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BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

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IN THE MATTER OF: : Docket Number
REGIONAL TRANSMISSION ORGANIZATIONS : RM01-12-000
ELECTRICITY MARKET DESIGN AND STRUCTURE :

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Commission Room 2C
Federal Energy Regulatory
Commission
888 First Street, N.E.
Washington, D.C.

Tuesday, October 16, 2001

The above-entitled matter came on for workshop, pursuant
to notice, at 10:08 a.m.

BEFORE COMMISSIONERS:

- CHAIRMAN PAT WOOD, III
- COMMISSIONER LINDA KEY BREATHITT
- COMMISSIONER NORA MEAD BROWNELL
- COMMISSIONER WILLIAM L. MASSEY

1 APPEARANCES:

2 HONORABLE DAVID A. SVANDA
3 Commissioner, Michigan Public Service Commission

4
5 PETER CRAMTON
6 Professor, University of Maryland

7
8 HONORABLE DAVID F. HADLEY
9 Commissioner, Indiana Utility Regulatory
10 Commission

11
12 MARK D. KLEINGINNA
13 Corporate Energy Director, Ormet Corporation

14
15 JOHN MEYER
16 Vice President of Asset Commercialization,
17 Reliant Energy

18
19 JOHN L. O'NEAL
20 President, Mirant Mid-Atlantic

21
22 ROY D. SHANKER, Ph.D.
23
24

1 APPEARANCES (CONTINUED):

2 HONORABLE NANCY BROCKWAY
3 Commissioner, New Hampshire Public Utilities
4 Commission

5
6 REEM J. FAHEY
7 Director of Market Policy, Edison Mission Energy

8
9 CAROL GUTHRIE
10 Group Manager for Electric Supply, Chevron

11
12 SHMUEL OREN
13 Professor of Industrial Engineering and
14 Operations Research/Director of the Power
15 System Engineering Research Center
16 University of California at Berkeley

17
18 ANDREW OTT
19 General Manager of Markets Coordination, PJM
20 Interconnection, LLC

21
22 MICHAEL M. SCHNITZER
23 Director, The NorthBridge Group

24

1 APPEARANCES (CONTINUED):

2 JOSE DELGADO

3 President & CEO, American Transmission Company

4

5 HONORABLE MICHAEL H. DWORKIN

6 Chair, Vermont Public Service Board

7

8 MARK W. MAHER

9 Senior Vice President, Transmission Business Line

10 Bonneville Power Administration

11

12 LAURA MANZ

13 Manager of Transmission Planning, PSE&G

14

15 MASHEED ROSENQVIST

16 Director of Transmission Strategy, National Grid

17

18 STEVE WALTON

19 Senior Director of Government Affairs, Enron

20 Corporation

21

22 SHELTON CANNON

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P R O C E E D I N G S

(10:08 a.m.)

CHAIRMAN WOOD: Good morning and welcome to day two of the RTO Conference. Let's start the meeting with the Pledge of Allegiance.

(Pledge recited.)

CHAIRMAN WOOD: In this challenging world, it's good to have some friends from other countries and today we are so honored to have, and I would like to introduce for the benefit of the audience the Secretary of the Ministry of Power from the Government of India, the world's second largest nation, Secretary Basu.

Secretary Basu. is back over here.

(Applause.)

CHAIRMAN WOOD: And we also have with Secretary Basu, Mr. C.P. Jayne who is chairman and managing director of the National Thermal Power Corporation in India.

(Applause.)

CHAIRMAN WOOD: And Mr. A.J. Shankar who is the Joint Secretary of the Ministry of Power.

(Applause.)

CHAIRMAN WOOD: And then from the Indian Embassy here in Washington, we also have Mr. Kana, who is the Economic Minister for the Embassy, and Mr. Shell who is also an official with the Embassy.

1 (Applause.)

2 CHAIRMAN WOOD: Linda is our official delegate to
3 India based on many years of service and interaction with
4 our fellow regulators and energy colleagues over in India
5 and had some great stories to tell about how many learned
6 experiences we had with each other. So it's a pleasure and
7 an honor to have you gentleman here today. Thank you for
8 coming.

9 This morning, we want to get right off to start,
10 and I'll turn it over to Sheldon.

11 MR. CANNON: Good morning, everybody, and welcome
12 to our second day of workshops. I'll try to keep this
13 short, but my role today is going to try to be to get the
14 issues on the table, to facilitate the discussion wherever
15 we can and try to make sure we don't get stalled.

16 We want to try to make sure that we get sort of a
17 common understanding of the underlying arguments for today's
18 session and build a common base for moving forward on the
19 issues. Yesterday, we went three hours for the morning, and
20 then a good three hours in the afternoon and we'll probably
21 do the same today; 10:00 to 1:00, lunch, and then 2:00 to
22 5:00. Three hours is a long time to sit, so if anybody,
23 including the panelists, feel free to get up, use the
24 facilities if you need a break.

25 We had a lot of cell phones going off yesterday

1 so if people could turn of their cells phones, we'd
2 appreciate it.

3 The Commission asked the Staff to put together a
4 week of intensive of workshops to try to provide some
5 additional focus and guidance to RTO formation. What we
6 would like to try to do is to develop a to-do list, a game
7 plan for how do we get to the finish line. That means we
8 need to figure out what the industry needs to do, and what
9 we need to do and importantly what states need to do.

10 Commissioner Svanda yesterday talked about a
11 federal/state partnership, and I think that's a very good
12 way to think about how we move forward with our state
13 colleagues. And he also spoke about the collective
14 impatience of why it's taking so long to get to RTOs, so
15 again I think that's an impatience that our own Commission
16 shares.

17 The structure of the ten workshops, we have tried
18 to pick out real smart guys and gals to come in. We're
19 telling people not to do powerpoint, to try to keep the
20 dialogue very conversational. Commissioner Breathitt made a
21 wonderful point yesterday, which I forgot to make, which is
22 in trying to pull in all these real smart guys and gals, we
23 know there are lots of other smart guys and gals out there
24 who aren't on the panel, and so to the extent that you have
25 additional comments or something to add to the dialogue,

1 please feel free to file written comments in RM01-12.

2 We've got to flip charts, one over there at the
3 side underneath the two screens, and then one sort of behind
4 Commissioner Brownell. What we'd like to do is if there's
5 some point you're making that you think would be helped by
6 some illustrations, we're all very visual people here, feel
7 free to jump up and grab a marker and make your point.

8 Scott Miller, on behalf of Staff, is going to try
9 to keep sort of a running tally, if we're getting to
10 consensus on certain issues or if we are identifying certain
11 issues where we don't have consensus. We try to keep those
12 recorded up there on the flip chart in back so that we can
13 try to keep things on point.

14 Before we start each session, we'll have a member
15 of Staff try to frame the issues we'd like to explore. Feel
16 free to go beyond those issues but I'll feel free to try to
17 bring you back to them if we get too far afield. I want
18 Staff to try to make sure that we get through all the
19 questions that we've posed to the panelists. Those are
20 posted on our Web site for anyone out in the audience that's
21 interested. We're looking for solutions, ideas for moving
22 forward.

23 Each of our real smart guys and gals here are
24 free to make a short opening statement but it's not
25 required. What we want is again to try to have a

1 conversation around these issues. Yesterday we got to a
2 pretty good consensus I think on the various markets that
3 people believe that RTOs need to operate, and I think we had
4 a general consensus that the whole market would be
5 benefitted by trying to introduce some amount of
6 standardization across regions and that would be helpful in
7 trying to achieve our goal of a seamless national power
8 marketplace.

9 Clearly a lot of what we discussed yesterday will
10 relate very closely to what we're going to be talking about
11 today. Panelists should feel free to try to highlight
12 linkages. If there's something about congestion management
13 that is intricately tied to market design, please let us
14 know.

15 We need help in trying to understand how to
16 sequence our to-do list, what we need to do first, what
17 issues need to be addressed in series, which ones need to be
18 addressed in parallel. Today, we're going to be examining
19 what to do when there just isn't enough transmission to go
20 around. There's a short term dimension to that that we'll
21 explore this morning in terms of congestion management, and
22 there's obviously a longer-term dimension that we'll explore
23 this afternoon in terms of planning and expansion.

24 Again, if you see linkages between those two,
25 please feel free to bring them up. We have a very ambitious

1 agenda for the week. We're going to need your help figuring
2 out where standardization is needed and where flexibility or
3 some kind of regional variation is needed. What we need to
4 do now, what we need to do later, and what the best models
5 are out there.

6 With that, I'd like to introduce this panel and
7 let Roland Wentworth on our staff try to frame the issues
8 for this morning's discussion.

9 With us this morning we have the Honorable Nancy
10 Brockway. She's a Commissioner with the New Hampshire
11 Public Utilities Commission.

12 Reem J. Fahey, Director of Market Policy with
13 Edison Mission Energy.

14 Carol Guthrie, the Group Manager for Electric
15 Supply with Chevron.

16 Professor Shmuel Oren, from the University of
17 California at Berkeley.

18 Andrew Ott, the General Manager of Markets
19 Coordination with PJM Interconnection, and

20 Michael M. Schnizer, the Director of the
21 NorthBridge Group.

22 With that, I'll turn it over to Roland.

23 MR. WENTWORTH: Good morning. I'm Roland
24 Wentworth with the Office of Markets, Tariffs, and Rates.
25 This morning's topic is congestion management. Congestion

1 is what occurs when the grid lacks the capacity needed to
2 meet demand while using the lowest cost resources. This
3 means that congestion entails a cost. And it is because
4 congestion is costly that the management of congestion is
5 vitally important to the design of regional energy markets.

6 Perhaps the most important question before us
7 this morning is this: What form should congestion
8 management mechanisms take and what should the role of the
9 RTO in managing or operating them.

10 In particular, must these mechanisms be
11 standardized across all RTOs? Or can they be customized to
12 reflect regional differences?

13 Other important questions are the following:
14 What are the advantages and disadvantages of the various
15 approaches to congestion management including locational
16 marginal pricing, flowgates and zonal pricing, and other
17 approaches.

18 What instruments are available for hedging the
19 costs of congestion?

20 Can transmission rights effectively serve this
21 purpose?

22 Should all congestion be priced or should the RTO
23 adopt a market design that requires market participants to
24 pay congestion costs only when such costs are commercially
25 significant with other congestion costs recovered through

1 uplift charges.

2 And finally, what role should congestion prices
3 or revenues play in encouraging efficient investments and
4 new generation and transmission capacity?

5 We look forward to your answers to these and
6 other questions this morning on this important issue.

7 MR. CANNON: Thanks, Roland.

8 If we could have just short opening statements,
9 and we'll start with the Honorable Nancy Brockway.

10 MS. BROCKWAY: Thank you very much. It's great
11 to be back here. I was here at the seams issue. I'd like
12 to imagine that my comments today will have some more impact
13 on you than those did, but --

14 (Laughter.)

