

STATE OF CALIFORNIA - THE RESOURCES AGENCY
BEFORE THE
CALIFORNIA ENERGY COMMISSION (CEC)

In the matter of,)
) Docket No. 11-IEP-1G
)
Preparation of the 2011)
Integrated Energy Policy Report)
(2011 IEPR))

Integrated Energy Policy Report Committee Workshop

Draft Renewable Power in California: Status and Issues

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

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 **ORIGINAL**

COMMISSIONERS

Robert Weisenmiller, Chair and Presiding Member
 Eileen Allen, His Advisor

Karen Douglas, Commissioner and Associate Member

Carla Peterman, Commissioner and Presiding Member of
 Renewables Committee
 Saul Acosta Gomez, Her Advisor

STAFF

Suzanne Korosec, IEPR Lead

Kevin Barker

PANELISTS

Valerie Winn, Manager of State Agency Relations,
 Pacific Gas & Electric

Gary Stern, Director of Market Strategy and Resource
 Planning, Southern California Edison

Wayne Sakarias, Director of Regulatory Policy &
 Legislative Analysis, Sempra Energy Utilities

Anthony Andreoni, P.E., Director of Regulatory Affairs,
 California Municipal Utilities Association

Neil Millar, Executive Director of Infrastructure
 Development, California ISO

Mark Rothleder, Director of Market Analysis and
 Development, California ISO

Julie Fitch, Director of Energy Division, California
 Public Utilities Commission

Rich Ferguson, Ph.D., Research Director, Center for
 Energy Efficiency and Renewable Technologies

Carl Zichella, Director of Western Transmission,
 Natural Resources Defense Council

CALIFORNIA REPORTING, LLC

52 Longwood Drive, San Rafael, California 94901 (415) 457-4417

PANELISTS (CONT.)

Nancy Rader, Executive Director, California Wind
Energy Association

Ed Murray, Board of Director, California Solar Energy
Industries Association, President, Aztec Solar

Steven Kelly, Director of Policy, Independent Energy
Producers Association

ALSO PRESENT

Colette Kersten, PUC, Energy Advisor to
Commissioner Sandoval

PUBLIC COMMENT

Michael Picker, Senior Advisor to the Governor for
Renewable Energy Facilities

Ray Pingle, Sierra Club California

Rick Brown, President, Terra Verde Renewable Partners

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1 P R O C E E D I N G S

2 SEPTEMBER 14, 2011 10:11 A.M.

3 MS. KOROSSEC: All right, good morning everyone.

4 I'm Suzanne Korosec, I manage the Energy Commission's
5 Integrated Energy Policy Report Unit.

6 And welcome to today's workshop on the Draft
7 Renewable Status and Issues Report.

8 This workshop's being conducted by the
9 Integrated Energy Policy Report Committee.

10 Just a couple of housekeeping items before we
11 get started, restrooms are out in the atrium, through
12 the double doors and to your left.

13 There's a snack room on the second floor, at the
14 top of the stairs, in the atrium, under the white
15 awning.

16 And if there's an emergency and we need to
17 evacuate the building, please follow the staff out the
18 door, to the park that's across the street and wait
19 there until we're told that it's safe to return.

20 Today's workshop's being broadcast through our
21 WebEx conferencing system and parties do need to be
22 aware that you are being recorded. We'll make an audio
23 recording available on our website in a couple of days
24 and we plan to post a written transcript within about a
25 week.

1 We'll start today's agenda with an overview of
2 the report, after which we'll take comments from our
3 Panel speakers.

4 I do need to note that Mr. Adler and Ms.
5 Williams had personal issues that came up and are unable
6 to join us today.

7 We plan to take a lunch break around noon and
8 also have a short break in the afternoon.

9 After our Panelists have provided comment, we'll
10 open it up for more general public comment.

11 During the public comment period we'll take
12 comments first from those of you who are here in the
13 room. And we ask that you come up to the center podium
14 and use the microphone there, so we can make sure the
15 WebEx participants can hear you and that your comments
16 are captured in the transcript.

17 And it's also helpful if you can give our court
18 reporter a copy of your business card after you speak,
19 so that he can make sure that your information is
20 correct.

21 For WebEx participants, you can use either the
22 chat or the raised hand functions to let our coordinator
23 know that you have a question or comment, and we'll
24 either relay your question or open your line at the
25 appropriate time.

1 We're also accepting written comments on today's
2 topics, until close of business on October 5th.

3 And the notice for today's workshop, which is
4 available on the table out in the foyer, and also on our
5 website, gives instructions on how to submit comments
6 for the IEPR Docket.

7 So with that I will turn it over to our
8 Commissioners for opening remarks.

9 CHAIRPERSON WEISENMILLER: Good morning. The
10 first thing I'd like to do is I would like to welcome
11 our two 2010 Western State Petroleum Association Polanco
12 Energy Fellows. Elizabeth and Johnny, could you please
13 stand up? Please. Thank you.

14 For background --

15 (Applause)

16 CHAIRPERSON WEISENMILLER: Yes, thank you.

17 The Polanco Fellowship is named in honor of
18 former California State Senator Richard G. Polanco, a
19 founder and chair of the California Latino Caucus
20 Institute.

21 The Polanco Fellowship Program provides
22 leadership training and development for a select group
23 of college graduates. Considered one of the premier
24 public policy fellowships in the nation, the Polanco
25 Fellowship is a year-long placement, with four-month

1 placements in a major State agency and eight-month
2 placements in a Capitol office of a State Legislator.

3 So, we're privileged to have these two Fellows
4 work with us over the next four months. Welcome.
5 Thanks again.

6 In terms of providing some context on the IEPR
7 today, welcome. We've put out, I think, what is a
8 fellow meaty report. As many of you who have been
9 following the process know, we started with a series of
10 workshops in the spring and developed a record on
11 renewables.

12 We tried to develop a pretty comprehensive
13 record and now pull that into a report. Obviously, the
14 report at this point is a draft and we see it as sort of
15 a starting point.

16 As we go forward from today we want to get your
17 feedback on it. Again, we're looking particularly at
18 trying to frame what's the status of renewables, both
19 the utility scale and DG in the State, what are the
20 issues there. And, obviously, as we go forward we will
21 try to put this more in context, but the first step is
22 to make sure we've captured well what the status and
23 issues are.

24 And as we go forward we're going to work more on
25 trying to then frame the next step, which will be the

1 action items that we'll take on those, but our first
2 step is to make sure that we have a pretty good, solid
3 record on status and issues.

4 As we march through the fall we're going to
5 focus more on coming up with an understanding of what
6 the major action steps should be. And then as we go
7 into next year, into the next IEPR, which will be
8 chaired by my associate, Carla Peterman, we'll look much
9 more at taking the next step on trying to integrate all
10 this much more into a strategic plan.

11 So, anyway, we're sort of taking -- this has
12 been a several-month journey, we're taking a step now to
13 give you a read out on our thinking. And as we get your
14 feedback we're going to continue on this journey to the
15 long-term goal of mapping out the State's future in the
16 area of renewables.

17 So, with that, Karen?

18 COMMISSIONER DOUGLAS: Good morning. I'd like
19 to join Chairman Weisenmiller in welcoming all of you to
20 the Energy Commission today.

21 We're looking forward to hearing your comments
22 on this first staff report on renewable energy. It's a
23 pretty comprehensive report, as those of you have plowed
24 through it no doubt know. There's a lot of information
25 there, there's a lot of background there.

1 And from that we'd like to work with you going
2 forward to really prioritize and help define next steps,
3 and important next steps for California to meet our
4 renewable energy goals.

5 So, we'll look forward to hearing from you and
6 we'll look forward to continuing this process.

7 COMMISSIONER PETERMAN: Good morning, everyone,
8 great to see you all here. We've got a lively, active
9 group already, so looking forward to the discussion
10 today, and then the discussions we'll have on this topic
11 in the months going forward.

12 I think the Chairman summarized well where we
13 are with this plan.

14 Thank you in advance to all the staff for their
15 hard work on this, as well as to the IEPR Committee
16 Chair Weisenmiller and Commissioner Douglas.

17 I look forward to continuing to build upon this
18 work product in the next few months. And with that, if
19 the Chair will make some time to introduce everyone else
20 on the dais?

21 CHAIRPERSON WEISENMILLER: Yes. Colette? No,
22 you want to go forward? We have a representative here
23 from the PUC.

24 MS. KERSTEN: I'm Colette Kersten, Energy
25 Advisor to Commissioner Sandoval.

1 I applaud the ambitious undertaking to cover the
2 wide range of issues in this report, you know, ranging
3 from distribution, the grid, transmission planning and
4 permitting, R&D, and leadership, and a whole host of
5 other issues. And I think it's encouraging that all the
6 synergies among those areas will be identified and that
7 cooperation among local, State, Federal entities will be
8 defined at some point in the future that will help us
9 move forward.

10 So, thanks for the opportunity to be here, thank
11 you.

12 COMMISSIONER PETERMAN: And to my left, not the
13 last, but not the least, my advisor, Saul Gomez.

14 CHAIRPERSON WEISENMILLER: And to the far right
15 my advisor, Eileen Allen.

16 MS. KOROSEC: All right. To get a little more
17 context, the Energy Commission's required to prepare an
18 Integrated Energy Policy Report every two years that
19 includes assessments of energy supply, demand, price,
20 transmission and distribution, and provides
21 recommendations for energy policies to ensure reliable,
22 affordable, and environmentally benign sources of energy
23 for California's citizens.

24 This year a critical element of the IEPR is
25 Governor Brown's Clean Energy Jobs Plan. In that

1 document the Governor directed the Energy Commission to
2 prepare a renewable plan to expedite permitting of the
3 highest priority transmission and generation projects.

4 In the Scoping Order for the 2011 IEPR, the IEPR
5 Committee identified a strategic plan for renewable
6 energy development as one of the subsidiary volumes that
7 will form the basis for policy recommendations that will
8 be in the 2011 IEPR, and that such a plan should discuss
9 renewable potential, technologies like storage, demand
10 response, and smart grid, strategies to develop 8,000
11 megawatts of utility-scale renewables and 12,000
12 megawatts of DG renewables, what the priority
13 transmission needs are, particularly transmission needed
14 to interconnect projects receiving federal stimulus
15 funding, strategies to improve the permitting process
16 and opportunities for renewables on State properties.

17 As the Chair mentioned, the report we're
18 discussing today is intended to be the foundation for
19 that strategic plan and to get consensus from
20 stakeholders on the current status and issues.

21 So, about our renewable energy goals; the RPS
22 currently requires renewable electricity to equal an
23 average of 20 percent of the total electricity sold to
24 retail customers by -- during the compliance period that
25 ends December of 2013, 25 percent by December of 2016,

1 and 33 percent by December of 2020.

2 To support these RPS targets, the Governor's
3 Clean Energy Jobs Plan calls for adding 20,000 megawatts
4 of renewable capacity by 2020, broken down into the
5 8,000 megawatts of utility scale and 12,000 megawatts of
6 DG.

7 Based on the Energy Commission's total system
8 power data, in 2010 renewable generation represented
9 nearly 16 percent of statewide retail sales. This
10 indicates the State appears to be on track to meet the
11 2013 RPS target. In-state generation represented about
12 75 percent of the total renewable generation in 2010,
13 which came from about 9,000 megawatts of existing
14 renewable generating capacity.

15 As of 2010, State and local entities had
16 permitted more than 9,000 megawatts of renewable
17 capacity and as of June of this there was more than
18 3,000 megawatts of installed DG capacity.

19 For the 33 percent by 2020 target, the Energy
20 Commission staff estimates that we'll need renewable
21 generation in the range of 35,000 to 47,000 gigawatt
22 hours, in addition to generation that would be expected
23 from existing facilities.

24 Utility contracts that have been signed to date,
25 for both IOUs and publicly-owned utilities, are expected

1 to deliver enough energy to reach the upper bound of
2 this range of generation to meet the RPS in 2020.

3 This figure shows the amount of renewable energy
4 expected from IOU and POU contracts, that's the yellow
5 dotted line, with RPS goals for 2013, 2016, and 2020
6 shown in the dark blue dotted line.

7 However, if we continue to see the 30 percent
8 contract failure rate that we've seen since the
9 beginning of the RPS program, the amount of generation
10 that's ultimately delivered could be much lower, and
11 this is illustrated by the light blue dotted line, which
12 is just below the lower bound of the estimated range
13 that's needed for 2020.

14 So, Energy Commission staff believe that it
15 would be prudent for utilities to contract for
16 generation in the range of more of 50,000 to 67,000
17 gigawatt hours to account for potential contract
18 failure, and also account for some uncertainty about
19 whether existing facilities will continue to operate and
20 be under contract in 2020.

21 To provide a starting point for measuring
22 progress towards the Governor's 20,000 megawatt goal,
23 the draft report identifies some preliminary regional
24 targets for both the 8,000 megawatt and 12,000 megawatt
25 goals.

1 For the 12,000 megawatt target, Energy
2 Commission staff developed regional targets for
3 localized generation, which we're defining as renewable
4 DG projects, 20 megawatts and smaller, that are
5 interconnected to the distribution or transmission grid.

6 The analysis was technology neutral and included
7 solar, biomass, geothermal, wind, fuel cells using
8 renewable fuels, and small hydro power.

9 This table shows the proposed regional DG
10 targets based on a mix of behind-the-meter, wholesale,
11 and an undefined mix of both.

12 And the highest targets, as you can see in the
13 table, are in the Los Angeles area, the Central Valley,
14 and San Diego.

15 For the 8,000 megawatt target the staff
16 developed very rough regional targets based on the new
17 Cal-ISO transmission lines and upgrades that have been
18 identified, and the potential renewable capacity
19 identified in the CREZ's in the State that would be
20 served by those lines and upgrades.

21 If the new lines and upgrades are permitted,
22 built and operating before 2020, they could allow more
23 than 16,000 megawatts of additional generation to flow
24 over those lines.

25 As I mentioned, in 2010 more than 9,000

1 megawatts of renewable capacity was permitted, about
2 8,000 megawatts of which is associated with the new
3 lines and upgrades, which indicates that there's another
4 8,000 megawatts of capacity that could be cited with the
5 CREZ's associated with these lines in the future.

6 Because the 33 percent by 2020 target is
7 considered a floor, rather than a ceiling, the draft
8 report also looks at renewable investments that more
9 occur after 2020. For example, to meet increased
10 electricity demand due to high penetration of electric
11 vehicles, or to replace generation from existing coal-
12 fired plants that are serving California, which are
13 expected to decline in generation based on the Emission
14 Performance Standard.

15 Also, to meet the State's 2050 greenhouse gas
16 reduction goals we will need to develop additional
17 renewable generation and other zero carbon generation
18 sources.

19 Back-of-the-envelope estimates by the Energy
20 Commission staff indicate that if new zero emission
21 generation were provided only by new renewables,
22 renewables would represent from 67 to 79 percent of
23 electricity sales in 2050.

24 For the lower bound of that, it assumes that
25 electricity demand, the number of self-gen projects and

1 energy efficiency programs continue at the same rate
2 that we're seeing today, that there's increased
3 penetration of electric vehicles, and that existing
4 renewables, nuclear and hydro generation continue to
5 operate at the same levels in 2050.

6 The upper number of that percentage range
7 assumes that the existing nuclear plants may not be
8 relicensed.

9 Recent trends are showing that there's increased
10 market interest in renewable development. The PUC's
11 2009 RPS solicitation drew bids from developers offering
12 enough generation to meet half of the IOU's total load
13 in 2020, and utilities certainly have signed contracts
14 for -- this number is actually incorrect, this was from
15 our Energy Commission database, and the PUC's database
16 shows it's more like 14,000 megawatts, rather than the
17 10,000 megawatts shown here.

18 As I said, we've permitted 9,000 megawatts of
19 renewables in 2010. There's another 26,000 megawatts of
20 capacity that's being tracked through various permitting
21 process.

22 The Cal-ISO's interconnection queue has 50,000
23 megawatts -- excuse me, 57,000 megawatts of capacity,
24 and there are 450 active interconnection requests for DG
25 systems in the Whole Distribution Access Tariff Queue,

1 totaling about 5,200 megawatts.

2 Technical potential for renewables remains high,
3 as shown in this table. But as the report notes,
4 achieving even a fraction of this potential is going to
5 depend on the ability of product developers to secure
6 financing permits, transmission, interconnection, and
7 power purchase agreements.

8 The draft report identifies a variety of issues
9 that can affect the amount of renewable capacity that
10 will ultimately be developed, including planning,
11 permitting, and environmental issues, transmission
12 issues, integration, investment and financing, R&D, high
13 environmental justice, local government coordination and
14 workforce development.

15 I'll go through each of these briefly in the
16 order that they're presented in the report. I'll note
17 that the draft report also identifies a number of
18 efforts that are already underway to address this, but
19 in the interest of time I'm not going to cover those.

20 But we would like stakeholders to note, if we
21 have missed any efforts in the report that you think
22 should be highlighted, please include those in your
23 written comments.

24 So, the first issue is planning and permitting.
25 For utility scale renewable plants the primary planning

1 and permitting challenges are environmental and land use
2 issues, and fragmented and overlapping permitting
3 processes.

4 Renewable plants have a variety of environmental
5 and land use impacts, depending on the location and
6 technology, but because the majority of new renewable
7 development is proposed in the California desert, the
8 report focuses on impacts on desert environments.

9 These include impacts on sensitive plant and
10 animal species, water supplies and waterways, and
11 cultural resources such as historical or ethnographic
12 areas.

13 There are also land use concerns, but because
14 the majority of desert lands in California are owned by
15 the Federal government and managed for multiple uses,
16 including recreation, wildlife habitat, livestock
17 grazing, and open space.

18 In terms of the permitting process, there are a
19 variety of Federal, State and local agencies that have
20 licensing authority over different types of utility
21 scale renewable projects. This can result in
22 inconsistent environmental reviews and standards,
23 variation in the extent of the environmental evaluation
24 interpretation of results and mitigation requirements
25 that can lead to developers having to satisfy more than

1 one set of conditions, submit duplicate information, or
2 face delays while agencies try to resolve their
3 differences.

4 For DG projects, permitting issues include
5 widely varying codes, standards and fees among local
6 governments that have jurisdiction over these projects
7 that make it difficult for developers to meet the
8 permitting requirements.

9 In addition, developers must get permit
10 approvals from a variety of local entities, including
11 fire departments, building and electric code officials,
12 and local air districts which can lead to duplication
13 and inefficiency in the permit process.

14 Also, many local jurisdictions don't have energy
15 elements in their general plans, or their zoning
16 ordinances, and may only have environmental screening
17 and review processes in place for large-scale renewables
18 and not for distributed generation projects.

19 Okay, moving on to transmission issues. The
20 primary issues identified in the report are the need to
21 ensure interconnection of renewable generation projects,
22 particularly those that are receiving Federal stimulus
23 funding, the need for coordinated land use and
24 transmission system planning, and better use of the
25 existing grid.

1 This figure shows the 13 major transmission
2 projects that are critical to interconnection and
3 delivery of renewable generation that's needed to meet
4 the 2020 project. And of particular importance, as I
5 said, are the projects needed to interconnect ARRA-
6 funded generation projects.

7 Six of the 13 projects that are listed here have
8 been licensed or are under construction, three of which
9 are related to ARRA-funded generation projects.
10 However, seven of the 13 projects don't yet have active
11 licensing applications, including three projects to
12 interconnect ARRA-funded projects.

13 The second transmission issue is streamlining
14 and coordinating transmission planning processes.
15 Currently, identification of routing issues and
16 constraints doesn't begin until after the WIRES planning
17 process is complete, which lengthens the transmission
18 development process, and it also increases the risk that
19 approved projects may not be developed due to
20 environmental issues.

21 Stakeholders have also identified lack of
22 transparent and consistent assumptions and processes
23 used by transmission planning organizations as an issue
24 that makes it difficult for them to participate
25 effectively in planning processes.

1 Allowing better use of the existing transmission
2 grid is also an issue. Currently-proposed projects are
3 based on existing need, as demonstrated by individual
4 interconnection requests.

5 Allowing upsizing of projects beyond what's
6 currently needed can provide unused capacity that will
7 be available for future use and maximize the value of
8 land that's associated with already necessary
9 transmission investment, and avoid future costly
10 upgrades to accommodate additional renewable
11 development.

12 There's also a need for additional research and
13 development to improve the performance of the existing
14 transmission system; for example, by increasing the
15 carrying capacity of current lines, reducing
16 instabilities that cause some transmission lines to be
17 operated at thousands of megawatts below their rated
18 capacity, and to allow more power to be transferred over
19 existing transmission rights of way by developing cables
20 that are able to withstand higher temperatures.

21 The next issue covered in the report is
22 renewable integration. The draft report identifies both
23 grid-level and distribution-level integration issues.

24 At the grid level, maintaining reliable
25 operation of the system with high levels of intermittent

1 resources will require changes in the way the system is
2 operated.

3 We'll need regulation to follow ups and downs in
4 generation output, ramping generation from other units
5 to follow up or down swings in wind or solar generation,
6 spinning reserves to provide standby power as needed,
7 and replacement power for outages.

8 System operators will also need strategies to
9 address potential over-generation issues and to improve
10 forecasting of wind and solar technologies so that they
11 know how much variability to plan for.

12 To provide integrations services the system will
13 need some combination of natural gas plants, energy
14 storage and demand response, dispatchable and flexible
15 gas-fired turbines, have the operational characteristics
16 to integrate renewables and can provide the ramping
17 regulation, and spinning and non-spinning reserves that
18 are needed.

19 But a challenge there is the need to modify
20 revenue streams for these units to cover the incremental
21 costs of shifting the use of the units from providing
22 maximum generation to providing flexible products, as
23 well as potential environmental impacts from cycling
24 these units more frequently.

25 Energy storage technologies can also provide a

1 variety of integration services, but we need additional
2 evaluation on cost effectiveness, appropriate energy
3 storage targets, and about specific technologies to
4 determine which ones can best provide the rapid response
5 and operational flexibility needed to provide regulation
6 in load-following.

7 Demand response also plays an important role in
8 providing short-term load reductions and in aggregating
9 smaller loads to provide regulation or ramping by
10 turning loads up or down as needed.

11 Here to, there is need for additional valuation
12 to determine how existing utility DR programs might be
13 used to provide renewable integration services.

14 On the distribution side there are several
15 issues with integrating high levels of DG into the
16 system. Much of today's distribution system is of 1950s
17 vintage and was designed to move electricity in one
18 direction.

19 The distribution system needs to be modernized,
20 it needs to use technologies that easily allow for two-
21 way flow of electricity, and also have improved
22 communication technologies, better protection systems,
23 uniform standards, cyber-security measures, and inverter
24 standards.

25 In addition, there are also process challenges

1 associated with the current number of request for
2 interconnection and the need to reduce the complexity,
3 expense and length of time that's associated with that
4 process.

5 Moving on to financing issues, the primary
6 challenge identified in the report is the need to ensure
7 adequate financing at critical stages of renewable
8 project development.

9 In particular we see funding gaps at the
10 research and development, and early commercial stages.

11 Private companies are often reluctant to invest
12 in R&D to accelerate clean energy innovation due to the
13 higher price of clean energy technologies, knowledge
14 spillover risks from private investment in R&D,
15 technology and policy uncertainties, the scale and long-
16 time horizon of many clean energy projects, and lack of
17 widespread enabling clean energy infrastructure.

18 Although overall R&D investment in the U.S. has
19 grown annually by about six percent, investment in
20 energy-related R&D is about a billion dollars less than
21 a decade ago, with the private sector share of energy
22 R&D investment declining from nearly half in the
23 eighties and nineties to about 25 percent today.

24 There's also a funding gap at the early
25 commercial stage, which is defined as one of the first

1 three to five deployments at a scale that generates
2 revenue and is within the size range consistent with the
3 company's long-term rollout plan.

4 Firms at this stage have traditionally used
5 private equity, debt and tax equity markets, but since
6 the financial crisis these options are either
7 impractical due to the economic conditions, depend on
8 government incentives to function well, or don't provide
9 sufficient returns for investors.

10 Cost issues; the report discusses levelized
11 costs for renewable technologies, which have a wide
12 range depending on the technology.

13 Historically technologies, like solar thermal
14 electric and solar PV, were thought to have higher
15 levelized costs than those of conventional generation.
16 However, recent contract bids indicate that this is
17 changing, with the majority of solar power tower
18 contracts signed and pending coming in below the 2009
19 MPR.

20 DG projects have also typically been considered
21 more costly due to higher transaction costs, but we're
22 seeing bids now that are much lower. In fact, recent
23 advice letters filed by PG&E and SCE state that all
24 contracts signed under the solar PV programs are also
25 below the MPR.

1 The primary cost challenges identified in the
2 report include costs associated with environmental
3 review and permitting, project construction and
4 interconnection.

5 For large-scale projects delays in environmental
6 permitting and the need for mitigation of environmental
7 impacts of proposed projects can add significantly to
8 the cost of a project.

9 For small-scale projects the overlapping and
10 often confusing permitting processes can add delays and
11 increase cost to developers.

12 And in fact, a recent Sun Run report estimated
13 that nationally permitting issues add an average of
14 \$2,500 to the cost of each residential solar
15 installation.

16 Interconnection procedures can be lengthy and
17 it's an expensive barrier. The Energy Commission's
18 continuing to work with the Cal-ISO and the PUC to
19 determine what the costs of transmission and integration
20 are.

21 Also, the report notes that in any discussion of
22 renewable technology costs it's important to recognize
23 that renewables provide important benefits that haven't
24 been quantified, including resource diversity, business
25 and economic development, increased energy independence,

1 and reduce GHG emissions and climate change impacts.

2 Other issues identified in the report include
3 the need to maintain State funding for energy-related
4 R&D, to address environmental justice concerns, to
5 improve State and local government coordination, to
6 ensure a well-trained work force to support California's
7 renewable goals, and to increase renewable energy
8 development on State-owned buildings and lands.

9 The investment and financing chapter of the
10 report notes that continued public sector investment in
11 energy-related R&D is essential to providing the
12 innovation that's needed to reach California's clean
13 energy goals.

14 The Energy Commission's Public Interest Energy
15 Research Program has provided that type of investment
16 for more than ten years, but funding for the program or
17 collection of the funding for the program expires at the
18 end of this year. And while there have been efforts to
19 extend the public goods charge, those were not
20 successful on this legislative session.

21 Regarding environmental justice issues, the EJ
22 community has repeatedly voiced concerns about the types
23 of power plants that will be built to replace aging
24 power plants and plants that may retire as a result of
25 the Water Board's policy on once-through cooling,

1 particularly in the southern part of the State, which
2 has significant air quality concerns.

3 There are also concerns from the EJ community
4 about the types and locations of fossil generation that
5 will need to be built to support renewable integration.

6 Coordination between State and local government
7 on energy decisions is also a major issue, particularly
8 given the 12,000 megawatt DG goal, most of which will be
9 permitted at the local level.

10 Many local governments face constraints due to
11 decreased staffing as a result of the economic downturn,
12 may have limited expertise about renewable technologies,
13 and as I mentioned, the lack of energy elements in their
14 general plans.

15 The State really needs to work closely with the
16 locals to understand their needs and to provide
17 assistance, where possible, to help expedite permitting
18 and installation of DG projects, as well as utility-
19 scale projects that fall under the local government
20 jurisdiction.

21 On the workforce side, the State needs to
22 develop a workforce to manufacture, install, and operate
23 the technologies that are needed to support California's
24 renewable goals, including renewable technologies, as
25 well as supporting technologies, like energy storage and

1 the smart grid.

2 While there are a number of workforce training
3 programs already in place, the downturn in the economy
4 has resulted in employers being hesitant about taking on
5 new employees, which has resulted in low placement rates
6 for some of these programs.

7 Also, expiration of ARRA funding for workforce
8 development may make it difficult for community
9 colleges, trade associations, and other training
10 organizations to continue their clean energy training
11 curricula in the future.

12 Finally, there's a need for public leadership in
13 the installation of renewable technologies on State-
14 owned buildings, properties and rights of way. These
15 investments will not only help meet the State's energy
16 goals, create green jobs, and reduce GHG emissions, but
17 they'll also reduce energy costs in State buildings and
18 create new revenue for State government through the
19 lease of vacant or unused State lands.

20 Energy Commission staff have recommended a
21 target of 2,500 megawatts of new renewable capacity on
22 State properties by 2020, and there are multiple efforts
23 by a variety of State agencies that will contribute
24 towards meeting this goal.

25 So, that's a very quick and dirty high-level

1 view of the challenges identified in the report.

2 So what I'd like to do know is if -- take any
3 clarifying questions on my presentation, but I would ask
4 parties to hold questions on the report, itself, to the
5 public comment period.

6 So, do I have any questions?

7 All right, great, so let's move on to the panel
8 discussion.

9 COMMISSIONER PETERMAN: I do, actually.

10 MS. KOROSEC: Oh, I'm sorry.

11 COMMISSIONER PETERMAN: Not so much as a
12 question, just as a comment. Going forward, when
13 assessing renewable technical potential, it would be
14 nice to add to that section or that chart what the
15 biogas potential is.

16 MS. KOROSEC: Noted.

17 COMMISSIONER PETERMAN: Okay, thank you.

18 MS. KOROSEC: We'll definitely look at that.
19 Thank you.

20 CHAIRPERSON WEISENMILLER: Actually, I also
21 wanted to thank you for the presentation. For what's a
22 very comprehensive report, you did a nice job of
23 summarizing the high points.

24 MS. KOROSEC: Okay, thank you.

25 CHAIRPERSON WEISENMILLER: Colette? One other

1 question.

2 MS. KERSTEN: Just an observation. In terms of
3 cross-cutting issues, State and local government
4 coordination, I think it's easy to overlook coordination
5 needed at the Federal level, including with FERC, DOE,
6 western entities such as WECC, and Western Governors
7 Association. There's a lot going at that level in terms
8 of transmission planning, cost allocation,
9 interconnection, and defining how that's going to be
10 managed.

11 So, perhaps that could be emphasized somewhere.

12 MS. KOROSSEC: Yeah, that is a good point. We do
13 cover that in the transmission section of the report,
14 where we talk about some of the western initiatives that
15 are going on. But, yeah, I think that's a good point to
16 call out the need to coordinate better with the Federal
17 agencies.

18 MS. KERSTEN: Thank you.

19 MS. KOROSSEC: All right. So, we'll begin with
20 our panel discussion. This morning we're going to hear
21 from the utilities. We'll start with a five-minute, or
22 few-minute overview of the utility opening statements,
23 but I do want to then move to a more general discussion,
24 including all the panel members, and have more of a back
25 and forth with the Commissioners and the panelists, with

1 a Q&A.

2 So, we'll start with PG&E. Valerie, can you
3 start off?

4 MS. WINN: Thanks, Suzanne. Hi, I'm Valerie
5 Winn, with PG&E. And I wanted to thank the Chair, and
6 thank the Commissioners and the Advisors for being here
7 today.

8 And mostly, I really wanted to thank staff, as
9 well, because I'm really surprised at how well they've
10 been able to capture the last eight to nine years of
11 renewables activities in only 335 pages, because that's
12 quite an accomplishment.

13 And it is a very, you know, thorough and
14 thoughtful report, and it really highlights a lot of the
15 challenges before us.

16 But I think we also need to consider, you know,
17 all of the challenges that we've over come in what's a
18 relatively short amount of time, given logistics and all
19 the things that we've needed to accomplish.

20 And I think over the last several years we've
21 learned a lot, and that as we move forward we want to
22 think about, you know, how do we leverage those lessons
23 learned and apply them, and think about how do we
24 integrate that, that thinking, and build a really
25 flexible -- a flexible tool kit for moving forward so

1 that we have options, and that we don't close too early
2 on what potential solutions might be.

3 So, as we're looking forward, I wanted to kind
4 of think about, though, what have we accomplished in the
5 last several years?

6 And so for PG&E last year, we were at about 16
7 percent eligible renewable deliveries and, you know,
8 overall our portfolio is more than 50 percent carbon
9 free.

10 So, some of those statistics about, you know, by
11 2020 or by 2050 getting to 69 or 75 percent, you know,
12 carbon-free renewables, we're actually thinking we could
13 achieve that well before 2050, given the hydro system
14 that we have in our portfolio.

15 Since 2002 we've signed more than 115 contracts,
16 for more than 9,000 megawatts of utility-scale
17 renewables. And, you know, since 2006 we've started
18 seeing more and more new generation come online.

19 You know, one of the things that we've learned
20 is it does take time for some of these processes we've
21 put in place to stick, and to become sustainable, and
22 for people to learn and to implement changes.

23 But we are seeing some successes from the work
24 that we've done and we expect that over the next few
25 years we're going to see more and more resources come

1 online.

2 While we've seen more than ten projects come
3 online that are entirely new builds, we've seen about
4 ten projects also fail for a variety of reasons, they
5 couldn't get through the -- through the permitting
6 process, technologies didn't work, but we've learned
7 from those, those challenges as well.

8 And what we see today is that more and more
9 projects that are bid to us are coming in at a much more
10 advanced level of planning and understanding of what the
11 costs are to build, than what we saw in the early days
12 of the renewables program.

13 And I think people are a lot more sophisticated
14 today and we're seeing that through what we're getting
15 from developers.

16 Over the last several years we've also developed
17 a number of procurement mechanisms. You know, we've got
18 the existing feed-in tariff, where I think Suzanne noted
19 we're seeing people offer us, under a fixed price, at
20 the 2009 MPR, solar PV projects.

21 You know, that certainly wasn't happening in
22 2007 and 2008, and that's really an indication of how
23 the price curves have come down.

24 Soon, we'll be launching the renewables auction
25 mechanism and PG&E will be buying about 420 megawatts

1 through that mechanism. That's renewable facilities
2 under 20 megawatts in size, and over the next two years,
3 again, 420 megawatts for that.

