 fact, it's in AB 1890. Where we are now, though, is we
10 are in a position where we are - we're the generator
11 interconnection process, at least over the last few -
12 several years, has driven the transmission planning
13 process, and there's an effort to turn that around and
14 that's, I think, appropriate. But I think one of the
15 things we struggle with, and I think we hear Darlush
16 talking about the transmission investment decisions as
17 some of these things are no-brainers, and I think that
18 reflects that his clients aren't paying for any of this
19 transmission. The load is not a monolith and some of
20 the entities are already at 33, 40, 50 percent
21 renewables. Some of the renewables that are going in on
22 certain parts because they can't be delivered to other
23 parts of the State, so at a sort of a fundamental level
24 of, I don't know, cost allocation, we've got no problem
25 with the mechanisms that are in place right now under

1 the tariff, and we don't want to change them. But to
2 then, in the planning process, sort of assume away the
3 cost and benefits of certain projects because of that
4 methodology, or desensitize the consideration of those
5 costs in what we decide are the best fit projects, I
6 think, is inappropriate, so just because we have a
7 socialize rate doesn't mean we should desensitize the
8 transmission rate component as part of the decision
9 making process as what should go forward and what are
10 the top priority projects.

11 CHAIRMAN WEISENMILLER: What was your reaction
12 to Darlush's suggestion that we really need to upgrade
13 the sort of north-south capacity?

14 MR. BRAUN: You know, I don't know if I'm the
15 most expert to talk to that. I mean, from a fundamental
16 standpoint, and I listen to Carl and Grace talk about
17 some of the west-wide desire for better seasonal
18 exchanges, clearly I think some of the mid-state
19 bottlenecks are going to have to get resolved, but my
20 clients all used to have the exchange agreements with
21 BPA, those things don't really exist anymore because of
22 the difference in load profiles as opposed to 20 years
23 ago, a whole host of factors that have nothing to do
24 with Path 26 or Path 15. So, I think my intuition would
25 tell me, yes, that from a big picture standpoint, some

1 upgrades to the mid part of the state and the north
2 state, we can't just have all the transmission in one
3 part of -- really, putting too many eggs in the basket
4 of delivery of certain of the resources. But I don't
5 have any empirical evidence to support that intuition.

6 CHAIRMAN WEISENMILLER: Okay, thank you. We're
7 running a little late, so I'd normally go back to the
8 sister agencies to comment, although I'm trying to avoid
9 sort of go back through ground that I think we've
10 covered earlier. So I was going to turn to the public
11 comment section now. Do we have anyone in the room?

12 MS. KOROSEC: We do have one card from Daniel
13 Hodges-Copple from Clean Line Energy Partners.

14 MR. HODGES-COPPLE: Good afternoon. My name is
15 Daniel Hodges-Copple, and I work for Clean Line Energy
16 Partners. Clean Line is developing one of the
17 Interstate DC projects that was referenced earlier
18 called Centennial West. It will transport wind energy
19 from New Mexico to Southern California. I just have a
20 brief comment in reference to the earlier discussion on
21 west-wide transmission cooperation and remote resources.
22 In line with some of the earlier remarks, utilizing
23 renewable resources from across the west can lead to
24 lower cost, greater diversification, enhanced
25 competition, and a backstop in case permitting obstacles

1 delay some in-state options. Considering these
2 potential benefits, I think, transmission planning
3 processes and organizations should be more open to
4 independent developers who are often uniquely positioned
5 to do long haul interstate projects. I think we're
6 moving more in that direction, but there is still some
7 work to be done in that regard. Thank you.

8 CHAIRMAN WEISENMILLER: Thank you.

9 MS. KOROSK: I have one online from Ron
10 Dickerson. Can you open his line, Donna? All right,
11 Ron, your line is open. You had a question?

12 MR. DICKERSON: Thank you. It's Ron Dickerson
13 with Save the Foothills Coalition. I appreciate the
14 conversation this afternoon about how the planning
15 process might need some tweaking and improving, but I'd
16 like to return to this morning's panel about the
17 existing - or I should say current analysis on where we
18 stand in regards to transmission to renewables,
19 specifically the ISO's transmission planning process.
20 It's my understanding that there is about 16,000
21 megawatts of generation in the interconnection queue,
22 the study is completed, and so I'm wondering to what
23 extent that capacity is incorporated into the existing
24 transmission plan and the second part of that question
25 is, how does that fit into I guess the heart of this

1 meeting today, and that's Governor Brown's Clean Energy
2 Jobs Plan. Maybe Neil is still there, or Lorenzo from
3 the ISO could answer that?