15 MS. BROCKWAY: -- since you were kind enough to
16 invite me back, you must have thought I said something worth
17 listening to. I'm going to leave exactly at 1:00 today. I
18 apologize but you'll also forgive me if children's theater
19 obligations in Concord are more important than the rest of
20 this.

21 The usual caveats. Although my colleagues on the
22 New Hampshire Commission and within NHPUC will agree with
23 many things that I'm saying, I can't, it would take too much
24 time to tease out which they agree with, which they don't
25 agree with, so I'm just speaking for myself. I'm going to

1 talk about two topics and they address, in one way or
2 another, just about all of the topics Mr. Wentworth raised.

3 The first is the flowgate versus LMP issue and
4 the standardization of that, and the second one is the
5 relationship between congestion management and resource
6 planning, and it's the second one that I think is the more
7 important one.

8 The first one, let me just say I'm a Hogan gal,
9 locational marginal prices, the standard market design. If
10 you read, I just was doing some research on this. I picked
11 up the little question and answer thing that Laura Montz and
12 John Chandley did in September of 2000 for NERC and it was
13 very persuasive. Flowgate rights are cumbersome. I wasn't
14 quite sure about their argument about sucking the RTO or the
15 ISO into an administrative process, but their argument that
16 it creates opportunities for unnecessary uplift and
17 socialization of costs were persuasive and there are two
18 areas where that happens. One is if you excuse some of the
19 participants from paying for the result of unhedged actual
20 flows, and the other one is if you deal with the problem of
21 it, flowgate needs are uncertain in advance by freezing the
22 power distribution factors, in either of those cases, you
23 create the necessity, in effect, to create uplift which is
24 another form of socialization of costs.

25 Their paper, and I think Hogan would agree, says

1 that you can do it, you can do flowgates but it's just a
2 pain in the neck to do it; it's just much more
3 straightforward to do locational marginal pricing and get it
4 over with. If there's going to be socialization, let's
5 decide it on the merits, not because we have some
6 administrative problem and there are areas where I'll turn
7 next to where people are trying to push you or push the
8 whole nation into the socialization of certain costs. And
9 these are the same people who are crying out for getting
10 government out of markets.

11 Both transmission owners and generators want us
12 all to socialize the cost of transmission and we've heard an
13 incessant drum beat, we don't have enough transmission
14 capacity in this country, we need to build more
15 transmission, we have all this terrible congestion, we've
16 got to build more transmission. Even recently, and I
17 personally find this distasteful, the sense that we have to
18 have more transmission because it's a national security
19 issue.

20 Transmission is necessarily a monopoly. There is
21 some talk about merchant facilities, but you're not going to
22 have two merchant facilities next to each other. We are
23 not, in practical terms, going to have double sets of lines
24 competing with each other. So transmission is going to be a
25 resource that is a public good, and because it is a perfect

1 substitute in many cases for generation located in certain
2 places or demand reduction in that same place, in order to
3 balance loads and resources and get the reliability that we
4 want, my own personal feeling is that all of this is going
5 to collapse in a few years, in about ten or 15 years.

6 But those of you who still have the faith about
7 this are going to be forced to grapple with this problem
8 which is on the one hand, you are committing ratepayer
9 dollars, land resources -- and I'll get into an example of
10 that in a sec -- to a project without, I mean there's some
11 political control over that and there's jockeying about
12 governance of the RTOs and so forth, and that's one of the
13 reasons actually why some of us are very, very intent on
14 having some public interest involvement and accountability.
15 It's not because we like to have politics to play heads-I-
16 win-tails-you-lose, but it's because the decisions made by
17 these RTOs have such profound impacts on all of our
18 territory and these monopoly rents that people have to pay.

19 So you have that on the one hand, and then you
20 have on the other hand your congestion management system
21 principle, and the principle of congestion management which
22 is most advanced in the PJM area, but New York buys into it,
23 New England we've been trying to get there, trying to get
24 there. You know, we knew it was a problem before we opened
25 our market. The principal of that obviously is

1 entrepreneurs make a decision. They figure out where they
2 want to put their plant, or where they want to energy
3 efficiency dollars and they take the risk. And in fact
4 that's the fundamental premise of the entire competitive
5 effort that this Commission and many commissions have been
6 involved in.

7 If you override that by siting transmission in a
8 way that erodes or eviscerates those price signals, the
9 price signal that says and with respect to -- I used to live
10 in Boston -- that it costs more to use electricity in Boston
11 than it costs to use it in New Hampshire. It's just a fact
12 of life. If you build a transmission line from Maine down
13 to Boston, which is being proposed, I'm being reassured it's
14 only an upgrade, but I'll tell that to the abutters when we
15 go to the Siting Commission, so that we don't have stranded
16 costs for the generators in Maine, stranded costs.

17 I just finished approving \$2.1 billion of
18 stranded costs. What am I doing paying transmission so that
19 we don't have stranded costs for entrepreneurial generators
20 in Maine? But, okay. You bring it across New Hampshire and
21 into Boston so that Boston does not have to face the price
22 signal of the difference in cost between using electricity
23 in Boston and using it in New Hampshire or for that matter,
24 Maine.

25 This wasn't the deal we were promised. The deal

1 we were promised is that the price signals would tell people
2 where it's expensive and where it's cheap, and the whole
3 system is based on that. And yet there's a push for
4 transmission that's overriding that.

5 Let me just finish with a couple of other
6 observations about problems that this causes. It may be
7 more costly to society to do this transmission than to do
8 these other forms of resource -- I'm using Boston, they've
9 heard me beat up on them before -- but within the Boston
10 area, there are environmental and siting consequences to
11 this which are certainly profound for me in New Hampshire.
12 But there's also the problem that if we decide to put up a
13 lot of transmission so that we can get generation every
14 place, we're basically favoring generation over some
15 alternatives such as demand management within a load pocket
16 that might not only be cheaper, but would have fewer
17 environmental problems associated.

18 And we are also favoring remote generation over
19 local generation that's closer to the source, which is not
20 necessarily a good thing to do today when we are on the cusp
21 of having a lot of new technologies that can make localized
22 generation more economic.

23 And the last thing I want to leave you with is
24 that we're not only hearing that we have to relieve these
25 constraints by building this socialized transmission, but

1 we're going to have to build redundant transmission in order
2 to support the generation. And before we go down this path,
3 I just want to leave with you that these proposals for
4 transmission are eviscerating the entire theory of
5 congestion management, and we can talk about flowgate and
6 LMP till the cows come home, but if we don't deal with the
7 resource planning part of it and the relationship between
8 the monopoly siting and payment for transmission in the
9 entrepreneurial parts of the market, it doesn't matter what
10 we do with CMS and LMP, I mean with LMP and flowgates.

11 Thank you.

12 MR. CANNON: Thank you, Commissioner.

13 Ms. Fahey?

14 MS. FAHEY: I'll try to be very brief. First I
15 would like to start by telling you very briefly what my
16 background is. By profession, I'm an engineer. I have
17 master's degree in power engineering from Brenslear (ph.)
18 Polytechnic Institute. I have over 13 years of experience
19 in this industry, ten of which I spent working for
20 Commonwealth Edison in various assignments, including system
21 planning, so I know all about power flows and parallel
22 flows. I worked in generation planning, wholesale
23 marketing, and my last assignment at ComEd, very humbling
24 and very eye opening, was in operations. I was in charge of
25 implementing open access.

1 Then I moved on to Edison Mission Energy. I've
2 been working for them for two years monitoring the
3 development of the Midwest market. Edison Mission has ten
4 thousand megawatts of generation in the region, so it's a
5 very, it's a lot of generation in a single market, so we
6 have a lot to lose if this market doesn't develop properly.

7 As far as my opening remarks, I believe that
8 given the nature of the electric commodity, I believe that
9 the foundation of a workable electricity market would
10 require the RTO to be both the grid operator and the market
11 operator in the short term market. I believe that is
12 critical.

13 I also believe that you cannot use different bid
14 stacks for balancing and congestion. They have to be used
15 simultaneously by the grid operator to perform congestion
16 management and keep the grid reliability.

17 I also believe that the congestion management
18 should have a market-based structure which will allow market
19 participants to have voluntary bids into the market and we
20 end up with locational marginal pricing.

21 I also believe that the design of the congestion
22 management should be such that it allows flexibility for any
23 market participant to either engage in the centralized spot
24 market or to engage in the forward market that would be
25 decentralized including bilateral contracts and ability for

1 generators to self-schedule.

2 As far as transmission rights are concerned, I
3 believe it is very critical to make sure that these rights
4 are financial and not physical in nature. I also believe
5 that, at a minimum, these rights should allow the market
6 participant to efficiently hedge their congestion risk in
7 real time.

8 I also believe that these rights need to be
9 designed to create trading hubs and to allow entities like
10 Edison Mission, who has a portfolio of generation, to buy
11 these instruments from a portfolio of generation to the hub
12 and we should be able to be allowed to have rights from hub
13 to hub and from hub to load.

14 And to conclude my remarks, I believe that in no
15 way the ownership of these rights should interfere in the
16 real time dispatch of the system. I will be very brief, and
17 I will just look forward to your questions and to the
18 debate. It's a pleasure and honor to be here. Thank you
19 for inviting me.

20 MR. CANNON: Thank you.

21 Ms. Guthrie?

22 MS. GUTHRIE: Good morning. I would like to
23 first make a minor adjustment in the introduction of myself.
24 I actually, I still am Carol Guthrie but I represent the
25 diverse financial and operating interests of Chevron Texaco

1 and I am the general manager for electric market strategies
2 for the corporation. With that perspective, I would like to
3 actually, in my opening remarks, give you a sense of what,
4 from a consumer's perspective or a company that has diverse
5 interests in the electric markets, what our perspective is.

6 When I talk about Chevron Texaco as a consumer,
7 we have over -- just in the U.S., we have over 4000 service
8 locations. We consume about 10,000 gigawatt hours a year.
9 We have over 150 suppliers, and we have over 15 sites where
10 we are industrial generators. You can call it QFs, you can
11 call it cogeneration, you can call it whatever you want
12 because it's not all either QF of co-generation, it's
13 industrial generation serving our own load and that's about
14 500 megawatts.

15 We spend over a billion dollars annually on
16 supply and delivery of electricity to U.S. operations. So I
17 think fundamentally, when we get in these discussions about
18 the electric markets and generation or transmission systems
19 -- and yes, distribution is a part of the delivery system --
20 that we need to be stepping back sometimes from the
21 academic debate and the different models and thinking about
22 the academic premises or the models that are being proposed
23 from different perspectives.

24 What does it look like to a small consumer? And
25 a small consumer can be anybody from a residential consumer

1 to a service station to a pipeline terminal to, yes, we
2 think of large oil fields. Did you know that the majority
3 of large oil fields, particularly in Commissioner Wood's
4 home state, actually are made up of small dispersed loads.
5 They're not -- we think of them as big consumers -- well,
6 they are, but they're small dispersed loads.