4 And that's a price-only competitive
5 solicitation. And developers, to participate in that,
6 will have to have achieved, you know, certain milestones
7 in their development process to be able to participate.

8 So we're looking forward to seeing how that
9 process works and to building on that program.

10 We also have our current RPS solicitation
11 underway, which I have to say we've had a really robust
12 response to that, and we're negotiating with people
13 today, hoping to add another 800 to 1,600 gigawatt hours
14 of renewables to our portfolio.

15 And then we also have our PV program, where we
16 also have had our first successful solicitation for 50
17 megawatts with third-party developers, and we'll be
18 having our second one next year.

19 So, again, having this consistency in the
20 processes and procurement mechanisms, and working to
21 really streamline these processes is really helping the
22 development community and its helping, I think, the
23 utilities as well get stronger projects into their
24 portfolios today.

25 So as we look at renewables development going

1 forward, we kind like to keep four principles in mind
2 and that's, you know, expanded eligibility of resources.
3 You know, we always think that the more resources that
4 are available in the marketplace, that the more
5 competition there is among those resources and we can
6 drive down costs to customers.

7 Cost to customers is paramount. You know,
8 California has a long history of being kind of
9 technology neutral, but looking at the best cost for
10 customers.

11 And that's really -- it's a challenge as we look
12 forward because we've been focused very much on the
13 lowest cost, but we also hear the discussions about but
14 what about the value? How do we capture some of those
15 non-monetized societal benefits in evaluating
16 renewables?

17 And we don't know the answers to those, yet, but
18 that will be an interesting discussion over the next few
19 years.

20 Also, we need to think about, you know, everyone
21 plays and everyone plays by the same rules. You know
22 muni's and IOUs, I think under the 20 percent program
23 there were different rules and different ways that
24 people participated. We would like for everyone to be
25 able to say that renewable RPS compliance means the same

1 for everyone.

2 And then, lastly, you know, flexibility in the
3 program design. I think what we've learned in the last
4 eight years is sometimes things work, sometimes we learn
5 something and we adjust course, but that flexible
6 compliance is key to building a sustainable and durable
7 framework for renewables.

8 I think Suzanne's presentation touched on, well,
9 most of the issues we have before us. Our detailed
10 comments, in October, will go into, you know, more
11 details on points that were made in the discussion.

12 But, certainly, we see many of the same issues;
13 transmission infrastructure development, renewable
14 integration, how do we streamline the distribution
15 interconnection process, how do we continue to work to
16 streamline permitting?

17 And so on transmission we agree with the point
18 that it might be better to, you know, perhaps build a
19 more flexible transmission system. You know, we kind of
20 look at it as in the total cost of renewable space,
21 generation is far more expensive than the investment in
22 transmission.

23 And so if we can build in a bit more optionality
24 into the transmission system, we might actually be able
25 to tap into broader resource development, which would

1 give us more price-on-price competition for renewables,
2 itself, which actually has better long-term benefits for
3 customers, rather than, you know, what I call skimping
4 on the lower-cost item. A more flexible transmission
5 system can actually give us a little bit more
6 optionality.

7 On renewable integration, you know, certainly
8 storage is going to be part of our long-term answer to
9 how to integrate renewables. But we're looking at a
10 variety of resources and that focus on cost
11 effectiveness, and how do we get these systems into
12 the -- into the electric grid and learn more about how
13 we operate it will be key.

14 You know, I know there's been a lot of call for
15 mandates for renewables that we need to have some sort
16 of target going forward. And, you know, we hear that,
17 not necessarily sure that mandates for storage are going
18 to -- will create the jobs that we're looking for in
19 California or that will really help foster, you know,
20 technology creation in that arena.

21 Instead, you know, if mandates and set-asides
22 are set too early they could actually push us into
23 technologies that are still quite expensive and increase
24 cost to customers more than it could -- more than it
25 should.

1 I heard a comment about how do we streamline
2 permitting, how do we include Department of Energy,
3 Bureau of Land Management and all of the other agencies?
4 That's still an area, I think we've made a lot of
5 progress in the Desert Renewable Energy Conservation
6 Plan, but as that plan comes to fruition over the next
7 year or so, you know, how can we start thinking now
8 about how we expand that, and how do we set up process
9 for developers in other areas that could leverage off of
10 that information?

11 And on financing, yeah, we do have a lot of
12 uncertainty as to how we're moving forward with R&D
13 right now. I was rather surprised the PGC bills didn't
14 pass, and R&D is certainly a key element of that bill.

15 Hopefully, we'll be able to find some solution
16 so that we can move forward in investing in that really
17 important area for California.

18 And lastly, I think we've already touched on
19 cost, the cost versus the value of renewables, how do we
20 look at that going forward.

21 And we have seen declines in the cost curve for
22 renewables. Not sure if that's going to be sustainable
23 long term.

24 And then the other challenge is looking at our
25 portfolio and what we've already put in the portfolio.

1 Today's prices don't affect the prices for contracts
2 that have been signed, you know, before we saw these
3 price declines. So that's -- some of the declines today
4 customers aren't able to capture because, you know, in
5 part California's been a leader and we made these
6 commitments early on, and that's helped drive this
7 innovation in the industry, but customers aren't able to
8 capture that price decline today.

9 And with that --

10 MR. STERN: Good morning, staff, and thank you
11 for providing me the opportunity to talk to you today
12 about this comprehensive and well-prepared report.

13 I want to start with a few high-level comments
14 and then I'll go into a little bit more detail on a few
15 specific areas. And eventually, of course, what you're
16 probably going to be hearing is some reiteration of
17 points from various panelists over time, but we'll try
18 and minimize that, I guess.

19 One point I do want to reiterate from what we've
20 heard from both staff and my colleague at the PG&E, and
21 we may hear more of, is the need to maintain flexibility
22 in what we're doing as we look towards implementation
23 here.

24 The scope, timing, and the process of what we're
25 trying to do are important. As we move towards 33

1 percent renewables and the other elements of the
2 Governor's goal, we need to continue to recognize things
3 are changing and emerging, we are learning more.

4 And one of the other elements I'll ultimately
5 get to and take a little time on has to do with the
6 timing of what it is we're trying to accomplish, you
7 know, just to put it out there.

8 Now, I do believe we are well on our way towards
9 being able to meet the goals. We're on a path, as shown
10 in the graph here, that shows we're -- it looks like
11 we're potentially going to be exceeding the targets that
12 are set for renewables, from a timing perspective,
13 depending on the success of projects and we'll need to
14 continue to focus on that.

15 I think we'll find on the other elements of the
16 Governor's goals, in terms of the numbers, that we'll
17 find ourselves on a path to be able to achieve those as
18 well.

19 But we also need to recognize there isn't a need
20 to rush to the end state if it costs us by making too
21 many commitments and decisions early, when we can do
22 better as we learn more, as I'll get to when I go
23 through here.

24 The other element is, and perhaps this is a
25 little bit on the unfortunate side, but the reality is

1 that the focus on clean jobs and connecting that to
2 things like localized energy resources, that connection
3 isn't as strong as we might like it to be. And I think
4 we just recently saw an example of that with the laying
5 off of many people in California associated with the
6 development of panels here.

7 And one of the things we have to recognize is
8 that jobs are critical and there are various things we
9 need to do to focus on jobs, and we cannot limit
10 ourselves to one specific, unlimited path of localized
11 energy resources. There are other elements associated
12 with energy efficiency, electric transportation, the
13 infrastructure replacement that was referenced earlier
14 by Suzanne that I think we need to recognize as well.

15 And then, ultimately, in order to be successful
16 in achieving our policy goals we can never forget the
17 impact on the consumers in California. You know, if we
18 do, and I'll talk a little bit more about this later,
19 then we're going to find problems achieving the goals
20 that we've set out because if we've done so in a way
21 that doesn't meet what we need to do on safety,
22 reliability, and affordability to our customers, then
23 the achievement of these goals could be in peril.

24 And so I'd like to talk a little bit more about
25 these three issues. Safety, as we've heard a little bit

1 mentioned earlier today, is connected to the fact that
2 our distribution system really was designed for a one-
3 way flow of power and we need to make some changes. We
4 need to update things to be able to handle the use of
5 the system in a different way than it was designed,
6 while maintaining safety.

7 And I'm discussing safety first because I think
8 it is first in any respect that we might want to address
9 this. And until and unless we can reasonably manage the
10 system safely, we really can't do all the things that
11 we'd like to do to achieve our goals.

12 And these things can be overcome. I think
13 sometimes there are comparisons to the European system
14 and I think some of their system designs that do better,
15 sort of integrate and manage what's -- monitor and
16 control systems that provide more opportunity and
17 ability to manage the distribution system impacts, that
18 we can get there, but that's not where we are today and
19 we need to make sure that we do these things properly
20 and in the right order.

21 There are standards that are going to have to be
22 updated and modified, particularly to deal with a lot of
23 the solar localized energy resources and the increases
24 that we're seeing.

25 I mean, it's very encouraging to see the

1 reduction in the prices that's going to create the
2 opportunity for substantial expansion in this arena.
3 But, again, we do have to make sure that we're
4 establishing and updating the standards to be able to
5 handle these issues, otherwise we could be seeing
6 problems of voltage control, or low-voltage ride
7 through, and we need to be able to effectively monitor
8 what's happening on these systems.

9 So, I think we're on a path, there's a lot of
10 work going on, and I think our focus has got to be on
11 continuing to do that and make that progress.

12 And as I'll get to, again, a little bit more
13 later on the timing, we can achieve these goals. We
14 don't have to achieve them all in the next couple of
15 years, before we've figured out how to do it properly.

16 We need to walk a little before we run here to
17 make sure we're handling things like standards and
18 safety, and then the next topic, which is reliability.

19 On a broad scale the utilities, in conjunction
20 with the ISO, have just recently completed a fairly
21 extensive study within the PUC's proceedings dealing
22 with the need, the operability requirements that the ISO
23 has to deal with intermittent resources.

24 And this has been a good step forward in our
25 understanding and our analysis of what those needs are.

1 But we're not there, yet. In fact, that very process is
2 continuing on as we go forward. We have more to learn.

3 And, personally, I believe the tools that we
4 continue to use to try and evaluate what these
5 operability needs are, are going to have to develop over
6 time and change. They're really taking older tools and
7 trying to apply them to newer problems that exist today,
8 that never existed at the time.

9 So there's more to learn here, we're making good
10 progress. I don't think anywhere else there are the
11 kinds of studies that are being taken here, in
12 California, have been done before.

13 And the groundbreaking is good, but we're not
14 all the way there, yet, and we have to continue to
15 understand more about the impacts of intermittency on
16 our grid, and how we can have a grid that can handle
17 that intermittency effectively before we find ourselves
18 in a situation where we've got more than we can handle
19 reliably.

20 Because our customers demand reliability from
21 the grid, as they should, and we need to make sure that
22 we can continue to be able to deliver that.

23 The final area I want to talk about, then, is
24 affordability and I think this is a critical point. If
25 California is going to lead in achieving its

1 environmental policies, whether it's greenhouse gas
2 reduction, or other elements of our environmental goals
3 here, we have to do so on a way that is not going to
4 excessively burden our customers from the cost of
5 their -- the power usage.

6 Because if we do excessively load costs onto our
7 customers, then there will be a push back against the
8 policies that we're trying to achieve here, and I don't
9 think we need to overdo it if we do this properly and
10 carefully, if we find the lowest cost ways of achieving
11 these goals.

12 I mean the simple argument that I've been giving
13 in the greenhouse gas arena is that if the whole object
14 of our greenhouse gas program here is to establish a
15 model for others to follow, since we can't solve climate
16 change alone, in California, based on its actions, the
17 legislation itself focuses on establishing a model.

18 Well, that model should be a way to achieve our
19 GHG reduction targets in an affordable way, in a way
20 that doesn't adversely impact our customers and turn the
21 public against what we're trying to achieve.

22 I think we can do that here with our renewable
23 development as well, and I think it's important that we
24 focus on how to do so.

25 And that may take some additional time, but let

1 me get to the timing element.

2 I think we're on a path, on the broad scale for
3 renewables, to reach our targets. On the localized
4 energy resources there is a desire to do more sooner, to
5 potentially avoid transmission investment, these are
6 things that can happen really quickly.

7 As we've seen in examining the distribution
8 system, it's not that simple and there are a lot of
9 other elements that need to be handled properly.

10 And we currently find ourselves in a situation,
11 maybe largely due to things outside our control, like a
12 recession, at a time when we don't have a real need for
13 the power, the new power that would come from the
14 additional renewables. In the next few years we're not
15 finding ourselves short in that regard.

16 And we're not finding ourselves short on a path
17 to meet our broad reliability goals.

18 So there doesn't appear to be a reason to say we
19 need to accomplish these goals and do it in the next two
20 or three years, as opposed to over the time frame that's
21 been laid out in the Governor's plan.

22 Recognizing that costs have come down on
23 photovoltaics, in particular, some of the renewable
24 technologies, that's an opportunity we can take
25 advantage of to take the time to figure out, one, how to

1 do it right and, two, take advantage of the continuing
2 decline in the costs of these technologies.

3 And again I think this is all critical in order
4 to make these goals achievable and successful.

5 So, that doesn't mean that we shouldn't continue
6 to push forward, it's just that where we push forward
7 has to be on things like fixing and changing the
8 standards, ensuring that we have a distribution system
9 that's going to be able to handle the distributed
10 generation that we're seeking to put in there, learning
11 what we're going to need to deal with the operability
12 issues that come from the expanded intermittency.

13 You know, we're just starting right now to think
14 about the change that we're learning about as we see
15 that photovoltaics and, therefore, solar, seems to be
16 emerging as a lower cost technology than what some of
17 the other renewables may turn out to be.

18 If this means that our major increase is going
19 to be in solar technologies, that's going to have
20 impacts on the timing of the needs on our system on the
21 value of existing demand response programs, et cetera.
22 We need to learn about these things and deal with them
23 as we move forward, and we have the time to do so.

24 So, concluding, you know, I think we're on a
25 good path. We've identified in this report a lot of the

1 same issues that I've just mentioned that are critical,
2 and I think we need to focus on the solution of these
3 issues.

4 And our goal shouldn't be to rush and try and
5 achieve our goals, our 2020 goals by 2014, or anything
6 like that, because in doing so we could put at risk our
7 2020 successes that we seem to be on a good path to
8 achieve. Thanks.

9 MR. SAKARIAS: Good morning, my name's Wayne
10 Sakarias, I am the Director of Legislative Analysis and
11 Regulatory Policy at San Diego Gas and Electric and
12 Southern California Gas Company.

13 First off, I appreciate the opportunity to
14 participate in the panel this morning and, second, I
15 want to commend the Commission and its staff for the
16 development of this report. It's really quite an
17 amazing report, it covers a huge number of topics.

18 I thought it was 337 pages, not 335, but I might
19 have counted wrong.

20 So, what I want to do is talk with you a little
21 bit about a few issues that kind of struck me and struck
22 us at my two companies.

23 When I talk with officers in my company from
24 time to time, one of the things we talk about is what
25 are the issues that keep you awake at night; the things

1 that you worry about could cause something that you wish
2 wouldn't happen to happen?

3 And one of the things I want to talk with you
4 this morning about is some of the issues that I think
5 you, as officers and representatives of the State of
6 California, might keep you awake at night and where you
7 would want to make sure that the policy decisions that
8 you're advocating take these issues into account and
9 minimize the risk of bad outcomes.

10 The first issue that I want to raise, and my
11 colleagues to my left have already talked about it in
12 different contexts, and I'm going to speak about it in a
13 different context yet, is rate impact.

14 When we adopted the renewable portfolio standard
15 in 2001 and since that time, we adopted a process where
16 the RPS requires least cost/best fit analysis. We have
17 a law, now, that will go into effect in roughly 90 days,
18 adopting 33 percent renewables, that requires the Public
19 Utilities Commission to examine and establish a cost
20 limitation as a protection to customers from a rate
21 impact stand point.

22 And we have a process that we use at each of the
23 utilities that encourages a competitive selection of
24 resource opportunities as a means of disciplining price.

25 One of the things that I look at when I look our

1 discussion about renewables in the context of
2 distribution generation is do we have similar kinds of
3 considerations of rate impacts when we consider
4 distributed generation?

5 We do have, at the Public Utilities Commission,
6 the renewable auction mechanism, which was specifically
7 designed to try and find some way of ensuring that we
8 have price discipline, and I think that was an important
9 step forward.

10 But by and large distributed generation has a
11 tendency to develop where it develops, when it develops,
12 at the level it develops at.

13 And we have some structures in place that
14 encourage certain kinds of development, and it's some of
15 those structures that I think we have some issues that
16 we need to think about some more in this State.

17 Smaller distributed generation is generally net
18 metered, so this is behind-the-meter generations, net
19 metered. And inherent in the concept of net metering is
20 that the net-metered customer isn't paying the cost of
21 service that the utility provides. They're not paying
22 the cost of transmission, distribution, and the use of
23 the facilities for storage, what amounts to free
24 storage.

25 Because what net metering does, in essence, is

1 allows you to bank your generation from the time you
2 produce it to a time that you need to use it later on.
3 So, the utility acts as the bank, the storage.

4 And the consequence of this is that there are
5 quite a bit of costs that are shifted from the
6 generating customer to those customers who are not
7 generating.

8 And we have in this State, because of laws
9 passed back in 2001, magnified the impact of that by
10 creating tiered pricing. And the consequence of that is
11 that our tier 3 and 4 rates at SDG&E are roughly 30
12 cents a kilowatt hour.

13 I had the displeasure of working at SDG&E during
14 the energy crisis, as the Director of Fuel and Power
15 Supply, and our rates, our retail rates were not 30
16 cents a kilowatt hour. And the State was so concerned
17 about those rates that they froze the rates back down to
18 something in the neighborhood of about 12 or 13 cents a
19 kilowatt hour.

20 So, we're at a rate that ten years ago we
21 thought was absolutely untenable and perhaps today it is
22 tenable. But the question is at what point will it
23 become untenable?

24 Because we know from historical experience that
25 there is a tipping point.

1 And because of the way that our rates are
2 designed as we add costs, and as we shift costs from
3 some customers to other customers, that all those costs
4 are put in the tier 3 and the tier 4 rates, so we
5 magnify the impact.

6 And it's easy to look at the cost impacts of
7 increasing net metering from where we're at right now,
8 which is about a little -- between two and two and a
9 half percent of our peak.

10 If we increase that to five percent or ten
11 percent, we can move from the tens of millions of
12 dollars of costs being shifted to approaching nine
13 figures each year. Those are large rate impacts and
14 they're a consequence of a decision that we made back in
15 1995, when we capped net metering at one-tenth of one
16 percent of our load, for SDG&E three megawatts and a
17 half.

18 And we're applying those in a different system
19 where we have renewable portfolio standards, and rate
20 freezes, and tiered rates in a situation where we now
21 have on our system, today, 30 times the generation that
22 was the capped level back in 1995 when this system was
23 first adopted.

24 So the -- one of the messages and one of the
25 things that keeps us awake at night, and I think will

1 keep policymakers awake at night, is this is not
2 sustainable in the long run.

3 So, as we think about the development of
4 distributed generation behind the meter, we need to
5 address these long-term rate impacts, where they're
6 going and what to do about them.

7 And let me just embellish that point one more
8 step, which is that one of the consequences of this set
9 of laws that we have in place right now is that it
10 benefits the more wealthy at the expense of the less
11 wealthy.

12 What we see is that those people who today are
13 taking advantage of adding generation behind the meter
14 in the residential sector are largely people with
15 incomes over \$100,000 a year, and those people who are
16 paying the cost are largely those who can't afford to
17 put in the solar to avoid those costs, and aren't on
18 CARE already.

19 So, it is the lower middle and middle class that
20 are paying these costs, and paying the costs of the
21 public purpose programs, including CARE costs, which are
22 not being paid by anybody who is paying in their --
23 putting in net-metered generation.

24 So, one of the things that keeps us awake at
25 night, and we would like the State to join us in this

1 insomnia, is the rate impact that's created by this
2 system of tariffs and laws that were passed in a time
3 that is different from the time we are at today, where
4 we have some longer-term goals that we weren't even
5 thinking of back in 1995, or 2000, when we had different
6 things on our minds.

7 The second thing that I want to talk about that
8 keeps us awake at night is operating impacts. And I
9 want to focus, really, on the distribution system, not
10 the transmission system. There's a lot of people who
11 are kept awake at night already on that at the CAISO,
12 and we respect the work that they do.

13 But I want to talk a little about the
14 distribution system because I talk with our distribution
15 engineers on a regular basis about what they're doing,
16 and what they're seeing, and what they're concerned
17 about.

18 And as the report, I think, did a very nice job
19 discussing the kinds of issues that can arise and we had
20 some discussion here with my colleagues from the other
21 utilities.

22 When I was a lawyer back with the company, many
23 years ago, we had a generating customer on a landfill,
24 used a reciprocating engine on a landfill, burning
25 landfill gas. And what we found out was that the

1 generating output of this was subject to a lot of
2 fluctuation.

3 And they were -- the landfill was at the end of
4 a long distribution circuit and also on that circuit was
5 a customer who did microscope work. And what was
6 happening was that this customer's lights were
7 flickering like crazy and as he was working on his
8 microscope the light was flickering and it was largely
9 driving him insane.

10 And that did not meet the kind of standard that
11 we expect of our delivery service that we provide, and
12 we asked the generator, Pacific Enterprises, which whom
13 we later merged, to fix it or shut the plant down.

14 They sued us and some of the people who sued us
15 are now our general counsel for our merged company.

16 (Laughter)

17 MR. SAKARIAS: So, enemies can be friends. But
18 one of the lessons that I learned at that stage was that
19 there are impacts from generators on small distribution
20 wires that weren't built to have generation on them, if
21 that generation isn't -- doesn't meet some fairly rigid,
22 vigorous standards.

23 What we have found in the context of
24 intermittent generation from solar on our system is that
25 we see voltage fluctuations that we have to then adjust

1 for today.

2 The largest impacts on our distribution systems
3 will happen when the system is at its lowest load and
4 the generation is at its highest, so that would be like
5 in the spring, when we have sunny days and nobody's
6 using a lot of electricity, so that generation reverses
7 flow.

8 It controls, then, the voltage on the system, on
9 that circuit, rather than our controlling the voltage on
10 the circuit.

11 And the consequence of that is that we have
12 cases where the voltage is just moving all over the
13 place. All right, so what does that mean? What that
14 means is that we need to know when those kinds of things
15 happen, where those kinds of things happen, and what are
16 the appropriate mitigation measures that you need to put
17 in place so that you can accommodate the generation that
18 we're hoping to accommodate without having adverse
19 operating impacts.

20 What I've learned from my distribution engineers
21 is that this is not an area that is very well studied in
22 the industry.

23 I would have thought, with the experiences that
24 Germany and Japan had, that you would have all kinds of
25 literature on this. The systems are different between

1 Germany and San Diego Gas and Electric Company, at
2 least, and from what I've seeing within -- generally
3 within the State of California, at least.

4 And so the consequences, we see consequences
5 different than what they're seeing. They're beginning
6 to see what we are experiencing more broadly, but even
7 we are at the beginning stages because we don't have
8 lots of generation. We have about 15,000 distributed
9 generation customers, about 110 megawatts of PV on our
10 system right now, on distribution circuits, all below
11 one megawatt in size.

12 And so what's keeping us awake at night is
13 making sure that when we go forth and do the things we
14 do, we understand what measures we need to have in
15 place. A caution I would give the staff report is we
16 read that perhaps as being a little more optimistic than
17 we are about the availability of certain technologies
18 today.

19 These are things being studied, these are some
20 things not necessarily out there right now. I know, for
21 example, there's a discussion of, and I thought it was
22 on point, about the smart inverters, which we think have
23 a lot of potential, but we don't even have standards for
24 them, yet. And we have people who are on the panels
25 that develop the standards, and if you know about those

1 things they -- it takes years to develop the standards.

2 So, the thing that we would want to make sure is
3 that we're working smartly in terms of understanding
4 what the consequences are, what the mitigation measures
5 are, how they should be imposed, who's going to bear
6 those costs because utility customers sometimes object
7 to utilities putting in things at utility cost, because
8 it's considered to be gold plating the system.

9 So, we have to understand all of those things.
10 And are we giving the right price signals to generation
11 developers where to locate and where not to locate.

12 So, that would be the second thing that I would
13 call attention to.

14 And the third one will be much briefer because
15 we could have a workshop, all-day workshop and we would
16 not even begin to touch the ramifications of it, is
17 permitting.

18 A very big issue in California, you well know
19 it, because you wade in the world of permitting. It is
20 time consuming in California and it's expensive in
21 California, and that is a deterrent to generation
22 developers, and it is a deterrent in California more so
23 than in other states, where the time for permitting is
24 maybe two or three times in California than what it is
25 elsewhere, and where the costs could be as much as five

1 times above, in the experience that we've had at least.

2 So, there's two things that I have in mind here.

3 One is we have a series of things we have thought about,

4 I don't know that they're optimal ideas. We will share

5 them with you in our written comments; I'm not going to

6 burden you down today on that.

7 There are a bunch of different things, some

8 affect this agency, some affect the Public Utilities

9 Commission, some are CEQA related.

10 And then the other thing that I would call

11 attention to is that maybe the biggest remedy to

12 permitting problems is clarity within the permitting

13 agencies of what the priorities are. Because from time

14 to time process prevails over substance, and that's one

15 reason why things are more time consuming than they are.

16 So we would -- we want to participate in that

17 dialogue. We have some suggestions. As I said, I don't

18 know they're the best, but one thing I will call

19 attention to is that if the State of California can pass

20 a law to make it easier to permit a stadium in Los

21 Angeles, surely we can do better than that on

22 renewables.

23 So with those comments, I will pass it along to

24 my colleague at the CMUA. I know I took longer than I

25 should have, I apologize, but I get carried away from

1 time to time.

2 CHAIRPERSON WEISENMILLER: No, thank you. I was
3 going to make observation. As you were talking about
4 the landfill gas project, as you know, I worked for the
5 City of San Diego for decades, so I was going, oh, my
6 God it must be theirs, so I was happy to hear that it
7 was, indeed, your now-affiliated company's project.

8 And I would note that in terms of the stadium
9 law, it may have applicability to other projects,
10 including potential energy ones, if lawyers like you dig
11 into it.

12 MR. SAKARIAS: Yes, I understand that and we
13 have some ideas to do more of that kind of thing. But
14 since the starting place was stadiums and we found out
15 where the priorities lay and --

16 MR. ANDREONI: Good morning, Commissioners. I
17 want to thank you for the opportunity to participate
18 today. My name is Anthony Andreoni, I'm the Director of
19 Regulatory Affairs at CMUA.

20 I'll try to be to the point and brief here, I
21 know we're running a little bit behind.

22 But I definitely want to thank CEC staff,
23 they've definitely provided a detailed and comprehensive
24 draft report, I think many of my colleagues mentioned
25 that earlier. There's a lot of work that went into that

1 document.

2 CUMA and our members are involved and committed
3 to expanding renewable power in California. Many of our
4 members have, as you are aware, already adopted plans to
5 meet the 33 percent renewable requirement by 2020.

6 Some of our members meet this today, while
7 others have plans to exceed 33 percent by 2020.

8 CUMA and our members are very diverse across
9 California. We're also currently engaged in dialogue
10 with other CEC staff on the development of the RPS rule,
11 the enforcement rule for POU's to meet the 33 percent
12 goal.

13 From what I'm hearing today it really, truly
14 seems to be the old analogy of it's not really a short
15 race that we're after here, it's really I would look at
16 it as multiple marathons, it's really the long-term
17 goals that we're trying to reach here.

18 We definitely look forward to working with staff
19 on developing the strategic plan for renewable
20 development.

21 Just briefly, I know many of you are aware CMUA
22 represents over 40 publicly-owned electric utilities and
23 we provide about -- we provide electricity to over one-
24 fourth of the State, and we have no profit motive.

25 As mentioned in the CEC presentation, the State

1 needs to consider a really good, balanced approach for
2 implementing future renewable power goals that include,
3 number one, reliability, affordability, as we've heard
4 today, and it has to be sustainable. It really needs to
5 help meet our environmental goals as we move forward.

6 Currently, our members must balance the
7 competing State mandates, and some of those were
8 mentioned earlier.

9 The draft strategic plan needs to mention the
10 number of State mandates that must be met by utilities
11 in the next nine years. For some reason 2020 seems to
12 be the magic deadline currently in California.
13 Hopefully, we'll see some very good progress as we get
14 to 2020, but I'm sure there's going to be additional
15 progress beyond that.

16 Our members will be making significant
17 investment in replacing aging electrical distribution
18 infrastructure, building new transmission, eliminating
19 or replacing some sources and, of course, must comply
20 with AB 32 mandates, such as the cap and trade program,
21 which is still being close to being rolled out at this
22 point.

23 This is on top of the 33 percent RPS
24 requirements. And in order to minimize the cost impacts
25 and retain reliability on the power grid, our members

1 will need to carefully integrate the sequence of these
2 complex activities.

3 Additionally, we feel that the State should
4 thoroughly examine the cost to implement existing
5 mandates and the proposed new mandates across all energy
6 agencies.

7 This is typically referred to as examining
8 cumulative impacts and it's sometimes not a good word to
9 use around regulatory agencies, but it really is a
10 cumulative impact evaluation.

11 To help our members, CEC and other State
12 agencies, and including maybe some Federal agencies,
13 need to look at the end game. Really, it's reducing
14 carbon and diversifying our resources, rather than
15 imposing specific mandates.

16 California, we've heard this before, definitely
17 needs to be technology neutral and develop the best,
18 most competitive solutions, while minimizing the impact
19 on our customers.

20 We also, as was said earlier, have to look
21 beyond 2020. Renewable energy goals need to be tied to
22 the GHG reduction goals and should be part of the load-
23 serving entity's long-term integrated resource plan.
24 The plan should look at all possible resource options
25 and provide relief valves along the way to avoid

1 unnecessary costs and any stranded investments that may
2 exist.

3 Certainly, the long-term focus for 2050 is major
4 infrastructure investment.

5 Just real short, on permitting and licensing
6 there definitely needs to be an efficient permitting
7 process. Maybe consider general EIRs, if possible,
8 develop general plans that recognize renewable energy
9 development and identify renewable energy zones.

10 In regard to distribution system impacts, LSEs
11 need to look at integrated planning for impacts from the
12 distribution generation and increase electrification of
13 transportation, which is certainly starting to ramp up.

14 One major concern is the cost of major
15 distribution system upgrades, which we've heard today.
16 Many of our members are investing in also the smart
17 grid, which will be instrumental in helping to integrate
18 the impacts and improve reliability.

19 On transmission, the draft report seems to
20 address major concerns encountered with building new
21 transmission in California. However, it appears to give
22 short shrift to the progress already made.

23 By most accounts and according to Cal-ISO
24 analysis, their transmission planning process has
25 already approved sufficient transmission to deliver

1 renewable energy to meet the 33 percent goal.

2 In turn, many of the lines have citing approval
3 from the CPUC. This does not address, though, the
4 additional needs, if any, beyond the 33 percent, but
5 substantial transmission investment is taking place.

6 Transmission rates reflect this and the report
7 should reflect these conclusions of transmission
8 planning authorities as well.

9 In our recent filing to CEC, on the 33-percent
10 rule concept paper, we had one recommendation, among
11 others, that was to have CEC staff update their RPS
12 Eligibility Guidebook in order to ensure that all
13 utilities can proceed with procurement activity that
14 quality.

15 We think this can be done in parallel with
16 developing the RPS enforcement rule.

17 Furthermore, all pre-June 2010 contracts
18 approved by POU governing boards that meet the existing
19 eligibility guidelines should count towards the RPS and
20 deemed certified. This is a critical issue as our
21 members are operating under the first RPS compliance
22 period, beginning here in 2011.

23 Our members want to prevent any disruption in
24 service and provide any -- and reduce any cost impacts
25 on our ratepayers.

1 Finally, there's a need to discuss on POU
2 strategy for procuring renewable energy with the pre-
3 paid power purchase agreements, PPAs, which provide
4 near-term ownership.

5 This is not a general model used by some of the
6 IOUs and, furthermore, federal incentives acquired by
7 our members while pursuing PPAs are near expiration.

8 Just to give an example and put this in context,
9 the American Recovery and Reinvestment Act, Section
10 1603, the Federal cash grants towards projects were set
11 to expire in 2010. Legislation HR 4853 extended this
12 for one year, the start of construction, deadline for
13 cash grant in lieu of tax credit program.

14 This is dramatically -- this could dramatically
15 affect potential developments, so this is a very
16 important issue to our members.

17 CUMA will likely provide some additional written
18 comments to CEC on their draft report to support our
19 remarks, and also provide some additional facts and
20 figures.

21 Today, though, our members are doing their part,
22 they're working extremely hard to implement these new
23 mandates through 2020 and beyond. So, I want to thank
24 you.

25 CHAIRPERSON WEISENMILLER: Okay, thanks. I have

1 a couple of general questions and I'll start out with
2 the observation that every public opinion poll I've seen
3 has had a very, very high positive ratings for
4 renewables. And, certainly, when I went to the UCLA
5 conference, sponsored by the Governor, on distributed
6 gen, again there was really a ground swell of public
7 support. That isn't to say that one couldn't do things
8 that might dissipate that support but, certainly, I
9 think there's a real mandate, certainly in the
10 Legislature and the public in terms of moving forward on
11 these programs.

12 I think in terms of the other, again, general
13 comment was that the timing's a good question. We
14 obviously did not address timing, we tried to come up
15 with goals.