4 CHAIRMAN WEISENMILLER: I think those are fair
5 questions for both the ISO and also CTPG.

6 MR. DICKERSON: I would agree.

7 CHAIRMAN WEISENMILLER: And they're both here,
8 so, Neil, do you want to go first? And then Mo Beshir.

9 MR. MILLAR: Sure. Well, this is actually one
10 of the points I touched on in my earlier presentation
11 this morning, was that the network upgrades that were
12 identified through previous generator interconnection
13 work was incorporated not as the result of the plan, but
14 as an input into our planning process to then determine
15 what else is required and that analysis, with one small
16 exception of a network upgrade, indicated that taking
17 into account those network upgrades for which the study
18 work had already been completed comfortably exceeded the
19 ISO's share of the Net Short position that was required
20 to meet the 33 percent RPS goal. And I have to
21 emphasize "comfortably exceeded" because we saw the
22 transmission that's already identified moving forward in
23 progress as comfortably more than meeting the minimum
24 requirements, which enabled the competition between
25 different areas, as well as within each area. Now, that

1 work came out of the development or the study work
2 associated with the serial and transition and cluster
3 studies that have already been completed. That's where
4 those network upgrades were identified.

5 MR. BESHIR: The same considerations, the key
6 assumption in the studies is really what are the goals
7 of what are needed to meet the 33 percent, so we have in
8 our report, and going through our stakeholder process,
9 we've been going through the methodology on how to
10 arrive at the transmission which is going to be needed
11 to meet the goal which was the 33 percent for the
12 studies, so we started with what we call the total
13 forecasted load for 2020, which was a CEC provided,
14 which has 285,000 gigawatt hours was what was projected
15 at that time. Then, when you go through subtracting
16 what was available, what was going to be made available
17 through an existing transmission projects already in the
18 pipeline, you end up with what we call the Net Short,
19 which was 52,764 Gigawatt hours, so that was really the
20 goal of meeting. Now, how you meet that and how you
21 analyze what resources are going to be developed and
22 used, you form the process using what is really in the
23 queue. So you go through the queue, look at all the
24 resources available, there was a mechanism through CPUC
25 and CEC and the RETI process which really identified the

1 potential resources and that was also informed from the
2 work which was done by Black and Veatch and all that
3 RETI process identifying the CREZ's. So all that
4 intelligence was used to develop the resources, but the
5 target was really based not because we had so much
6 resources in the queue, but what was really the need to
7 meet the policy goal for the studies.

8 CHAIRMAN WEISENMILLER: Thank you. Any other?

9 MS. KOROSEC: I have one more online question
10 from Jim Stewart. Jim, your line should be open.

11 MR. STEWART: Yes, hello. Can you hear me?

12 MS. KOROSEC: Just barely. Can you speak up a
13 bit?

14 MR. STEWART: All right. Can you hear me now?

15 MS. KOROSEC: Yeah.

16 MR. STEWART: All right, so this is Jim Stewart
17 speaking on behalf of Sierra Club California, and our
18 concern is the need for comprehensive least regrets best
19 cost, best kind of analysis, which is not happening at
20 many of the [inaudible] [01:42:23] in the CTPG and
21 there's no publicly available cost analysis for the
22 LGIA, so there's huge amounts of projects that are
23 costly to all the ratepayers in the state that are not
24 being considered by the bodies. And I agree with the
25 CPUC that this is something that needs to be changed

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1 immediately and we call upon the CAISO Board of
2 Governors to file a new tariff and get that process
3 changed back to the least fair cost and publicly
4 available participatory process. The second comment
5 that I have is in relationship to the issue of the
6 Governor's goal. I mean, you talk about - CAISO talked
7 about policy driven projects, well, the Governor's goal
8 is the 12,000 megawatts of distributed generation, which
9 9,000 would be contributing toward the RPS, and yet the
10 hybrid case that CAISO introduced at the very start of
11 the day only has 3,000 megawatts of distributed
12 generation and I want Mr. Picker to comment on what we
13 can do to get the whole process here to be in line with
14 the Governor's policy driven approach.

15 CHAIRMAN WEISENMILLER: Thanks for your
16 comments. I would point out that the Governor's goal is
17 20,000 12 DG, 8,000 utility-scale. And also, I think
18 just sort of probably good wrap-up comments, I think
19 what you tend to find is that - okay, are we there -
20 what you tend to find on the agency's partially history
21 and tradition is that the Energy Commission tends to
22 look at a lot of these issues from a land use planning
23 lens, the ISO from a system reliability lens, and the
24 PUC from a rates lens, and obviously when you combine
25 all three perspectives, you probably get the total - I

1 guess we could use the elephant analogy, but you try to
2 get the whole picture. But each of the individual
3 pieces have just that certain perspective of what's
4 going on. But hopefully, collectively, we can reach the
5 right decisions.

6 MS. KOROSK: I have no more cards. Is there
7 anyone else in the room that would like to make a
8 comment? All right, just a reminder that written
9 comments are due on May 24th.

10 CHAIRMAN WEISENMILLER: I would like to thank
11 everyone again for their participation. We certainly
12 have had an interesting day and looking forward to your
13 written comments, and I'm sure our next workshop. Bye.

14 [Adjourned at 3:02 P.M.]

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