7 We need to step back and think about all of these
8 issues from these different perspectives. Our large single
9 sites, refineries, we have generation installed at virtually
10 all of our refineries. It's only our smaller refineries
11 that we don't have some form of generation installed and at
12 our largest refineries, we've had the privilege of having
13 some valuable opportunities to learn lessons in California
14 over the last several years. And there are some lessons to
15 be learned from the different perspectives as an industrial
16 generator that still needs to buy power in order to be able
17 to operate.

18 If you can't buy power and/or cannot operate if
19 the ISO/RTO wants to tell you how to operate, then perhaps
20 the product that you make is not going to be able to get to
21 its potential market, i.e., airports, and perhaps the
22 national, another national infrastructure gets affected.

23 So there are different perspectives to be thought
24 about, even in a simple equation like getting electricity to
25 a refinery, and then being able to move the product of a

1 refinery from the refinery to its place of use, i.e., an
2 airport terminal or this winter it also happened to be
3 electric generating plants that needed diesel.

4 Well, if you're going to shut down the pipelines
5 in between because of curtailments and shortages and
6 congestion, then you have to think about the implications
7 and the cascading of facts. And so it's very valuable to
8 think about these models when we talk about congestion
9 rights or transmission rights from the perspective of the
10 different, the different market participants. Too often, we
11 use the words market participants and market participants
12 congestion management rights or who should tradeable
13 transmission rights among market participants.

14 Well some market participants are going to be
15 situated better than others to be able to participate in
16 that but they are still small market participants for whom
17 those issues are extremely important and they may not have
18 the capacity to actually participate in managing congestion.
19 So there is a component of socialization for some of these
20 costs that needs to be done to accomplish the public good,
21 but we do need to step back and think about the different
22 elements, who is a market participant, how would it appear
23 from different perceptions and places in the market.

24 I'll leave it at that and look forward to the
25 dialogue.

1 MR. CANNON: Thanks, Ms. Guthrie. I'm glad I at
2 least got your name right. We'll work on the title next
3 time. Professor Oren?

4 MR. OREN: Chairman Wood, Commissioners, it's an
5 honor to be here and to participate in this important
6 meeting. I'm a professor of industrial engineering and
7 operations research at UC Berkeley. I'm also the Berkeley
8 site director of the Power Systems Engineering Research
9 Center. My academic research and consulting activities,
10 I've been working for over 20 years in the area of utility
11 planning and regulation, and more recently on restructuring,
12 market design and risk management.

13 So I've served as a consultant to different
14 markets, including the regulatory agency of Brazil, the
15 Polish system operator, the Alberta Energy Utility Board,
16 and I'm currently advising the Texas Market Oversight
17 Division of the Texas Public Utility Commission.

18 However, I'm speaking here just on behalf of
19 myself. I don't represent anybody I ever talked to.

20 (Laughter.)

21 MR. OREN: So I'd like to use these few minutes
22 just to describe a more general views that I feel are
23 relevant to this workshop.

24 First, for the sake of full disclosure, I'm a
25 proponent of market solutions, customer choice,

1 decentralized forward markets, minimal ISOs. I've been
2 advocating direct assignment of congestion costs in real
3 time market and the financial tradable flowgate rights in
4 forward markets, mainly because I feel that the flowgate
5 rights are more supportive of decentralized. They require
6 less coordination, central coordination, and they are more
7 supportive of decentralized forward markets.

8 Now perhaps the most important question in this
9 workshop is whether a market design should be standardized
10 across this nation, and I'm definitely do not believe that
11 one size fits all. However, I do believe that the design of
12 a market should be treated as a science and not as a
13 political process. And as such, they should be based on a
14 uniform set of scientific principles that cannot be
15 overridden by political compromise.

16 It is unrealistic to expect that market
17 participants will not behave strategically. I think it's
18 their fiduciary responsibility to try to gain the rules. So
19 I think that what we should adopt, an approach that we
20 should think of gaining the way we think about gravity.
21 It's something that you don't ignore. You can still develop
22 flight planes by overcoming gravity. A market design to
23 design markets, you should use the same approach.
24 Understand the force of nature and develop mechanisms to
25 overcome them. And you don't leave that to amateurs, and we

1 don't design square wings because they are easier to
2 manufacture because the stakeholder decided that's an easier
3 way to manufacture square wings.

4 So we have to recognize those forces of nature.
5 You can call it greed or strategic behavior, and develop
6 incentive systems that will overcome those by having sound
7 market rules. In order to do that, we need to understand
8 gaming. We need to understand modes of market failure. I
9 think that, you know, just a few days ago they announced the
10 Nobel Prize in Economics. They gave it for study of
11 asymmetric information. That's exactly relevant to this
12 area of market design and congestion management. If what we
13 are seeing, for example, in any jurisdiction where we have
14 seen socialization, we have seen market participants engaged
15 in what we call the dead game, which is exactly the use of
16 market information to gain the market. Somebody knows more
17 than others where the congestion will occur and they take
18 advantage of it.

19 As you know in Texas, we expected \$20 million to
20 last for about six months at least, and they apparently they
21 were burned in the first three weeks of market operation
22 through exactly practicing the dead game, which amounts to
23 people scheduling congestion and then getting paid to
24 relieve the congestion that they scheduled.

25 So I think that definitely any kind of

1 socialization would lead to that, and the closer we are to a
2 market, real time, to correct pricing nodes, the better off
3 we're going to be. Now that doesn't mean this sounds like
4 an LMP pitch, but people that know my writing know that
5 that's not what I mean. I think that having correct price
6 signals in real time does not mean that you have to have
7 nodal prices at 2,000 buses. It means that you have to just
8 charge for true congestion whenever it's predictable and at
9 the same time develop tools that will enable decentralized
10 forward market, which I think that that's where the action
11 should be.

12 Thank you.

13 MR. CANNON: Thank you, Professor. Mr. Ott?

14 MR. OTT: Good morning. I appreciate the
15 invitation to talk in front of you today. I think there's
16 an emerging consensus, at least in the real time market
17 around the industry, and that's locational pricing works and
18 it provides efficient signals to manage transmission
19 congestion.

20 To me, locational pricing really isn't a theory
21 or an academic exercise, it's an operational tool that we
22 use to manage the reliability of the grid during constrained
23 operations.

24 The PJM market has essentially been running on
25 nodal pricing since 1998. And really what LMP is, again to

1 me is an operational tool. It's something utilities have
2 done for years. We're essentially using economic dispatch
3 to meet the energy demand and manage transmission congestion
4 in one solution. Essentially to try to do imbalancing and
5 to try to do congestion management separately, they would
6 contradict each other and fight against each other and lead
7 to inefficiency.

8 Probably the other point I'd like to make is to
9 talk about the transmission rights. It's absolutely
10 critical that transmission rights be financial. Essentially
11 we have a physical spot market that's called the LMP system
12 in PJM. We have a variety of financial contracts around
13 that physical spot that really our dispatch center or our
14 dispatch operation center don't know nothing about. What
15 they're managing is running the assets that actually provide
16 the electricity to the load. So they don't care about the
17 financial rights that overlay the system.

18 That separation or fundamental separation between
19 the physical and the financial, the financial allows the
20 hedging, all the forwards, all the hedging of transmission
21 congestion. But the separation of physical and financial
22 lets our market be sort of maximized the flexibility. In
23 other words, players can choose to do bilaterals. They can
24 choose to do spot. They can write a lot of different
25 contracts around the market. And the reason we allow that

1 kind of flexibility and we can allow that is because the
2 fundamental separation of these financial rights from the
3 physical spot market.

4 That being said, when you have the separation,
5 that opens up the possibility to have the rights be fully
6 tradable. They become a derivative, essentially. So
7 traders can trade the product. It really doesn't matter to
8 me, PJM, who owns it, because it's just a settlement
9 exercise at that point. People manage and use the
10 transmission rights to protect themselves from congestion.
11 And essentially the hedge that they're using is only as good
12 as the amount of agreement if you will between their
13 physical delivery and their financial contract.

14 So it's also important that the financial
15 contracts that are written only hedge to the extent that
16 they match the physical delivery that the entity is
17 providing.

18 Again, thank you.

19 MR. CANNON: Thank you. Mr. Schnitzer?

20 MR. SCHNITZER: Thank you. I appreciate the
21 opportunity to be here. Over the last five-plus years I've
22 consulted for a number of clients on both retail and
23 wholesale restructuring issues, including congestion
24 management prominently among them. And while my comments
25 today will reflect those experiences, I too am speaking for

1 myself today and not for any of my clients.

2 My starting point is that there is a preferred
3 method of market based congestion management in RTOs and
4 that it's the one that has been talked about yesterday and
5 also today. It's the LMP-based congestion management system
6 with financial rights. That has a number of components.
7 I'll just tic them off quickly.

8 It's the now familiar from yesterday day ahead
9 market and real time bid-based, security-constrained
10 locational energy markets, which as people have said already
11 this morning are the same as the balancing markets. That
12 they're integrated ancillary services markets that go with
13 them and are consistent with them consistently designed.
14 But that, as Commissioner Breathitt was inquiring yesterday,
15 that bilateral transactions are allowed and encouraged.

16 The markets are mandatory, but you're not
17 required to buy out of the energy markets.

18 You can schedule bilaterally, and therefore in a
19 congestion management system, you pay for your particular
20 transaction based on locational marginal prices. That's the
21 congestion cost you pay for transmission use as a bilateral
22 schedule. So that's the third important component.

23 And finally, as Andy just talked about, we have
24 financial, not physical transmission rights to round out the
25 picture. Those are variously called FTRs, TCCs or FCHs,

1 depending on which collaborative process you're
2 participating in. But all of them allow transmission users
3 to hedge those congestion payments. That is, those who
4 schedule bilaterally or bought out of the spot market can
5 hedge the congestion component through these financial
6 devices.

7 So that I think is the preferred approach, and I
8 would certainly subscribe to that.

9 I want to talk just for a minute about why
10 congestion management is so important, perhaps put a little
11 different perspective in this conversation. It certainly
12 arises out of the circumstance that Shelton said at the
13 outset -- when there isn't enough transmission to deliver
14 the cheapest generation available to load, and you have to
15 work around that and do out-of-area dispatch.

16 But I think it's actually much more than that.
17 And Commissioner Brockway was alluding to it as well. When
18 we go from vertical integration which the industry grew up
19 in to competitive generation markets, we have to deal with
20 the physical fact that generation and transmission of
21 electricity are interdependent.

22 When you run a generator and someone decides to
23 run a generator, it goes through the grid, according to
24 Kirkaw's (phonetic) Laws, and it can affect a lot of other
25 transactions and a lot of other people. That's a fact.

1 That's the physics. Historically, we've dealt with that
2 interdependence or interaction through vertical integration
3 where the vertically integrated utilities would plan
4 generation and transmission together. They would dispatch
5 their systems taking both into account, and on the borders
6 they would fight. But they were a small number of people,
7 and so we've had loop flow fights for a long time. But
8 because we're largely vertically integrated, they were on
9 the margin, as it were.