16 I mean the simple approach would be to say if
17 the goal is 10,000 megawatts and you have ten years
18 it's, you know, divide by ten. I think the presumption
19 is that we will see things that are more en tranches,
20 and that the -- hopefully, the second five years the
21 tranche will be bigger than the first four or five
22 years, and that will allow us to capture some of the
23 reduced cost.

24 And that in the near term that we try to design
25 the programs to really drive the costs down by looking

1 at what we can do on sort of permitting, what we can do
2 on interconnection, what we can do on financing.
3 Basically, ways to make it possible for these things to
4 be more cookie cutter.

5 And, certainly, if it's possible in this first
6 tranche to design the types of pilot programs we need to
7 do on the distribution system to identify where the
8 sweet spots are, and where some of the mitigation
9 measures are that we need to have in place so over the
10 long-term things are viable.

11 But again, I think as we move forward from here
12 that's certainly one of the things we're going address
13 much later in the fall is the sense of what is the
14 timing, and what's the sequence of some of the decisions
15 we have to make but -- and what's -- obviously, trying
16 to identify right now what's the most important thing.

17 So, certainly, the more in your written comments
18 you can contemplate some on what are the types of things
19 we have to resolve in the near term, so that we can move
20 forward in the longer term to a much greater or much
21 faster rollout, that would help.

22 And similarly, on things like to the extent that
23 you think there are major transmission projects that are
24 missing, and then certainly any legislative ways that we
25 can accelerate some of the permitting or interconnection

1 types of questions, it would be very good to get that
2 feedback.

3 I guess in terms of some general questions, the
4 first one is we used about a 30 percent failure rate on
5 contracts, and that's on a gigawatt hour basis, as
6 opposed to the number of projects, obviously.

7 And to the question is over time I know the
8 PUC's put in place viability screens or other things to
9 try to enhance that. What's a good number? I mean,
10 Valerie, at ten per ten, assuming that they were equally
11 sized, that would imply 50 percent but, again, that was
12 over a long period of time.

13 So is it 30, is it 50? What's your -- across
14 the utilities, what's your current guess on the contract
15 failure rate?

16 MS. WINN: Not really sure. Currently, I know
17 in our long-term plans we've been using a 60 percent
18 success rate, but that's based on the current portfolio
19 of contracts.

20 CHAIRPERSON WEISENMILLER: Okay.

21 MS. WINN: And as I mentioned, we've learned a
22 lot over the last eight years and going forward we're
23 getting projects that are much further along in the
24 development cycle.

25 So based on those sorts of things, I think we

1 expect that rate to get a little -- our success rate to
2 get higher going forward, so that we might, you know,
3 perhaps next time have something more like a 70 percent
4 or something higher.

5 CHAIRPERSON WEISENMILLER: Okay.

6 MS. WINN: But, you know, it's hard to predict.

7 CHAIRPERSON WEISENMILLER: Okay, Gary?

8 MR. STERN: Yeah, Edison's experience actually
9 parallels what PG&E just described here. We have, in
10 our planning process, been using 60 percent.

11 I think for the existing portfolio of contracts
12 we have that may still be a reasonable number, but I
13 think as we move forward we're anticipating those
14 numbers are going to be going up.

15 CHAIRPERSON WEISENMILLER: Okay. So, basically,
16 you're to get closer to the sort of 30 percent we were
17 using in the report? Perhaps?

18 MR. STERN: For -- as we move forward --

19 CHAIRPERSON WEISENMILLER: Or 30 versus --

20 MR. STERN: -- and sign additional contracts, we
21 anticipate that, yes.

22 CHAIRPERSON WEISENMILLER: Okay. Wayne?

23 MR. SAKARIAS: Yeah, you know, I have to tell
24 you I don't know what number they're using. So if Gary
25 says it's true, then it's probably true.

1 I think what we experienced was a larger,
2 probably a proportionately larger fail rate for some of
3 our early contracts than those kinds of numbers.

4 But I think that both the comments of Valerie
5 and Gary point out is there's a lot of learning that's
6 been going on over the last several years, so that we
7 now are getting fewer of these projects that you just
8 aren't really sure about from the beginning.

9 And so I think I have more confidence, now. You
10 know, because this is a process where we continue to --
11 we continue to go out on a regular basis to get
12 contracts, you're able to learn, also, from what events
13 have happened already, so nothing's cast in stone here.

14 I mean, for example, San Diego and I think this
15 is probably true with the other utilities, we're in
16 essence contracted up to -- up to or above 33 percent
17 now, but we know we're not going to get all of them.

18 Now, the question is, well, what does that mean?
19 Well, that doesn't mean we're stopping, right, we're all
20 continuing to go on that process.

21 But I don't have specific numbers, I can get it.
22 But the numbers that Valerie and Gary are talking about
23 sound generally like what I've heard in the past.

24 CHAIRPERSON WEISENMILLER: Okay, and Anthony?

25 MR. ANDREONI: Yeah, I don't necessarily have a

1 percentage to share with the Commission but, you know,
2 some of our members have been reviewing projects for a
3 number of years and certainly the large number of
4 projects in the last three years.

5 Some of the issues that we have found with those
6 projects, sometimes they're just speculative on what
7 they think they might be able to bring to our members.

8 You know, in other instances it could be
9 environmental impacts that may not have been evaluated
10 properly or just didn't meet the requirements.

11 But probably, even more importantly, is the fact
12 of can they obtain financing in order to get those
13 projects off the ground and move forward?

14 Certainly, there's some unreasonable expenses
15 that may be kind of put into those proposals.

16 But that's something that we'll continue to
17 follow to make sure that what we're doing continues to
18 move forward to meet the requirements, but it does
19 create quite a few challenges.

20 CHAIRPERSON WEISENMILLER: Okay. Other question
21 in terms of what is the ratio of -- and I'm trying to
22 get to how competitive is the market in terms of what's
23 the ratio between the total number of bids versus the
24 one selected, 10 to 1, 20 to 1? What are you running,
25 typically?

1 MS. WINN: I don't know that number off the top
2 of my head, but I expect that Julie Fitch, from the PUC,
3 may have some charts that show how the bids we've been
4 receiving since the start of the RPS program very much
5 has, you know, ramped up, particularly since 2007, when
6 we started seeing more, and more, and more solar bid to
7 us.

8 I'm not sure if Julie will have that information
9 this afternoon.

10 MS. FITCH: I don't actually know the number off
11 the top of my head, but I would generally agree with the
12 statements earlier that we're seeing a lot more
13 viability of bids, and a lot more bids. So, I think the
14 ratio of bids to contracts is actually going up, I
15 guess -- no, down.

16 MS. WINN: Although, I think we're getting a lot
17 more bids, but have less space in our portfolios these
18 days. So as we've been closing the 33-percent position
19 we're still seeing a lot of interest, but not
20 necessarily room in the portfolio or a need for the
21 additional energy.

22 MR. SAKARIAS: And my sense is that we're
23 getting a lot more bids, I think we're in the middle of
24 a process where we've just received bids.

25 CHAIRPERSON WEISENMILLER: Right.

1 MR. SAKARIAS: And my sense is that there's a
2 lot more competitiveness of the bids as well. Those are
3 both very good things for where we're going.

4 And, you know, is that going to change over time
5 because of economic climates, or things like that? We
6 don't know that.

7 But my sense is that that ratio, whatever it is,
8 and I do not know what it is, we're getting a lot more
9 bids for the amount that we'll be letting, than we did
10 five years ago.

11 MR. STERN: The same is true for us. In fact, I
12 think roughly speaking each of our last four
13 solicitations has had about double the number of bids
14 from the one the year before, so it's been doubling
15 every year.

16 CHAIRPERSON WEISENMILLER: Okay. I guess --

17 MS. KERSTEN: Just a question. It seems that
18 there's impression about why these projects fail,
19 ranging from permitting, to environmental concerns, to
20 financing. Is there any value in pinpointing the extent
21 to which, you know, each of these contribute to the
22 failure rate because that might help provide solutions
23 to, you know, expedite renewables development? Because
24 it seems to lack some rigor here in that we "don't know"
25 and it might be valuable to have an analytical approach

1 to understand, you know, what the root causes of project
2 failure are.

3 MR. STERN: I guess I'd say, as we sit here
4 today, that's probably no longer the major problem, as
5 Julie Fitch just indicated.

6 You know, we are now seeing greater viability,
7 more bids, so those -- you know, three or four years ago
8 it might have helped us have a better understanding of
9 some of the causes of failures. I think as we sit here
10 today that may be yesterday's problem as we go forward.

11 MS. KERSTEN: That supposes -- that kind of
12 presupposes that maybe permitting is working better when
13 probably it's not, or could you comment on that aspect?

14 MR. SAKARIAS: Well, let me say a couple things.
15 First off, a few years ago I think the PUC, in one of
16 its quarterly reports, tried to document their best
17 guess of what the big contributors are and it really was
18 financing and permitting were the two big ones.

19 Now, financing, part of that is driven by who is
20 it that's developing these projects, and I think that's
21 evolving over time.

22 Permitting, you know, I can't tell you that I
23 think permitting's improved any.

24 You know, we've got people in the East County of
25 San Diego who are objecting to the development of wind

1 in the East County. We have no -- well, we have one
2 wind project in all of San Diego County and we have
3 people objecting to development of wind.

4 Well, okay, it's local, it's renewable, and we
5 don't want it.

6 So, you know, permitting is, I think, going to
7 continue to be a problem.

8 And as you know there are other things going --
9 the County of Imperial, at one time, was talking about a
10 solar tax, placing a tax on people developing solar in
11 and selling solar within Imperial County. Part of that
12 was revenue raising for them, obviously, but the
13 consequence is that it increases the cost of doing
14 business, affects competitiveness, effects finance
15 ability, and so on.

16 MS. WINN: Yeah, and just to add to that, I
17 can't say for many of the projects that have failed that
18 it's been just one particular issue. I think on some of
19 these projects we saw a multitude of things, and each
20 project and the challenges it encounters are very unique
21 from project to project.

22 We've seen permitting issues, transmission
23 issues, technology issues, financing issues, you know,
24 water issues when it comes to solar thermal in the
25 desert, dry cooling versus wet cooling, all of the

1 environmental impacts and land use issues.

2 So, it's a whole host of things and each one
3 affects each project differently, dependent on its
4 location and technology type.

5 CHAIRPERSON WEISENMILLER: Okay. A couple more
6 questions, so I'd asked about the number, it would be
7 good to get a sense, again, whether it's 10 or 20 to 1.

8 The other question is diversity of the bids. I
9 mean, are these all PV or do you have a good mixture of
10 renewable technologies?

11 MS. WINN: I'd say it's a good mixture. I'd say
12 since starting in 2007 an increased number of solar PV
13 bids. And I think we've probably been seeing fewer
14 solar thermal bids over the last few years but,
15 certainly, some small hydro, biomass, and wind as well.

16 MR. STERN: Yeah, our experience is the same.
17 Of course, we're probably looking at many of the same
18 bidders.

19 CHAIRPERSON WEISENMILLER: The same bidders,
20 right. And in terms of all of us have really gotten the
21 message that PV costs have come down dramatically, again
22 on a very general level, in terms of the other
23 technologies has there been any sort of surprising
24 trends downward or are they all staying pretty constant?

25 Again, just very general.

1 MR. SAKARIAS: You know, I think there was a
2 period of time, for example we saw wind declining quite
3 a bit, and then there was the problem with the cost of
4 the factors that go into it. The cost of steel, for
5 example, that was going up.

6 So you see these kinds of impacts because of
7 other economic affects that were causing -- causing wind
8 costs not to decline.

9 So those things sometimes are a little harder to
10 predict.

11 My sense is, obviously, the biggest thing that
12 we're seeing the drop of is cost of PV.

13 MR. STERN: Yeah, I think our experience is the
14 same.

15 MR. SAKARIAS: I mean let me say that one of the
16 things that we would like to see -- you didn't ask this
17 question, but I'm going to answer it anyway.

18 One of the things we would like to see is the
19 ability to develop in-state biogas in some way, where it
20 can be directed toward power plants that now use natural
21 gas and thereby displace natural gas, but still get the
22 same operating benefits of a natural gas power plant.
23 That would be very helpful for us so that we don't have
24 a lot of must-run generation that is renewable, and no
25 generation that we can use to help kind of manage the

1 system.

2 So that would be, to me, something that would be
3 hugely helpful.

4 CHAIRPERSON WEISENMILLER: There's certainly --
5 Carla's having a workshop on the 20th that she would love
6 to have your -- your and everyone's participation on, on
7 some of those issues.

8 I was going to ask, I mean all of you now have
9 DG development programs of some sort, I mean what have
10 you learned from the first rollout of projects that
11 you've owned on a PV nature?

12 MR. STERN: Well, these are the larger-scale
13 projects. I think one of the things that we originally
14 set out to do was to find a lower-cost path of doing PV
15 than just the smaller-scale CSI program.

16 One of the things we learned is that they -- you
17 know, when we stepped into this space a market was soon
18 to follow, and that there was no compelling reason, I
19 guess, for us to continue as a utility-billed project to
20 take as active a roll as we did when we started it out.

21 I'm sure the people involved in it also,
22 probably, learned a lot about the difficulties of
23 dealing with companies and the leasing of their roofs
24 for these projects.

25 But I think we accomplished the goal that we set

1 out to which was essentially to find a means through
2 larger-scale projects to seek reduced cost in meeting
3 the desire for expansion of photovoltaics.

4 You know, of course now we've seen a lot more
5 happen in this space, but I think we accomplished the
6 goal that we originally set out to achieve.

7 MS. WINN: Yeah, I can't say that I have much
8 knowledge of our lessons learned, specifically on our PV
9 program, given it's pretty much in the early, early
10 stages.

11 I think, though, as we get more and more small-
12 scale PV on the system and as we look at ways to
13 integrate those we will have other pilots and other
14 things for storage technologies that we're looking at,
15 that will help us better understand how both of those
16 work in tandem.

17 MR. SAKARIAS: I would say that we are not
18 advanced enough on the programs. We have bids out right
19 now for the customer-provided DGPs. We haven't
20 developed any utility piece.

21 One of the things that I think we have seen, and
22 I know that my colleagues to the left have seen this as
23 well, that there is considerable economies of scale for
24 PVs, still.

25 A small-scale PV system versus a large-scale PV

1 system, the cost differential is quite dramatic, and so
2 that -- that tends to make you want to have larger, not
3 smaller, just because you've got costs that you could
4 potentially spread out.

5 CHAIRPERSON WEISENMILLER: Sorry, could you
6 define what you mean by smaller and larger?

7 MR. SAKARIAS: I would say if you're talking
8 about anything south of a couple of megawatts, that's
9 pretty dang small for pricing.

10 If you're talking about in the kilowatts range,
11 it's even more dramatic.

12 And I think we can look at our CSI numbers, now,
13 that are being published, we're still looking at costs
14 there of 85 to a hundred bucks a KW.

15 Whereas if you start talking about larger scale,
16 I think you're talking about PV costs that are down in
17 the -- I don't know, tell me, Gary, a couple of -- two,
18 three thousand a KW, instead.

19 So, it's a very big difference and it's scalable
20 all the way up, so the economies of scale are still
21 significant, it seems to me, right now.

22 Does Steve have the answer to this?

23 MR. KELLY: I don't get to see any of that
24 information, you guys know that.

25 (Laughter)

1 MR. SAKARIAS: I thought you made it up, though.

2 MR. KELLY: Well, we thought you made it up.

3 MR. SAKARIAS: I thought you knew it.

4 COMMISSIONER PETERMAN: Hello and almost good
5 afternoon, a few questions from this end.

6 First, Wayne, I sleep very well because I know
7 that you and your colleagues at the utilities are
8 working hard to reach our renewable goals, so thank you
9 for that.

10 I also appreciated your comments about the
11 rates, and which rates are tenable, and the
12 affordability.

13 Although, I think, arguably, the rates that you
14 cited both in the electricity crisis and now don't
15 actually reflect the marginal cost of the power.

16 And since I'm not at the rate-setting agency, I
17 get to ask questions like that and generally must
18 curious about first starting with what is the cost,
19 before we then talk about what's affordable and what's
20 tenable.

21 I think that would go a long way both with
22 understanding where the rates are, as well as the cost
23 implication to the customers around the Johnson effect,
24 or the gold plating that you pointed out, just having
25 some more transparency around those inverter costs.

1 You noted that we're still figuring out with DG
2 what are the system implications of scaling and, as a
3 consequence, we're not able to learn as much from, say,
4 some of our counterparts in Germany or Spain, as they're
5 starting to scale up.

6 Can you speak now or in your comments to what
7 modeling efforts you have going on to look at these
8 issues, in addition to observing and seeing how things
9 play out? I think there are some of these things that
10 we can at least narrow some of the uncertainty around
11 the system impacts.

12 And all these questions, I might direct them to
13 particular people because you raised the points, but
14 happy to have you all respond in your written comments.

15 And just getting at the issue of affordability,
16 as well, Gary, you mentioned just the cost of
17 renewables. But we know there are lots of other reasons
18 why rates are going up, and so it will be good for us to
19 understand the relative impact of renewables versus all
20 the other system improvements and cost investments you
21 have. Because in the counter factual we still have
22 costs increasing.

23 And also, to hear from you some opportunities
24 for cost reductions in other areas that might then make
25 the impact of renewables less so.

1 Do you want to step into it for a second there?

2 MR. STERN: Sure. And I think I'd say our
3 company's primary focus these days is trying to find
4 ways to manage the rate pressures that we see emerging.

5 And it's true that renewable development is not
6 the only element associated with it. I mean one of the
7 real challenges we face is that we have an aging
8 distribution system and we can either invest money,
9 which will result in some cost increases to deal with it
10 on a proactive basis or probably invest more money to
11 deal with it on a failure basis.

12 Either way, you know, the reality of the
13 situation is that our distribution system is old, now,
14 and that is going to add to rate pressures, again, one
15 way or the other as we go forward.

16 You know, there are, I imagine, a variety of
17 other factors that are challenging from a rates
18 perspective. You know, we're heading into an
19 environment where we're going to have a greenhouse gas
20 program in place that directly or indirectly will result
21 in some costs. It's not free to be able to reach these
22 goals.

23 So, I don't know whether there's a simple
24 solution. I do know that we are seeking to find the
25 best paths we can to mitigate these problems. Like I

1 said, I think it's our top priority right now is, you
2 know, rate pressures in the next couple of years in
3 particular look substantial and we need to do everything
4 we can to deal with them.

5 As I noted earlier, in the end our ability to be
6 successful at achieving the goals that we want and the
7 policies we want will be to be able to do it in a way
8 where we don't reach the tipping point, that Wayne
9 mentioned earlier, on rates. And so it has to be a
10 priority and that is what we're focusing on.

11 COMMISSIONER PETERMAN: And I just want to
12 mention, you noted that there are necessary distribution
13 upgrades, anyway, so it seems like an opportune time to
14 think about what upgrades will be necessary to make
15 distributed generation easier to site, more feasible.
16 And it would be good to get feedback from you all about
17 what that cost differential would be between the
18 upgrades you'd have to do, anyway, versus upgrading to a
19 more optimal system.

20 MR. STERN: Yes, absolutely. And we're doing a
21 lot of study in that space, now, as we try and figure
22 out the impacts on the distribution system of things
23 like localized renewable power, of things like the
24 expansion of electric transportation.

25 So there are these -- the age factor, as well as

1 these others.

2 More broadly speaking, although it's merely a
3 longer-term issue, the smart grid elements associated
4 with the distribution system, all of this we have to
5 sort of work our way through to figure out what is the
6 best path.

7 But all of it -- all of it looks like it has
8 costs associated with it and so the question is how do
9 we balance the need to be able to achieve a reliable,
10 adequately reliable system and a need to maintain a
11 reasonable cost structure?

12 MR. SAKARIAS: Let me just address both of the
13 questions that you've asked.

14 COMMISSIONER PETERMAN: Don't worry, there will
15 be more. Okay.

16 MR. SAKARIAS: You may have asked more, but I
17 grouped them into two questions.

18 First, in relation to the question of the DGC's
19 system impacts, and studies and so on, the first
20 observation I want to make is the distribution system
21 was built, as I think staff has pointed out very well,
22 it was built to serve load, not to receive generation.

23 So, we would not necessarily be modifying our
24 system if we weren't going to be adding generation
25 because it was built to serve that load. And if we

1 thought it was inadequate to do that, we would already
2 be changing the system to that affect.

3 That part of our efforts on smart grid, of
4 course, are to update us to the 21st Century from what is
5 really sort of 19th Century technology in many respects.

6 But once we start adding the overlay of
7 distributed generation then it starts raising questions.
8 And the answers to those questions are going to be very
9 location-specific.

10 So, the bigger -- how big is the wire, how much
11 generation are you going to put on it?

12 I mentioned this generating unit way out at the
13 landfill, well, it was out at the end of a very small
14 distribution feeder wire. If it's closer to the
15 substation, it's less of an impact.

16 If it's further out, then you might have to
17 reconductor that whole line, which could be miles of
18 reconductoring at considerable cost.

19 One of the things that we're trying to
20 understand is how much generation, located where, has
21 what kind of impact. And so we are in the middle of
22 studies right now, modeling studies, and we've engaged a
23 consultant to help us out on this, where we're testing
24 out generating units located in different places of a
25 certain amount of aggregate size. Obviously, these

1 generating units may individually be smaller than that,
2 but in aggregate they may reach those sizes.

3 So we understand how much starts tipping you
4 over, because a small amount not a big issue. As the
5 amount grows, depending on how big the facility is, and
6 how long it is, and how close you are to the
7 substations, the impacts are different.

8 So, what we find is that it really depends a lot
9 on location, which is why helping to provide information
10 to people who want to develop, so that they understand
11 that without our having to do studies for every
12 potential place, because we can't do that, that's cost-
13 prohibitive, but so that we can help people get the
14 right price signals, the signals to develop in the right
15 places where the impacts are the less, or the system can
16 more readily accommodate.

17 The other point that you made, that I think is
18 exactly on point, is cost versus rate impact. A lot of
19 what I was describing is the rate impact because of how
20 the costs are allocated.

21 In other words, any time -- today, any time we
22 have an increase in cost it all goes into tier 3 and
23 tier 4 on the residential side, and that magnifies the
24 amount of the rate increase. And at some point in time
25 that just is not going to work anymore.

1 So, it makes the cost increase that much more
2 important. If it was not magnified in such a way then,
3 you know, the strategy we used to adopt is, oh, it's a
4 small impact. Right, you know, a tenth of a cent raise,
5 or a buck on a bill or something like that, that's not a
6 big deal.

7 Well, that's not the case, now, for some
8 customers in some areas. And we've seen in PG&E's
9 service area, for example, a lot of concern in Kern
10 County because of the impact on rates when the summer
11 comes. And they -- people incorrectly blaming it, I
12 think, on meters, when it was really rate structure.

13 And we don't want to get into a position where
14 the next smart meter is distributed renewable
15 generation, we've got to fix that problem before it
16 becomes untenable, not afterwards when we're scrambling.

17 But to me it's more rate impact than cost. Cost
18 is important, I don't want to say cost isn't important,
19 but because of that magnification affect, because of
20 tariffs, and bills and statutes, rate impact becomes
21 even more important.

22 COMMISSIONER PETERMAN: And I appreciate your
23 comments that rate design is going to be critical when
24 we're thinking about, then, how those costs are
25 allocated.

1 Valerie, you had a comment?

2 MS. WINN: And, well, just for PG&E, I think all
3 of the utilities probably have some sort of distribution
4 modernization process, you know, underway and we're
5 certainly working hard at that.

6 But I think in terms of how much more would it
7 cost to accommodate more DG, I think one of the ways
8 we're looking at trying to contain cost to customers is
9 looking proactively at identifying where are those best
10 places to put the DG systems.

11 And if we can work to identify where those are
12 up front and, you know, give people the right signals,
13 that can really help reduce the cost to customers and
14 help reduce what's needed to upgrade the distribution
15 system.

16 But, you know, in reading through the Status and
17 Issues Report, you know, the CEC team correctly
18 identified there are over, what, 225,000 miles of
19 distribution circuits in this State.

20 And to undertake a process to update that
21 significant chunk of infrastructure, that's not
22 something that can be accomplished short term. And I
23 think, you know, some systematic process to do that,
24 while at the same time we're seeing changes in
25 technology that could really drive down the cost to do

1 that, you know, where do we find that right balance, and
2 that's going to be something that we keep talking about.

3 COMMISSIONER PETERMAN: Thank you. And as was
4 noted by Suzanne, the Commission is working on the
5 geographic location options around the DG and so maybe a
6 first step would be looking at those allocations and
7 seeing, then, what would be the necessary distribution
8 upgrades.

9 Valerie, something for now or for later in your
10 comments, you talked about just the importance of
11 expanded eligibility of resources and that we have had a
12 diversity of bidders for the current solicitations.
13 Does that also result in a diversity of successful
14 applicants? Or has that is more the question?

15 MS. WINN: I guess, as the industry has matured
16 some, I'd say it's in peaks and troughs. I mean,
17 certainly, in the last few years we've seen a bit of
18 consolidation, I think, in say the solar industry.

19 So, we may have had started out in, say, 2007 or
20 2008 where we had a couple different providers. We had
21 OptiSolar, we had, you know, different --

22 COMMISSIONER PETERMAN: I was thinking more
23 about the resources, themselves, versus the actual
24 providers. So, all of you have a diversity of biomass,
25 wind and solar bidding into the process. In terms of

1 what actually comes out as successful, is that still
2 representative of that mix or is it predominantly solar?

3 MS. WINN: I'd say today and going forward it's
4 probably going to be more of a mixture of wind and solar
5 resources. There are limited opportunities to expand in
6 the biomass and the geothermal arenas. Biomass just
7 because of the availability of feedback and geothermal
8 just based on, you know, the available sites for that.

9 So, I see more wind and solar going forward.

10 COMMISSIONER PETERMAN: Well, also in your
11 comments, that you commented on the trend we're seeing
12 in the switch from solar thermal to solar PV, and what
13 the implications for that might be just in terms of the
14 resource attributes, and some of those consequences.
15 And, Gary, you got into this in yours.

16 Let me just raise my final question because it's
17 to Gary, as well, and in the interest of time, and that
18 is that you pointed out, in particular, the need to
19 focus on standards, first. And we talked a lot about
20 permitting, but I feel a little bit less about standards
21 and appreciated those comments, and would welcome any
22 suggestions you have for speeding up the standard-
23 setting process.

24 MR. STERN: Yeah, I think as Wayne pointed out,
25 I mean the standard-setting process is a relatively slow

1 one. Safety tests for DG, for instance, I understand
2 that improvements are likely to take two or three years
3 to implement.

4 So, I don't know how much we're in control to be
5 able to improve these, the timing associated with
6 getting these done, but it's a necessity to get it done
7 right and get it done at the outset of launching into a
8 substantial expansion.

9 MS. KOROSSEC: All right, I know we're bumping up
10 against the lunch hour, but I would like to give our
11 other panelist an opportunity, if he would like to make
12 any responses to what the utilities said or have any
13 questions for them. And we also do have one question on
14 the WebEx that we want to cover before we break for
15 lunch.

16 Any of our other panelists like to say anything?

17 MR. MURRAY: Hi, Gary, this is Ed Murray from
18 Aztec Solar and Cal-SEIA. You mentioned a cost of
19 \$8,500 a watt, a kilowatt for PV, residential PV, and I
20 just wanted to clarify we're seeing costs around \$6,000
21 a kilowatt.

22 MR. SAKARIAS: Actually, that was me.

23 MR. MURRAY: Oh, I'm sorry. Sorry, Wayne.

24 MR. SAKARIAS: You can blame me for that.

25 COMMISSIONER BLANCO: Okay.

1 MR. SAKARIAS: That was my understanding of what
2 we were seeing in the CSI, so there may be like a lag,
3 also.

4 MR. MURRAY: Thank you.

5 MR. ZICHELLA: Hi, Carl Zichella, with NRDC. It
6 was interesting earlier to hear, I forget which one of
7 you raised it, you all made good points, but the idea of
8 grid controls on the distributed side.

9 I think one of the issues that also needs to be
10 added to that is visibility to the system operator to
11 help coordinate and be able to utilize the demand
12 response that could come from those grid controls to
13 help do larger-scale renewable integration as well.

14 So, I see that in Germany, which has added an
15 enormous amount of distributed generation in a
16 relatively short time, that they do have a different
17 method of integrating their distributed generation.

18 And understanding that we have a lot to do on
19 our grid to catch up to that, it seems to me though
20 there is a model that we can look to, to see about grid
21 controls, and that there may be some as close to off-
22 the-shelf as you can come in this kind of stuff,
23 technology that exists.

24 Spain has also integrated a large amount and did
25 a presentation at a stakeholder event a couple of years

1 ago on how they did it, it was very interesting.

2 And it leads to a conclusion that having better
3 integration across our balancing area authorities,
4 between and among them and private could also play a
5 role in this. I wonder if you could comment on that?

6 MR. STERN: Yeah, I certainly agree there's
7 lessons to be learned and things we're going to have to
8 do associated with the monitoring and control systems
9 compared to what they've got in Europe.

10 At the same time, I think if you went to Germany
11 or Spain and looked at what they did in terms of the
12 costs associated with how they got to where they did,
13 the expensive, state-subsidized feed-in tariffs, that we
14 can also learn a lesson that that's not the way to go.

15 But, you know, going back to your original point
16 the -- it will be critical, especially if we're looking
17 at substantial expansion, to have the visibility, to
18 have the control necessary for the system operator to
19 deal with this in a way that they don't today.

20 And there's a cost and a time element to
21 achieving that but, again, it's necessary. We really
22 can't go forward in a way where we put things out on the
23 grid that we can't see, that we can't control, that
24 we're just going to hope we're going to be able to
25 maintain the reliability standard that we've become

1 accustomed to and that we deserve.

2 MS. WINN: And I think the other part of that is
3 going to be helping developers understand, like when the
4 ISO seems them and can perhaps control the generator or
5 say you can't output to the grid now, that can lead to
6 other issues for developers with respect to can they
7 finance their project.

8 Certainly, curtailment of renewables in our last
9 RPS plan was a really hot-button issue. And, you know,
10 if people are curtailed more than they're expected,
11 they're not going to get the returns on their project.

12 So, I think they're all very good issues and we
13 need to work through those.

14 MR. ZICHELLA: Yeah, that's a very good point
15 and I think a point that I'll elaborate on after lunch a
16 little bit is the idea of regional coordination was
17 raised by Ms. Kersten earlier, not fully addressed in
18 this document.

19 But when we start talking about curtailment, we
20 have to look more broadly geographically about where
21 resources are coming from, their generating
22 characteristics, how they can complement each other.
23 All of our balancing authorities in California are not
24 integrated, so we can't take advantage, necessarily, of
25 all of the flexibility that we have in the system across

1 all of our authorities right now.

2 When we look at the problems encountered with
3 integration, and along these very lines, in the
4 northwest and other areas, we have an ability and a
5 market opportunity for our generators, for our State to
6 create employment, jobs, economic development by taking
7 advantage of this and coordinating more broadly with
8 these entities.

9 It seems to me these are solvable problems with
10 existing opportunities, if we're willing to innovate
11 more on the policy side and on the business model side
12 of how we're doing business right now.

13 I think we're limiting ourselves unnecessarily,
14 and it's costing us a lot financially and in terms of
15 reliability.

16 MS. KOROSEC: Steve, yeah, go ahead.

17 MR. KELLY: I have two comments. Actually,
18 these were on my talking points, but I'll bring them up
19 now because they're responsive to some of the comments.
20 And since I was at the last of the panelists, I guess
21 this is a form of queue jumping, so I'm exercising some
22 rights here.

23 MS. KERSTEN: As long as that's not in the
24 distribution queue.

25 MR. KELLY: After watching the ISO for years, I

1 know how to do this really well.

2 (Laughter)

3 MR. KELLY: The first comment is on, you know,
4 the notion of how many people are participating in the
5 RFOs, and we all applaud the fact that this competition
6 is really robust. And that's a really good thing
7 because it drives down costs to consumers and everything
8 else.

9 I would just throw this thought out, though,
10 that we may be getting to the point where we need a
11 little discipline on this. When I look at a need of,
12 say, 15,000 to 20,000 megawatts of renewables and an ISO
13 queue with 80,000 people in it, it becomes almost
14 unmanageable to study.

15 And that is impeding the ability for people to
16 develop projects because of the complexity of all of
17 that.

18 IEP has been a strong advocate of integrating
19 into the evaluation project viability. We think that's
20 been helpful over the last couple of years.

21 I was pleased to hear that you guys would
22 probably agree with that.

23 And we may need to look at that issue as a tool
24 to help inform the marketplace about what the utilities
25 need, which might have ancillary benefits of reducing

1 the size of the ISO queue, or the permeating queue, or
2 some of those other things that are draining resources
3 and delaying the development of the infrastructure that
4 we're all trying to achieve, so just one observation.

5 The second comment that I make is on the timing
6 issue that Gary pointed out. And while I agree that,
7 you know, we have a policy goal to achieve a certain
8 amount of renewable penetration by 2020, so we have some
9 time. I do think, though, that given the complexities
10 of infrastructure development, both transmission,
11 distribution, and generation and the time that it takes
12 to do that, that we are actually nearing a point where
13 we have to make decisions.

14 There's a lot of stranded generation if
15 transmission doesn't get built. Transmission takes
16 seven to eight years. If we back that out, we're almost
17 at the point, I think, where those decisions have to be
18 made, the decision to invest the money, the capital in
19 the T&D and in the generation.

20 We are getting to a point where if we want to
21 have that online by 2020, we don't have unlimited
22 amounts of time, so that was another observation.