10 When we go to competitive generation markets, we
11 lose vertical integration, and I'm a supporter of
12 competitive generation markets. But we lose vertical
13 integration as the device for dealing with the underlying
14 physics. The underlying physics don't change. So what do
15 we need to do? We need to replace vertical integration with
16 price signals. So we have to get the prices right and we
17 have to give price signals to people. That's what
18 congestion management does. That's why it's so critical.

19 As Commissioner Brockway was saying, you can't
20 have a competitive generation market that operates to the
21 benefit of customers, Mr. Chairman, as you were alluding to
22 yesterday, without getting the congestion management right.
23 You have to get the right prices and you have to send the
24 price signals that are correct in the three respects.

25 The first that we've talked about is that when

1 we're dealing with the energy market, either day ahead or
2 real time, we want to get the dispatch right. We want to
3 get the most out of the grid that we can, and we want to get
4 the most economic set of generators providing power during
5 that interval. And the way we do that is we show people who
6 are scheduling bilaterally the price of congestion for their
7 transaction and allow them to tell us whether they want to
8 change their generation, whether they want to change their
9 schedule because there's a cheaper thing for them to do
10 other than go ahead with their bilateral as scheduled.

11 So we integrate them into the market through the
12 price signal of the congestion charge. As was talked about
13 at length yesterday, we also show load the right price
14 signal so that if load can respond they do, and that also is
15 locational. It's not load anywhere. It's load in the place
16 where the high price is where we want the response. So
17 that's one set of price signals.

18 A second set of price signals is to new
19 generators as to where to locate, and this goes directly to
20 what Commissioner Brockway was talking about. The LMP
21 system provides those price signals. It tells you where the
22 higher prices are and where the lower prices are. But as
23 importantly, it clarifies the obligations, responsibilities
24 and risk allocations associated with building new
25 generation.

1 When you build a new generator and you site it
2 somewhere, you are entitled to the LMP at that bus, whatever
3 it is. You are entitled to schedule bilaterally if you pay
4 congestion charges, and you are entitled to go buy financial
5 hedges to hedge congestion if you choose. But you don't
6 need to be entitled to get an upgrade of the system that
7 somebody else pays for, which was her point and her concern.

8 So you have an opportunity here to clarify the
9 responsibilities and risk allocations for new generators.
10 And then related to transmission expansion, you also have
11 the opportunity to have market signals as to when it's
12 economic to expand the grid. You have the difference
13 between prices at two points is the value of more
14 transmission between those two points, and LMP is all about
15 -- I don't know, how many prices do you publish every hour,
16 Andy?

17 MR. OTT: Two thousand.

18 MR. SCHNITZER: Two thousand. So you have lots
19 of different combinations of where you can look at the value
20 of transmission. You also have property rights, these
21 financial rights. And this provides you both the economic
22 price signal for what transmission is worth, and a property
23 right that you can trade someone, if you will. In return
24 for investing in transmission, they can get the property
25 rights. It's an alternative to rolled-in transmission

1 construction which we call participant funding, which is
2 also called merchant funding, and congestion management also
3 enables that, all of which are important to an efficient
4 competitive market.

5 I'll stop there. I look forward to the
6 discussion. I thank you for inviting me.

7 MR. CANNON: Thank you. I'll turn it over to
8 Staff.

9 MR. O'NEILL: Yes. I'd just to clear up the term
10 "flowgate". Commissioner Brockway, you used the term as I
11 believe what I understand it as commercially significant
12 flowgate concept where if the flowgate fails as a hedge, the
13 RTO subsidizes it. And as I understand the concept that
14 Shmuel would put forth would be not necessarily a
15 commercially significant flowgate, but simply a flowgate
16 that wasn't subsidized.

17 MS. BROCKWAY: I think that's right. And here
18 we're getting into a level of detail that I'm shaking on.
19 But if you do all flowgate rights -- you have this tradeoff
20 between doing something which is manageable but creates
21 uplift and something which minimizes the uplift. In other
22 words, you don't limit it to things that are commercially
23 significant and get into the problem of how do you define
24 that.

25 But when you eliminate that, if you do a

1 flowgate, which is basically a package of contract path
2 rights, if you will, and you have to get a potentially huge
3 number of these contract path rights to eliminate all
4 possible congestion over the paths of the transaction, it
5 becomes very cumbersome.

6 MR. OREN: May I say something? I think that the
7 problem really -- something definitely must give, because
8 those markets are inherently incomplete. In other words,
9 there are not enough products to represent the central
10 optimization.

11 I think the problem is that if we are stuck on
12 trying to provide perfect hedges, then you do need a lot of
13 flowgates. However, I think that the whole pursuit of
14 perfect hedges is misguided in this market. We don't have
15 perfect hedges in any other commercial market, and I think
16 that that's what must give. And if you give up the concept
17 of providing perfect hedging and allow the people that
18 engage in transaction to bear some risk, then you can use a
19 reasonable number of flowgates to hedge against those risks.

20 MR. O'NEILL: And you would not be in favor of
21 subsidizing the commercially significant --

22 MR. OREN: Definitely not. The flowgate should
23 be charged based on shadow price in real time and should be
24 compensated based on shadow price in real time. And
25 whatever you hold, that's what you are being paid for. All

1 it means is there's going to be some residual risk on the
2 part of the market players that is not going to be fully
3 hedged. And full hedges in this market basically amounts to
4 an uplift. It amounts that you provide insurance to those
5 who buy the hedges at the expense of the many.

6 MS. FAHEY: Can I comment? I think the most
7 important question is who determines what is commercially
8 significant. And I think if you go into that debate, that's
9 really the essence of how these things get really
10 complicated.

11 There's two ways you could do it. One is you
12 could say, okay, well the RTO will have the obligation to
13 come up with what's commercially significant. And most of
14 the debate, at least in the Midwest, that the RTO said, no,
15 that's way too much risk for the system operator, for the
16 RTO. Because what happens if you're wrong? Who pays? And
17 you could either uplift it, and then obviously the state
18 commissioners will not like that.

19 But at the same time as a market participant -- I
20 mean, my company engages in three to five-year forward
21 contracts -- I should be able to buy an efficient hedge for
22 my transaction. So if you get into this debate of who
23 actually determines what is commercially significant and
24 what is not, if you say, well, okay, the RTO is not going to
25 get into determining what's commercially significant.

1 We're going to leave that to the market
2 participant, and I think that's where the concerns that
3 Carol expressed becomes really important. Because if you
4 leave that prediction to the market participants, I mean
5 that's really, you know, dangerous ground. Because in
6 essence, you're assuming maybe small municipalities, that
7 they need to hire somebody with a Ph.D. degree in power flow
8 in order to predict what's commercially significant and
9 what's not. I mean, is that -- you know, that's not in the
10 public interest.

11 And another aspect of this is the fact, if we're
12 going to say, okay, well, we'll just make the information
13 available. What does that mean? Does that mean you're
14 going to -- I mean, as a competitor, I don't want the other
15 IPP to know what my maintenance schedule is and what the
16 units are available or not available. And you would have to
17 make that information available for the entity who's trying
18 to predict congestion.

19 So I think the most essential question is who
20 determines what's commercially significant.

21 MR. O'NEILL: But you wouldn't have a problem
22 with the RTO offering both flowgates and FTRs?

23 MS. FAHEY: I think that's exactly where we have
24 to go. If certain entities that think that they're really
25 smart and they can predict congestion, God bless them, let

1 them do that. And if others want to just buy -- they just
2 want to be hedged and want to buy point-to-point rights,
3 they should be allowed to do that.

4 And I think that's where the research dollars
5 need to go is let's not make this market mutually exclusive.
6 Let's offer both instruments and let the market decide
7 what's really more valuable.

8 MR. O'NEILL: Andy?

9 MR. OTT: I agree with a qualification. If you
10 define a flowgate -- in other words, if you're saying the
11 reason you want a flowgate is similar to the reason you want
12 a trading hub in a system which is really to move towards
13 more of a standard trading product so you don't have
14 thousands of products that people have to trade, you want
15 liquidity, so you need to define a product that is more,
16 quote, "standard", so everybody will sort of trade that
17 product and then trade basis risk around it.

18 So if that's your reason for wanting a flowgate,
19 then if a flowgate is further defined as essentially a
20 grouping of point-to-point transmission rights in some
21 definition, then yes, they can coexist. If a flowgate is a
22 physical boundary and has these other characteristics, I'm
23 not sure they can. So I think given a good definition of a
24 flowgate as really almost like a hub for transmission
25 rights, if you will, then they can coexist. I think it

1 would be fine.

2 MR. MEAD: Can I just stop you there? Just for
3 the benefit of some people who may not know exactly what a
4 flowgate is and what an FTR is, could I get a simple
5 definition of what an FTR is and what a flowgate is?

6 MR. OTT: Okay. An FTR, TCC or whatever you want
7 to call it, is essentially a contract that says I can
8 delivery energy from a point on the system to another point
9 and have a certain megawatt amount to that. And what that
10 essentially does is protects you from congestion by giving
11 you the price differential between those two points times
12 the megawatt amount.

13 The flowgate is essentially a similar financial
14 contract if they're my definition of a flowgate, and that's
15 just really saying that you get a certain amount of flow,
16 you purchase a certain amount of flow on a transmission
17 interface if you will. So it sort of bisects the lines as
18 opposed to the point-to-point. And they can actually be
19 translated into each other if they're, you know,
20 aggregations.

21 But essentially, they are financial contracts,
22 both of them. One has a value from point to point, the
23 other has a value across a path, and that path value has
24 some financial worth in the hourly market.

25 MS. BROCKWAY: If I could add to that. I had to

1 try to understand this, so people can correct me if I'm
2 wrong. But my understanding is one of the differences is
3 that with flowgates, if you go from Point A to Point B and
4 there are potentially two or three interfaces in between
5 those two points, you would have to buy flowgate rights over
6 each of the interfaces.

7 And I think what Reem was talking about was that
8 you can't know in advance necessarily exactly which path and
9 thus which interfaces your transaction is going to cross to
10 get from Point A to Point B because that -- you can predict
11 based on what you think the loads are going to be and what
12 the resources will be running, and create a model of what
13 you think the path is going to be. But things happen. Load
14 goes up, load goes down. Generators go on, they go off.
15 And it may take another path and cross different interfaces
16 and you may not have bought rights over those different
17 interfaces, in which case you're not hedged for those.

18 MR. SCHNITZER: I wonder if I could add to some
19 of those comments and also offer a little bit of perspective
20 just to where we've got here. At the flowgate versus
21 financial right or FTR divide or point-to-point divide, we
22 first have the physical versus financial conversation. And
23 everything that I've heard thus far in this panel has been
24 financial versus financial.

25 I haven't heard anything on a physical flowgate

1 basis, and I think that's important that you have consensus
2 here. No physical. You don't need a right to schedule.
3 You don't have to have a covered schedule. I don't hear any
4 disagreement yet, but I'll invite people to chime in.

5 So once we're in the financial world, now we're
6 talking about FTRs, FCHs, whatever, which are point-to-
7 point, as Andy was just saying, or flowgates, which are sort
8 of network element based, okay? And just a minute on the
9 origins of both of them.

10 To figure out how many FTRs you can issue, both
11 models share the view that you don't sell more rights than
12 are simultaneously feasible because you can't deliver on
13 them. So the question is, now do you determine them? In
14 the point-to-points, you determine what's simultaneously
15 feasible by an optimal power flow or you look at set of
16 security-constrained power flows and you say, yep, that'll
17 work. And I can issue that many rights. There's not a
18 unique set, so you have different procedures for determining
19 what the most valuable set is to issue.

20 On the flowgate side, you're looking at the
21 constraining elements that in a contingency, this is where
22 my problem is, this is what limits the flow, and how much
23 over this contingent element can I allow to schedule before
24 I get in trouble? That's how many flowgate rights that you
25 issue.

1 If we're just in a financial world, the tension
2 that we're talking about is what happens when the flowgates
3 that we thought were commercially significant turned out
4 either not to be the right flowgates. And as I appreciate
5 it, for instance, in Entergy's area, about every time -- not
6 every time, but often when a new merchant generator shows
7 up, a new flowgate shows up. So it's a very dynamic process
8 and what you thought you had covered last week may not cover
9 you this week kind of a thing.

10 Or the shift factors that were alluded to. If
11 you picture the power grid as a spider web, the shift
12 factors are the proportion of your power that goes each way
13 through each link and you have to -- those change, as it
14 turns out. And so basically, you have a pressure from
15 people to simplify it in two respects: To only pick the
16 commercially significant flowgates, and to freeze the shift
17 factors in advance of real time and to claim that that's all
18 you need to be covered. And that pressure, that is
19 everywhere except to my right. Every time I've heard a
20 flowgate advocate, I've heard that these simplifications
21 should result in uplift, not as Dr. Oren has said, that they
22 ought to be settled against actual. But that pressure is
23 out there.

24 But finally, to Dick's question as to when you
25 can offer both, which is the third kind of thing, is the

1 option versus obligation thing, where is it's head? And
2 flowgates are often characterized as uniquely as options as
3 opposed to obligations. And the point to be made here is
4 that the point-to-point rights can be the same. They can
5 also be offered as options versus obligations.

6 What I think we've not confronted is that when
7 you go to an option formulation as opposed to obligation
8 formulation, you still have to satisfy the simultaneous
9 feasibility test. And when you don't know whether an option
10 is going to be exercised, the number that you can issue and
11 still know that all combinations are simultaneously feasible
12 is probably much lower than what you can sell or issue if
13 you've issued them as obligations.

14 MR. MEAD: Can I ask you to define options versus
15 obligations also?

16 MR. SCHNITZER: I'll take a stab at it, and there
17 are plenty of people here to correct me when I misstate.
18 The point-to-point rights that we've been talking about,
19 which are the right and the obligation to be paid the
20 difference between a point of injection and a point of
21 withdrawal, the LMPs at those two points times the number of
22 megawatts for a period of time.

23 And as an obligation, you get paid that. And if
24 it happens to turn around and you owe money, you have to pay
25 it. So that's the obligation sense. In theory, it can go

1 both ways.

2 The optional approach to that would be to say you
3 have the option to be paid the difference between prices
4 between the point of withdrawal and the point of injection
5 times X megawatts. And obviously if it's a positive, you
6 take the money, and if it's negative, you say no thank you.
7 So that's the difference.

8 Flowgate rights, you have the option to schedule
9 across this network element, but not the obligation to
10 schedule across this network element.

11 MR. O'NEILL: I thought these were financial
12 rights.

13 MR. SCHNITZER: They are.

14 MR. O'NEILL: You don't schedule --

15 MR. SCHNITZER: I'm sorry. You have the right to
16 be paid. Thank you, Dick. You have the right to be paid
17 the difference that the shadow price of the network element,
18 but not the obligation to be paid. And the point is that
19 you have e simultaneously feasible when these are
20 obligations, treated as obligations, it's easier to do the
21 power flow and say, yes, that works.

22 When you treat them as options, it's not clear
23 you can issue as many.

24 MR. O'NEILL: Carol?

25 MR. CANNON: Ms. Guthrie?

1 MS. GUTHRIE: Either way. Let's step back. If
2 we're talking financial obligations and who's going to bear
3 the risk, Reem says, oh, well, RTO in the Midwest too
4 concerned about taking on the risk. Fundamentally in
5 Shmuel's basic settle against the actuals, who pays? In
6 other words, a regulated utility, an incumbent transition
7 owner, whatever you want to call it, how much risk do they
8 actually have to bear? Therefore, how much would they
9 actually want to engage in any sort of financial hedging on
10 transmission rights or firm transmission rights? Because
11 ultimately, once again, who pays? Where is the risk?

12 There's a different level of risk based on your
13 role or place in the market, and when we're talking about
14 the financial side of it from my left to my right, where do
15 the dollars roll? They roll downhill to the load. And
16 that's why I think, you know, well, let's step back and say
17 what is the most economic way to make sure that we're
18 getting participants in the market if it's going to be a
19 financial congestion management system, who have the same
20 risk tolerance or the actual same level of risk?

21 In other words, a transmission owner that's a
22 regulated entity may either be reluctant to engage in risk
23 because perhaps they might not recover the costs if their
24 risk management strategy was not perfect, or they may be
25 willing to engage in risk management because they are

1 guaranteed a full recovery. But it alters their perception
2 and the attitude with which they approach congestion
3 management market. And it alters then the different roles
4 of the entities playing in the financial management of
5 congestion management. Are we getting the right price
6 signals over a sustainable period to actually attract
7 capital investment? And capital investment meaning either
8 generation or transmission.

9 Because ultimately, you have to be able to get
10 the right price signal in a form, whether it's a forward
11 curve or a long-term contract, some sort of sustainable
12 price signal that will attract capital investment.

13 MR. MILLER: Carol, let me try to put some meat
14 on the bones of that. Because you're talking in very what I
15 would say is somewhat theoretical. Let's talk about how you
16 would do this so it's optimally done.

17 Presumably you want there to be price signals for
18 people to build transmission. Presumably you want
19 allocation of the rents in a certain way which would then
20 seem to mean that there would be a certain structure in the
21 RTO. Can you kind of walk through what you think would be
22 optimal in that regard?

23 MS. GUTHRIE: That's where -- I don't have an
24 optimal answer. I have a lot of concerns about making sure
25 that we have the right economic structure in the RTOs.

1 From that perspective, perhaps the RTO has to
2 have the ability to suffer some financial consequences,
3 i.e., maybe it does have to have a profit structure to where
4 they take the financial hit if they enter into some
5 financial risk. But that becomes another layer on are they
6 the actual owners of transmission or are they just managing
7 the transmission assets of transmission owners?

8 MR. O'NEILL: Carol, let me just clarify. The
9 RTO taking a risk as an RTO is one thing. Right now our
10 RTOs take the risk and then pass it on to the customers.

11 MS. GUTHRIE: Absolutely.

12 MR. O'NEILL: You have to distinguish between
13 those two.

14 MS. GUTHRIE: And that's where I think we are
15 beginning to rethink our prior bias around perhaps RTOs
16 should have some fiscal accountability because our
17 experience with some RTOs has been that there no fiscal
18 accountability and therefore the dollars flow down hill.

19 MR. OREN: I want to make some clarifications
20 here because on the FTRs versus FGRs because you don't get
21 something for nothing. When an FTR is being offered,
22 there's a hedge from point to point, and it offers full
23 hedging for another piece of the firm, somebody ends up
24 paying for that. Now the reality is that because of the
25 simultaneous visibility condition that is imposed on those

1 FTRs which tries to make sure that the ISO always have
2 enough revenues from congestion to pay for the FTR
3 settlement, what ends up is that in fact the ISO ends up
4 always with a surplus. That surplus represents unhedged
5 transactions. It means that somebody out there is paying
6 congestion and it's not being hedged because that congestion
7 is left in the hands.

8 So while the FTRs offer these perfect hedges,
9 it's perfect hedges for the few at expense of the many.
10 Those perfect hedges are being subsidized by those who pay
11 congestion rents. In an FGR approach, if you settlement is
12 based on real prices, it's a pure wash. All the revenues
13 that come in as congestion get paid out as FGR so the ISO
14 doesn't retain anything. So in general, for the general
15 picture, it's a better general hedge.

16 Now for any individual hedger, somebody's going
17 to end up being overhedged, somebody's going to end up being
18 under-hedged because they didn't quite predict which way the
19 flow was going to go. But as a hedge in general, the ISO
20 being revenue neutral while in FDRs, an FDR essentially
21 offers a bundle of three types of insurance. It insures
22 against the price, it insures against the capacity of the
23 line, it insures against the changes in the flow in the
24 distribution factors.

25 So for example, if you schedule a transaction

1 from point A to point B, and you are protected with an FDR,
2 and that line, the most obvious path happens to be out, then
3 you are still collecting your insurance, but those who pay
4 for it are the people who are paying congestion on all the
5 other lines. So FDRs, by definition, involves
6 socialization. It's a socialized insurance to those who
7 happen to grab those FDRs. And so this has to be cleared.

8 Then the other thing is that we have to look at
9 the need for central coordination. You cannot do FDRs
10 without central coordination because the FDRs have always to
11 pass the simultaneous visibility test. So somebody has to
12 evaluate to run those power flow models and the only way, so
13 that's why there is very little secondary trading of FDRs
14 because you cannot, the only way to trade them is that you
15 have to convert them through this process which is going to
16 convert the FDRs on one path to FDRs on another path, and
17 making sure of the simultaneous visibility condition is
18 still met. So this automatically forces us to rely on the
19 RTO as the clearinghouse for those FDRs and to do it very
20 often.

21 With FGRs, you assign capacity to elements.
22 Those elements, somebody builds a line, you give them FGR
23 for the capacity of the line. Now it may be, you may want
24 to derate it to account for contingencies but they get that
25 capacity. Now the value of that capacity will change over

1 time depending of the rerouting of the path. But you don't
2 have to change the number of * that you are issuing.

3 MR. CANNON: What a second. Reem's been trying
4 to jump in for a while.

5 MR. OREN: So there is a much more direct
6 relationship between FGR and investment in transmission. If
7 you use nodal pricing, even with 2000 prices, you cannot
8 extract from that which lines actual elements have been
9 congested. As a matter of fact, PJM has to publish that
10 separately.

11 So while nodal prices gives you a signal for
12 where the generation, where is the best place to generate,
13 they don't give you a signal where is the best place to
14 expand your transmission line. It's an unsolvable problem
15 to invert the matrix and to extract with the shadow prices
16 on specific elements out of the 2000 nodal prices. That's
17 the problem.