23 MR. STERN: Yeah, and certainly time associated
24 with making transmission investment decisions is a very
25 different matter. I was really thinking more of we've

1 got a couple more years where we need to establish
2 standards, and learn how we're going to handle the
3 operability.

4 That doesn't mean we shouldn't be moving forward
5 with finding ways to improve the distribution system and
6 making whatever progress we can.

7 And it certainly doesn't mean we shouldn't
8 continue to work as hard as we can towards achieving our
9 goals. But immediate implementation in the next couple
10 of years, of localized resources, for instance, isn't as
11 critical as establishing the framework to have a
12 successful implementation over the time period, the
13 marathon, I guess, that we heard talked about before.

14 Just adding to your point regarding the
15 interconnection queue issues, one of the major hurdles
16 that we need to find a way to overcome, and I think
17 there are people trying to work through this now, is
18 that the situation that you described is really for
19 large projects, that we have this overwhelmed queue that
20 requires all of this analysis.

21 We're looking at the potential to creating a
22 similar parallel problem for the small generators when
23 we look at this expansion of localized generation
24 because we will be overwhelming the queue and the study
25 necessity associated with those interconnect requests if

1 we don't find a better way to do it than we're doing
2 today.

3 MR. SAKARIAS: And let me just sort of add to
4 that. Right now, if you're small enough when you do the
5 evaluation, we do everything serially. We don't say
6 let's take all of these projects and put them together
7 and find out what the facilities can accommodate and
8 what you need to do, which is what the whole ISO queue
9 process does is it takes groups.

10 And my concern here is that if we do things
11 serially, we're going to get to a point where you're
12 going to have one generator who's going to, you know,
13 hit the wall, and he's not going to be able to develop
14 at all because everybody else kind of got in front of
15 him, and you're not thinking of these things as a group
16 in terms of total impacts.

17 And I think it might compromise reality -- or
18 reliability, rather than help it.

19 All your other points, I don't disagree with you
20 at all. I mean transmission lead time, SDG&E's a poster
21 child for how long it takes to get transmission built.
22 And so is the Tehachapi's is another. You know, I mean
23 that one's been going on forever.

24 And, also, you know, one reason why utilities
25 aren't at 20 to 22 percent, or more, now is just the

1 whole lead time of getting -- going through the auction
2 process, and financing process, and all the rest of it
3 and getting approvals done, and so on and so forth, it
4 just takes time.

5 So, you know, we're planning today for
6 generation in the latter part of the decade. So, I
7 think all of your points are quite correct.

8 MS. WINN: And this is why we think maybe
9 planning for a little bit more transmission as opposed
10 to, you know, something fitting absolutely perfectly
11 with what we know today, a little bit more might be
12 better.

13 MR. FERGUSON: Wayne, why is that the utilities
14 haven't gone to a cluster approach for looking at DG
15 projects, like the --

16 MR. SAKARIAS: Well, this is -- this is -- if I
17 understand it right, but I'm not an expert and maybe
18 Gary is, but if I understand it right, this is the
19 battle between Rule 21 and the wholesale distribution
20 access tariff. Where the WDAT contemplates a different
21 evaluation than the Rule 21 does.

22 And there's a process at the PUC going on right
23 now to figure out what's the best way to integrate these
24 two structures.

25 And, unfortunately, it's very complex. I talked

1 about some of my history, and my history also is dealing
2 with Rule 21 back in the eighties, when we were all way
3 less sophisticated than we are today. And, man, was
4 that a time-consuming process.

5 So, it's unfortunately time consuming, but I
6 think the PUC's on the right track. It's got to be
7 resolved because we've got the FERC, the WDAT, we've got
8 the Rule 21, and they're different.

9 MR. FERGUSON: Yeah, I understand that but I
10 mean especially on the Rule 21 issue, I mean you've got
11 to look at everything coming in that's going to be on
12 that circuit, and so there's no way to do it.

13 MR. SAKARIAS: But we -- but we're not -- we're
14 not able to under the rule, as we have to do it as they
15 come in, one at a time.

16 MR. STERN: But that's one element of it, but I
17 think the real problem is if we're looking at a -- an
18 exponential expansion of the number of potential
19 requests for localized generation, then I think we need
20 to revisit the whole process and we need to -- I think
21 consistent with what Wayne was talking about, we need to
22 develop some proactive, rather than reactive approach to
23 interconnection.

24 MR. FERGUSON: Yeah, I'm going to talk some more
25 about that, just in general both the wholesale, DG, and

1 the whole thing. I mean I'll attempt to sort of
2 summarize my reaction to the report which, you know, at
3 a detail level is very good.

4 But in general I think many, many of these
5 problems and issues are exacerbated because we're in
6 this reactive mode and not in a proactive mode. And
7 it's scary to go there because, you know, it takes
8 direction and somebody has to stick their neck out and
9 say that. But we'll talk about that more this
10 afternoon.

11 MS. WINN: Yeah, and I just think one of the --
12 one of the challenges is the ISOs can't share
13 information with other people who might be in, say, the
14 same area to interconnect.

15 But there's nothing to keep developers, who may
16 know that they're all trying to develop in the same
17 area, from initiating some sort of a collaborative
18 process and learning something there. I mean that's
19 something that's been -- that's been discussed. But,
20 yeah, how do you get everyone who can share information
21 to want to do that.

22 COMMISSIONER PETERMAN: And, Julie, we wanted to
23 offer you the last word, not because you're my former
24 boss, but because you're from our sister agency.

25 MS. FITCH: I actually just wanted to come back

1 to the -- make a clarification point related to the
2 discussion we had at the beginning about viability and
3 then, you know, potentially decreasing failure rate of
4 contracts.

5 I was going to make a distinction similar to
6 what Gary just made about size, when we're talking about
7 that. I think that most of that discussion related to
8 large utility-scale projects.

9 I think we're at a much earlier point in the
10 learning curve for projects, in what I would call the
11 medium-sized project range, you know, the under 20
12 megawatts and more than two or something.

13 So, I think we're slightly in danger of
14 repeating some of that experience where in the beginning
15 of the large-scale projects we had, you know, sort of
16 bid to win, and then we figure out what the cost
17 actually is. We may be repeating that a bit in the
18 medium-sized category.

19 So, I think we need to look at some lessons
20 learned and, hopefully, you know, figure out how to use
21 them in when we see the expansion of the medium-sized
22 market.

23 COMMISSIONER PETERMAN: And that would be great.
24 And if there are any strategies going forward with the
25 renewable strategic plan that would help with that,

1 please suggest them.

2 MS. KOROSEC: All right, I'd like to give an
3 opportunity, we have someone on WebEx who would like to
4 ask a question, Ruben Figueroa. Ruben, your line's
5 open.

6 I guess Ruben decided lunch was better than his
7 question.

8 So, with that I would like to propose that we
9 break for lunch and reconvene at 1:30, if that's all
10 right with the Commissioners. All right, thank you
11 everybody.

12 (Off the record at 12:21 p.m.)

13 (Reconvene at 1:35 p.m.)

14 MS. KOROSEC: All right. Now that our panelists
15 have returned, we're going to go ahead and get started
16 again, everyone. Welcome back.

17 For the continuation of the panel discussion
18 this afternoon, we'll hear from the Cal-ISO and the PUC,
19 as well as the environmental organizations.

20 So, Neil, would you like to go ahead and start
21 us out?

22 MR. MILLAR: Thank you. First, on behalf of the
23 ISO, I'd like to thank you for the opportunity to
24 participate today.

25 My name is Neil Millar, Executive Director of

1 Infrastructure Development with the California ISO, and
2 I'm here to help where I can on the transmission
3 planning related issues.

4 I'm joined on the panel by Mark Rothleder,
5 sitting around the corner from me here, who's our
6 Director of Market Analysis and Development, who's
7 primarily leading the initiative in the ISO addressing
8 renewable integration issues, so that's how we're split
9 up.

10 I'll be keeping my comments relatively brief
11 because as we have participated in earlier discussions
12 and presentations here, we're pleased to see that much
13 of our input has already been reflected in and included
14 in the report. So, we're primarily here to answer
15 questions, where we can, especially on the transmission
16 issues.

17 I should mention, though, that we also see that
18 there is ample room for process improvement, especially
19 in the transmission planning side, and in the
20 integration of a broader range of inputs, including the
21 environmental issues, both in the forecasting of
22 generation that we do our transmission planning around,
23 as well as on the transmission planning, itself, the
24 actual transmission infrastructure.

25 So, we do see opportunities there and we'll be

1 looking forward to working on those issues.

2 The other thing I should mention is that as in
3 the past we see the transmission planning continuing to
4 look to the procurement process and to rely very heavily
5 on the generation procurement process for inputs into
6 the transmission planning environment. And that's
7 something we'll be also continuing to look forward to as
8 we go forward.

9 Outside of that, I'll be turning it over to Mark
10 and then be pleased to help with whatever questions we
11 can. Thank you.

12 MR. ROTHLEDER: Thanks, Neil. And my name is
13 Mark Rothleder, Director of Market Analysis and
14 Development with the California ISO.

15 And I have been working on the renewable
16 integration studies for the last two years, mainly in
17 support of the long term -- the CPUC long-term
18 procurement planning process.

19 The renewable integration, it's probably an
20 over-simplification to say that this is a renewable
21 integration issue. It's really a changing environment
22 in the supply fleet. And with the renewable integration
23 we see increases in the amount of variability, and we
24 see with the once-through cooling resource policy a
25 decrease in the flexibility of the fleet.

1 We expect that we'll have approximately doubling
2 of the operating ramping requirements as a result of
3 increased variability and uncertainty due to the
4 renewable integration increases.

5 At the same time we'll see approximately 15
6 percent of the flexibility, ramping flexibility of the
7 fleet decrease as the once-through cooling resources
8 retire.

9 The studies so far looked at some boundary cases
10 and the results indicate anywhere from no additional
11 needs under some optimistic expectations about energy
12 efficiency to -- anywhere to around 4,600 megawatts of
13 needs of flexible resource capacity in a higher load
14 bounding case.

15 The ISO believes that it's important to look at
16 the full range of cases that can arise to ensure that we
17 mitigate and balance the risks with the benefits of the
18 renewable integration fleet.

19 If we looked at the 4,600 megawatts we do -- we
20 have to start parsing that out and there's additional
21 work to be done in terms of that.

22 Some of those resource needs will also need to
23 be met to satisfy local capacity requirements. And so
24 the next round of work between now and March, we'll be
25 investigating what the local capacity requirements are,

1 what the residual renewable integration needs are for
2 flexible capacity.

3 At the same time we'll also be looking at
4 alternatives to meeting that capacity. It's not
5 necessarily the case that a gas fleet is the only
6 solutions. There may be other solutions. But the
7 solutions need to be looked at in the context of the
8 time for development of those options, and then the
9 realistic ability to implement those alternatives in the
10 time frame we need.

11 In parallel with this, the ISO is conducting
12 market product review, where we're considering new
13 market products to support renewable integration. And
14 those may be ramping products, they may be longer term
15 capacity products.

16 At the same time we'll be continuing to complete
17 our studies, look for alternatives. And as well, one
18 important thing is how do we bridge the current
19 situation and look at existing resources and what
20 existing resources need to be maintained, at least in
21 the transitional period between now and 2020.

22 So with that, I believe the status report is an
23 accurate representation of the current state of the
24 renewable integration studies. There's much still to be
25 done in the next six months to a year and we look

1 forward to answering any questions about the work that
2 has been done so far and future work.

3 COMMISSIONER DOUGLAS: So, thank you for that.
4 I do have one question. What do you see is the best
5 processing and timing for better integrating land use
6 and environmental considerations in transmission
7 planning, both kind of nearer term and longer term
8 transmission planning?

9 MR. MILLAR: Well, when we talk about the best,
10 that's always that tension between the time it takes to
11 deliver the product, how deeply should we go into the
12 environmental issues for the sake of more thorough work
13 up front, but increasing the timelines, versus the
14 urgency of moving on with some of these activities?

15 We do see the need to further incorporate
16 environmental issues in the near term. The method we're
17 looking at is encouraging stronger input on those issues
18 in working with the CPUC in development of the
19 generation portfolios that we're using as a part of our
20 planning assumptions.

21 That seems to be the best point or the best way
22 at this point in time to get the generation-related
23 environmental issues fed into our broader planning
24 process.

25 When it comes to the transmission lines,

1 themselves, we are looking to see what we can do to pick
2 up additional information and take into account
3 additional considerations probably, initially relying on
4 the information that the transmission owners already
5 have, as they have a very good awareness of the
6 environmental issues in much of their service areas. So
7 that gives us a starting point.

8 At this point we haven't defined the long-term
9 plan for how far to go because I think we need a pretty
10 good discussion on where to find that balance between
11 the ISO going further into these issues on one hand,
12 where it's still much more conceptual, versus the
13 additional time and costs that it takes up front and can
14 add to the process time going into those issues.

15 So that part, to me, is a work in progress and,
16 to some extent, we'll be looking to see how some of
17 these recommendations factor into that as well.

18 CHAIRPERSON WEISENMILLER: It seems like the
19 other issue you face, which certainly you face it with
20 us and with the PUC, is there's a real distinction, say,
21 in our demand forecast between a staff demand forecast
22 and a Commission-adopted demand forecast, and they're
23 not identical until the Commission adopts them, they're
24 just a proposal.

25 And, similarly, at the PUC obviously there's a

1 lot of assumptions in the long-term plan that there's
2 some sort of staff influence around, but until the Fifth
3 Floor speaks, they're not really adopted, per se. So,
4 exactly how to build that tension in, too, in terms of
5 timing.

6 So, I guess in terms of the timing of the
7 process we're obviously still evolving, it's still a
8 work in process. But I guess what I'm suggesting is
9 that all of us need to take into account that as you go
10 through these you're going to climb onto assumptions
11 which, ultimately, the Commission -- either one of the
12 Commissions may well change somewhere in your process.

13 MR. ROTHLEDER: Results for the renewable
14 integration are largely driven by the assumptions and
15 that's why we believe that it's important to look at the
16 range of assumptions, and the range of potential results
17 around the range, rather than just looking at single
18 points, and then look at the probabilities of those
19 ranges materializing.

20 CHAIRPERSON WEISENMILLER: Right.

21 MR. ROTHLEDER: And that might help inform the
22 overall process.

23 CHAIRPERSON WEISENMILLER: Well, certainly, that
24 book-ending is very important. Although, obviously, one
25 of the questions the decision makers always push on you

1 is exactly what is the range of uncertainty around the
2 results?

3 I remember when I was doing, you know, due
4 diligence for the banks, that one of the things I was
5 called in was someone else had done due diligence for a
6 bank in Texas, for a project which was probably the most
7 efficient plant coming on to the ERCOT system, which
8 went into bankruptcy like within six months.

9 And the thing is it was most efficient, but when
10 you looked at transmission, environmental contracts, and
11 everything else the actual system dispatch was nowhere
12 close to what the models come up with.

13 MR. MILLAR: I should mention, as well, on the
14 transmission planning side we don't see the consequences
15 of being a little long being the opposite of being a
16 little short.

17 So, while we also look at the scenario approach
18 and study a range of scenarios, given the consequences
19 of not having enough versus having a little too much, we
20 do have to err on the cautious side.

21 CHAIRPERSON WEISENMILLER: Right. Okay, next.

22 COMMISSIONER PETERMAN: Hello. I was just
23 wondering what options are there or further options are
24 there for prioritizing what's already in the queue?

25 We talked earlier about some further project

1 viability screens, and Commissioner Douglas has brought
2 up some of the land use and environmental
3 considerations, but I'm just looking at the amount of
4 megawatts that's currently trying to connect and if
5 there's some opportunity within that to further
6 prioritize?

7 MR. MILLAR: Well, for us, obviously, that's a
8 huge challenge. The over-supply, the very large number
9 of projects in the queue obviously makes it much more
10 complicated on the transmission planning side.

11 Two things we're looking at in the short term on
12 that and one is the increased reliance on CPUC
13 portfolios to help drive the system planning and the
14 policy-driven projects that we're looking at advancing
15 through the transmission planning process.

16 The other is to increase the amount of
17 integration between the transmission planning, the
18 statewide or the conceptual and comprehensive
19 transmission plans we do compared to the interconnection
20 process.

21 And, actually, we just posted a few days ago our
22 second draft of a straw proposal in that regard to
23 increase the coordination between those two. And
24 looking at more of the network upgrades related to
25 generation development being driven on a policy basis

1 for those resource-rich areas, and then turning more to
2 the network upgrades identified through the generator
3 interconnection process to more catch the outliers that
4 want to proceed despite not necessarily being part of
5 what was considered to be a resource-rich area.

6 COMMISSIONER PETERMAN: Great. And then my
7 second question, and there's others on the panel who
8 might be able to answer this further, relates to the
9 WECC's ten-year strategic planning transmission process,
10 and I was just wondering if there's any -- I know that
11 that process is not complete and the report's not done,
12 but is there anything you want to draw out attention to
13 that might come out of that, that will affect some of
14 the ISO's decisions or planning going forward?

15 MR. MILLAR: For us, not specifically at this
16 point. We see these coordination efforts to be
17 informational. They're very helpful in understanding a
18 broader range of alternatives, but at the end of the day
19 we have to take up our own analysis and carry forward
20 the projects that we see providing value for the State.

21 COMMISSIONER PETERMAN: And sorry, I actually
22 had one more question it turns out. We've talked a lot
23 about the importance of visibility of DG to the ISO, and
24 you've commented on this in our distributed generation
25 workshops.

1 It's my understanding, though, that the
2 technology to do the remote telemetry is not that
3 expensive and just wondering if you've looked into this
4 further and to what extent that truly, now, is a problem
5 that's not solvable?

6 MR. ROTHLEDER: We are undertaking a study right
7 now, that we're complete at the end of the year, looking
8 at distributed energy resource visibility and controls,
9 and looking at both the costs and the operational
10 benefits of having additional visibility.

11 Certainly, with large amounts of distributed
12 generation it makes load forecasting a bigger challenge,
13 especially if it's behind-the-meter generation.

14 And I think there will be -- for different
15 technologies there will be different approaches. Some
16 of them may be direct telemetry, some of them may be
17 forecasting capabilities and improving forecasting
18 ability related to that technology.

19 So, we're looking at all those things, we're
20 looking at the costs associated with the technologies
21 and balancing that against the benefits of having the
22 increased visibility and controls.

23 COMMISSIONER PETERMAN: Great, so that's by the
24 end of the year, you said?

25 MR. ROTHLEDER: Yes.

1 COMMISSIONER PETERMAN: Thank you.

2 MS. KERSTEN: I have a question about the tug-
3 of-war between California being an autonomous, maybe
4 eventually a net exporter of renewables versus the need
5 to maybe establish a balancing market with other west-
6 wide entities.

7 Already the northwest, for example, is having
8 problems integrating renewables into California.
9 There's issues with dynamic transfers, eventually more
10 frequent, 15-minute scheduling on interties, et cetera.
11 I'm just wondering if you can elaborate on the need to
12 be autonomous here, in California, versus how much do we
13 need to rely on west-wide initiatives to be successful?

14 MR. ROTHLEDER: Well, certainly, we know a
15 certain amount of the renewables will be coming from out
16 of state. In terms of making coordination and
17 redispatch capabilities more flexible across the west,
18 it's double-edged. And it actually will, one, allow for
19 more variability to be transferred to California, where
20 we'd have to balance that for that variability.

21 On the other hand, it also provides an
22 opportunity to make use of west-wide resources to do the
23 balancing.

24 If balancing authorities could already balance
25 the variable resources, they would probably not be

1 seeking to use dynamic transfers to basically transfer
2 that variability to California.

3 So, there's already means and mechanisms for
4 people to balance -- external balancing authorities to
5 balance that variability, but there's -- as you can see,
6 there's already pressure to transfer that to California.

7 So, I don't know how it will ultimately come
8 out, but I think there's both positives and negatives in
9 terms of the west-wide interaction. It could help
10 mitigate the variability, but it also could transfer
11 additional variability to California.

12 MS. KOROSSEC: All right, Julie, you want to go
13 ahead?

14 MS. FITCH: Okay, thanks. First of all, I
15 wanted to compliment, as many other people have, the CEC
16 staff's work on the paper. I think it's both a
17 comprehensive and a very accurate picture of the issues
18 that are before us.

19 PUC staff are still sort of going through it, so
20 if we find anything that we can provide info and be
21 helpful, we will.

22 I guess my comments fall into four categories.
23 I'm going to spend most of the time on planning issues,
24 then also say a little bit about integration,
25 permitting, and DG interconnection.

1 And just on the planning issues, at the very
2 high level, the hundred-thousand-foot level, on my
3 reading of the report I was struck by the fact that it
4 reflects sort of our uniquely California schizophrenia
5 over whether we really want a planning-based paradigm or
6 a market-based paradigm.

7 We face in the fossil generation world, too, but
8 it's sort of -- it just struck me that, you know, of
9 course we want both, we want a planning structure that
10 plans enough so that we get the benefits of the market
11 in a way that, you know, makes sense and keeps cost down
12 but I guess we haven't hit upon, as a policy-making
13 community, exactly what that sweet spot is. Where
14 there's enough planning, but not too much planning.

15 I think the PUC, as an institution, leans a
16 little bit more towards the market-based approach
17 because we're the ones who have to worry about the cost
18 at the end of the day.

19 But, of course there's, you know, costs either
20 way if you get it wrong.

21 But I think we do worry, to some degree, about
22 potentially over-engineering this planning process. You
23 know, a good example would be the DG regional goals.
24 Not that it's a bad idea to have goals at a regional
25 level at all, but if we are too rigid about adhering to

1 those, we may miss opportunities in other areas that we
2 don't know about or, you know, we have imperfect
3 information when we do our planning process.

4 So, you know, it's finding that balance of
5 planning and then, you know, the market actually
6 identifying opportunities that we may not anticipate.

7 Similarly, I think I've joked more than once
8 that, you know, in California, sometimes, why have one
9 program when two or three will do.

10 We have, you know, a lot of initiatives trying
11 to get at a small number of objectives and I think we
12 have to be careful to not come up with a new program, or
13 a new plan when, you know, maybe tweaking or just
14 modifying something that we were already doing would be
15 more effective. So, that's my hundred-thousand-foot
16 level comment.

17 But in terms of planning, generally, I think
18 we've been making very good progress with the ISO in
19 terms of integrating our transmission and procurement
20 processes.

21 You know, we have the MOU that I think everyone
22 knows about, where we trade information. I view it more
23 as an iterative process. We're not going to get it
24 right this year, probably not next year, either. But we
25 get more and more information and we get better and

1 better at knowing, you know, what the appropriate
2 scenarios look like.

3 We've already had discussions, as most of you
4 know, about incorporating the results of the DRECP, when
5 those are available, I think that will be important.
6 And we're certainly looking forward to that.

7 As we do that, I think it's important that we
8 keep sort of the dual focus that RETI actually started
9 out with, which is to focus not only on environmental
10 screening, but also economic screening, so we make sure
11 we're not just exclusively focusing on the environmental
12 to the exclusion of cost is my theme for the PUC.

13 Let's see, I think one of the concerns that the
14 PUC has had about transmission planning in general has
15 to do -- it's sort of perpetuated in the way that the
16 report actually lists the transmission needed for ARRA
17 generators.

18 We want to -- I think we're trying to move away
19 from having a situation where we're planning
20 transmission for particular generators. And it may be
21 that those ARRA generators do have particular needs, and
22 so we're kind of having a timing disconnect.

23 But in general I think we want to move in the
24 direction of having the transmission come first so that
25 we -- you know, so that we have the zones identified and

1 the transmission would be available, so that we can
2 encourage generators to site in a way that makes sense
3 for -- you know, based on our planning screening.

4 So, because while it's true that, as I think it
5 was said earlier, that generally speaking transmission
6 is cheaper than generation, lots of transmission going
7 to one or two generators is probably not a good idea
8 economically, anyway, even if it is cheaper than
9 generation.

10 And also, I think transmission costs are growing
11 faster, at least in some parts of the State.

12 I think, in general, we're trying to move away
13 from sort of the interconnection-only based transmission
14 planning and move toward a more holistic approach.
15 We're really hopeful that the transmission planning
16 that's going on now, at the ISO, will give us better
17 cost information about, you know, what we should be
18 looking at for the next couple of years.

19 Let's see, I guess that also leads me to
20 something that some of us have talked about a number of
21 times, which is the interplay between transmission,
22 generation, and our resource adequacy rules.

23 You know, some of us have experienced this for
24 particular projects where, you know, it maybe that
25 transmission is needed to make a project one hundred

1 percent deliverable in all hours of the year, but maybe
2 there are better solutions that -- where it could be
3 deliverable 99 percent of the time and we could find a
4 much cheaper option, like demand response, or storage or
5 something else. So, looking at sort of resource
6 adequacy on a more system basis, rather than on a
7 project-by-project basis, I think we need to look at
8 that carefully as a State.

9 That also leads to the second topic I was going
10 to bring up, which is integration. I think we -- you
11 know, in the context of the PUC's long-term procurement
12 planning process there was a settlement filed, I think
13 everyone knows, that basically says we don't have enough
14 information, yet, about information needs to really make
15 a decision this year, but we think we'll have better
16 information next year. I think I generally agree with
17 that, anyway.

18 But I think, as I said before, I think it's a
19 more iterative question, but it also interplays with the
20 resource adequacy issue in the sense that maybe we need
21 to start -- I think we already are thinking about maybe
22 there's new products or new, you know, options that are
23 not transmission, that can produce the same benefits,
24 you know, for integrating renewables.

25 So, you know, I think we're going down the path

1 of investigating those options and maybe the ISO markets
2 can help us out there.

3 Let's see, just briefly about I think some of
4 the permitting issues. I think we've made a tremendous
5 amount of progress, with a lot of support from both the
6 last Governor's office, and this Governor's office, in
7 terms of having much better communication between the
8 permitting agencies.

9 There's references in the report, a number of
10 times, using the word "overlapping" permitting. I
11 actually think that there's not that much overlap. I
12 think most of us, who do this every day, know where the
13 seams are, but maybe there's some work that we could do
14 to better educate developers, who are in the early
15 stage, about where those seams do exist and where our
16 separate authorities are.

17 I think, you know, we could do a better job of
18 making it transparent.

19 But, in general, I don't think that there's that
20 much overlap.

21 And then one more, final comment on the question
22 of DG, interconnection was mentioned earlier, there is a
23 process just starting at the PUC to look at --
24 basically, figuring out what's the right way to go about
25 handling DG interconnection, you know, the large number

1 of requests that we have right now, without necessarily
2 joining the question of what's the right jurisdictional
3 venue for that.

4 I think we want to focus on what's the right way
5 to do it and, you know, worry about sort of the
6 authorities later because we really want to get this
7 done.

8 And so there's fairly intensive, I think there's
9 weekly meetings schedule over the next couple of months
10 to try and get some agreement about the technical issues
11 of how to do the interconnection at the DG level.

12 And then, so, we appreciate the support we've
13 already gotten from both CEC and ISO staff on that, and
14 there's many other parties who are engaged, as well.
15 So, hopefully, we can make some significant progress on
16 that over the next couple of months.

17 So, I think that's all I have to say for the
18 moment.

19 CHAIRPERSON WEISENMILLER: Great. I actually
20 wanted to thank you and thank the Cal-ISO for being
21 here.

22 I guess one thing I'd ask both of you to think
23 about is, obviously, this report is based on information
24 we developed over the course of the spring and the
25 summer, and so to the extent that you're having studies

1 coming out now, coming out in the future, it would be
2 good to point those out so we can feed those in and get
3 the report updated.

4 So, particularly to the extent that Cal-ISO's
5 doing more work on renewable integration, or you're
6 doing more work on cost or, as you said, Rule 21, and
7 just trying to make sure that as we get into the late
8 fall process and are wrapping everything up that we
9 don't suddenly reflect something that was going on at
10 the PUC, say in May, as opposed to where you are at this
11 stage. And the same with the Cal-ISO.

12 COMMISSIONER PETERMAN: I just have a comment
13 and question. First of all, you know, thank you, Julie
14 for explaining everything that's going on at the PUC.
15 It's very clear that your agency has a lot to do as it
16 relates to renewables and a lot of responsibilities.

17 And I just wanted to use this opportunity to
18 point out that your agency and ours are both under-
19 staffed. We've got probably about 20 percent in
20 vacancies and we're in the process of starting to hire.
21 And so, really, one thing that can help all the
22 agencies, if you have good suggestions for people to
23 work, look at our websites and start applying to work
24 here because, obviously, there's some big questions to
25 be solved.

1 MS. FITCH: Hear, hear.

2 COMMISSIONER PETERMAN: Julie, I've been
3 impressed over the years with some of the rate impact
4 analysis that has come out of the PUC. I believe it was
5 maybe in '08, it might have been DRA, that looked at the
6 impact over 33 -- 20 percent RPS, and then I believe the
7 33 percent.

8 Can you speak to what, if anything, the PUC is
9 doing around that type of analysis, now, because that
10 seems to be the key question we're all getting asked?

11 MS. FITCH: Sure. Well, as you probably know,
12 the new 33-percent RPS law requires us to do analysis to
13 get to a cost cap, essentially, for the program. And so
14 in order to inform that exercise we're going to have to
15 do, but we have not yet started doing, some updating of
16 the cost analysis that we actually did -- at least the
17 Energy Division did it in 2009, and I think there are
18 some separate DRA studies that I'm not -- I don't know
19 the details.

20 But so, yeah, in 2009 we did a study. We're
21 intending to update it, but we actually have to go
22 through the RFP process to hire a consultant to do that,
23 to help us do that.

24 But as part of the RPS, our responsibilities
25 under the RPS will definitely be, and it's sort of in

1 coordination with the long-term procurement planning
2 process because, obviously, depending on what scenarios
3 you look at the costs may be different.

4 So, we're trying to coordinate those efforts and
5 come up with another study that updates the cost
6 assumptions that we had from 2009.

7 COMMISSIONER PETERMAN: That would be great.
8 And as you're looking at the scenarios, it would be
9 great to see a scenario that also has more DG versus
10 not. Since we don't get to issue those RFPs very
11 often --

12 MS. FITCH: That's definitely on the list.

13 COMMISSIONER PETERMAN: Okay, good.

14 And we talked earlier about what distribution
15 upgrades might be necessary anyway to the system and,
16 again, can you speak to perhaps what is being required
17 of the utilities regarding understanding the
18 distribution infrastructure, where the upgrade needs
19 are, and so on?

20 MS. FITCH: I think, I mean there's multiple
21 efforts going on. There's, you know, smart-grid-related
22 proceedings at the PUC.

23 But I think in this context we've been more
24 focused on just being transparent about where there's
25 availability on the distribution system. Not so much on

1 upgrades needed.

2 I think, you know, we have a lot of work to do
3 in terms of figuring out what the costs of various
4 upgrades, that are necessary, really look like. I think
5 we're only at the very beginning of that.

6 But, I mean, we're definitely aware of it and,
7 you know, looking at in various forms at the PUC.

8 COMMISSIONER PETERMAN: So, in terms of where
9 there's visibility is that something that's readily
10 available as we're thinking about if there are regional
11 targets on DG, where there might be some overlap there?

12 MS. FITCH: You mean in terms of availability on
13 the system?

14 COMMISSIONER PETERMAN: No, availability of the
15 availability. So, like in terms of resource maps or
16 something like that in terms of the -- you know, this is
17 my lack of a system engineer coming through and a word
18 choice. But just, again, just trying to hone on
19 where -- the places where there might be upgrades
20 necessary and where there is the excess capacity in
21 terms of siting, or privatizing DG siting.

22 MS. FITCH: I think, maybe, some of the utility
23 folks might be better able to answer that than I can.

24 COMMISSIONER PETERMAN: Okay.

25 MS. FITCH: Because, similarly, I'm not a

1 distribution engineer.

2 COMMISSIONER PETERMAN: All energy, though,
3 that's what I assumed.

4 MS. FITCH: But I think most, if not all, of the
5 utilities have some level of information posted on their
6 websites. I think they're in different stages of
7 development so, you know, maybe some are better than
8 others. But we're working on that for sure.

9 COMMISSIONER PETERMAN: Okay, thank you very
10 much.

11 MS. WINN: We do have maps that are posted on
12 our system. But, of course, I think that's just for the
13 investor-owned utilities, so that's just 70 percent of
14 the State. So, we'd probably need additional
15 information from the POUs. I'm not sure if Tony has any
16 information on that.

17 MR. ANDREONI: These are the maps you're
18 referring to, that kind of looks at key areas of where
19 DG might occur, and I know that SMUD certainly has
20 provided those maps on the website.

21 I know we have other utilities, as well, that
22 are looking to provide that type of information to help
23 folks that are developing new technologies and where to
24 best place those.

25 MS. KOROSK: All right, Rich.

1 MR. FERGUSON: I'm Rich Ferguson, I'm the
2 Technical Director at the Center For Energy Efficiency
3 and Renewable Technologies, aka CEERT. I'm sitting in,
4 today, for my boss V. John White.

5 As will all my predecessors here, I, too,
6 congratulate the staff on a very thorough job, however
7 many pages it is.

8 Actually, for somebody who's been in this
9 business for 20 years, it was still a very good summary
10 of the history of how we got here, and I thought they
11 did a pretty good job of covering the issues.

12 I think what I found lacking in the report, I
13 think, was -- I don't quite know how to say it. But to
14 my mind a lot of these issues have sort of a common -- a
15 commonality to them. And I think I would summarize that
16 as a result of sort of reactive planning.

17 You know, we're reacting to what's happening,
18 you know, in the queue, or in the contract, the
19 contracting business, or everybody wanting to
20 interconnect and put DG on urban areas, or whatever, and
21 several people have mentioned it.