18 MR. CANNON: Reem, you wanted to say something?

19 MS. FAHEY: With all due respect, I mean, this
20 sounds really great on paper. But let's talk about reality
21 and how practical this method is. Let's just talk about in
22 he Midwest. For us to do what Mr. Oren in saying we have to
23 do, basically we have to trade over 200 flowgates, and
24 that's not practical. I mean, I call it trace your
25 electrons method. I mean, is that practical to ask for

1 entities to buy flowgates on 200 elements if the RTOs not
2 going to come up with what is commercially significant and
3 what's not. If you're going to leave that to the market
4 participant and if you are going to be completely hedged,
5 then you're going to buy an all potentially flowgates that
6 will overload. So that's one thing which I believe which I
7 disagree with the premise of this you know flowgate
8 proposal.

9 The other one is this whole premise of the amount
10 of capacity on each flowgate is constant and basically the
11 power transfer distribution factors are constant and they
12 don't change, I mean, that's not true. I mean, in the
13 Midwest we have face shifting regulators. This is not, you
14 know, this is not some mathematical thing. There's ten of
15 them and they are going to be in charge of a whole profit
16 transmission entity. Let's think about when that happens.
17 You know, they could, you know, cause congestion and change
18 it based on how you said these phase shifting transformers.

19 So I think what Mr. Oren is saying sounds really
20 great but, you know, with the two qualifiers. You know,
21 there's so many flowgates that you have to trade to be fully
22 hedged and that the power factors are not, they're not
23 fixed.

24 MR. AGARWAL: I have a much different question.
25 As I understand it, there are basically three types of

1 condition management approaches. One that is implemented at
2 PGM LMP location pricing, also called nodal, where we have
3 FTRs.

4 The second one is zonal implemented at California
5 ISO.

6 The third one is flow-based approach where we
7 have FGRS, flow gate rights.

8 There is a fourth one, hybrid one, where for
9 forward markets we have flow gate rights, and in the real
10 time, we have LMP.

11 My question is, LMP have been tried in PJM, we
12 have some experience. California ISO tried the zonal
13 approach. Do we have any proof of concept for the flowgate
14 approach? Or do we have any pilot project so that it can
15 throw some light on it? Anyone?

16 MR. OTT: I'm not sure that we have a working
17 flowgate model, and I think if you look at the concept of a
18 flowgate model, essentially what you're trying to do is
19 again define like a physical boundary and make some
20 statement about how flows would actually work on that
21 physical boundary. And essentially that type of model
22 standing alone and in and of itself, I'm not sure how that
23 you're actually going to get that to work with real time
24 operations. So I mean it'll be an interesting discussion to
25 see it go but it's very difficult for me to see how it will

1 work.

2 MR. OREN: Well, the proof of concept of the
3 flowgate model is NERC TLR procedures. The way NERC handles
4 the transmission load relief --

5 (Laughter.)

6 MR. OREN: -- well, it's not priced and that's
7 the missing link but the fact that they use flows to control
8 --

9 MR. AGARWAL: I beg to disagree. I beg to
10 disagree there because NERC's TLR is a no-congestion
11 management tool. It is basically a sledgehammer saying well
12 we have had enough loop flows in the system. Any condition
13 management software approach has to also address the loop
14 flow problem. In the absence of any congestion management
15 software, we were doing TLR, and essentially dropping a
16 sledgehammer saying no more transactions can take place
17 because the system is loaded, and if we keep on going the
18 reliability would be in danger.

19 MR. OREN: But then all you need to do is set up
20 a pricing system for those so instead of just chopping it
21 off, you'll price it and essentially auction it off six
22 hours ahead of time, so the flowback approach, which was
23 originally proposed and never implemented by NERC would have
24 been a great step toward flowgates.

25 MR. AGARWAL: The advocates of flowgate approach

1 talk about commercially significant corridors or interfaces.
2 We at FERC are working on compiling a list of top ten
3 transmission constraints, and you all know there what types
4 of transmission constraints we have. Why is it not possible
5 to pick any one of those and do your proof of concept and
6 show which way money will change hands just philosophically
7 to demonstrate that it would work in real life?

8 MR. OREN: Well, some of what they are doing in
9 ERCOT is in that direction. We didn't have enough
10 experience.

11 MR. AGARWAL: I think we should give other people
12 an opportunity also, go ahead.

13 MS. FAHEY: Personally, I think as an industry,
14 we need exactly what you're saying, a proof of concept. So
15 I truly believe that we need to put dollars into research of
16 figuring out if we can offer point-to-point options and
17 obligations and FGRs options and obligations,
18 simultaneously, so that they're not mutually exclusive, and
19 let the market choose.

20 But most importantly, we need to figure out if we
21 do that, what's the consequences? Are the consequences that
22 we end up with less transmission? Or are the consequences
23 that if somebody wants to buy point-to-point options, that
24 they would pay a lot more for them. And that's an
25 acceptable market outcome. If people want to trade in

1 flowgate rights and the components of the point-to-point
2 rights, let them do that, as long as you don't preclude
3 others from buying the point-to-point hedges. I mean,
4 there's nothing wrong with doing that.

5 And in our very extensive debates in the Midwest
6 when we came up with the hybrid model, we said that's really
7 what we need. We don't know if it's feasible or not, but
8 that's really what, in my opinion, it makes everybody go
9 home happy. And if somebody wants to trade in flowgate
10 rights, and take the risks of what's commercially
11 significant and what's not, well let them do that. Maybe
12 the Enrons of the world or, you know, trading organizations
13 that are very smart, they could do that. So let them. I
14 mean, there's no need to restrict the market that way.

15 MR. MILLER: Reem is there, in PJM, because let's
16 use that as the most practical example, is there a trade in
17 flowgate rights by bilateral parties? Or is it not large
18 enough an area yet to really test the theory?

19 MS. FAHEY: I think first of all we need to test
20 the theory in modeling. Let's have, you know, a model.
21 Let's hire experts to see if the can offer both, because
22 otherwise, you're going to get, you know--if you go with
23 standard LMP point-to-point FTRS, half the country will be
24 very happy, and then the others will say, well, how come you
25 didn't give us a chance to trade in flowgate rights.

1 And if they are not mutually exclusive, nobody
2 has determined that. If they are not mutually exclusive,
3 what's wrong with offering both instruments? And two things
4 need to be done.

5 One is to make sure that they are feasible.

6 And then the second one is what are we giving up
7 in providing such a flexibility?

8 COMMISSIONER MASSEY: Could I ask a question? If
9 you offered both, is there any operational or reliability
10 impact to one system versus another, or even offering both?
11 Or is it purely a financial how-to-settle-up-the-dollars
12 issue?

13 MS. FAHEY: Go ahead, I don't want to...

14 MR. OTT: I guess I would have to come back and
15 say it depends on your definition of a flowgate.

16 If the flowgate is what I thought it was 15
17 minutes ago, then I think the answer would be it probably
18 would be a financial product on top of the energy market
19 which would be a very similar product to the point-to-
20 point FTR.

21 COMMISSIONER MASSEY: So you still have the
22 security constrained, bid-based security constrained
23 dispatch? That doesn't change in your world.

24 MR. OTT: In my world, right.

25 COMMISSIONER MASSEY: In your world, that doesn't

1 change. That gives us the operational integrity that we
2 want. And what you're talking about is how to settle up the
3 money for congestion?

4 MR. OTT: Right. In other words, the FTR versus
5 flowgate right debate, if you elevate that to say that the
6 reason you want an FGR is to get more standardized, you
7 know, fewer type of hedging products similar to a trading
8 hub concept in PJM for--you have 2,000 nodes but you have
9 two trading hubs, and all the volume of trading, the
10 liquidity happened at western hub--if your search for the
11 truth here is to build a flowgate type model where you add
12 in the capability to have that same kind of hub mechanism
13 except for transmission rights, if that's your search, then
14 I think the answer is yes, flowgates and FTRs can coexist
15 and still have the physical spot market the same as we do
16 with the security constrained economic dispatch.

17 If a flowgate right is defined as some kind of
18 physical boundary where you actually have that to-do
19 scheduling, then I think all of that unwinds. It will not
20 coexist with a bid-based security constrained economic
21 dispatch, and then you're in conflict, I should say, and
22 then I lose control of managing the system because you can't
23 manage physical flow and generation and load assets.

24 At least, when I say can't, you can't efficiently
25 manage it.

1 MR. SCHNITZER: Yes. I think there are three
2 conditions to declaring victory, that these two we can
3 explore the two of them together in the same market.

4 The first is that we're talking financial and
5 financial; that any physical nature of flowgates they have
6 to be financial versus financial. I think that's condition
7 one.

8 The second is that any settlement against the
9 flowgates is against actual congestion, that we're not
10 talking about an uplift mechanic where we are settling
11 against some hypothetical dispatch or whatever; we have to
12 be settling against actual congestion.

13 And third is we have to resolve this option
14 versus obligation thing to see if people like the result.
15 If to do it, I can only sell 40 percent of what people think
16 are their current entitlements, you know it's not going to
17 be a very popular model at retail if you will.

18 COMMISSIONER MASSEY: Professor Oren, do you
19 agree with those three points?

20 MR. OREN: Well I agree with the first two. I
21 would go along.

22 The issue of option versus obligations, I think
23 what the flowgate provides is a natural way to divide the
24 two. That in fact, the RTO can be engaged in offering flow
25 gates against the physical capacity of the network while

1 private entities can offer additional flowgate against
2 counterflow that they produce.

3 So you don't need the RTO to get involved in the
4 process of commitment that are based on counterflow.

5 If a generator produces counterflow throughout
6 the dispatch, they can sell the flowgate that they produce
7 to somebody else and that's a private transaction.

8 The RTO is only in the business of covering the
9 physical capacity of the network. So this takes care, and
10 then all those flowgates become, I mean any time you offer
11 an option, it's an obligation for the other person that
12 sells it, so I think that this is kind of a moot debate.
13 All we have to talk about is that flowgates are one-sided
14 instruments; it's either an option or an obligation but
15 cannot be both.

16 An FTR sometimes will be an option, sometimes can
17 be an obligation, depending on the flow pattern. So that's
18 the correct way to think about that problem. Now I don't
19 have any problem with financial, I don't have any problem
20 with settle them based on real value.

21 And the other aspect that we're talking about,
22 too many, I think that one way to think about flowgates is
23 to think about as fundamentals. What an FTR is is
24 essentially like an index fund. It's like a bundle of
25 fundamental stocks. Now you can have, we have tracking

1 funds that track the whole S&P 500 with only maybe ten or 20
2 stocks; it won't be perfect tracking but you can use a
3 limited number in order to track a large portfolio.

4 So you don't need, anybody, people don't need to
5 deal with all the 200 in order to be perfectly hedged.
6 Saying that we are going to use the FDRs and let people then
7 trade flowgates on the side, it's like saying we're going to
8 have a stock market that deals with index stocks, and then
9 if somebody wants to synthesize IBM, they'll have to buy a
10 mixture of index stock to produce an IBM option. And that's
11 kind of goes against the logic. It's the other way around
12 that should be. That you have to trade the flowgates and if
13 somebody wants an FDR, they can synthesize them. If
14 somebody wants to offer insurance on the top of the
15 flowgates in order to cover any changes in change of
16 capacity or in change of PTDFs, you can have private
17 insurance offering that, you don't have to socialize that
18 additional insurance.

19 MR. CANNON: Ms. Fahey?

20 MS. FAHEY: Again, just to comment on what Mr.
21 Oren said, I mean, giving the knowledge of financial markets
22 and the S&P 500 is not really applicable here. The fact is
23 if the congestion is so predicable, then why don't the RTOs
24 take that risk? They wouldn't take that risk. I wouldn't
25 take that risk.

1 I would like to share an example with you in the
2 Midwest. In the summer of '98, it was a hot summer all
3 across and typically what happened was generation stayed
4 locally. So we had a certain pattern of congestion.
5 However, in the summer of 2000, the Midwest was very cool
6 and the South was very hot, and a lot of the generation
7 transferred from the Midwest down to the South, and we ended
8 up with a lot of unpredictable congestion.

9 I will not be I don't think anybody wants to be
10 in that position of saying, oh, it's very easy to predict
11 congestion in the forward market. Maybe it sounds simple
12 and it's theoretical. I don't think it's practical to say
13 that people are able to predict congestion in the forward
14 market and say, oh, I'm only going to trade ten out of the
15 200.

16 COMMISSIONER MASSEY: But if you had a system
17 that was purely financial and allowed you to choose either
18 LMP or flowgate, you just wouldn't choose the flowgate? You
19 wouldn't use it.

20 MS. FAHEY: You know what? That's exactly it,
21 that's exactly it. That's why I advocate if it is feasible
22 to offer both, you know, let the traders. If the traders
23 want to buy this instrument, let them buy it. And if they
24 are good at predicting congestion, let them be rewarded.

25 So I don't think we should you know limit

1 ourselves to just one instrument versus the other but at the
2 same time there are qualifiers to that. The qualifiers are
3 you probably won't have as many transmission rights to sell,
4 especially if you go with obligation versus option.

5 However, let the market decide because if it's going to be
6 an obligation, it's going to be a lot more expensive, I mean
7 if it's an option, it's going to be a lot more expensive
8 than an obligation. And let the market choose.

9 MR. SCHNITZER: Mr. Massey, just to clarify. I
10 think you said LMP versus flowgates. I think we would say
11 point-to-point versus flowgate, but LMP being common but the
12 underlying energy markets are the same, so it would be
13 point-to-point rights versus the flowgate rights.

14 MR. CANNON: Ms. Guthrie?

15 MS. GUTHRIE: WE can remember that we are not a
16 single market across the U.S., not even across
17 interconnections, and there is, as long as we have a certain
18 level of comfort around the ability to operate the
19 interconnected grid reliably and that of course gets into a
20 whole other debate about what the right mechanisms are. But
21 if everything we have just been talking about is financial
22 mechanisms, financial alternatives, for managing congestion,
23 it doesn't mean that it has to be a one-size-fits-all. Why
24 wouldn't you allow different adaptations of these financial
25 mechanisms in different markets? It is a way of letting the

1 market describe or letting the market participants in a
2 particular market region see what they think works best in
3 their market and then you actually get some comparison, some
4 evolution, some innovation and some preferences that start
5 to evolve and you can see what works and what doesn't work.

6 MR. MILLER: Let me ask you, Carol, in that
7 regard, that's certainly been a working premise here at the
8 Commission for some time. The question is and one of the
9 reasons people think about standardization I think over at
10 least an interconnection wide basis, is so that you add
11 liquidity, that it's easy for transactions to occur over a
12 broad area.

13 Aren't we in a danger, I mean, we run into a
14 difficulty in the Northeast where they are essentially three
15 systems that are the same but they're not, and we seem to
16 have some liquidity problems in just that small region.

17 Aren't you concerned about the inability to
18 transact hedge over a broad area if there isn't some sort
19 of, you know standardization?

20 MS. GUTHRIE: Absolutely. And that's why I'm not
21 saying that we allow too many micro markets to experiment
22 in. But when we talk about the Eastern Interconnection,
23 perhaps it is explore what is the necessary, the model
24 that's necessary to maintain reliability, but then what
25 features will or will not work. Maybe it is an adaptation

1 of PJM and allowing the Midwest to coexist and see does that
2 work. Does that allow cross market liquidity across market
3 trading because fundamentally right now they are two
4 different markets. Yes, in certain times the power can flow
5 from the Midwest to the Northeast or from the Midwest to the
6 South, but by the same token, it doesn't necessarily mean
7 that you shouldn't allow and create different types of
8 market structures in Ercot. Ercot is looking at putting
9 together a slightly different market structure. The Cal ISO
10 I think most people would suggest has not been a successful
11 model, so perhaps some innovation there and at the same
12 time, we know that there are other models being proposed
13 that actually do have different forms of flowgate and
14 trading of FTRs being proposed.

15 So maybe that's where we start looking at
16 allowing some differentiation and some non-standardization
17 so that some comparisons can emerge.

18 COMMISSIONER MASSEY: Well I thought Ms. Fahey
19 was actually suggesting that in the same market you provide
20 the choice, rather than one market design one way and
21 another market design the other way.

22 MS. FAHEY: That was exactly what I was
23 advocating. Basically what I'm advocating is we need to
24 have locational marginal pricing in real time, but I don't
25 think that should be an option. However, in the forward

1 market for hedging against real time congestion costs I
2 believe we should allow innovative instruments to exist as
3 long as they're financial, as long as they don't interfere
4 in the real time dispatch of the system.

5 And if entities want to buy point-to-point
6 rights, great. If they want to buy flowgate rights, that's
7 great too.

8 MS. GUTHRIE: And that's why I do disagree that
9 locational marginal pricing is not necessarily, should not
10 be a prerequisite for every market design and in fact to
11 implement that in the West may be exceedingly difficult.

12 MR. MILLER: But let me back up a little bit.
13 Isn't even the flowgate approach it's locational in nature.
14 Are you advocating an experiment in flowgate approach that's
15 static or one that can shift? Because one can argue that a
16 nodal approach is essentially just a finely granular, you
17 know, shifting flowgate approach.

18 MS. GUTHRIE: Well, I do think it's the spectrum
19 It's going too far into the Nodal LMP in a market that's not
20 fundamentally designed that way where in the West you've got
21 large generating sources and locations that are not close to
22 the loads, and so you've got different, I think it's a very
23 different type of analysis than in the Midwest or the
24 Northeast, and so I think you can have different spectrums
25 or levels of locational marginal pricing. It's just a

1 question of how granular, how specific do you get. I don't
2 know that we need 2000 nodes.

3 MR. OTT: I think the issue operationally and
4 again to not standardize on the fundamental real time
5 market, you're essentially asking again to keep the seams
6 issues moving, the liquidity problems you got with trading
7 at the seams. I think standardization of certain key market
8 elements, I think you heard it yesterday, you started to
9 hear it today, I think it's very, very critical that the
10 real time markets have consistent rules such that you can
11 manage the seams. Otherwise, you're going to continue the
12 process of, how should I put it, having trading at the seams
13 be difficult.

14 MS. BROCKWAY: I'd like to jump in just briefly
15 on these. Dr. Oren has educated me to the possibility that
16 flowgates and LMP or point-to-point need not be
17 fundamentally inconsistent.

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1 A question I have for Reem is I don't -- once
2 what we're dealing with is a system in which there is an
3 actual true-up after the fact, we figure out what the actual
4 congestion was and we price that out and settle it, there
5 are differences between the two approaches, Dr. Oren's and
6 the others that we talked about here. But they don't seem
7 to me to be moving as much money around.

8 Fundamentally, what's happening is the same
9 thing. You get to the same thing in the end. Some people
10 may have a little more ability to play in the market,
11 they're more sophisticated or less sophisticated tools,
12 vehicles. But in the end you're pricing everything out at
13 the actual. And that's the difference to my mind between
14 what we've all been talking about and the flowgate rates as
15 I understood them before I walked in here, which was the
16 settlement of the actual in the other type of flowgate
17 system would be made -- it would be socialized to the whole
18 system, and that there conceivably could be a lot of it and
19 be socialized.

20 So as you can tell, I'm quite concerned about
21 socialization. I'd be very happy to go back to vertically
22 integrated utilities. I don't think anybody who's talked
23 with me is surprised that I make that statement. And what
24 gets me is that if we're talking about going to an
25 entrepreneurial system, we keep building in all this

1 socialization.

2 I think the socialization ends up going to all
3 load. The distinction that's made between a transco and a
4 non-for-profit I think in the end doesn't matter, because
5 not-for-profit socializes it through monopoly transmission
6 rates. A transco ultimately has to recover the risk that
7 they bear in rates. And so ratepayers may get away with it
8 in the short term, but the rate of return will have to go up
9 if the risk is there.

10 So either way you slice it, I think fundamentally
11 the consumer ultimately ends up paying. Having said that,
12 my major question about which of these -- and I don't have
13 the answer, but I would urge the Commission to, having
14 listened to all of these presentations and others, make its
15 decision -- is Dr. Oren right that the FTR produces more
16 socialization than the flowgate with the shadow price
17 cashout? And the other question I have is, if you let a
18 thousand flowers bloom, do you end up with path dependence?
19 And how expensive will it be if you decide, whoops, this way
20 of doing it wasn't right, undo all the systems, change to
21 another system? Or are those minor costs relative to the
22 benefits of having this real time knowledge?

23 And I will just conclude on this line of thought
24 by saying the one thing that's quite clear to us in New
25 England, which some people think is a small region, but

1 there are those who love it --

2 (Laughter.)

3 MR. MILLER: You don't look like Daniel Webster.

4 MS. BROCKWAY: -- is that you've got to have the
5 system in place before you go into it. We've done so much
6 of this retrofitting and backfilling, and we shouldn't go
7 down the path until we are pretty confident we have an idea
8 how it's going to work.

9 MR. OREN: First, I don't object to having both
10 flowgate rights and FTR rights in the same system. I just
11 want to make it clear. So I think we have a third point
12 that we can agree on.

13 I want to make, first of all, make clarification
14 that when you issue FTRs, the FTR, the mixture of FTRs that
15 are being issued depend on a certain operating point. In
16 other words, somebody's running a power flow there is kind
17 of a hypothetical operating point which says that if
18 everybody were executing their FTRs at the same time that
19 would meet N minus security constraint, N minus 1
20 constraint.

21 Now at that operating point, there is a lot of
22 flowgate rights that are unsold. All these lines that that
23 operating point is not filling to capacity are FGRs that
24 could have been sold in the market and should the operating
25 point move away or be different than the one on which the

1 FTRs were sold, those FGRs may become valuable. And that
2 represents the money, the surplus that PJM keeps if the
3 point moves around from the point corresponding to the FTR
4 issue.