22 But it's our belief that, you know, this
23 reactive approach, first of all, causes a lot of
24 uncertainty if, for no other reason, it takes a long
25 time to do.

1 And, you know, we know that of all the projects
2 in the queue maybe only one in five is actually going to
3 happen anytime soon, so there's a lot of wasted time and
4 energy.

5 And I think a lot of these issues, if they're
6 not directly related to that kind of reactive approach,
7 at least have been exacerbated by that kind of reactive
8 approach.

9 And it's our belief that we should return to a
10 more proactive, kind of policy-driven approach to
11 solving some of these issues, rather than sort of just
12 struggling to deal with them one by one in these
13 enormous queues. So, that's basically our main, how I
14 would sort of summarize these issues that are very well
15 discussed in the report.

16 And, of course, you know, there's the reaction
17 to that and people say, well, then you're picking
18 winners and losers. I mean there's still going to be a
19 level of competition, but I'm reminded of the Tehachapi
20 transmission planning process, and the reaction of
21 developers to that.

22 And, of course, that was very much policy-driven
23 by the PUC. Basically, it was their decision that if
24 we're serious about renewables, we're going to need to
25 develop the wind in Tehachapi. There's insufficient

1 transmission, so you guys go off and plan a transmission
2 plan that can access 4,500 megawatts.

3 We did that. CEERT was the facilitator or
4 coordinator of that process. And, you know, in
5 hindsight I think that decision was absolutely the right
6 one, and the whole process -- a lot of issues that we're
7 facing today were avoided by taking that proactive kind
8 of stance.

9 So, we think that this -- this -- in fact, I
10 was -- noticed on one of the first slides, you know, the
11 Governor's statement encouraged -- I forget what the
12 exact language was, but the highest priority generation
13 and transmission projects.

14 But, of course, if you know -- first of all you
15 have to decide which are the highest priority projects,
16 or resource areas, or where you're going to develop
17 transmission access to and encourage generation to
18 follow.

19 So, and I think a lot of people have said that
20 today, you know, in a similar kind of vein, whether
21 you're talking about DG, behind-the-meter DG, wholesale
22 DG, or utility-scale programs, we just think that a lot
23 of the streamlining that people are talking about really
24 does involve, at a policy level, and who should do this,
25 I don't know, but deciding, as we did for Tehachapi

1 that, okay, we're going to focus on this area and give
2 the transmission developers and the generation
3 developers some kind of priority treatment, whether it's
4 in the queue, and I don't know what FERC would have to
5 say about that, or in our planning processes.

6 But I think a lot of people are heading in that
7 direction, if for no other reason than it's just taking
8 way too many resources by the utilities, by the ISO, by
9 the generators, by everybody to try to deal with the
10 kind of general reactive scattershot approach that we
11 have now.

12 So, that's my -- you know, that's my overall
13 thing that I think you should think about when you turn
14 this report into a draft. It would be useful to try to
15 stand back from all these issues and make a judgment
16 about what is it about the way we're proceeding that
17 makes these as intractable as they are?

18 And our thinking is that if we would prioritize,
19 not only where DG could go, and I'm surprised to hear
20 that utilities have done so much thinking. I talked to
21 a lot of them last week at the ISO event and I didn't
22 realize it was that far along.

23 But I mean that's a good example, if you could
24 prioritize where you could put a bunch of DG, you know,
25 you're ahead of the game.

1 It gets harder at the scale, but RETI was going
2 in that direction. We're not crazy about the process
3 that the PUC went through to develop their scenarios
4 that they gave to the ISO but, in fact, I mean that was
5 the establishment of some priority areas that the ISO
6 looked at for its -- for its planning. You could do
7 worse. I'm not sure, if you stood back, you would agree
8 that all those are priority areas. But in their wisdom,
9 that's what the PUC decided. So, it might be time for a
10 review.

11 I was interested in the Chairman's comment, a
12 reminder to the ISO about the dynamic nature of the
13 demand forecast. It's something that we've also been
14 thinking about.

15 We were parties to the settlement that was
16 mentioned on the current LTTP. I would characterize
17 that a little bit differently than you did, Julie.

18 Basically, I think the settling parties agreed
19 that based on the information we had now there was no
20 need to do anything -- there was no need to plan for
21 additional capacity for the time being.

22 Now, it's tantamount to the same thing.
23 Basically, we're waiting for more information. But it
24 was a rather positive statement, I think, not just, oh,
25 we don't have enough information. Because based on the

1 information we have, now, it appears that we probably
2 have enough capacity to deal with the 33 percent.

3 I also noticed -- I mean, the ISO is assuming
4 that all of the once-through cooling plants are going to
5 go away is probably worst case. I know at least some of
6 the owners of those plants are planning to repower them
7 with more flexible resources.

8 So, if you assume they're all going away, that's
9 probably a worst case event, so your 4,600 megawatts, or
10 whatever it is, you may want to talk to the owners of
11 those plants before you make the assumption that they're
12 all going to disappear.

13 One suggestion we have is to we need to begin
14 looking a little farther out than 2020. I've always had
15 a problem with using 2050, because I'm not going to be
16 alive then, and a lot of the people in this room aren't,
17 either.

18 And the tendency is, you know, it's so far away
19 that planning for 2050 is such a pie in the sky, it's
20 hard to take it seriously. So, I think you might start
21 thinking about, say, 2030.

22 But, you know, we've been using the 2020
23 estimates, now, for planning for maybe five years, so I
24 think it's not too soon to start pushing that envelope a
25 little bit and seeing, you know, if we continue at some

1 pace to expand our dependence on renewables, you know,
2 what would we have to do next? And, I mean, where is
3 the real crunch going to come? Is it going to come at
4 sun-up, when we've got all the solar on the system and
5 no load? It could be and you've got to think about how
6 you're going to deal with that problem.

7 I think the one issue that we keep flagging, and
8 I'm sure Carl is going to talk about it, that I'm not
9 sure was adequately discussed, that we think will be an
10 important solution is this whole -- this whole issue of
11 more inter -- more coordination and sharing of resources
12 by the different balancing authorities.

13 And we've talked a little bit about it today in
14 terms of the out-of-state balancing authorities, but
15 even in-state, you know, we can use the resources that
16 we have a lot better than we can.

17 And for the life of me, I'm not sure of what the
18 institutional barriers are about why things are as
19 volcanized as they are. But that's an issue that you
20 might want to take a look at having staff do a little
21 bit more research and think a little bit about what are
22 the resources that you have to spare at the NDWP, say,
23 that could be used by the ISO or vice-versa.

24 So, if you want to -- an issue that I think was
25 maybe not adequately dealt with in the report, I think

1 you might add that one.

2 But, again, I think our -- our main thing we'd
3 like to see in this report is a summary from the 50,000-
4 foot view about how you -- what's responsible for the
5 sort of current uncertainty and almost chaotic kind of
6 approach to a lot of the things we're doing and what can
7 we -- what can we do to -- to consolidate the issues and
8 focus down on what we need to do.

9 And we really do think that establishing some
10 priority development areas, and our favorite is the West
11 Mojave, but Westlands, Imperial County also are high,
12 both in RETI, and everybody else's book, too, I think.

13 So, we think that would just solve a lot of the
14 problems if you could focus down on both the
15 transmission and generation development in those
16 particular areas, and give -- give the siting and
17 planning some kind of priority.

18 I don't know what jurisdictional issues you run
19 into with FERC on that, on the transmission side, but we
20 think that we need to go take a step back and use --
21 remember the Tehachapi example and maybe use that again.

22 CHAIRPERSON WEISENMILLER: That's good, yeah. I
23 was going to say, obviously, one of our concerns had
24 been the -- coming out of DRECP, as we're moving out
25 into the West Mojave, and trying to make sure that we're

1 structured to really develop that in terms of
2 transmission access.

3 And I was expecting, to the extent -- to some
4 extent you're trailing V. John, that that would have --
5 that, you know, the three projects you mentioned at the
6 end were three areas that were important to get on the
7 table for all of us, as we're doing the planning.

8 I think the other questions for you are, first,
9 I assume part of what's driving the ISO queue, now, is
10 all the megawatts bidding into the RFPs. And,
11 presumably, as the short lists come out that we're going
12 to see a substantial fall off on that queue.

13 Now, exactly how we rationalize the ISO process
14 so they're not merely cranking through 50,000 megawatts,
15 most of which have just fallen off the table, you
16 know -- I mean if we've got 10, to 20, to 30 to one
17 ratios, there's got to be a lot of excess projects.

18 MR. FERGUSON: It's helpful what comes back.
19 You know, whether they come back, you know, I don't
20 know.

21 I was surprised that, you know, even the quarter
22 million dollars that the ISO, you know, charges these
23 people to stay in the cluster hasn't really thinned the
24 action down. A year or two ago we were hoping that, you
25 know, having to put up some serious money would sort the

1 wheat from the chafe, but it doesn't seem to have
2 happened.

3 So, anyway, just there's a lot of -- there's a
4 lot of chafe in there and I'm not sure if the contract
5 will sort it out. And as we know, even the contracts
6 leave some chafe in, that end up getting dealt with.

7 CHAIRPERSON WEISENMILLER: Right.

8 MR. FERGUSON: So we won't -- we won't -- I
9 won't say I told you so for some of those contracts that
10 died, but we all knew --

11 CHAIRPERSON WEISENMILLER: Go ahead.

12 MR. FERGUSON: -- we all knew that some of them
13 would. But there, again, I mean I think -- and I don't
14 think it's much of a surprise where the best there is
15 are. I mean going in, I mean I think the thing -- you
16 remember the RETI famous bubble diagram that, you know,
17 that we drew.

18 CHAIRPERSON WEISENMILLER: Yeah.

19 MR. FERGUSON: And I think the reason that that
20 was not more controversial is because it was what
21 everybody thought going in. And I really don't think
22 it's too hard to prioritize. And, in fact, the
23 scenarios that Julie's gang gave to the ISO, you know,
24 focus on a lot of those areas.

25 So, I mean that's the kind of step in the right

1 direction that I think is valuable. So, I think we need
2 to expand that and keep that going.

3 CHAIRPERSON WEISENMILLER: What's your sense on
4 the proverbial diversity of the -- I mean there's been
5 such a mad dash to PV, what's your sense on the
6 diversity of resources?

7 MR. FERGUSON: Oh, I forgot, my boss instructed
8 me to say something about that issue.

9 CHAIRPERSON WEISENMILLER: Just to make sure
10 your boss's issued are covered.

11 MR. FERGUSON: As we put it, you know, it's to
12 put the portfolio back into the renewable portfolio
13 standard. We sort of forget that there's a P in that
14 RPS.

15 Yeah, I mean as we talked about it, I mean the
16 rule was not supposed to just be least cost, it was
17 supposed to be least cost/best fit. Remember the "best
18 fit" part? And that's just sort of fallen by the
19 wayside.

20 And so as a result, you know, if you just
21 focused on the cheapest stuff and you sort of ignore the
22 ancillary service needs or, you know, all the rest of
23 the stuff that goes along that, you know, you're going
24 to pick that.

25 Yeah, you know, we strongly advocate going back

1 and looking at the portfolios that are coming out of
2 these solicitations.

3 And the problem, that several people have
4 mentioned already is, you know, how do you establish a
5 value for all the -- you know, for each technology? And
6 it is difficult.

7 And markets, I think it is widely accepted, now,
8 that markets aren't going to do it for you. That, you
9 know, a market price for ancillary services is going to
10 come out of the ISO markets, for example.

11 We'll tell you how -- we'll let you know and
12 we'll give the right signals to the people with existing
13 capacity to supply those products, but they're short
14 term and they don't tell you what kind of revenue stream
15 you're going to get over the next 15 years, if you went
16 out and built a new one.

17 That we had the same problem with the power
18 exchange that, yeah, told you sort of what the short-
19 term value for electricity is, but nobody was ever going
20 to go out and build a new plant based on those prices
21 that we were seeing there because you just couldn't --
22 couldn't take it to the bank and, you know, as you're
23 well aware.

24 So, we think that in terms of getting new stuff
25 online it has to be policy-driven. You cannot rely on

1 short-term markets for those right signals.

2 So, then the question is, okay, what's the value
3 of, you know, a facility, like a solar thermal project
4 that has some -- you know, it can be dispatchable, it
5 has some storage attached to it. But until there's a
6 value for that, that is reflected in the procurement
7 process, you're not going to get it.

8 So, I think, you know, going back to the best
9 fit, you know, issue, we have to do some thinking about
10 what the real value is and not just wring our hands that
11 we aren't getting it, because the least cost won't get
12 you there.

13 CHAIRPERSON WEISENMILLER: Okay, one last
14 question, if you were doing bubble maps for the DG,
15 where would you say the best spots are, RETI-like bubble
16 maps?

17 MR. FERGUSON: I don't know. I mean I haven't
18 looked at that. I was told, though, by PG&E last week,
19 that they could do it. If you've got a map up, I should
20 really take a look at it. If I don't, I don't.

21 MS. WINN: I'll get your card and send you the
22 link.

23 CHAIRPERSON WEISENMILLER: Okay.

24 MR. FERGUSON: Okay. But I mean that's clearly
25 the first step, if you can identify the areas that where

1 you don't need to do much -- you don't want to put them
2 out at the end of the line, like Sakarias's landfill out
3 there but -- I truly don't have any idea what the answer
4 to that is.

5 But I think it is -- it is something we do need
6 to figure out.

7 We're also intrigued about what's going to come
8 out of this study on the, basically, visibility and
9 dispatch, or control over the DG? I mean that's one of
10 the things that's made the European system work, both in
11 Denmark, and Spain, and Germany, and other places.

12 So, I think it's necessary. Dare I say that
13 there is a danger that we overdo it and load these
14 projects down with a lot of stuff that's not needed.
15 So, you know, if we can aggregate a bunch of them and
16 look at them as a unit, and control them more or less as
17 a unit, without individual stuff for every little
18 project that wants to come along, that would be helpful.

19 I'm really looking forward to see what the next
20 study produces because I think that's the crucial piece.
21 If you can't -- if ISO can't see it, then it's going to
22 worry, which they're doing so --

23 I was told in Denmark, where a lot of the -- a
24 lot of the sort of local entities have the DG on the
25 village-side of the meter, so to speak, is basically the

1 only way the operator sees it is it looks like, you
2 know, the load is decreasing, and decreasing and
3 decreasing. I mean it just looks like less load.

4 So, if that happens in the middle of the day,
5 you can bet that the wind is blowing, you know, or
6 whatever it is.

7 But, clearly, helping the ISO understand what's
8 going on out there is a good thing. But I think you do
9 have to be a little careful that the solution is
10 appropriate and not overkill, because it would be easy
11 to kill these projects by loading them down with enough
12 equipment to dispatch them.

13 CHAIRPERSON WEISENMILLER: I was just going to
14 say I think part of our concern is with the coastal fog
15 areas, that you have a lot of the population and we have
16 a lot of the DG, and suddenly just clouds coming in and
17 out.

18 As opposed to, I think, in Europe my impression
19 is it's a lot more stable in that sense, but who knows?
20 We'll find out.

21 MR. FERGUSON: Well, I won't tell you about the
22 local outage we had up in Booneville, where I live in
23 Mendocino County, but that was caused by an owl with a
24 jack rabbit on the power line so --

25 COMMISSIONER PETERMAN: Just before you move on

1 to Carl, I'll just mention -- you mentioned about the
2 balancing authorities and that's something that we've
3 been following, the WECC's process, looking at the
4 potential for energy and balanced market with serious
5 interest, and look forward to what they might come out
6 with a recommendation on in the next few months.

7 And will be interested to hear, maybe from Carl
8 as well, about what opportunities there are outside of
9 that in terms of coordination within the State for
10 balancing authorities, but appreciate that suggestion as
11 well.

12 MR. ZICHELLA: Thank you. Good afternoon. I'm
13 going to try not to be too redundant, I think we're
14 starting to hear a lot of themes here, from a variety of
15 different folks, and I certainly will amplify some of
16 them.

17 First of all, I want to thank you for inviting
18 NRDC to participate today and like everyone else just
19 say I think this report is really a terrific resource.

20 One of the things we were gratified to see was
21 so many of the lessons that we've learned over the past
22 four or five years are reflected in that document to be
23 brought forward as components of a strategic plan,
24 recognizing that the RPS is a floor, not a ceiling, that
25 if certain events with the nuclear plants transpire,

1 where they are not relicensed, we're going to need an
2 awful lot of energy.

3 And the hill we have to climb, we may have a lot
4 of power under contract, but it still seems pretty
5 daunting to me, when you look at the actual energy that
6 needs to be produced in this State to meet these goals
7 and the climate goals, we have a long way to go.

8 We have a great trend happening and, hopefully,
9 we can realize that.

10 Looking at the report, some of the things that
11 leap out of us, that need further consideration, greater
12 emphasis, perhaps, and which merit a more detailed
13 discussion are -- we've heard today about simplifying
14 and rationalizing the transmission planning process.

15 I view sort of the IOU/POU discussion, to
16 further channel John White a little bit, he refers to
17 this as a religious difference. Not belonging,
18 personally, to either church and remaining somewhat
19 agnostic, I have the freedom to maybe suggest a few
20 things that others might not.

21 Now, having a single integrated effort on
22 transmission planning seems to me to be something that
23 we don't talk about, don't think about, look at as too
24 difficult of a political lift.

25 Yet, if we're looking forward 20 and 30 years in

1 this State and how we're going to run our electrical
2 system, we owe it to ourselves to consider that.

3 We have a very difficult process right now for
4 serious stakeholders to participate in. If you want to
5 deal with transmission improvements in California,
6 you've got to be involved in the CTPG, the California
7 Transmission Planning Group, which is a subregional
8 planning group of the Western Electricity Coordinating
9 Council. You've got to be active at this process, the
10 IEPR process. You need to engage at the long-term
11 procurement process at the PUC. And you have to be
12 involved in the ISO's regional transmission planning or
13 State transmission planning effort.

14 All these things are juggling, often, somewhat
15 different assumptions, are taking their cue from one or
16 another of these processes that either proceed or
17 overlap with the other. It's very, very tough to deal
18 with this.

19 And I think one of the things that gets us to a
20 place where we can actually build transmission that we
21 need for renewables, with less controversy, is making a
22 process that actually people, who need to engage, to
23 help eliminate or reduce the controversy of these
24 projects can engage.

25 And right now I don't think that we have that.

1 It's tough. I want to commend everybody for being as
2 open to stakeholder processes as possible, it's just
3 that the way that we do it confounds it. Everybody
4 wants to be open and transparent, you certainly can
5 participate in all of these things.

6 The only problem is you need to clone yourself
7 several times in order to do so.

8 Which leads to another recommendation that I
9 think we need to look at as part of this, and that is to
10 reinstate some RETI-like process to facilitate this. If
11 we had a single process, a single means by which we
12 would plan transmission in these states, then having a
13 single stakeholder process to facilitate that would be,
14 you know, a terrific advantage.

15 I think we had a terrific advantage when we were
16 doing RETI. Not that those meetings were easy or always
17 as friendly as they could have been, there was a lot of
18 serious conversation. But the hard issues were getting
19 addressed by many of the people who needed to talk about
20 them. Everybody was at that table.

21 And I just want to mention that the utility of
22 that I think going forward is something that we can look
23 at and try to address. Whether it's, you know, bringing
24 RETI back, I know it's supposed to be in hiatus. You
25 know, I view it as more moribund, than hiatus. But, you

1 know, or some other process like it that involves that
2 range of stakeholders, that's a valuable thing.

3 I think taking steps to make the entire State
4 energy delivery system more connected and secure for all
5 utilities, both public and private, this goes to what
6 Rich was talking about, a balkanized, segregated systems
7 of public and private balancing authorities. I think
8 this is incredibly wasteful.

9 We talk about trying to find a least-cost, best-
10 fit way to move forward but, in reality, we're building
11 duplicative infrastructure all of the place because we
12 have this system and there's really no excuse for it.

13 It's a great way to pick fights with
14 constituencies, and local communities, environmental
15 constituencies, and others who see the duplication,
16 don't understand why we have it, see opportunities where
17 infrastructure can be shared and well-used to help deal
18 with the integration and balancing questions. And we're
19 not doing it mainly because of the religious differences
20 that were mentioned earlier.

21 I think this is harming us in terms of
22 reliability. We have situations where LADWP couldn't
23 help out San Diego Gas and Electric. You know, not just
24 this past week, but when the fires happened in 2003.
25 LADWP, and I don't mean to disrespect them, but there

1 was a lot of crowing about how reliable their system
2 was.

3 In the meantime, if the fires had been under
4 their lines, they couldn't have gotten help from anyone
5 else.

6 I think this is, looking at the system as a
7 whole statewide, just not an acceptable sort of way to
8 run a railroad.

9 I'm trying to skip over things others have said,
10 so forgive me while I jump around a little here.

11 Oh, I think we've heard a lot about having
12 nonreactive transmission planning. We want to second
13 that thought.

14 Transmission should be planned to meet present
15 and future needs and take into account system
16 integration balancing and reliability benefits.

17 I think we do need to recognize there have been
18 improvements made. The CAISO has made significant
19 improvements to the interconnection process, but it's
20 still encumbered and somewhat of a mess, as we've heard.

21 We think, as Rich mentioned, we need to serve
22 the policy goals of the State, which actually transcend,
23 even somewhat, the energy delivery of the resource.

24 We're looking at a situation in the Central
25 Valley, for example, where hundreds of thousands of

1 acres of agricultural land needs to be retired for water
2 issues, for drainage impairment issues, for
3 environmental issues. Where there's huge unemployment
4 in the State and job creation needs are extreme, we've
5 seen this week the poverty numbers today are quite
6 shocking, actually, for our State.

7 And as we look at transmission infrastructure
8 improvements that are going to serve future load, open
9 up areas for resources that have high resource value and
10 serve these other purposes for our State.

11 We need to have a means of incorporating some of
12 these other goals in or else we just have a disconnect
13 that really works against us to accomplish these policy
14 goals in the most cost-effective way on energy delivery
15 and these other social needs that I've mentioned.

16 It's difficult for me, as an environmentalist,
17 to persuade other environmental stakeholders that
18 building projects on undeveloped land in the desert is
19 justified and we're bypassing some of the most impacted
20 lands closer to load in California.

21 And when the transmission to serve those
22 projects actually enhances the reliability and stability
23 of the grid, enables us to use our energy storage, such
24 as at Helms, much more efficiently, and gives us a
25 better balancing between Northern and Southern

1 California to get access to these resources, and which
2 can be selling resources into any market in the State.

3 The fact that Midway-Gregg is not a prioritized
4 line under our existing system of evaluation, which I'm
5 not suggesting that we don't have any discounted core,
6 for example, but we need to factor these other things
7 in, too.

8 It's not just whether someone has a PPA, or a
9 loan guarantee, or some other means of commercial
10 strength demonstrated here, we need to look at these
11 other issues because it saves us money if we have less
12 reserves to balance with. It saves us money if we have
13 to build less transmission to wield the power around our
14 State.

15 It saves State -- it saves our ratepayers money
16 if we can put these resources in faster and not have
17 lengthy fights if we can have renewable energy zones
18 that can be permitted very quickly, because there are
19 very few environmental concerns.

20 That was one of the key goals of RETI, to
21 identify those places. But the RETI result was a
22 snapshot in time. We didn't have all the information
23 then about the Central Valley, for example, that we have
24 now. The West Mojave was a very, very rich zone for us.

25 Building transmission to these areas, even

1 though there may not be a lot of initial generation
2 observed there under things like the discounted core
3 that's used by the PUC, I think it's somewhat of a
4 mistake to overlook these areas. A very serious mistake
5 because the resource quality is so good.

6 It's one thing to be concerned about stranded
7 transmission resources, but I think what we might find
8 in these areas, because of the quality of the resource
9 and the proximity to load, is that preliminary or early
10 congestion is a bigger problem than whether or not the
11 lines will actually be used.

12 So, looking at the resource quality and the
13 other advantages needs to be factored in.

14 The third point I'd like to touch upon is one
15 that Ms. Kersten mentioned this morning about regional
16 cooperation. Rich alluded to this, too.

17 Someone who's been really involved in regional
18 transmission planning across the west, and been exposed
19 to the integration studies done by NREL, and spoken with
20 many of the market participants around the west, you
21 know, I think there's a strong case that needs to be
22 made for more California leadership in this area.

23 I would point out that almost all of our laws
24 that are driving the conversation we're having today
25 were intended to help lead other states to take similar

1 actions. They were intended to help lead nationally and
2 internationally, even, climate change mitigation efforts
3 that were originated here. And we've generated and
4 created industries here, to our benefit, to do that.

5 California cannot stand alone in fighting
6 climate change. You know, we're not an island. We may
7 be the biggest load in the western interconnection, and
8 the eighth largest economy in the world, but we cannot
9 accomplish our climate mitigation goals by ourselves.

10 There's a lot of interest in the western
11 interconnection from the executive leadership of all the
12 states, basically, for some level of cooperation around
13 transmission and procurement issues, and we ought to be
14 participating in that.

15 Closing the border to intake of resources from
16 these areas really hurts us, in a way, because our
17 ability to be part of a market in which we can send
18 power out is inhibited by that.

19 I was on a conference call just two weeks ago,
20 with Steve Wright, the CEO of BPA, in which he was
21 talking to northwest stakeholders about his desire to
22 work with the other states in the west to improve
23 transmission, so that they could accept seasonal
24 exchanges of peak power from California renewable
25 resources to help them with some of their renewable

1 integration and resource supply needs.

2 I think there are market opportunities on the
3 table for us to get base load renewable power from
4 geothermal sources in Nevada to help us in Northern
5 California, while sending some of our geothermal, as the
6 National Renewable Energy Lab has -- has suggested, to
7 Arizona markets.

8 If we close the door, we're going to cut
9 ourselves short on jobs, on lowering the cost of
10 integration. Some of the resources that we might have
11 access to, from Wyoming, for example, have great
12 matching characteristics to our own wind resources that
13 could smooth out some of the variability we've been
14 concerned about, have very high, for renewable
15 resources, capacity factors and would be delivered in a
16 fairly cheap way if the WECC studies are to be believed.

17 Realize there's some difference of opinion about
18 some of the cost data there. We need to figure out
19 where those differences -- what the differences are and
20 how to resolve them.

21 But it seems to me there's a lot on the table
22 here that really argues for broader regional
23 cooperation. And California's goals in climate, as well
24 as renewable energy development I think really would
25 benefit enormously from that and the leadership that

1 we've established in this State can be maintained.

2 We don't want, I think, if our goal is to help
3 de-carbonize the electricity system in the west to
4 reduce our climate impacts, to discourage the renewable
5 energy development in some of the richest areas in the
6 world. The Wyoming wind resource is truly suburb.

7 The Southwest Solar Resource, including our own
8 California desert resource, is really suburb.

9 And the implementation of and integration of
10 these resources in such a way to smooth out our
11 variability, deal with the diurnal curves of the solar
12 coming onto line, using matching -- the Tehachapi wind,
13 with Central Valley solar, Arizona solar, which has a
14 slightly different profile given the time zones
15 differences and distance in miles.

16 I mean there's a lot here that we're
17 overlooking, that isn't addressed in this document, that
18 I think needs to be incorporated.

19 I'm really glad to hear Commissioner Peterman
20 talk about this. There's a lot of interest from
21 Governor Gregoire, whom I've spoken with about this.
22 Governor Kitzhaber has also expressed, personally, great
23 interest in collaborating with us. Governor Mead.

24 So, a chance to do something remarkable
25 bipartisan about renewable energy.

1 Governor Sandoval and Governor Brown met in Las
2 Vegas, a little over a week ago, talking about
3 opportunities for this. And I think the magnitude of
4 it, participation of, encouragement of, and energy and
5 balanced market, such as Commissioner Peterman
6 mentioned, highly beneficial to us.

7 In order to get the rest of the west in a
8 condition where we can more easily balance, when we are
9 so far ahead, thanks to Cal ISO's management of the grid
10 in this state although the rest of the grid has to catch
11 up a bit, and having an energy and balance market is a
12 great step forward.

13 I think I'll stop there and leave the rest of
14 that for written comments.

15 But there's, I think, quite a bit more that we
16 can add to this, to this conversation.

17 CHAIRPERSON WEISENMILLER: Thank you. I guess
18 the other issue I'd like to tee up for your written
19 comments is in California we're very, very focused on
20 renewable electricity, and the question of the longer
21 term is how do we also take the broader perspective on
22 renewable energy per se?

23 And, certainly, when you look at Germany it's
24 not just electricity targets, but thermal. And so it's
25 trying to have people think more about the full range of

1 renewable energy.

2 I guess the one follow-up question I had, which
3 probably will ultimately segue over to the utility
4 comments, was I know when we started this process I was
5 hoping CTPG could go to a more broader stakeholder
6 process, you know, 890 compliant. And I guess my most
7 recent understanding is with FERC Order 1000, if
8 anything that's sort of pulling apart that entity in
9 terms of participation.

10 And so I guess part of the question is, you
11 know, how do we move forward on getting a broader
12 stakeholder -- A, to get to the one planning process
13 but, B, to have a fairly robust stakeholder process as
14 part of that?

15 MR. ZICHELLA: It's a really good point. I
16 think CTPG has expressed a lot of desire to do that and
17 struggled in trying to initiate it because it wasn't in
18 the wheelhouse, the folks coordinating that.

19 I think CEERT had been consulted somewhat in how
20 to approach that and is proffering some ideas.

21 I think Order 1000 actually may give us an
22 opportunity to do something really integrated in the
23 west. I realize the jurisdictional/nonjurisdictional
24 issue complicates that quite a bit, as you were just
25 alluding to, but I was on a conference call yesterday

1 with the Transmission Subcommittee of the WECC, of which
2 I'm a member, where there's quite a bit of conversation
3 from the subregional planning groups, which would
4 include CTPG, about an implementation strategy for Order
5 1000 that would be integrated across the entire western
6 interconnection, and not be balkanized into a series of
7 partnerships between jurisdictional and
8 nonjurisdictional entities doing planning on their own.

9 So, you know, I think there's some hope there
10 for something to move forward. And given the level of
11 stakeholder participation in that process, in which
12 California is well-represented, again, I think referring
13 to Commissioner Peterman's heroic role in trying to
14 shore this up.

15 Yeah, I'm laying it on a little thick, sorry
16 about that. That's my hope bubbling up.

17 And also Commissioner Florio, from the PUC, whom
18 I've had a talk with about this, is going to be
19 representing them on a State Provincial Steering
20 Committee.

21 So there's some, I think, great opportunities
22 for us to exercise our leadership, take advantage of our
23 market power, but also to help coordinate with our
24 partners to have a western energy market that's more
25 responsive and able to be integrated with our own

1 markets here, in California.

2 I think we all will benefit hugely from that,
3 and Order 1000 is properly implemented, and it survives
4 all the reconsideration calls that have been made, there
5 were 60 some calls for reconsideration or clarification
6 right now on the table. That thing could actually be a
7 huge help to us in California in realizing our ability
8 to integrate more effectively and take advantage of the
9 geographic diversity of our neighbors' resources.

10 COMMISSIONER PETERMAN: I would just say, Carl,
11 I am aspiring to have the title of "Transmissionater"
12 but --

13 (Laughter)

14 MR. ZICHELLA: It's all yours.

15 COMMISSIONER PETERMAN: But for now I just
16 listen to what smart people like you tell me and then I
17 just say it to other people. So, thanks.

18 MS. KOROSSEC: All right, do we have any of the
19 other panelists who would like to make any comments or
20 ask any questions of the speakers we heard?

21 MR. FERGUSON: I did have a question. It was a
22 suggestion that was made last week at the ISO, having to
23 do with resource adequacy, and right now I guess it's
24 sort of a bulk capacity requirement, I'm not exactly
25 sure what actually qualifies for resource adequacy.

1 But the idea that maybe resources, which are
2 required to be adequate, should include some ancillary
3 service type resources.

4 I thought it was an interesting -- an
5 interesting suggestion that, you know, maybe you require
6 some sort of ramping or, you know, load following or,
7 you know, whatever it is in the RA requirements.

8 Is there any of that in now, or what do you make
9 of that suggestion, I guess?

10 MR. MILLAR: No, I think that as the traditional
11 requirements are starting to change, either because we
12 need more capability or different kinds of capability,
13 that kind of thing will have to be explored and built
14 into future RA programs.

15 I have to confess, many people find it an
16 extremely process as it is right now, so layering on
17 extra complications, we'll have to be very careful about
18 how we do that.

19 I should mention that this is a DRA program,
20 itself, the ISO's role is regarding the deliverability
21 of resources, but it's really a State requirement, as
22 opposed to an ISO requirement.

23 The deliverability work is, in itself, a test,
24 as many of you know, of those resources that are under
25 contract to provide that resource adequacy. Can they,

1 if they are the bucket that we're dealing with at the
2 time, are they capable of supply load while operating
3 simultaneously. And that's really to make sure that we
4 aren't giving the same transmission -- or relying on the
5 same transmission capacity twice in terms of getting
6 generation to load.

7 MR. ROTHLEDER: This is Mark Rothleder. We did
8 suggest a process for the 2012 resource adequacy that
9 would look at nongeneric resource characteristics,
10 including ramping. But that was deferred off at least
11 until, I think, the 2013 cycle.

12 I believe that -- well, we are doing an annual
13 review of the resource characteristics as the resource
14 adequacy showings come, and we'll be providing
15 information about how flexible that fleet is, and the
16 adequacy of that fleet from a -- from a flexibility
17 perspective.

18 I think that's a starting point and we are
19 looking forward to further discussions about considering
20 nongeneric capacity.

21 I know one of the struggles of that is
22 quantifying how much of that nongeneric capacity, and
23 putting it in a context that is useful for RA
24 procurement, and we continue to look at ways of doing
25 that and informing that process.

1 MR. STERN: If I could add one cautionary note
2 before we agree that ancillary services should be
3 acquired as part of RA; RA is a system need that is
4 appropriately allocated in terms of responsibility and,
5 therefore, cost to load.

6 Additional ancillary services to handle
7 intermittent generation that comes to the ISO system I
8 believe is an additional cost that should be the
9 responsibility of the intermittent generators that are
10 supplying the power which, eventually, will get passed
11 on through loads through the contracts associated with
12 that power, but the right loads.

13 An example might be we talked about California
14 potentially becoming an exporter someday. California
15 customers shouldn't be paying for the intermittency
16 costs for power that's going to be exported to satisfy
17 somebody else's renewable obligation. That's just a
18 hypothetical example, but I think it makes the point.
19 The right loads should pay and ancillary services that
20 are needed for intermittency shouldn't be part of a
21 program that is all load responsibility, as opposed to
22 the right loads.

23 MR. FERGUSON: Well, our reaction to that of
24 course is I think it's very difficult to try to assign,
25 to each technology, the ancillary services that are

1 required to maintain that.

2 Certainly, when we built the storage facilities
3 to accommodate the nuclear plants that was not
4 considered to be sort of an extra fault, it was just the
5 system costs that got socialized like all the other
6 costs.

7 I think it would be very, very difficult to try
8 and specify out exactly which costs are uniquely
9 associated with the wind and solar. So, look forward to
10 that discussion.

11 MR. ZICHELLA: And if I can pipe up a little
12 there, too, I mean all generation is somewhat variable.
13 And we're sending power out, what does it matter what
14 the generation of it is because the power coming back is
15 going to have similar cost that someone else has paid,
16 so that it could be sent to us.

17 You know, I think there's a -- we may be going
18 overboard here a little bit in this.

19 MR. STERN: It hasn't been too difficult for BPA
20 to charge California's ratepayers, who billed renewable
21 resources in their territory for the intermittency that
22 we impose on their system and it is appropriate for them
23 to do so.

24 So, you know, if it's that difficult, then how
25 is it that BPA is already able to charge California for

1 it?

2 MR. FERGUSON: Well, I didn't say you wouldn't
3 be able to charge people for it, I'm just saying making
4 that accurate and actually reflecting costs, and Steven
5 can contribute, is not as simple as BPA would like.

6 MR. KELLY: Yeah, I think when I think of this
7 problem, and this is just an observation that I mean
8 part of the problem is that we are taking resources that
9 are intermittent in nature and trying to achieve an RA
10 credit for them.

11 And then once we've done that we impose these
12 operational obligations on them to provide ancillary
13 services because of course now we're counting you for
14 RA.

15 So, it may be that the answer to this problem is
16 in the real product definition of what is it that you're
17 buying?

18 And if you're going to buy an intermittent
19 resource to meet RPS obligations, you may have to
20 recognize it and there may be zero or a very limited
21 amount of RA counting capability associated with those
22 resources. That's good or bad, depending on what your
23 RPS obligations are, but you can do it that way, and
24 we're melding those things. And I'm not sure that it's
25 helpful in either case, either RA counting or RPS

1 guiding.

2 MS. RADER: I can't help but ask what is the
3 system integration cost of San Onofre dropping off for
4 four days this past weekend?

5 MR. STERN: Basically, San Onofre, as the ISO
6 will tell you, is in a local area, it's needed to
7 satisfy local generation requirements. And so, you
8 know, we have those obligations and the facts that
9 transmission issue can cause the nuclear units to go
10 down for, fortunately hours, not days, is an unfortunate
11 circumstance, but it demonstrates the reasons why the
12 ISO has local requirements, because absent the local
13 generation, there isn't the ability to keep the lights
14 on.

15 MS. RADER: My point being if you're going to
16 pin renewables with our integration costs, it needs to
17 be done for everybody, first.

18 MR. STERN: Yeah, and again, this isn't
19 something that I'm doing. What I'm saying is California
20 customers are already paying for integration costs for
21 resources outside of the State, and that's appropriate
22 because we're the ones building those resources and
23 should be charged for them.

24 But the local loads in the northwest are not
25 being asked to pay for those resources so why would we

1 here, in California, believe that it's appropriate for
2 the local loads to pay for all intermittency in our
3 area, when we participate in other areas their local
4 loads are not being charged, we are? So, it's a heads-
5 you-win, tails-I-lose proposition from a cost allocation
6 perspective and it isn't right.

7 MS. KOROSSEC: All right, if there are no other
8 comments by the panels, I'd like to open it up, if we
9 have any questions from anyone here in the room, that
10 you'd like to ask any of our panelists? No.

11 Okay, anybody online, Donna? No.

12 All right. Well, in that case I propose we take
13 a 15-minute break and reconvene at ten minutes after
14 3:00.

15 Thank you, everybody, and thank you to our
16 panelists.

17 (Off the record at 2:55 p.m.)

18 (Reconvene at 3:13 p.m.)

19 MS. KOROSSEC: All right, we're going to go ahead
20 and get started. We have a speaker who has a time
21 constraint, so we're going to let him jump ahead a
22 little bit. Mr. Picker?

23 MR. PICKER: Thank you. I'm Michael Picker, I'm
24 Senior Advisor to the Governor for Renewable Energy
25 Facilities, and I'm here --

1 CHAIRPERSON WEISENMILLER: Is your mic on?

2 MR. PICKER: Can you hear this?

3 CHAIRPERSON WEISENMILLER: I can, but I was just
4 wondering if the mic was on.

5 MR. PICKER: Yeah, the light's on.

6 CHAIRPERSON WEISENMILLER: Good.

7 MR. PICKER: And so, I also want to congratulate
8 the staff for having done an amazingly large amount of
9 useful work and analysis.

10 I wanted to point out one of the strategic
11 insights that I took away from this work, in general,
12 which is that there actually have been more projects
13 permitted in the State of California, in the year 2010,
14 than I was aware of. So, I've been counting around
15 7,500 megawatts of projects larger than 200 megawatts
16 that received permits to construct and operate here in
17 California. Some of them are in construction.

18 And the staff has found another 2,000 megawatts
19 of projects that received permits.

20 I think this is a useful insight because when I
21 started this job two years ago the core assumption was
22 that we would not get any projects permitted in
23 California, we'd be buying all of our power from out of
24 state.

25 So, I think it also is helpful in terms of

1 giving us a sense that we are creating a market for
2 renewable energy projects here in California. Many of
3 the other speakers actually testified to the value of
4 that and what it means in terms of ability to get
5 projects to compete on price, to bring down costs to
6 ratepayers, and to stimulate additional entrance into
7 this new market place in the future.

8 So, as you take this set of issues that you
9 identified and start to refine it into a strategic plan,
10 I think we should look at some of the drivers that have
11 created that large number of projects, as well as some
12 of the tactics we've used to actually help them get
13 through the permitting process and get to construction.

14 I actually came today to talk a little bit and
15 update on next steps that have come out of the
16 Governor's Conference on Local Renewable Energy or
17 Distributed Generation.

18 And so to that point I think that, again, we're
19 here at the beginning of another market. And probably
20 this can be best characterized by a discussion I had
21 with a strategic planner for one of the State's
22 investor-owned utilities, who was telling me about his
23 early experience as a Wall Street analyst for one of the
24 rating agencies, who was -- he was very active in
25 Telecom. And he was talking to one of the Baby Bells

1 and trying to evaluate market trends and how that was
2 going to affect their credit rating.

3 And he said that one of the execs there very
4 confidently told him that cell phones would never get to
5 more than three percent of the market, largely at the
6 corporate or the business higher levels.

7 And he was basically pointing that he thought
8 that that Bell currently had a market share of around
9 three percent in their area of influence.

10 And I think that it was -- what I'm hearing from
11 people is that this notion of distributed generation has
12 some of the same potential for being a fairly disruptive
13 kind of entrant into the energy market.

14 And so I think that with that we are trying to
15 think very carefully, within the Governor's Office,
16 about what we think ought to happen in terms of the
17 12,000 megawatts of local energy from distributed
18 generation sources.

19 And so we are -- we have some thoughts that we
20 wanted to share with you today, and our colleague, Jeff
21 Russell, from the Center for Law and Energy in the
22 Environment, at UC Berkeley is here. He'll be preparing
23 written comments for you in greater depth.

24 And all we're going to do today is just kind of
25 point to some of the low-hanging fruit, give you a sense

1 of where we're focusing our energy.

2 And probably the first thing is that we still
3 don't believe that the State's strategy and organization
4 is well organized and we think that it's still a little
5 bit distributed, as the Governor pointed out, where any
6 one action requires a thousand different decisions and
7 they all have to line up.

8 So, we're going to begin and have started the
9 process of identifying State agencies that have key
10 roles, bring them together, getting a clearer sense of
11 what we can do in terms of low-hanging fruit and some of
12 the longer challenges.

13 We've already done that, to some extent, through
14 the energy principles with the ISO, the CEC, and the
15 CPUC, and we need to actually start to expand that to
16 include other agencies.

17 We think it's important and this is one of the
18 key things we wanted to emphasize here is that the
19 Energy Commission continue to refine the work that
20 you've done through Kevin Barker, and Heather Raitt, in
21 terms of setting some regional goals.

22 And, again, it's not that we think that we can
23 determine the market, but given that there's so many
24 different barriers based on regional characteristics,
25 it's very important to begin to define what we think is

1 achievable in different parts of the State.

2 Clearly, from our perspective, if we want to
3 maximize having generation that's close to demand, that
4 can fill in the need in the areas that are highly
5 congested, and to develop generation that doesn't
6 require additional transmission, then we can capture
7 some of the avoided costs and provide reliability
8 without expense.

9 We've got to start to figure that out and that's
10 not going to be done through a statewide market. If the
11 statewide market was to determine, say through the RAMM
12 process, where projects would go right now, it's clear
13 that most of the 12,000 megawatts would go to Kern
14 County because they have the best land use planner, the
15 cheapest land, and the easiest available resources.

16 That doesn't really meet the best value in terms
17 of actually achieving these other goals. So,
18 population, other resources has to figure into that.
19 And we appreciate the work that the Energy Commission
20 has done to take the initial efforts a step further.

21 I know you're getting comments. For example,
22 there's a regional coalition in the Bay Area that's
23 really trying to refine that and look at what they see
24 as local barriers are to actually bringing down the
25 costs and making it a more achievable goal within their

1 communities.

2 I think that we're also concerned that there are
3 a lot of people who think that many of the processes
4 aren't transparent enough. So, for example, how the
5 utilities will go about defining where they think they
6 get the best value from distributed generation, where
7 the lowest cost and the lowest need would be for this
8 particular application. We want to have a better
9 understanding how people arrived at that.

10 But I think there are other things within the
11 agencies that have primarily been part of market
12 proceedings with various competitive business
13 information where we want to have a better understanding
14 of how people are arriving of those kinds of
15 determinations, because it will help to inform other
16 kinds of market decisions. And so, we'll continue to
17 figure out what the best process is to get an
18 understanding of that and see what we would recommend to
19 agencies as policy.

20 There are barriers in the interconnection
21 process and I think we've talked about that here. We
22 continue to look to the work that the CPUC is doing on
23 the Rule 21 revision process.

24 We'd like to see some models in terms of what
25 would make sense in terms of an interconnection and

1 request timelines.

2 And then, again, is it possible to take some of
3 the input from the utilities on where they believe it
4 helps them best to place renewables within the
5 distribution grid, gives them additional reliability,
6 helps provide generation to otherwise congested areas,
7 so they don't have to build new transmission, or they
8 can push off changes to the distribution grid until they
9 get to that in their normal investment processes.

10 What are the incentives we ought to build for
11 them, looking for those kinds of ideas.

12 A series of other tasks, which we'll submit in
13 writing.

14 Financing, this is the one thing that keeps me
15 up at night, whether it's for large scale or for
16 distributed generation. The fact that our stimulus
17 dollars are going away, the fact that we don't have
18 capital markets that work very well, the fact that these
19 investments are all going to be seen as riskier, just
20 because they're newer, and bankers tend to like things
21 that have been around for a long time and proved
22 themselves over, and over, and over again.

23 We think that -- we know that net metering is
24 going to be reached sometime soon for most of the
25 utilities. We think that we need to proceed very

1 carefully and thoughtfully. That's been an important
2 asset for a lot of generation behind the meter, and we
3 know there's a lot of demand so we want to actually
4 start a process to look at that, so that we can respond
5 to that demand fairly carefully.

6 We are very excited about what we're hearing
7 anecdotally about the IOU's experience with the reverse
8 auction mechanism, and want to have a report that helps
9 us to understand that, so that we can think about what
10 kinds of policies ought to proceed from that.

11 And there's a lot of desire on the -- on the --
12 to see some kind of a standard power purchase agreement
13 that helps people to understand what a good model would
14 be.

15 I think, at least in my view, that kind of
16 reflects back on the challenge of transparency.

17 Again, the work that the folks of the CPUC have
18 done in terms of public buildings needs to continue.

19 We think that the work that's exemplified in
20 this report's very valuable. We think that we need to
21 continue to work with DGS to firm up their response to
22 the work that you've done.

23 We'd like to get the CPUC, with the CEC's
24 assistance, to continue to work with the utilities'
25 integrated resources plans, to requirements to emphasis

1 a local planning process that State and public
2 facilities could fit into.

3 And then we're working to get the Department of
4 General Services to point a high-level staff person,
5 sort of the new generation of Mike Garland, who will
6 actually lead this process within the Agency and help
7 all the other agencies to be consistent.

8 I think that probably one of the areas we expect
9 the most progress on, the most quickly, with the most
10 benefit to the greatest numbers of people is in local
11 permitting practices.

12 And this flows to the challenge that the Energy
13 Commission was initially designed to address, which is
14 that if we're going to forecast needs, develop a
15 strategy, can we really count on 450 cities and 58
16 counties to actually meet that need through their
17 permitting processes if they're actually maximizing
18 their own self-interests? Will that necessarily comport
19 with what we know to be the statewide needs?

20 And so far we've been very lucky, we've had good
21 progress at least in the renewables sphere, where I've
22 been very attentive. But we do know that some counties
23 are better than others in terms of land use.

24 Some have actually done work that allows them to
25 site distributed generation, say, in the 3- to 20-

1 megawatt range fairly easily. Others have given it no
2 thought at all.

3 That's a cost, it's a cost in time and
4 uncertainty for those projects, which means that we
5 automatically have 58 different markets in the State of
6 California.

7 From a long-term investment perspective, that's
8 a challenge to actually doing this efficiently and
9 effectively.

10 So, we think that the State needs to begin to
11 work with counties, we need to develop some model tools
12 for them. We need to develop a series of workshops to
13 go out and work with local planners and communities to
14 think about this.

15 We need to have goals so that they can begin to
16 own what their piece of the statewide goal will be and
17 think about how to lay aside enough land in their
18 thinking and planning that we can accommodate that
19 without having to go through, say, a full-on CEQA
20 process for every five-megawatt PV project in their
21 community simply because it's nonconforming to their
22 general plan. That's a cost. We need to do something
23 to help ease that obstacle.

24 And I think that we're going to have to figure
25 out, in the Legislature's failure to pass the public

1 goods charge, how to finance the RPV program that the
2 Energy Commission was developing, that would provide
3 grants to help the counties with this important task.

4 I think we also have some work to do in terms of
5 building codes. The CEC is already working with the
6 Building Standards Commission on some pieces of this. I
7 think we need to formalize that so that we have a model
8 photovoltaic installation guidelines.

9 We have a similar process in the Fire Marshall's
10 Office, that we need to help bring into sharper relief
11 so that people know about it and pay attention to it,
12 otherwise it's going to have to wade through the normal
13 adoption process, which takes anywhere from three to
14 five years, depending upon where you fall in the cycles.

15 So, again, we just wanted to highlight some of
16 the learnings from our recent conference, some of the
17 tasks that we're beginning to embark on.

18 We characterize all of this as low-hanging fruit
19 because it's things that are immediately before us,
20 short-term opportunities, low-cost opportunities, things
21 that we need to prepare for.

22 And we know that the SB 32 process, that the
23 rulemaking that's underway at the CPUC will inform a lot
24 of longer-term decisions to the behind-the-meter, and we
25 know that the RAMM process will continue to drive some

1 of the larger procurement for the projects in the 3- to
2 20-megawatt range within the distributed grid.

3 So, this is a snapshot, we hope to have more for
4 you. We just wanted to make sure that we began to feed
5 that into your record so that it would comport with our
6 next report to you.

7 CHAIRPERSON WEISENMILLER: No, this is very
8 helpful. I mean, obviously, this report we sort of cap
9 our issues and status with the notion that we would then
10 move forward to more recommendations.

11 I think, just to discuss a little bit some of
12 your comments, the first thing, it would certainly be
13 good to get, from the utilities, an update on the net
14 metering numbers.

15 The last time I checked, they were lower than I
16 would have guessed, you know, more with the -- I don't
17 think we're -- I think the industry would love to have
18 numbers that say net metering, say, up to ten percent.
19 But my impression is no one's really above, say, three
20 percent at this stage.

21 And so we should check on just is that something
22 that we need to move with right away or is that --

23 MR. PICKER: I think I have the same challenge
24 that you do in terms of getting a clear number and a
25 sense of how imminent some utility is going to be to

1 reaching its cap. I just know that we're getting a lot
2 of pressure from stakeholders --

3 CHAIRPERSON WEISENMILLER: Right.

4 MR. PICKER: -- so we consider it important to
5 really start to answer this question.

6 CHAIRPERSON WEISENMILLER: And it's important.
7 But, anyway, if you guys could, in your written
8 comments, flag where you are in net metering, we could
9 see if that's an issue this year or not.

10 I think in terms of the updates on the planning
11 numbers, we also tried to really look at sort of the
12 utility-scale generation and transmission, and we've
13 obviously got some feedback here on sort of the high-
14 resource potential areas.

15 So I think, again, hopefully, we'll get feedback
16 on those numbers. My presumption is that will be
17 something that at least on a biannual basis, if not
18 annual basis, we will be updating over time, and so
19 we'll have this ability to adapt those if we're seeing,
20 say, a lot of -- one area turns out to be much richer in
21 development than another, that we can try to reflect
22 that over time.

23 But again I think it's -- as you know, this is,
24 at this point, sort of the first stabs at that, so I
25 think over time presumably this document will get better

1 there.

2 One of the things we really haven't hit here,
3 although again this is renewable electricity, as I said,
4 we haven't really talked about renewable energy, per se.
5 We certainly haven't talked about CHP, although my
6 presumption is that when the solicitations occur in,
7 hopefully, November, we will be in a position to
8 understand better what's going on there, than at this
9 stage. And, plus, there was a lot on the plate already.

10 But I assume that will be factored in at a later
11 date.

12 I think the other -- one other gap which we were
13 missing here, probably be good to tie to, which I know
14 OPR and I have worked with is, obviously military's
15 doing an awful lot on renewables in California and
16 that's -- can be complementary to what we're trying to
17 do on the State buildings.

18 But, certainly, I think the more we can sort of
19 amp up or build out what's going on, you know, the
20 various bases and how that can complement or work with
21 them on both utility scale and distributed gen in
22 California.

23 MR. PICKER: Well, I think the military is a
24 very important player. I think both because they
25 represent a single purchaser of large volumes of any

1 given resource, and because they tend to really apply a
2 lot of energy to anything that they do, no pun intended.

3 So, I think that your impending agreement with
4 the Navy is probably important, since they're the
5 largest military tenant in the State of California.

6 COMMISSIONER PETERMAN: I'll also just add, I
7 think Carl mentioned earlier that one of the challenges
8 with transmission is that we have a number of
9 authorities working on that area, planning in that area.

10 And I see that also as one of the challenges
11 with financing, especially if we don't have, you know, a
12 single State type of financing mechanism through a PGC.
13 And I would welcome further discussion with the
14 Administration and stakeholders about how to coordinate
15 our financing, where the various agencies see their core
16 competency and their ability to contributing to the
17 financing solution, and whether it might warrant some
18 type of a cross-agency financing working group, or
19 something like that to really start to consistently
20 drill down into these issues.

21 CHAIRPERSON WEISENMILLER: Anyone else have any
22 questions or comments for Michael?

23 MS. WINN: Hi, Valerie Winn, with PG&E. And I
24 know my colleague from San Diego has left for the day,
25 but I appreciate your comments on the net metering cap

1 and where people are today. I know for PG&E, we're at
2 about three percent today and we're not expecting to hit
3 that five-percent cap for maybe another year or two.

4 But I think one of the things that we need to
5 include in this discussion is not just further expansion
6 of the cap, but whether that makes sense, because
7 customers on that metering are shifting costs to other
8 customers who can't participate, and that's really not a
9 sustainable model.

10 And so I think we need to look more
11 comprehensively as to whether there's an alternative to
12 that. Is there, you know, more separation of the retail
13 and the wholesale markets, so that customers simply sell
14 us the energy under a feed-in tariff, rather than under
15 net energy metering.

16 So, again, I think we've learned a lot in the
17 last few years, so let's not close too soon on what the
18 solution may be here.

19 CHAIRPERSON WEISENMILLER: Thank you.

20 MS. KOROSSEC: We also do have one leftover
21 question from the prior panel, that wasn't able to get
22 in on WebEx, so we're going to go ahead and open the
23 line for him to ask that, now.

24 Steven White, your line is open. Yeah, let me
25 go ahead and read his question.

1 Lynette, how do I see the question? Oh, okay,
2 hang on just one moment, we're having a little technical
3 difficulties.

4 Is his question on the chat? All right, we'll
5 try to pick up his question, then, after we start --
6 after we get to the end of this panel, rather than
7 waiting for that.

8 So, Nancy, why don't you go ahead with your
9 opening remarks.

10 MS. RADER: Okay, thank you very much. My
11 name's Nancy Rader, Executive Director of the California
12 Wind Energy Association.

13 I appreciate the opportunity to participate
14 because I spend most of my time way down in the weeds,
15 and it's nice to come up and take a look around every
16 now and then, so thanks for having me.

17 I have to say that I only skimmed the report,
18 looking for the areas that are of greatest importance to
19 us, and I did identify about five areas where I had some
20 comments, concerns.

21 I found myself agreeing this morning with the
22 utilities, which is a little bit scary, except for our
23 last little exchange, Gary. But I honestly found a lot
24 to agree with, with what the utilities said this
25 morning.

1 Not so much with you, Rich, you pushed some of
2 my buttons, and about half of what Carl said. And I'll
3 try to -- I'll try to --

4 MR. FERGUSON: This is not unusual.

5 MS. RADER: I'll try to work some of those
6 responses in.

7 On water, just briefly, the report discusses the
8 impacts of renewable energy on water only in a negative.
9 It would be nice to see a mention of the fact that the
10 nonthermal renewable technologies carry an important
11 water benefit, which is that we don't use any, which
12 will be an increasing benefit as the effects of climate
13 change materialize.

14 On the technical potential of wind, it doesn't
15 look to me that the draft report has taken into account
16 the low-wind speed turbines that are already coming onto
17 the market, which would economically tap lower wind
18 speeds.

19 And accounting for that obviously opens up a lot
20 of additional land area that is suitable for commercial
21 development and, therefore, greatly increases the
22 technical potential of wind.

23 So, I know it was relying on a 2007 report and I
24 think there's been a lot of advancements since then.

25 On integration issues, a lengthier topic, the

1 time frame that the staff report is addressing isn't
2 clear, and maybe that was intentional in some areas.
3 But it appears to be at least partially into the 2020
4 time frame, relevant to the 33-percent RPS.

5 So, when the staff report says that maintaining
6 a reliable electricity system, while adding variable
7 resources will "require energy storage," among other
8 things, it is giving a false impression with regard to
9 the 2020 time frame. That should be corrected or at
10 least clarified.

11 Likewise, statements such as new technologies,
12 supported by R&D, will be crucial to integrating
13 renewable technologies into the grid, would exaggerate
14 the situation in the 2020 context and, potentially, well
15 beyond.

16 The studies that were conducted this year by the
17 Cal-ISO, and the utilities, which were really a huge
18 effort and a great accomplishment, have shown, I think
19 as Rich alluded to, that gas plants on the system now
20 can easily handle the integration of 33-percent
21 renewables, including a high penetration of
22 intermittents.

23 Indeed, at the same time, we can safely retire a
24 bunch of the once-through cooling plants and, really,
25 the question is how many of those plants can we retire?

1 And a lot of that issue has to do with load growth,
2 which is a separate issue than renewables.

3 That's really a good news story that I think is
4 really missed in the report. I heard a little bit of
5 it, actually, Suzanne, in your opening remarks, but I
6 didn't see it so much in the report, itself.

7 I think that's a really good news story that
8 should be told. We really can do the 33 percent without
9 adding anything.

10 At the same time and, Suzanne, you alluded to
11 this, too, the report should highlight the as-yet-unmet
12 financial needs of the existing gas generators that will
13 have to operate at much lower capacity factors while
14 they provide the litany of integration services that the
15 report discusses at length, which sounds like we have
16 this huge and daunting challenge, and yet we have these
17 gas generators sitting there that can provide those
18 services.

19 The report discusses the need to set goals for
20 storage technologies within the 2020 time frame, and I
21 know that's a result of legislative direction.

22 But, you know, the report doesn't address the
23 relatively small and inexpensive steps that we need to
24 take to keep the existing gas generators online and we
25 need to do that soon.

1 You know, although new storage and new
2 technologies, of course, ultimately will be helpful to
3 integrating renewables at higher penetrations, the facts
4 really don't support the assertion that we need them in
5 order to integrate 33-percent renewables successfully.

6 It would be really inefficient to allow the
7 existing gas units to shut down for lack of a payment
8 for their integration services, while mandating new
9 storage units, which would be much more costly.

10 So, as we look toward adopting a new cost-
11 containment approach for the 33-percent RPS, we really
12 need to look at minimizing all related costs.

13 One way is to take advantage of the existing
14 system resources we have and use them more efficiently.
15 We are currently flush with gas-fired generation
16 capacity. We don't have any near-term need for
17 electricity storage, per se, which in any case should
18 compete with gas resources to provide the integration
19 services that we need, at least cost.

20 I should say we're also flush with gas pipeline
21 capacity and gas storage capacity, that you can think of
22 gas as storage and we have a lot of that right now.

23 In the same vein, I wanted to mention that the
24 section on wind energy continues to perpetuate that
25 false notion, really old thinking, that wind energy in

1 particular needs "backup" or needs "storage" which are
2 phrases that are used.

3 Instead, the staff report should promote the
4 notion that the grid's resources can and should be
5 operated together in an efficient and effective way,
6 including low-cost technical improvements, such as
7 improving the accuracy of forecasting and creating
8 markets that operate closer to real time, which is
9 something the report does appropriately address. But I
10 think they should be placed in the context of an
11 integration challenge that is wholly manageable over the
12 next ten years.

13 Finally, as to getting to the little jab I made
14 at Gary, earlier, another useful point of context would
15 be to point out that load, as well as all the
16 conventional generation resources also require
17 flexibility services, not the least of being, as I
18 mentioned, San Onofre and other nuclear power plants,
19 which in that case not only contributed to the recent
20 blackout, as I understand from the papers, but it was
21 also offline -- one of the units was offline for nearly
22 four days.

23 Meanwhile, the sun kept shining, the wind kept
24 blowing, and renewable generators kept on producing.

25 On transmission planning, the staff report

1 suggests that additional transmission capacity is not
2 needed to meet the 33-percent goals beyond that which is
3 already being planned and built, such as the Tehachapi
4 and Sunrise lines, and that's no doubt technically true.

5 But further strengthening the State's
6 transmission infrastructure will promote much greater
7 competition in the renewable energy market.

8 Valerie Winn, of PG&E, emphasized this, that
9 transmission is a relatively small component of our
10 electricity bill, and generation is a much larger
11 component. So, by promoting competition, by removing
12 transmission barriers, it will pay for itself in the
13 generation market, while also laying the groundwork
14 toward achieving RPS goals higher than 33 percent, which
15 we'll need to do to achieve our greenhouse gas goals.

16 The report credits the Cal-ISO with making good
17 use of its new tariff provision that enables planning
18 for so-called policy-driven upgrades. We disagree.

19 All of the upgrades that were included in the
20 ISO's 2010-2011 plan were already being planned for,
21 some were even under -- already under construction prior
22 to development of that plan, so none of them really can
23 be said to have been facilitated by the new planning
24 tool.

25 The new tariff provision enables the ISO to

1 resolve traditional problems, that is insufficient
2 reliability and economic bottlenecks, in a way that
3 simultaneously removes the transmission barriers that
4 exist under a wide variety of renewable energy
5 development scenarios, so-called "least regrets
6 planning."

7 Some of these transmission barriers have to do
8 with expanding paths into load centers, including
9 removing the north/south bottlenecks in California, not
10 so much with accessing renewable resources.

11 That's really what -- and this is where I
12 disagree, Rich, although we didn't disagree at the time,
13 which is that the RETI -- the results of the RETI
14 process, which was very long and painful, we concluded
15 that what we needed to do was build up the foundational
16 backbone lines of California that really help all of the
17 CREZs, or most of the CREZs.

18 And that by doing that you can reduce those
19 transmission barriers, promote competition without
20 favoring one renewable resource area over another, and
21 without imposing many costs because we've addressed
22 system needs at the same time we addressed renewable
23 needs.

24 That's the kind of proactive planning we would
25 like to see coming out of the ISO, but it's not looking

1 like the 2011-2012 plan is going to do that, either.

2 I'll mention that Carl Zichella mentioned the
3 Midway-Gregg line. That is one component that was
4 identified in the RETI plan, but it was one of a couple
5 of pieces that strengthened the north/south grid.

6 And so I would agree with Carl, but also say,
7 you know, we don't want to build one piece for one
8 particular CREZ that a certain contingent is interested.
9 What we need to build is the foundational lines that
10 really, I think, will also help resolve the ISO queue
11 clog issues, because if we build those foundational
12 barriers we have a lot fewer upgrades in the generation
13 interconnection process.

14 So, we think it's important to take advantage of
15 that in the 2011-2012 ISO plan and we hope that the
16 staff report would encourage them to do that.

17 I wanted to mention I completely endorse Julie
18 Fitch's statement on optimizing the transmission grid
19 that maybe 99 percent deliverability is good enough if
20 it saves us a whole ton of money. That's definitely
21 something that I think the report would want to focus
22 on.

23 And also totally agree with Carl Zichella on the
24 need to integrate the balancing areas as a means of
25 reducing integration costs.

1 On environmental permitting, CalWEA is a very
2 active participant in the DRECP process and we have high
3 hopes for that to both preserve sensitive desert
4 ecosystem, while also streamlining and expediting the
5 permitting process for renewables. Which can take in
6 this State, uniquely, you know, up to ten years or more
7 and \$10 million per project.

8 I note that the goal of permit streamlining
9 isn't mentioned in the executive summary in the DRECP,
10 but it should be because it's one of the dual purposes
11 of that plan.

12 Lastly, I wanted to mention that strengthening
13 the grid while outside the DRECP area can facilitate
14 development within the DRECP area by removing
15 transmission constraints to load centers.

16 I think the RETI process showed that we don't
17 need a lot of new transmission within the DRECP area,
18 itself, certainly not in new corridors, but we do need
19 to strengthen some of the State's backbone transmission
20 facilities to get that power out to load centers.

21 So, thanks again for having me.

22 CHAIRPERSON WEISENMILLER: Thank you. And
23 actually thanks to the -- I think the ISO good news
24 story was in that Keith Casey memo in August, for the
25 Board, where I think by that point this was well on the

1 way to the editor, so that's one of the things we need
2 to catch.

3 I guess we could ask you, in terms of we've
4 heard earlier enthusiasm for restarting RETI, so I guess
5 what's your thoughts on that?

6 MS. RADER: My sense is we did RETI, we did
7 RETI. My God, do we have to do it again? You know,
8 look at that conceptual plan that came out of RETI, the
9 same plan came out of the CTPG in one of its early
10 efforts. It's beyond me why that has fallen by the
11 wayside.

12 I certainly don't want to go through another two
13 years of headaches when to me, and I've talked to
14 Valerie, it seems obvious what we need to do and we just
15 need to do it. We need to build, to strengthen the
16 north/south grid, and a few other parts of the grid and
17 that helps all renewables at a relatively low cost,
18 while serving the -- you know, serving the State's, you
19 know, foundational transmission needs. And we need a
20 strong grid, whether we like it or not, unless
21 everybody's going to have a storage system in their
22 basement, and we should just get on with it. It's
23 not -- it's beyond me why we're not -- why we're not
24 doing that. Can somebody explain?

25 I mean, Rich, I mean we did that.

1 MR. FERGUSON: Well, I don't have much appetite
2 for starting it up again, I'll tell you that. Yeah, I
3 think -- I mean I'll defer to the ISO but -- and I
4 certainly don't disagree that, you know, the conceptual
5 plan would sort of seize what we called the foundational
6 lines to be able to move power around, yeah, with the
7 minimal bottlenecks is certainly a good thing. I didn't
8 mean -- because I didn't mention it doesn't mean I don't
9 think it's a good thing.

10 But I think what we're hearing from the ISO is
11 what we've got is good enough. Now, and I'm not in a
12 position to disagree with them. But I might -- I might
13 be interested in sort of hearing your question, even for
14 that one particular line. You know, is what we call
15 this backbone system, from the Bay Area and Sacramento,
16 down through Midway, on through Tehachapi, to Kramer,
17 Pisgah, and Devers, say, is that in need of upgrades or
18 isn't it?

19 MR. MILLAR: Well, let me comment on this.
20 First, I don't think I can find where the ISO said,
21 period, you know, what we have is good enough, full
22 stop. If we did, that would certainly be news to the
23 planning group back at the ISO.

24 What was said was that at the time we had a
25 plan, and this was in the previous planning cycle, a

1 plan that identified the capacity of projects largely
2 that were already in flight. There was one additional,
3 small, policy-driven project that was coming out of the
4 plan. I heard the phrase "nothing," that's not quite
5 right.

6 We have had a way to deliver the amount of
7 energy that it would take to meet the State's RPS goals.
8 As new information became available and as the new
9 integration requirements are more fully developed,
10 that's going to be addressed in additional planning
11 cycles. It is an annual process.

12 In this year's plan we've posted reliability
13 results, but are just getting into the economic policy-
14 driven components inside the ISO. So, I don't know
15 where conclusions would be coming from about what will
16 come out of the 2011-12 planning cycle from the ISO on
17 policy and economic projects because, let me assure you,
18 that work is not done. We would be consulting on it, if
19 it was. So, I don't know where the source is for that
20 statement.

21 MS. RADER: My transmission adviser. I'll --
22 that was his impression, so I'll talk to him.

23 MR. MILLAR: Yeah, so like I said, let me assure
24 you that that work hasn't been completed yet, we're at
25 the reliability stage in the planning cycle.

1 Economic, policy-driven elements are still --
2 are just at the cusp of being studied, that work has to
3 be done, layered on top of the reliability analysis work
4 and the State's planning process is fairly transparent
5 in terms of where we're at in the cycle and what the
6 study plan looks like.

7 We have committed to reviewing whatever
8 additional requirements can be identified at this time.
9 I think this year will be predominantly focused on what
10 are the benefits of the Midway-Gregg generation. It
11 will be one issue we do have to address in this planning
12 cycle.

13 Between the work that came through the once-
14 through cooling process and the additional refinements
15 need to renewable integration requirements, I don't
16 think this year's planning cycle will be able to take
17 care of all future potential renewable integration
18 requirements. We can only work on the parameters that
19 we've already identified the need for.

20 So, that's where my group on the planning side
21 is staying as coordinated as possible with Mark's group,
22 doing the renewable integration studies.

23 So, again, the '11-'12 planning cycle is a work
24 in progress. We're at the reliability component stage,
25 where reliability results have been posted, and an open

1 window is out for input on potential solutions to the
2 reliability projects, then the next steps follow based
3 on what we've already learned there.

4 And, you know, these other projects are -- the
5 one project you mentioned is going to be considered and
6 commented on specifically in this planning cycle.

7 I don't have the results, so I'm not in a
8 position to share the results.

9 Does that help? Thank you.

10 MS. RADER: Could we agree, though, my
11 understanding from your folks was that the integration
12 issue was how much we could retire, not -- not whether
13 we need to build new. Is that consistent with your
14 understanding?

15 MR. MILLAR: There are a number of ways owners
16 of the once-through cooling units can comply. There was
17 a lot of -- in the initial indication of what their
18 plans were, and I say initial because we do see that as
19 very much a moving target. It is a market and there's a
20 lot of competition out there for different types of
21 assets and different capabilities.

22 The initial showings were that many of the
23 owners intended to repower their sites. Very few
24 would -- well, let me rephrase it. Very few can simply
25 leave the existing units as they are, that's not an

1 alternative. Something needs to be done, whether it's
2 another way to mitigate the once-through cooling
3 impacts, or repowering.

4 There's a lot of indication of repowering. How
5 much actually proceeds will be something we have to work
6 our way through.

7 Obviously, we're expecting some level of
8 repowering, but how much is the big question. So, I
9 don't see it being a retirement and going away.

10 I see some retirements, some repowering, and
11 we'll have to make sure that those results are reliable.

12 I'm not quite sure that answered the question,
13 though.

14 CHAIRPERSON WEISENMILLER: I think she was
15 probably getting more to the nature of the resource.
16 And I think part of the repower -- I mean I think in
17 PG&E's last RFO, my understanding was that the winners
18 have to have 300 starts a year, which could mean
19 multiple starts per day, and so that's a -- you need
20 something that's much more of a quick start than,
21 necessarily, the existing units.

22 So, you may have much -- you may have less gas,
23 but you may need a different type of gas unit to deal
24 with the operational needs.

25 MS. RADER: So, hopefully, we can get through

1 the repowering.

2 MR. STERN: Just to clarify, though, the basic
3 assertion was that the only reason we needed additional
4 flexible resources was because of OTC retirement based
5 on the recent set of analyses that were completed.

6 Well, I think the two of us who actually
7 performed those analyses, which would be Edison and
8 Mark's group at the ISO, so I think we can speak to
9 that. And I think we cannot, at this stage, conclude
10 that.

11 I think load forecasts were a significant
12 contributor to the results that we saw. The results
13 that showed no integrating need all were based on
14 forecasts that were pretty low on the load side. And
15 the reason why we're doing additional analysis is
16 because we could not draw conclusions, no-need
17 conclusions or specific-need conclusions based on what's
18 been done.

19 And Mark can correct me if he's got any
20 different views.

21 MR. ROTHLEDER: I think that's correct, but I
22 would want to clarify that if you make the assumption
23 that none of the OTCs retire, your needs for flexibility
24 are satisfied.

25 So, the flexibility needs are really met by

1 something less than the quantity of OTC resources you
2 have today and having all those OTC resources retire.

3 The need is somewhere in between there, so I
4 think that's the good news story. The clarity is coming
5 up with what the number really is in between and then
6 quantifying, really the characteristics, as you pointed
7 out, that are really needed to quick start, how long
8 they need to run for, fast ramping, those are all the
9 things that need to be identified.

10 CHAIRPERSON WEISENMILLER: Yeah, I think the
11 other complication is -- we both sat through a workshop
12 on the demand forecast a couple weeks ago, and that is
13 probably one of the most complicated issues, in terms of
14 uncertainty at this time, with one of the issues being
15 how fast and when does the California economy recover?
16 You know, what's the impacts of the energy efficiency
17 programs? What's the impacts of electric vehicles?

18 And just, literally, there's an awful lot of
19 uncertainty -- well, each of those have substantial
20 uncertainties.

21 COMMISSIONER PETERMAN: Mark, we were talking
22 about trying to do a workshop in the early part of the
23 year looking at some of those operating characteristics.
24 If you're already looking at that, maybe I missed this,
25 but was there a report that you're planning to put out?

1 Well, maybe we can talk offline about the timing and the
2 value of us doing that, and being responsive to where
3 you are in the process of thinking about these issues.

4 MR. ROTHLEDER: Okay.

5 COMMISSIONER PETERMAN: Okay, and just one
6 follow-up question for Nancy. When thinking about cost,
7 and if you have anything to day about this, it would be
8 great to have it in your comments, I have some concern
9 about just the economics around wind, if we have to
10 pursue more curtailment and how that misaligns. Well,
11 not us, but just thinking of some of the curtailment
12 situations faced in the northwest and how that might be
13 misaligned with the PTC.

14 And I was just wondering if you had any comments
15 on that about, you know, just trying to understand where
16 the wind market is and if there's some concerns around
17 that?

18 MS. RADER: Well, I should be better prepared
19 for that. I guess I would say that, you know, all the
20 utilities' contracts now have curtailment provisions and
21 everybody, I think, has responded to that. They may not
22 like the prices of the curtailment but, basically,
23 there's no issue in the ability to curtail. There is a
24 price associated with it.

25 The problem, from our perspective, with the

1 northwest was there was no payment for it.

2 But, you know, for the few times we will need to
3 curtail, I don't think we're talking about a huge amount
4 of time --

5 COMMISSIONER PETERMAN: Okay.

6 MS. RADER: -- we can curtail.

7 COMMISSIONER PETERMAN: Okay. Well, that's
8 good.

9 MS. RADER: The issue is what we're okay --

10 COMMISSIONER PETERMAN: I just wanted to get a
11 sense of whether this is going to change the economic
12 potential or the technical potential we thought we might
13 have with wind so --

14 MS. RADER: I don't -- I think when you're
15 talking -- the penetrations that we're going to have a
16 problem, I think, you know, that's when we're maybe
17 interested in storage, but I don't see that in the next
18 ten years.

19 CHAIRPERSON WEISENMILLER: I think we could have
20 had it this year with the high hydro, low loads,
21 depending on the nuclear -- when the nuclear plants went
22 offline for scheduling. So, yeah, the negative avoided
23 cost on the over-gen issues can get pretty scary fast.

24 COMMISSIONER PETERMAN: But the number --

25 CHAIRPERSON WEISENMILLER: Again, it's a mixture

1 of different things.

2 COMMISSIONER PETERMAN: The number of hours,
3 though, that came out of the ISO studies were quite
4 limited and they didn't -- the megawatts were limited
5 and the hours were limited. I think it was the worst
6 scenario was 856 megawatts and it was a total of 30
7 hours, maximum 856 megawatts, something like that.

8 CHAIRPERSON WEISENMILLER: Yeah, but again my
9 impression was operationally, I forget which of the
10 nuclear units went down this spring but, again, it was a
11 very -- as you know, it was a very high hydro year and
12 fairly mild weather, but we could have had more
13 curtailments this spring.

14 MS. RADER: Perhaps. On average though --

15 MR. KELLY: But I think commercially we were
16 able to work all this out. I mean, originally the
17 proposal was unlimited curtailment, which made it hard
18 to find projects, and we resolved that with the
19 utilities.

20 CHAIRPERSON WEISENMILLER: Be impossible, yeah.

21 MR. KELLY: Yeah. So, we were able to work out
22 a limit on the application of the curtailment, people
23 could finance around that. Price goes up a little bit.
24 But we, at least within California, we were able to move
25 forward. So I don't know that it's a problem, per se.

1 I mean I think they have the opportunity or the ability
2 to curtail enough resources to match the need.

3 MS. RADER: Many times over. I mean we supplied
4 the numbers to the ISO recently. I mean it's many times
5 the need that was identified.

6 And the need -- I mean in an average year,
7 granted, we may have, you know, flood years with the
8 climate change, and we'll probably also have a lot of
9 dry years. But on average, it's not a huge number in
10 the next ten years.

11 CHAIRPERSON WEISENMILLER: Yeah, that's good.

12 MR. ROTHLEDER: I want to clarify the question
13 of need about downward capability and curtailment
14 capability, where there was a limited number of hours
15 where we basically saw in studies exhausted, and
16 shortage of downward capability there is an economic
17 cost for loading resources for the opportunity to unload
18 them in the event you need to. So, we have to factor
19 that economic factor in for all those other hours.

20 Now, in the end what our current operational
21 picture looks like is we get into over-generation or at
22 least to the point where we've run out of downward
23 capability between one percent and five percent of the
24 time, depending on the month in the -- and this spring
25 we were as high as six percent, seven percent in one

1 month. The other months are generally one to two
2 percent.

3 So, I think it's still within the realm of the
4 number of hours of curtailment capability built into
5 some of the agreements.

6 For us, though, the question is how do we get
7 access to that curtailability? It's something in the
8 PPA, but it's not always necessarily passed along to the
9 operator to use as an action. So, that's why we're
10 trying to build some market changes into it to build
11 some further incentives to pass those -- those
12 curtailment capabilities along.

13 MS. RADER: You know, that is not my
14 understanding at all. We're going to have to have a
15 conversation about that because that is not my
16 understanding at all.

17 I mean the contracts have always said, at least
18 for physical emergency, there's no question you can turn
19 them off. And then we have this additional capability,
20 now, for economic curtailment, so I'm really confused by
21 that statement. The utility.

22 MR. KELLY: I think the PPAs that are being
23 executed today and have been historically provide the
24 scheduling coordinate with the utilities with the right
25 to do this. And they're communicating with you, I

1 assume, backwards and forwards so that the information
2 is being conveyed to elicit the proper amount of
3 curtailment that they can do under the PPAs. I don't
4 know, I'm surprised there's a problem.

5 MS. RADER: I don't think there is a problem.
6 But, anyway, we'll get you what we -- what the contract
7 provisions, you know, that we think say that clearly.

8 COMMISSIONER PETERMAN: And, Nancy, would you
9 mind putting those in your comments?

10 MS. RADER: Sure.

11 COMMISSIONER PETERMAN: Thank you.

12 MS. KOROSEC: All right, let's move on to Mr.
13 Murray.

14 MR. MURRAY: Hi. Good afternoon, Chairman
15 Weisenmiller and Commissioner Peterman, and thank you
16 for staff, for having us here.

17 And it's quite an honor to be with this esteemed
18 group here today. I changed sides of the table because
19 a true solar guy likes to face south, so I also moved to
20 face south over here.

21 My name is Ed Murray, I'm President of Aztec
22 Solar, a solar-contracting business in Rancho Cordova,
23 local to here.

24 And I started in the business, the solar
25 business in 1978, when I was very young, and I was a

1 founding member of the California Solar Energy
2 Industries Association.

3 I believe that I'll be around in 2050 to see the
4 fruits of my labors, and I hope that Rich is, too.

5 I'm here representing CalSEIA today and to
6 provide comments to the staff report. I am a member of
7 the CalSEIA board of directors. I'm also the Treasurer
8 and I'm the Chairman of the Ethics Committee since 1987,
9 so I have a bit of history and legacy with solar.

10 Next year CalSEIA will celebrate its 35th year
11 in the solar business in representing the California
12 solar industry.

13 We represent -- our 200 members represent
14 photovoltaic, solar thermal, collector manufacturers,
15 utilities, and as well as many small business
16 contractors, like myself.

17 CalSEIA recently completed a gender study and
18 ethnicity study and we're proud to report that CalSEIA's
19 business include Veteran, women and minority-owned
20 businesses that provide jobs and pay taxes in their
21 local communities.

22 Our members are the core of California's green
23 jobs economy.

24 California is the largest solar industry in the
25 country. We are clearly the -- or, clearly, the State's

1 Renewables Portfolio Standard is the main driver for
2 constructing large-scale, solar electric power plants,
3 and the California Solar Initiative is the main driver
4 for rooftop solar.

5 In the late seventies it wasn't the Arab Oil
6 Embargo, as suggested in the staff draft report, that
7 fostered the California solar water-heating industry, it
8 was actually public opposition to nuclear power.

9 People wanted to preserve California's
10 environment and they didn't want to see a nuclear power
11 plant sited every hundred miles, up and down the coast
12 of California.

13 It's also why California's building of energy
14 efficiency standards penalized the use of electricity
15 for low temperature end uses, such as water and space
16 heating.

17 Amory Lovins once said that with electricity --
18 or he said heating solar with -- I'm sorry, Amory Lovins
19 once said, "Heating water with electricity is like
20 cutting butter with a chain saw."

21 State energy policies and programs were so
22 effective in stimulating solar business development in
23 the 1980s that the Solar Business Office created a
24 journal of about a thousand businesses in California.

25 Many of the companies listed in the directory

1 are still in business today.

2 Some of the companies, like my own, survived the
3 abrupt drop in the business in the 1985 loss of tax
4 credits, and we took over the maintenance and repair of
5 the solar systems in California.

6 We also moved into photovoltaics in the
7 nineties, when we diversified our business.

8 And today many solar companies have expanded
9 further to include energy efficiency products and
10 services.

11 Does California still think electricity is too
12 precious to use for water heating? Here is an irony;
13 people can heat their water with solar photovoltaic
14 systems. There are no restrictions on how PV-generated
15 electricity is used by the homeowner. You can even heat
16 a pool with PV, if you so desired. But solar thermal
17 pool heating systems are ineligible for the Federal
18 solar tax credits.

19 Although the staff report provides excellent
20 background in the history of renewables in California,
21 it gives a short shrift to solar thermal, which could be
22 deployed on a grander scale to displace greenhouse gas
23 emissions caused by burning propane, and for natural gas
24 which, by the way, is also used to create electricity.

25 The RPS, like much of California's energy

1 policy, only addresses electricity supply and demand.

2 Cal-SEIA would like to see solar water heating
3 acknowledged as another important form of renewable
4 energy in the RPS.

5 Some of the benefits of solar water heating is
6 that the heat output of a solar thermal energy system is
7 measureable with BTU meters, and then BTU meters can be
8 converted, for those who only know kilowatt hours, to
9 kilowatt hours.

10 And the renewable attributes, these kilowatt
11 hours could be aggregated into renewable energy credits.

12 And I think the Governor's plan's working on
13 REX.

14 Recognizing solar energy under the RPS would
15 provide the driver needed to stimulate California's
16 market for solar thermal applications.

17 We'd also like the Air Resources Board to do
18 something, help companies convert to solar water and
19 process heating under the State's greenhouse gas
20 reduction programs.

21 Our other major comment on the staff report is
22 that it focuses more on large-scale renewable
23 electricity generation, not enough on high value,
24 renewable distributed generation.

25 Most people aren't aware that most rooftop solar

1 doesn't count towards the State's RPS goals. This is
2 because rooftop systems are installed to supply
3 electricity to the homeowner or business under the Net
4 Metering Programs. The RPS is measured in terms of
5 utility electricity sales, so self-gen, such as the form
6 from net-metered rooftop solar doesn't qualify.

7 We were encouraged by Michael Pickering and
8 Governor Brown's 12-gigawatt goal for renewable
9 distributed generation and hope the Energy Commission's
10 strategic plan will list some specific actions to
11 achieve this ambitious goal.

12 An immediate action of the Energy Commission
13 should take this -- that this is to enable the
14 California's tradable renewable energy credit market to
15 begin.

16 This action would enable rooftop solar to count,
17 finally, towards the State's RPS goal.

18 We also want to see the State implement the
19 feed-in tariff program in 2012. Cal-SEIA thanks the
20 Energy Commission for its long-standing support for
21 feed-in tariffs, and its leadership and role in the Rule
22 21 process working group, which created the expedited
23 permitting process for rooftop solar.

24 We hear talk about the need to reintegrate
25 generation and transmission infrastructure planning to

1 enable generation from large-scale renewables, sited in
2 remote areas, to get to market.

3 Why can't a similar planning effort be conducted
4 to enable renewable distribution generation as well?

5 The solar industry and electric utilities should
6 work together to identify locations on a distribution
7 system where rooftop solar is needed, and where
8 distribution is a high-cost resource -- I'm sorry, where
9 distribution system upgrades are needed to accommodate
10 this DG.

11 True, rooftop solar is a high-cost resource, but
12 it also delivers the highest value to the grid and to
13 the customers. There is no air pollution, no land use
14 impacts, and the ability to get right in there where the
15 generation is needed to serve peak demand.

16 One final comment is that the staff report was a
17 little confusing about whether solar projects trigger
18 CEQA review. They don't. Rooftop solar projects only
19 need building permits, not land use permits.

20 The CEQA guidelines are clear, issuing a
21 building permit are not discretionary acts on the part
22 of local jurisdictions and for this reason building
23 permits are CEQA exempt.

24 Please don't suggest that they need rooftop --
25 or CEQA review. Just getting through the building

1 permit process is hard enough. Thank you.

2 CHAIRPERSON WEISENMILLER: Thank you. Actually,
3 I was going to note that the Dr. Ron Doctor was the
4 Energy Commissioner appointed by Governor Brown, when
5 the Commission was established, and Ron really drove the
6 solar program at that point. I actually had the
7 opportunity to work with Ron on that and, ultimately, he
8 was succeeded by a gentleman named John Geesman, who
9 then stepped into Ron's office on that.

10 And, you know, there were a lot of issues on
11 solar water heating at that stage, as you know.

12 But I think at this point what we've tried to do
13 in this report is it is very focused on electricity.

14 I think, ultimately, the State has to look more
15 broadly at the renewables, and thermal, and certainly
16 water heating can play a role there.

17 But, you know, this -- we had a lot to do now,
18 and so we really carved that out, or at least tried in
19 the chapter to make it pretty clear that that's
20 something for a future assessment.

21 Certainly, along with water hearing, if you look
22 at enhanced oil recovery, say in Kern County, I mean
23 that's a phenomenally large summer load. You know, at
24 one point that was like 25 percent of California's
25 sulfur emissions came from there before it was flipped

1 from burning heavy oil to natural gas and co-gen.

2 So, certainly, if there's a way to have that
3 solar produced, and I understand Bright Source has a
4 demo -- a demo project. Certainly, some people at UC
5 Merced have demo projects, that could have substantial
6 environmental benefits for California.

7 But like I said, this year I'm afraid we're
8 going to have to flag that this is limited focus and
9 that's sort of a task for the future.

10 I, personally, look more formally at the thermal
11 side.

12 MS. KOROSK: We'll make a note.

13 CHAIRPERSON WEISENMILLER: But again, certainly,
14 the gentleman who really drove that industry at that
15 point, with a lot of passion, and we looked not just at
16 water heating, but passive solar, was Ron Doctor. And
17 like I said he's still -- still going strong.

18 MR. MURRAY: I installed solar water heating
19 system on Ron Doctor's house, so I'm --

20 CHAIRPERSON WEISENMILLER: Okay. Yeah, and
21 certainly, I guess there was a reunion at Western Sun,
22 recently, to really bring back together some of the
23 solar industry folks.

24 MR. MURRAY: That's great.

25 COMMISSIONER PETERMAN: I'll also just add that

1 in this current revision of the RPS guidebook we're
2 considering the eligibility of TRECs for RPS
3 eligibility. And I'd expect that draft guidebook will
4 come out in the next month, although don't hold me down
5 with the date, but we're working on it.

6 We'll get through this workshop next week, just
7 to be able to turn some comments from that, as well.
8 And there will be a workshop on the guidebook as well,
9 which I believe is close to being scheduled, and so that
10 issue will be discussed there.

11 And I'll also ask that in any written comments
12 you provide or if now, if you have any comments on the
13 additional costs as you see it to requiring some type of
14 remote telemetry equipment, or just any response to some
15 of the feedback we've gotten about the difficulty with
16 visibility of DG, and where your industry stands on
17 trying to address that barrier.

18 And then, third, in light of recent
19 circumstances, and since you do work with manufacturers,
20 if you have any suggested strategies now, or going
21 forward, as we think about implementation of strategies
22 over the next six months for supporting manufacturers in
23 the State, that would be useful to receive as well.

24 MR. MURRAY: Thank you.

25 MS. KOROSSEC: All right. Any other questions

1 from the dais?

2 MR. FERGUSON: Yeah, I had a question for Ed. I
3 think it was Valerie, earlier, suggested that maybe a
4 feed-in tariff program replace the net-metering program.
5 What would be your --

6 MR. MURRAY: I think we're looking towards that
7 and as a matter of fact, in the Legislature, we're
8 working with our lobbyist for that.

9 MR. FERGUSON: I suppose it depends on the
10 price.

11 MR. MURRAY: As long as people are still
12 watching what's going on, on rooftops. Because the CSI
13 solar thermal is -- I'm sorry, solar photovoltaic, it's
14 nice to have somebody looking to make sure that it's not
15 in the north group. Right, without the CSI, that would
16 not happen.

17 MS. KOROSK: All right. Well, we've saved the
18 best for last, Mr. Kelly. You're our grand encore for
19 the day, make it good.

20 MR. KELLY: Yeah. Thank you. This is Steven
21 Kelly, Policy Director for IEP. It's running awfully
22 late, I understand that, I'll keep my written
23 comments -- prepared comments, I'll just not even read
24 off them, if you're all right with that. I'll just set
25 that -- I was all prepared to go with this, but I'll

1 save everybody --

2 CHAIRPERSON WEISENMILLER: Line by line, huh?

3 MR. KELLY: Line by line.

4 I would like to talk briefly a couple things. I
5 had an opportunity to go through the report. One, it
6 was a very good report, I thought the staff did a good
7 job of putting down on paper a lot of stuff. There's
8 probably two or three items per page, there's 500 to a
9 thousand issues, who knows.

10 The only observation I have now is that -- on
11 the general work product is that the hard work now
12 starts because this is a litany of issues.

13 The real art will come in developing the
14 strategic vision that you'll reflect in your strategic
15 plan. And when you do that I just strongly recommend
16 that you prioritize issues for work over the next 24
17 months.

18 And I am willing to bet that given resource
19 constraints and everything that all the agencies are
20 facing, if you can even identify five of the really big
21 issues and highlight those as the important things
22 you're going to tackle over the next two years, or year,
23 that would be really good to do, and then we could keep
24 our attention focused on actually fixing stuff.

25 Because while this report is very extensive,

1 there's a lot there and we'll never -- we run the risk
2 of just diverting our attention across all these issues,
3 when we really need to focus on a couple of the major
4 ones. So, I urge you to do that.

5 I do want to talk about a couple of things and
6 I'll try to keep this brief. I've got three things that
7 I'd like to -- thoughts that came to my mind as I read
8 this.

9 One related to the RPS portfolio, second I want
10 to talk briefly about generation development and, third,
11 about transmission.

12 And there was a lot of discussion about this and
13 somebody earlier, it might have been Rich, I can't
14 remember, mentioned the point that, you know, the RPS is
15 supposed to be a portfolio. And there's a lot -- it
16 seems, from an industry perspective, there's a lot of
17 emphasis in the RFO bid evaluation process on least
18 costs.

19 And what we really need to do is move forward to
20 integrating the best-fit piece on that. I think that's
21 something critical that may well have been missed.

22 And when we do that I think we -- we believe
23 that there needs to be a lot of transparency of what the
24 best-fit criteria are.

25 The utilities certainly are in a position to

1 identify in their RFOs the unique characteristics that
2 they demand from the new resources, the products they're
3 trying to buy, whether they're operational or
4 geographic, and define those transparently, up front, so
5 people can actually plan and bid to do that. And then
6 you'll get a much better product, people will see what's
7 needed and, hopefully, in theory, that should help clean
8 out the queue at the ISO to make the bottling and work
9 there easier.

10 I've thought about this a bunch and, you know,
11 this tension between the ISO queue and the PPA process,
12 I'm not sure there's a mechanism to really discriminate
13 about access to the ISO queue, the interconnection
14 queue, it's what it is.

15 But there is a way to be more discriminating in
16 the procurement process by distinguishing exactly what
17 you want up front, so you don't get so many projects
18 thinking that they've got a project that's good, when it
19 isn't actually very viable at all. So, I urge that.

20 Secondly, I was struck by the narrative in the
21 document about distributed generation, particularly up
22 in the executive section, but then later.

23 As far as I can tell this Commission at least,
24 or at least the staff are proposing that the definition
25 of DG is anything less than 20 megawatts, irrespective

1 of where it's interconnected, the distribution level,
2 the transmission level, or anything.

3 It's not clear to me, when I read this document,
4 what the definition of DG is, but when I dug into it, I
5 thought that's what it was.

6 Which is fine if that's what the agencies agree
7 is going to be the definition of DG and define what it
8 is to achieve the 12,000 megawatts of distributed
9 generation.

10 The other issue that I -- that I saw, though,
11 was in the calculation of how you're going to achieve
12 distributed generation. In the Governor's order, I
13 thought he was talking about additional DG and I believe
14 in the calculation there's a bunch of existing, and the
15 difference is about 3,200, 3,300 megawatts, which is
16 significant.

17 It makes a difference whether that is new DG or
18 you're going to count old DG in the 12,000 goal because
19 it's going to have ramifications for infrastructure
20 development, not only on the generation side, but on the
21 T&D side. And I think you need to -- we, as a State,
22 need to clarify exactly what we're talking about there.

23 So, I'd just offer that up as an observation
24 that I got.

25 Secondly, related to generation development,

1 I've already mentioned the tension that I've witnessed
2 over the years between the benefits of having lots of
3 bids and the concern about project viability, and that
4 we get lots of people clogging RFO queues, permitting
5 queues and interconnection queues, which is probably a
6 good thing from the competitive perspective, but if
7 they're not viable it may be harmful, and it's something
8 that I think we need to put some attention to.

9 The other thing related to generation
10 development in the RFOs, though, that I wanted to bring
11 to your attention and I don't think the report addresses
12 this is the other problem, from a developer perspective,
13 is the duration of time it takes to -- from when you
14 submit a bid to when it's actually approved at the PUC.
15 It's generally, now, about 18 to 24 months.

16 And what we're finding is the market often moves
17 away from those bids in one form or the other, or at
18 least the perception does.

19 And what we really need to focus on is trying to
20 figure out a way to move those negotiated deals more
21 quickly through the system, so that there's not second-
22 guessing about what the utilities did, when they're
23 working under good faith, there's not second-guessing
24 about what the developers can deliver and we can
25 actually move to construction of these facilities in a

1 more timely manner.

2 I don't have an answer for that right now, but I
3 do think it's something that the PUC has been working
4 with and we need to work better to be able to move those
5 forward as quickly as we can.

6 And then, finally, related to transmission. As
7 I'd noted this morning in one of my comments, there's a
8 -- you know, the timing of infrastructure investment,
9 particularly the transmission and distribution, is very
10 important. It affects the viability of the generation.

11 I mean anybody who's worth their salt is
12 probably not planning to actually turn dirt on new
13 generation if they can't get the power to market. So,
14 they need the transmission, they need to know that it's
15 going to be there.

16 There are lots of projects -- there's only been
17 a few projects in the last 15, 20 years, as far as I can
18 tell, that are significant projects that have gone
19 forward. Sunrise, Tehachapi, Path 15. Almost in every
20 case the utility moved forward in an aggressive manner
21 to do that.

22 Tehachapi, I think, was a great example where
23 they said, you know what, we're going to do this, and
24 they put the application forward, and they pushed the
25 application through, it got approved and they're getting

1 it built. And that has proved very valuable in bringing
2 those resources out to serve consumers.

3 I recognize that we need to study transmission
4 planning and everything, but I think as Nancy indicated,
5 we know where a lot of these resources are. And we know
6 where, particularly if we're planning on expanding the
7 RPS goals over the 33 percent by 2050, we know where
8 this transmission's probably got to get built.

9 And I think we really need to focus on kind of a
10 least or no-regrets philosophy on some of these lines,
11 give the authorization to the utilities and folks to
12 build these lines, and move forward. And you will
13 probably find generation moving to those sites to
14 interconnect and fill that line, even though you may not
15 see it right now.

16 In doing that it may be possible to replicate
17 what we did in the generation side on the loading order,
18 to set a plan for transmission development where you
19 maybe focus, first, on expanding existing lines, you
20 know, expanding the capacity on existing lines and
21 getting that moving forward.

22 Secondly, expanding a transmission line within
23 an existing corridor, all before you move to considering
24 new corridors. I don't know, it's something that I
25 throw out there as an idea, to think about how to

1 structure the approach to developing the transmission
2 plans and moving forward with the applications in a more
3 timely manner to get those built.

4 As I indicated this morning, for me, if we don't
5 have the get-go on some of these transmission lines by
6 2015, at the latest, it's hard to believe that they're
7 going to get built in a timely manner to help meet a
8 2020 goal, and a lot of generation will be stranded
9 because of that.

10 So, I throw that out there as something to think
11 about.

12 Commissioner Weisenmiller, you'd asked, you
13 know, earlier, what about RETI, CTPG. I was a
14 participant in RETI. I actually -- while it was pulling
15 teeth, at least it was transparent and open.

16 And I'd have to say that while, you know, if we
17 can't re-form RETI, it would be nice to see CTPG opened
18 up so that it's more transparent to more parties, so
19 that there is a greater confidence that the work that's
20 being done in the bowels of the transmission planning
21 processes is something that is nondiscriminatory.

22 So, you know, everybody who's participating in
23 CTPG, as far as I know, comes before either this agency
24 or the PUC in one form or the other, for one thing or
25 another, and there ought to be a leverage point there to

1 try to move that and open up that issue a little bit
2 more, and make the planning process more transparent.

3 I think that would serve Carl Zichella's
4 interest in making sure that everybody's at the table,
5 and would serve my interest to make sure that things are
6 being done in a nondiscriminatory manner.

7 So, I throw those out as my thoughts.

8 CHAIRPERSON WEISENMILLER: Well, certainly, this
9 agency had a lot, with the PUC, to do with RETI being
10 established and starting. And I think what we were
11 struggling with last year was the question of, and
12 particularly from the legislative perspective, was what
13 was the bridge to? You know, we could have done a
14 bridge, maybe, to that become the State -- you know, if
15 Cal-ISO or CTPG had stepped in and said, you know, let's
16 go through a process where ultimately RETI becomes that
17 stakeholder group that, you know, we certainly would
18 have tried to build out a way for that to be financially
19 viable.

20 But once both groups, the Cal-ISO feels like it
21 has a pretty extensive stakeholder group, CTPG felt like
22 it was moving there or, obviously, in the last cycle
23 they relied upon it a lot.

24 But no one was prepared to say, yes, this is how
25 to really help our transmission planning process. And

1 to the extent we're the catalyst, you know, we could
2 march the horse to water, but not force him to drink.

3 So, basically, I think it comes back to, again,
4 for those Cal-ISO or CTPG, particularly CTPG, you know,
5 looking for -- I think there needs to be a stakeholder
6 process at some point, some aspect. I don't care,
7 particularly, if it's called RETI or what, but something
8 like that to help that planning process.

9 So, you know, again, I think certainly we're
10 struggling with that. Although, part of what I had
11 picked up was Order 100 was probably -- Order 1000,
12 there's probably even more reticence at this point for
13 it to be really a joint planning process, as opposed of
14 more of a sharing of information between the IOUs and
15 POUs.

16 So, paradoxically, FERC maybe has hindered that
17 movement.

18 MR. KELLY: Well, I think FERC, if I'm thinking
19 of the same order, I think what FERC said was, okay, we
20 see you're relying on CTPG as a major input into your
21 transmission planning study, and that's fine. But
22 there's nothing to preclude that CTPG process from being
23 more open.

24 CHAIRPERSON WEISENMILLER: Well, I think the
25 issue, in part, is whether by having the joint planning

1 process that that would then lead to cross-allocation
2 issues that maybe some parties don't want to see. I
3 don't know if maybe Gary, or Colette, to see if that
4 rumor is correct but --

5 MR. STERN: Well, another big element of Order
6 1000, I mean people have referred to the utilities do
7 this, utilities do that, Order 1000 throws that up in
8 the air because the road for -- associated with building
9 the transmission is gone and we have yet to see -- it's
10 going to take a while before the ISO and others figure
11 out exactly how they're going to -- if they need to
12 modify their transmission planning process to satisfy
13 the order.

14 So, in terms of the timing and the process, I
15 think at least from our perspective, I think it is more
16 uncertain now as a result of the order. You know, maybe
17 we'll get this stuff resolved over the next 18 months,
18 but the ISO may feel differently.

19 We're certainly looking at greater uncertainty.

20 CHAIRPERSON WEISENMILLER: Yeah. Well, and I
21 think on the definitions, I mean I -- obviously, this is
22 a first-time effort, on DG the definition. And so,
23 certainly, that's something which we'd certainly welcome
24 comments on.

25 As you know, the Governor's document refers to

1 localized electricity generation. Presumably, a CHP
2 project under 20 megawatts would fit that, although
3 there's also emphasis on renewables.

4 And at this point we're certainly looking more
5 at the renewable part, although, as I indicated, the CHP
6 part ultimately is going to have to be integrated in,
7 although I'm waiting to see what happens with the RFOs
8 before we really tackle that issue.

9 And I think the next question is, is it all on
10 the distribution side, or it on the transmission side,
11 or the substation?

12 And at least one theory, and certainly happen to
13 get comments on it, is that just given the nature of the
14 interconnection cost that this is -- you know, a lot of
15 the DG is more likely to be connected on the
16 distribution side, as opposed to the transmission side.

17 MR. STERN: Well, I thought -- that's what I
18 meant.

19 CHAIRPERSON WEISENMILLER: But again, you know,
20 certainly those are comments.

21 And, you know, there was a pretty -- as -- you
22 know, as we were going through, trying to come up with
23 the general allocations, there was a very deliberate
24 choice to include the existing DG at the 3,000-ish
25 megawatts, didn't count that towards the 12.

1 So, again, certainly people can comment on
2 whether that was the right choice or not, but that was
3 in part dealing with it's -- it was a pretty aggressive
4 goal. Be it 12, 9, or whatever, it's a pretty
5 aggressive goal one way or another.

6 MR. KELLY: And I just think, just to follow up,
7 I think what's probably equally important -- I mean
8 everybody will comment, I guess, but what's really going
9 to be important is clarity on what it is. Because
10 when -- because it does matter in the modeling, and the
11 planning, and all the other stuff.

12 So, if it's only going to be, you know, only on
13 the distribution side, and not on the transmission, or
14 it's going to be renewables and CHP, or whatever it's
15 going to be, it's got to be clear what it is so that
16 people can appreciate and understand that and more fully
17 comment on it.

18 MS. KERSTEN: I'm just wondering how arbitrary
19 the number 20 megawatts is. It was a convenient
20 convention for RAM, it's a convenient convention for
21 interconnection policy, whether it applies at WDAT, or
22 Local 21.

23 But maybe the question is not what it is now,
24 but maybe what it should be in the future. So, I don't
25 know if we should be tied to this convention just

1 because we've used it for various programs and it's
2 convenient. So, I would kind of encourage, you know, a
3 definition that looks to the future, not just to the
4 past or what it is now.

5 CHAIRPERSON WEISENMILLER: No, I -- one of the
6 utilities, who happens not to be here now, has tried to
7 convince me that 80 megawatts on the transmission grid
8 would be DG, which is a pretty big stretch in a couple
9 different directions.

10 MR. KELLY: Well, if it's geographically
11 distributed, I guess 500 megawatts, you know, up in
12 Modoc County might count, I don't know.

13 CHAIRPERSON WEISENMILLER: Right.

14 MR. KELLY: You know, and it's not clear -- I
15 mean, it's not necessarily my policy, so I guess I'm
16 asking the Governor's Office, and the agencies that are
17 behind the policy to articulate what the policy is, or
18 what they want it to be, and if it is we want comments
19 on this policy, that would be great. But right now it's
20 not clear to me, so I don't know what to comment on,
21 particularly.

22 CHAIRPERSON WEISENMILLER: Yeah. Well, again,
23 actually we've been asked to try to think through these
24 issues and develop some clarity as part of this process.

25 MR. KELLY: Okay, that would be helpful.

1 CHAIRPERSON WEISENMILLER: So, certainly.

2 COMMISSIONER PETERMAN: Yeah, and I'll just, in
3 terms of specifically what one would comment on, for me
4 the concern about whether is it six versus 12 megawatts
5 -- gigawatts, considering whether you're including
6 existing or not is are there discontinuities in terms of
7 the amount of system upgrading you would have to do?

8 I mean if, for example, we know that we've
9 already got some DG and the question is at one gigawatt
10 are we facing distribution challenges, are you fine up
11 until seven and then there's a big cost shift?

12 And so it's more commenting to the extent that
13 you know where some of those -- where that might exist,
14 and something we're going to be working on as part of
15 the implementation strategies as well.

16 And one question directly for you, Steven, is in
17 terms of the natural gas plants that you work with has
18 there been much discussion about biogas, about interest
19 in greater usage of it, concerns around it, anything you
20 want to bring to our attention as it relates to this
21 plan?

22 MR. KELLY: Well, the one observation that we've
23 got is that it appears that you can use -- for RPS
24 purposes, you can use biogas that's inserted into the
25 pipeline in Louisiana, if you can track it to

1 California, but you can't use biogas in California
2 that's inserted in California. That seems odd to us.
3 So, you know, there's that.

4 But beyond that I think there's -- I don't have
5 anything that I'd say, now. I'll talk around with my
6 members and find out whether -- my impression is that
7 it's not a -- you know, in terms of in-state
8 development, there's -- the dairy stuff is kind of
9 occurring at small scale, and everybody's kind of doing
10 that. Beyond that, it's limited application.

11 And now we're talking about this import stuff
12 and what's it mean for RPS purposes.

13 COMMISSIONER PETERMAN: Well, one of the
14 questions we do have teed up for the workshop next week
15 are what are some of the issues related to in-state
16 development, and so to the extent you want to comment on
17 that after that workshop, the workshop notice is posted,
18 welcome your comments.

19 You -- Steven raised the point, a number have
20 raised the point about the issue of best-fit, and
21 focusing on that area versus the least cost. And I
22 would like it if someone from one of the utilities, as
23 well as the PUC, or whoever wants to, can kind of just
24 talk about where the status of that is and whether they
25 agree with these comments.

1 MR. STERN: I'll start. I don't agree. I think
2 we do have an evaluation process that looks at the value
3 that is provided by the different resources. So, solar
4 isn't the same thing as wind, those issues are reflected
5 in the evaluation.

6 As far as transparency goes, the process should
7 not be transparent to the market participants. We tried
8 that once before, it was called BRPU, and I don't need to
9 remind everybody how big a failure that was.

10 There is transparency in how we do our process,
11 to the PRG, which is a set of non-market participants
12 that get together and review what we do at every step of
13 the way, and we have an independent evaluator.

14 So, we have all the appropriate protections in
15 place that have been working well. We are considering
16 the fit. It isn't just which is the lowest cents per
17 kilowatt hour, but what fits best.

18 We'd like to be able to continue to expand on
19 that as we go forward, as we learn more about
20 integration costs, so we can build those into the
21 process because they're not built in now, as a direct
22 component.

23 However, to the extent it's possible, given the
24 rules that are allowed for us, we're already doing that.

25 MS. RADER: I have a question for you guys. And

1 also in response to Rich and someone else's comments on
2 best fit.

3 In my view we're not, and I think you would
4 agree, we're not looking for renewables to serve all
5 needs, we're looking for the best fit of renewables
6 within the overall system. And that gets to the idea of
7 using our existing grid resources to integrate
8 renewables. Renewables don't have to serve themselves
9 all of those needs.

10 And I assume that's how you do your analysis. I
11 would agree with Steven that we need -- we would like to
12 have more transparency on how you go about doing that,
13 we could respond better in our bids that way.

14 But I did want to -- you know, I assume that,
15 you know, we're getting some serious competition from
16 photovoltaic, so that's a good thing. And I assume
17 that, although the price is higher, they're winning
18 because they provide the peak value.

19 And my question is at some point, when you have
20 several gigawatts of solar on the system doesn't that
21 decline, and are you accounting for that?

22 MR. STERN: It's not at the point of penetration
23 where I think it's making a big difference today. But
24 as I mentioned earlier, absolutely we're looking out at
25 the future.

1 And if photovoltaics are going to continue to be
2 the predominant additional renewable resource, I mean
3 that's not clear, then absolutely that would change the
4 load shape that we're otherwise seeing, the residual
5 demand that we're otherwise having to face, and that
6 would change the values associated with having things
7 like peak.

8 I think I even mentioned, earlier, obviously
9 that will impact things like demand response programs.
10 If our residual demand peak, and I say residual demand
11 because some of this is on one side of the meter, some
12 of it's on the other. There isn't good terminology,
13 yet, but I think you get the point that I'm trying to
14 make.

15 If that changes enough so that that's starting
16 to occur at 7:00 p.m., rather than at 3:00 or 4:00 p.m.
17 then, you know, some of our demand response programs,
18 like air conditioner cycling, may be misplaced in terms
19 of their value to the system.

20 We are thinking about all these things, we are
21 beginning to do specific evaluation on these things.

22 And to the extent we do start to predict that
23 this is what the portfolio will be looking like then,
24 yes, that would make it into the valuation process.

25 COMMISSIONER PETERMAN: And I'll just add, too,

1 that Andrew Mills, at Lawrence Berkeley National Lab is
2 doing some research on this exact issue and, hopefully,
3 will come out with something soon that tries to get at
4 some of the economic analysis around that.

5 MR. FERGUSON: Let me follow up. I mean as I
6 understand it, what you -- you say that you cannot tell
7 people how you evaluate their bids, is that what you
8 said because of some reason?

9 MR. STERN: Not the full, detailed process, you
10 know, what parameters do we use to evaluate things for
11 this period and that period.

12 Like I said, we've been through that process
13 before. If everybody knows exactly how their bid is
14 going to be scored then, as it turns out, you never can
15 pay exactly the way you evaluate and that means gaming
16 opportunities arise.

17 We had literally billions of dollars of gaming
18 opportunities applied to us when we did that in the
19 past. And I would that even though it's a long time ago
20 that we've learned some of those lessons, that rather
21 than having people --

22 MR. FERGUSON: Okay, I understand the BRPU and
23 how much you hated the BRPU. But unless people know
24 what you want, how can they offer you what you want, I
25 don't get it?

1 MR. STERN: I think there is a fair amount of
2 information out there about that.

3 MS. WINN: Yeah, I mean every year for the
4 renewables we issue an RPS plan, there is a very
5 exhaustive solicitation protocol. We set forth the
6 criteria that we're going to evaluate the bids on, but
7 that it is at a high level. I mean, but there are a
8 variety of things.

9 It's price, it's viability, which includes
10 developer experience, bids, you know, how does it fit
11 with the rest of the portfolio? Are there environmental
12 justice issues, does it have transmission?

13 But we don't people who are bidding how many
14 points you get if you have transmission upgrade cost of
15 less than X, or how many points you get for, you know,
16 some other criteria.

17 Because as Gary has indicated that would, you
18 know, give them information so that they could game that
19 system.

20 MR. FERGUSON: Let's take a case like, you know,
21 maybe -- I mean I hear all this whining about the
22 storage, so maybe somebody combines a storage project
23 with their bid, I mean do they know how you're going to
24 evaluate that? Is that worth something to you, is it
25 not?

1 I mean it's just sort of strange to me. I mean
2 I understand your fear of going back to the battle of
3 the BRBU thing, but somehow or other I -- I mean I'm
4 hearing all this whining about all this PV coming in,
5 and if that's not what you want, then there's something
6 the matter with the process.

7 Now, Gary is saying, well, it's not a problem,
8 that is what they want, so then lets --

9 MR. STERN: Well, the system need, the economics
10 will ultimately determine what we want and, you know,
11 that's -- we're not trying to say we want this resource
12 versus that. What we want to say is, you know, if our
13 portfolio is as it is, and our demand is as it is, and
14 prices are as we predict them to be, then some resources
15 are going to do better in this than others, and that's
16 as it should be.

17 MR. FERGUSON: You're not going to tell them
18 ahead of time what you want?

19 MR. KELLY: See, I think the nut of it is, the
20 problem, the secondary and tertiary effect is that you
21 get lots of bids, competitively you love that, but my
22 observation is it takes 18 to 24 months to go from the
23 RFO to a bid approval and the market's moved around.

24 So, you know, if you didn't have 50,000 projects
25 to evaluate and you only had 20,000 projects to

1 evaluate, it might help you.

2 And the same with the ISO queue, that there
3 wouldn't be as many people that are camping in the ISO
4 queue, holding a position, if they understood that their
5 project in Modoc wasn't worth anything to anybody
6 because it doesn't have the six things you want, which
7 is RA value, blah, blah, blah, and it wouldn't win a
8 bid.

9 That just strikes me that that's the way it
10 would play out.

11 MR. STERN: I guess I'd say I think the
12 single -- I don't think the evaluation process takes
13 very long, actually, I think our RFO processes have been
14 working quite well.

15 However, if you wanted to point out the single
16 thing that probably takes the most in terms of the
17 actual evaluation process, it's determining what the
18 transmission costs are, and we couldn't give you those
19 in advance even if we wanted to, because we're not going
20 to know what they are until we see all the projects, and
21 we can evaluate them, and their locations. And those
22 studies can't be done in advance so there's, you know --

23 CHAIRPERSON WEISENMILLER: No, I was just going
24 to say it struck me the biggest, biggest problem we had
25 is that you don't know the cost and you don't know the

1 timing, so because of the uncertainty on the
2 transmission. So, someone is bidding a price, saying, I
3 will deliver power to you at X but, you know, presumably
4 X would be much different if they knew they were
5 delivering it in 2018, or 2016, or 2014, and what the
6 transmission costs were.

7 But, again, how you get that part of the puzzle
8 nailed down, I haven't figured out.

9 Well, again, some solve bids, and then they
10 discovery they're interconnected at point Y, and that
11 even falls as a transmission upgrade, which then has to
12 go through the CPCN process and, you know, it's going to
13 come online in whatever, 2018.

14 MR. STERN: You know, when we look at it from
15 the big picture perspective what you're hearing from the
16 utilities is the process is getting very competitive.
17 We're getting more bids each time, the bids are starting
18 to look better than they have been in the past and
19 things are looking really good.

20 And so it doesn't seem like, from the
21 perspective of protecting our customers, it's time to
22 throw it all out and say this doesn't work, let's find
23 some process which may not be so good.

24 MS. WINN: And I think one of the --

25 MR. FERGUSON: As long as you're getting what

1 you want, I mean, so no more whining about what you're
2 getting.

3 MS. WINN: But I think part of the challenge,
4 though, becomes -- you know, for us, we have the first
5 solicitation in about two years underway. So I think in
6 that time, since we had our last solicitation in 2009,
7 and the one that we issued in June, there were a lot of
8 people who were coming into the market and trying to get
9 a head start on some of these processes, like
10 transmission, like distribution interconnection.

11 And because there wasn't a solicitation for so
12 long there was no, I guess, signal to the market that
13 you're not in a good spot, or this isn't going to work.

14 So, I think now that we've had this solicitation
15 and, you know, we've got some other avenues for
16 contracting that will be coming up as well, might
17 help to -- I don't know, Steve, will it help to -- you
18 know, to weed out the queue somewhat? I don't know that
19 there's any easy answer there.

20 MR. KELLY: Yeah, I think we have the same
21 interest in reducing the queue, in reducing the amount
22 of failed projects or contracts. I mean, I share those
23 interests with you, I'm trying to figure out a way that
24 gives you a higher level of quality bids. And I think a
25 little more information up front would be helpful.

1 MS. WINN: Well, and I think --

2 COMMISSIONER PETERMAN: But you've had your hand
3 on the trigger, I feel, for a while, on that microphone
4 do you want to step in there?

5 MS. FITCH: I just want to comment on -- I think
6 I agree with Gary to the extent that I think there is a
7 very sort of rigorous evaluation process that we get the
8 benefit of seeing, as staff at the PUC, and we use a lot
9 of that information in terms of our recommendations for
10 approving or denying contracts.

11 But and I also agree that it's a process that
12 has changed over time and will change over time
13 depending on the mix of resources.

14 The part I probably disagree with a little bit
15 is I think there is a fair distance in transparency
16 terms between where we are, now, and the BRPU process.
17 I think we could probably get a little more transparent
18 without sort of, you know, risking those worst-case
19 scenarios.

20 The one piece that we struggle with, when we
21 review all the contracts, is there's the parts of the
22 valuation that are quantifiable and then there's parts
23 that really aren't, but we know there's value there,
24 like diversity, inherently, it's good to have a mix of
25 different technologies.

1 But where is that balance, what's the right
2 amount of each? It's hard and we don't have metrics for
3 doing that, so I think we could get better at that part.

4 CHAIRPERSON WEISENMILLER: Yeah, and I was going
5 to say I did -- I gave a talk, recently, of one of your
6 ex-commissioners, who will go unnamed, but who's
7 responsible for a lot of the confidential information
8 regs, and she proceeded to criticize the ISO's
9 evaluation of the, you know, independent transmission
10 saying, you know, there was no idea of what was going
11 on.

12 I was looking at -- at least that table, after
13 it was done, listed, you know, what it thought the cost
14 and benefits were, but I'm not seeing, again, after-the-
15 fact, that type of summary on the generation side. And
16 when we pointed out the contracts she said, yeah, the
17 PUC should open up things more.

18 But again, I understand now not a BRPU type of
19 thing, as much as the wrap-up of what happened.

20 MR. STERN: Just one comment on diversity, since
21 all of our discussion today seems to have been about
22 wind or solar. The reality of the situation is that as
23 we sit here today I'm pretty sure the largest energy
24 component of our portfolio, of renewable resources
25 today, is geothermal. So, I don't think it's a lack

1 of -- as much lack of diversity as this discussion seems
2 to be implying.

3 COMMISSIONER PETERMAN: Are you seeing
4 geothermal bids into the system, now, into your RFOs,
5 now?

6 MR. STERN: There may not be that much
7 incremental, but I certainly have yet to hear that our
8 objective ought to be incremental diversity, as opposed
9 to total diversity.

10 COMMISSIONER PETERMAN: I will say, though, that
11 through the GIRDA and through PIER we have been funding
12 more exploratory studies into geothermal resources.

13 So, if in a few years you don't see more
14 geothermal, I'd like to know that.

15 MS. KOROSSEC: All right, that was a very good
16 discussion. Are there any other questions on this
17 particular area?

18 We do have one, at least one public commenter
19 who's indicated he wishes to speak. Oh, I'm sorry,
20 there's two.

21 So, first, we have Ray Pingle, please, from
22 Sierra Club.

23 MR. PINGLE: Afternoon, Commissioners, Ray
24 Pingle, Sierra Club California.

25 Sierra Club will be commenting on a number of

1 issues in writing, but just wanted to highlight one in
2 my verbal comments today.

3 And, again, we also would like to congratulate
4 you and the staff on this excellent comprehensive report
5 as a great starting point to get a good actual strategic
6 plan.

7 Depending on what is and isn't in this 12,000
8 megawatts, there's going to be, let's say, 6,000
9 megawatts of new DG that's not covered by any payment
10 mechanisms that we're aware of right now.

11 And we think that a feed-in tariff could play a
12 major role there.

13 And while the staff report does make brief
14 mention of feed-in tariffs, we don't believe that it
15 really highlights the crucial and very important role
16 that feed-in tariffs could play in paying for this new
17 DG and allowing the State to reach its objectives.

18 You know, three of the top four largest
19 economies in the world now have FITs. China has FITs,
20 Japan just announced a 30,000-megawatt renewable energy
21 program by 2020, funded by FITs. And, of course,
22 Germany is the world leader in FITs. Only the U.S.
23 doesn't have FITs.

24 We've got Ontario, Canada, about 18 months
25 implemented their FIT program, it's been phenomenally

1 successful. You can go out and look at what's actually
2 been permitted, installed, and they've got -- and they
3 have a backload because they're flooded with
4 applications, as well.

5 June of this year, the Governor of Rhode Island
6 just signed off on a bill for -- it's a very modest
7 feed-in tariff program, but it's designed such that it
8 takes advantage of the recent FERC rulings on how you
9 can structure a multi-tiered FIT program.

10 So, why are all of these -- and there's -- you
11 know, and I could go on and on. There's accelerating
12 adoption of FITs in jurisdictions worldwide. Why are
13 they doing that? It's because they work in rapidly
14 installing renewables and it's because they're cost
15 effective.

16 So, you know, and of course what is a proper
17 FIT? I was in this room in December of 2009, when KEMA
18 and others were here presenting to the Commission on,
19 well, what kind of recommendation should we make on a
20 FIT? And they recommended and you all adopted option
21 six, right, which is a cost-plus reasonable profit-based
22 pricing structure, with long-term, typically 20-year
23 contracts, with a must-take standard offer contract and
24 with expedited interconnection.

25 So, that's what a best practices, from a

1 worldwide perspective, FIT is.

2 Now, California, of course, is nibbling around
3 the edges doing all these non-FIT programs that we call
4 FITs. They're marginally effective.

5 I think the RAM program is a step in the right
6 direction, I think it's helping the larger-sized DG
7 projects, but it's leaving the small- and the medium-
8 sized potential projects in the dust.

9 And I think a well-designed feed-in tariff
10 program can address some of the things that have come up
11 today.

12 For example, Julie talked about a renewable
13 portfolio standard, a diversity of renewable energy
14 sources. Sierra Club California supports a diversified
15 portfolio. We need geothermal, and biomass, biogas,
16 high-capacity renewable resources to help balance and
17 provide base load with some of the intermittent
18 resources, so a feed-in tariff can do that.

19 A feed-in tariff can also -- you can do little
20 adders or subtractors. So, for example, if we want to
21 give price signals working with utilities, then
22 utilities say on these distribution grids, this is where
23 we can most cost-effectively and quickly absorb some
24 more DG, so let's give another half-cent per kilowatt
25 hour for those locations. And if we want, let's

1 subtract a half-a-cent kilowatt hour for that facility
2 out in the boonies, at the end of this long line, so
3 that we can help manage the process.

4 So, it's a combination of planning, as well as
5 market.

6 Now, I think that, you know, so why haven't FITs
7 been adopted? Well, when I talk to people they think
8 it, they say it, they whisper it, well, it's because
9 FITs, we all know that FITs are subsidies and they
10 greatly increase the cost of renewables.

11 And that is so ancient -- ancient-history
12 thinking, and it's just been disproven over and over
13 again.

14 Deutch Bank came out with a report, I think a
15 couple of years ago, where they were strongly supportive
16 of feed-in tariffs, because feed-in tariffs provide TLC,
17 transparency, longevity and consistency, and that
18 reduces the cost of financing, which is critical.

19 And I don't know if the banks need any more TLC
20 these days, but the investors do.

21 So, anyway, that objection, that myth can be
22 dispelled.

23 Another one is, you know, well, how do you set
24 the prices right, you know, it's either too high or too
25 low?

1 And the CEC has, you know, I think world class
2 capabilities with the every-two-year LLI's cost-of-
3 energy report that you all do.

4 And, certainly, the PUC has expertise in this
5 area, there are many contractors that work with both
6 agencies, KEMA, E-3, Black & Veatch, you can go on and
7 on that can do this. So, to me, that's not a concern.

8 And the only technology that's a little hard,
9 sometimes, is PV because it changes so quickly. But
10 there are proven methods that have been used globally,
11 that can manage an inaccurate guess in terms of PV
12 prices going down too quickly, or not quickly enough.

13 So, our request to the Commission would be, as
14 you continue developing the report, really take a look
15 at how feed-in tariffs can play a major role in payment
16 to bring up these new DG items.

17 And I would also recommend that the staff go
18 back and look at some of those KEMA studies, look at
19 other research projects to just head on address some of
20 these myths, some of these objections that people may
21 have to feed-in tariffs, and address them with objective
22 information today.

23 So, that's my request, thank you very much.

24 COMMISSIONER PETERMAN: Thank you. And I will
25 say that I think the report does highlight the KEMA

1 Study recommendations that were provided to us before,
2 and we'll go back to that.

3 MR. PINGLE: Great, thank you. Thanks.

4 CHAIRPERSON WEISENMILLER: Yeah, thank you. I
5 mean, obviously, I think this Commission has had a stand
6 in the previous IEPs on feed-in tariffs. I think that
7 seemed to have gotten into a stalemate between utilities
8 threatening to sue and the PUC came up with a -- I'm
9 going to characterize it as the RAM approach, as a way
10 to get something done, as opposed to litigation.

11 I don't know how many people would argue it's a
12 perfect approach, but it is implementable at this stage.

13 COMMISSIONER PETERMAN: I'll also agree that we
14 do have excellent staff expertise across the State to
15 think about what the right level of design will be, but
16 we don't have fortune tellers.

17 So, I think one of the challenges is that we're
18 never going to get it exactly certain, and so working
19 with that framework that you've suggested about trying
20 to understand, or at least have closer to certainty
21 about the cost would be good.

22 MS. KOROSEC: All right, next we have Rick
23 Brown.

24 MR. BROWN: Thank you. Commissioners,
25 Panelists, my name is Rick Brown, I'm President of Terra

1 Verde Renewable Partners.

2 And I'm coming here with a couple of hats, a
3 couple of respects, and the first one is I spent a good
4 part of my career, almost 30 years as strategic planner,
5 and I worked a lot with cities, and schools and
6 counties, but also with State agencies, including
7 facilitating strategic plans for the State Treasurer's
8 Office, CalPERS and CalSTERS.

9 And so I want to comment a little bit on the
10 process here, and one of the things I want to reiterate
11 is what Mr. Kelly and I think, I'm not sure of your
12 name, well, the gentleman over here talked about in
13 terms of being focused and being proactive.

14 From doing, you know, multiple, multiple
15 strategic plans over many years, the biggest danger is
16 lack of focus, that you're not -- you don't center on
17 the hard choices that are in front of you.

18 And that is both a substantive issue, figuring
19 out what are the key issues and making sure you're
20 putting the attention on those, but the other piece of
21 it is leadership.

22 Strategy comes from the Greek word "strategos,"
23 which means "the art of the general." And without
24 leadership, without -- somebody talked about sticking
25 your neck out and really putting your stamp on what the

1 focus needs to be, and what the direction needs to be,
2 it's going to be a meaningless exercise.

3 So, I encourage you to take that perspective in
4 how you look at these issues because they are critically
5 important to the State.

6 The other hat I'm wearing is somebody who works
7 with cities, counties and schools helping them figure
8 out whether it makes sense to implement solar -- solar
9 PV, and other kinds of energy-saving projects.

10 And in doing that, the single most expensive
11 light item is, obviously, the cost of capital. And so
12 this is the area that -- while I came prepared to talk
13 about multiple issues, I got to practice what I preach
14 and I'm going to focus specifically on the financing
15 issue, and I'll put my other comments in my written
16 submission.

17 So, I think that the single-best way to expand
18 the production of renewable energy in California,
19 economically, is to bring down the risk premium the
20 capital markets place on project finance.

21 Traditionally, capital markets wait until there
22 is a broad and deep track record of asset performance
23 that meet expected underwriting -- underwriting
24 expectations before they adjust or reduce those risk
25 premiums.

1 But the need to address climate change and
2 energy security demands -- energy security issues
3 demands that we find ways to accelerate this traditional
4 timeline.

5 One of the tools in California's arsenal is the
6 bully pulpit that our public employee retirement
7 systems, especially CalPERS, have within capital
8 markets.

9 Over the last 20 years CalPERS has been one of
10 the major thought leaders in the investment world, both
11 quietly and not-so-quietly convening meetings, forums,
12 and board workshops, particularly their asset allocation
13 workshop, that commands the attention of the leading
14 investment management firms in the country to examining
15 emerging investment trends and opportunities, and
16 readjust the thinking about how these assets are
17 underwritten.

18 So, what I want to put forward as my major
19 recommendation, as part of your strategic planning
20 process, the CEC should reach out to CalPERS, CalSTERS,
21 maybe some of the other large public employee retirement
22 systems in the State, the local ones, to explore ways to
23 accelerate the dissemination of renewable asset
24 performance data and use this thought-leadership status
25 that, frankly, you guys have also, to begin to move and

1 accelerate the way in which these asset screens are
2 looked at.

3 And so I guess my last point is there was a lot
4 of discussion early on that was a little discouraging to
5 me around we have plenty of time, let's not rush, and so
6 forth. And I understand timing is a Catch-22 issue
7 unless you have -- but unless you move forward quickly
8 you're not going to capture or you're not going to
9 create those economies of scale that lower the overall
10 underlying cost of these implementations and create that
11 track record that moves the ball forward in terms of how
12 the investment world looks at these -- at these assets.

13 So, I want to, frankly, tell you, you need to
14 take the opposite direction of what we heard from the
15 utilities and actually accelerate more quickly because
16 we are running out of time.

17 And the timepiece that has not been talked about
18 today is the climate change timepiece. You know, in a
19 week when we've got, you know, a fire the size of
20 Connecticut in Texas, and we have floods in the
21 northeast that basically have, you know, destroyed towns
22 and quick created evacuations of a hundred thousand
23 people, we cannot be talking about slowing down the
24 process of implementing these strategies.

25 So, I encourage you to take that leadership and

1 to put that focus on moving the ball down the field.

2 Thank you.

3 CHAIRPERSON WEISENMILLER: Thank you. Anyone on
4 the phone?

5 MS. KOROSSEC: No, we don't have any commenters
6 on the phone, so that would be it for public comment.

7 So, if there's nobody else in the room who wants
8 to say anything, I just want to remind folks that
9 written comments are due close of business on October
10 5th, and the instructions for how to submit those are on
11 our website.

12 CHAIRPERSON WEISENMILLER: Thank you. I think
13 we've had a good session today. I think, again, sort of
14 moving forward from here we'll have another event
15 probably in early November, sort of working through the
16 pieces on timing, which will focus much more on
17 recommendations, and sort of the tightened up executive
18 summary.

19 And while that's going on, we'll be taking your
20 comments and having our technical editor going through
21 this document, and paring it down some, and sharpening
22 it up some.

23 But, anyway, then we are hoping to, about that
24 stage, I think that we may see stuff from UCLA
25 conference in November. So, anyway, to try to pull

1 together the pieces between this technical document, the
2 UCLA document, and also looking much more at, you know,
3 what are the appropriate actions.

4 So, certainly in your comments, the more you
5 can -- again, this goes to a lot of issues and what we
6 really need to do is figure out what are the top four or
7 five things that we need to be doing, as opposed to
8 here's the 20 things we can do in each of the areas to
9 try to provide some focus on this.

10 COMMISSIONER PETERMAN: Yeah, and just to,
11 again, to reiterate what the Chair mentioned earlier
12 this morning, we'll then take those -- our high-level
13 action items and strategies and delve down into more
14 implementation strategies towards the end of the year
15 and the beginning of next year as well. So, there will
16 be a couple of times to address this issue.

17 But I've found this incredibly informative as we
18 try to move forward. And we'll be distributing
19 something in advance of the next workshop for you to
20 comment on, and I promise it will only be 334 pages.

21 (Laughter)

22 CHAIRPERSON WEISENMILLER: And I was going to
23 say, one of the things which we've both talked about is
24 really what we'd like to do is to engage all the parties
25 in developing the actions -- the priorities, the

1 actions, and the overall strategic plan.

2 COMMISSIONER PETERMAN: Yeah, I think based on
3 the feedback we've gotten so far, and just the fact that
4 we've all been engaging in this conversation over the
5 last few years, we'll be able to identify the key, high-
6 level strategies where we focus.

7 And then, particularly, as we go into
8 limitation, and it's going to involve all of you doing
9 something. It's hard to say implementation things when
10 you're not the one who has to implement them. So, we'll
11 definitely be looking for stakeholder feedback in that
12 process, as much as any other part of what we're doing.

13 MS. WINN: I did have a quick question as to the
14 timeline you're talking about, how does that affect the
15 IEPR schedule, as it's currently set forth, with the
16 final report by the end of November and a draft in
17 October?

18 CHAIRPERSON WEISENMILLER: Well, it will be
19 pushed back. I mean as we sort of -- as we look through
20 all the pieces and see what fits, I mean certainly we're
21 going to push for an IEPR adoption around the end of the
22 year, obviously trying to avoid everyone huddled here on
23 Christmas Day, or whatever, or staff working on stuff.

24 So, as I said, as we're working through we'll
25 get a revised schedule out. But, basically, we thought

1 it was important to really slow down a little bit, have
2 the opportunity for everyone to digest this report and
3 then think about the next steps, as opposed to just
4 trying to push something out.

5 You know, obviously, we're trying to do things
6 fast, but I think this is a time that was needed to have
7 more of an opportunity for consensus to develop.

8 COMMISSIONER PETERMAN: And the more detailed
9 implementation strategies will be a part of the 2012
10 IEPR process, and so there is some overlap or
11 continuity, as I'd rather say.

12 MS. WINN: Okay, thank you for that.

13 CHAIRPERSON WEISENMILLER: Anything? Okay.
14 Well, again, thanks for your contributions today. And
15 we have a lot of work to do, but I think we've taken a
16 major step.

17 (Thereupon, the Workshop was adjourned at

18 5:04 p.m.)

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REPORTER' S CERTIFICATE

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF,

I have hereunto set my hand this 20th day of September, 2011.

_____

Kent Odell
CER**00548