5 So allowing both FTRs and FGRs essentially will
6 increase the amount of rights that can be sold because you
7 can sell all the FTRs and then you can sell the extra FGRs
8 that are there. Having those FGRs out on the market, as
9 Andy Ott pointed out, the quality of the hedge is only as
10 good as you're able to predict your transaction. If your
11 transaction changes around and you bought the wrong FTRs,
12 you are not fully hedged. On the other hand, if there are
13 FGRs out there, you can go and buy them on the secondary
14 market and adjust your hedge in such a way as to match the
15 new operating point, and that is going to give you a better
16 quality hedge with more flexibility.

17 The reason that I think that that's important and
18 that RTOs should be required to offer both the FTRs and the
19 leftover FGRs at the least is because this is the essence
20 without -- this is the essence of stimulating forward
21 trading. And we have already learned in many places that
22 forward trading is the way by which we're going to suppress
23 market power. It's only through forward trading that it
24 removes the incentive for generators to exercise market
25 power in the spot price.

1 So anything we can do to stimulate decentralized
2 markets and forward trading by making the hedging
3 instruments more flexible and more tradable is going to help
4 us on more than one frontier.

5 MR. CANNON: Professor, just a quick follow-up.
6 I just want to make sure I understand. The reason that this
7 flowgate model is more tradable in the secondary market is
8 just because more people can take advantage of it because
9 there's some aggregation? It's not as specific, if you
10 will, to a particular -- to particular points as the LMP
11 model?

12 MR. OREN: Well, because the rights on the amount
13 of capacity on an element does not depend as much -- I mean,
14 it does vary based on contingencies and all that, but it
15 doesn't depend as much as the flow pattern. When you have
16 FTRs, every transaction, unless you want to buy exactly the
17 same FTR but there would be too many of them, you have 2,000
18 notes will produce 4 million FTRs. So it becomes -- the
19 secondary market for FTR will not be liquid.

20 So with FGR, you have fewer of them. Even 200
21 would still enable you to trade them because you know that
22 what you buy is what you get. Now whether they are going to
23 be worth something depends on how much power is going to
24 flow that way. But in terms of the capacity, the instrument
25 is independently defined, as opposed to FTR that is a

1 transfer capability that really depends on what everybody
2 else is doing.

3 MR. CANNON: Ms. Guthrie first and then Ms.
4 Fahey.

5 MS. GUTHRIE: I have a question. Back to once
6 again the concept of who actually would be able to hold the
7 FTRs or FGRs and trade them. So that, for example, I'm a
8 consumer. I'm a consumer in different states, different
9 jurisdictions, and obviously different sizes. And the
10 majority of this discussion has been about, you know,
11 essentially transmission owners and RTOs. And so would it
12 be in a vertically integrated state still or region where
13 they would have to be -- that regulated entity would be the
14 one purchasing FTRs or bidding on FTRs and FGRs? Or would
15 consumers actually directly have the ability in states where
16 perhaps there used to be direct access or is going to be
17 direct access or competitive choice? Would they have the
18 ability in Texas? Would I have the ability to maybe buy
19 some FTRs to use to manage my load? Or in California where
20 I have a major refinery in a transmission-constrained area.
21 If my refinery is going down for a major shutdown.

22 Who actually might have the FTR or the FGR, who
23 actually could benefit from that? Will the customers again
24 only see costs, or will perhaps some of that flow through as
25 transmission cost reductions, so reduce the transmission

1 revenue requirement? Or can you actually have customers
2 participating in and owning and trading FTRs?

3 MR. MILLER: You're getting into allocation on
4 both sides, both on who allocates the initial FTRs or FGRs
5 and then who allocates or gets the revenues.

6 MS. GUTHRIE: Right. Because we've been talking
7 more about getting generation from the source to hubs or to
8 load and how do I as load benefit or how do I as load
9 participate in any demand relief programs? Is there any
10 benefit to being able to do that?

11 MR. O'NEILL: Nothing that I've heard said this
12 morning, nor anything that I conceive, would prohibit anyone
13 if they have enough cash to buy the stuff from holding these
14 rights. Now whether or not at the state level you're going
15 to be allowed to buy the rights all the way through to your
16 system may be a more difficult political system. But at the
17 wholesale level, I would think that these FTRs and the
18 flowgates would be available to anybody who has money. And
19 as Chevron Texaco, you probably have more money than you did
20 a week or two ago.

21 (Laughter.)

22 MS. GUTHRIE: That's right. As a load that's one
23 perception that I also share is that, well, so far I don't
24 think there's anything that would preclude me from doing
25 that in the wholesale market. I'm not quite sure how

1 different states might feel about it.

2 But from a state regulator's perspective, and I
3 think we actually have one here, how would you -- you know,
4 would utilities in your state that were buying on behalf of
5 retail consumers, do you think that they would feel
6 encouraged to buy FTRs or discouraged from it if these are
7 financial hedging transactions? In other words, their
8 guarantee of recovery. How comfortable are they going to be
9 that they'd be able to pass through and recover?

10 MS. BROCKWAY: As opposed to if they were
11 physical flowgate rates? I'm not sure --

12 MS. GUTHRIE: No. As opposed to -- it's whether
13 or not they would actually engage in buying FTRs or trading
14 FTRs. Because if their hedge went south, would they be able
15 to still recover that if they actually made good hedges?

16 MS. BROCKWAY: Yeah, I got you. There has been a
17 tradition which we're slowly shaking in the state regulatory
18 arena of being tempted -- being tempted by heads I win,
19 tails you lose. We never do it, but we've certainly been
20 tempted.

21 (Laughter.)

22 MS. BROCKWAY: I can tell you that in New
23 Hampshire for gas futures hedging, we have allowed companies
24 to do it. We encourage them to do it, not for their entire
25 portfolio. And we've had at least one instance since I've

1 been on the Commission that the hedge went south. Things
2 didn't turn out either as dismally or as happily. I can't
3 remember which way the hedge went. And we allowed them to
4 pass it through. Because if you do too many heads I win,
5 tails you lose, then your rate of return starts creeping up
6 pretty quickly.

7 So there's no free lunch. I think for us it
8 would depend in part upon how central that activity would be
9 to their ability to perform whatever services or obligations
10 they have. And that in turn will depend upon -- well, if
11 you have a vertically integrated state, they have all the
12 obligation to serve. In New Hampshire, we don't have that
13 except residually in a couple of areas.

14 But I think as a practical matter, the utility or
15 somebody with utility-like characteristics is going to end
16 up being a default supplier, and they will have similar
17 obligations. So to the extent that that entity has to
18 engage in hedging just to prevent the extreme volatility
19 that you might otherwise see, then I think we would probably
20 encourage that.

21 The counterweight to that would be if the hedges
22 themselves don't really perform the function of smoothing
23 out the price path, in which case they're just speculation,
24 and we wouldn't encourage that.

25 MS. GUTHRIE: One last point. As I know

1 everybody is aware, that has been a major source of debate
2 about the California situation. And should there have been
3 hedging? Well, there was reluctance to hedge because would
4 it have been recovered? And so I think it is a question,
5 particularly since there may be other places where you've
6 got stranded costs to be recovered or some form of price to
7 beat or price cap, temporary or otherwise in place. And so
8 it's again the encouragement to participate in a hedging
9 market.

10 MR. O'NEILL: Can I ask before we run out of time
11 to address the issue of system expansion? How all this
12 relates to system expansion.

13 MR. CANNON: Hold that just one second. I think
14 Andy's got one point he wants to make, and then we'll go to
15 your question.

16 MR. OTT: Yes. I wanted to clear up. When you
17 look at a flowgate right, again, definitional. If we look
18 at a flowgate right as a financial that really looks a lot
19 like a point-to-point FTR except it's on an interface, I
20 think the concept that there's not a power flow -- in other
21 words, when you have flowgate rate in one area of the system
22 and a flowgate rate in another area of the system, they do
23 interact because by nature of the actual physics of the
24 power system in the real time operations, they actually do
25 interact. There are loop flows, et cetera, et cetera.

1 So to the concept that with point-to-point right
2 you do some kind of -- the point-to-point right is backed by
3 the physical capability of the system, so when you actually
4 do the analysis to auction the right, et cetera, you have a
5 power flow underneath that to actually measure the physical
6 capability. Well, that same fundamental physics has to
7 apply to a flowgate rate. They aren't just magic. I mean,
8 they just can't appear and they aren't backed by anything.

9 I mean, essentially, a flowgate right in this
10 context that we're talking, again the context that we're
11 talking is you have a real time LMP based market with a
12 security-constrained dispatch. Over top of that you have
13 various hedging options or abilities. But the point is, the
14 myth that flowgate rates somehow don't need analysis and
15 that flowgates rates next to each other don't interact, that
16 is a myth. I mean, unless you have some other model.

17 MR. O'NEILL: No, no. The flowgate basically is
18 the physical capacity of the flowgate, and when that becomes
19 constrained, the payment becomes the --

20 MS. FAHEY: That's only true if you have a linear
21 system. Because if the limit is a voltage stability or
22 dynamic stability, that case is not true. And that's how
23 you end up with I think where Andy was going.

24 MR. OTT: Right. But if you're going to have the
25 two products coexist, then the fact that you own a flowgate

1 and it has a certain flow on it, and the fact that you own a
2 point-to-point right and it carries a certain flow, both
3 have loop flow effects and interactions with the rest of the
4 power grid. If you don't look at that in both, then these
5 won't -- then I take back my previous statements.

6 MR. O'NEILL: Any transmission element as the
7 result of your dispatch algorithm is going to have a dual
8 variable on it.

9 MR. OTT: Sure.

10 MR. O'NEILL: And that's the price that you get
11 for that flowgate.

12 MR. OTT: But there is an interaction between the
13 flowgate and the transmission right. And when you're doing
14 analysis to award them, you must look at that.

15 MR. O'NEILL: Simultaneous feasibility is
16 absolutely necessary if you're going to --

17 MR. MILLER: Let me ask a question, because I
18 think it segues into your question, Dick. And we were
19 talking about this to a certain extent. And it relates to
20 what Carol was talking about, which is creation of the FTRs
21 and the allocation of the FTRs and the FGRs.

22 We've had some difficulties even in the best
23 markets with that. How do we do that? Who does it? How is
24 it done and how should it be allocated? Should it be all of
25 the transmission? Because obviously there's the physical

1 element which has to be calculated.

2 MR. SCHNITZER: Well, there's two questions
3 really pending. The one is the one you had on the previous
4 page, which is are FTRs compatible with expansion or
5 something like that. You had on the previous page. And
6 then there's the one you now have up there, which is how do
7 we allocate the existing stock of the FTRs?

8 And let me take them in turn, because I think
9 they are different questions and they have different
10 answers.

11 MR. MILLER: I'm glad to see somebody was paying
12 attention to the edge.

13 MR. SCHNITZER: Half a brownie point anyway. In
14 terms of are FTRs compatible with network expansion, my
15 answer is an emphatic yes. What you get out of LMP is you
16 get basically price differences between nodes, between a
17 point of injection and a point of withdrawal. And you get
18 the value of transmission capacity between those two points.
19 That's what LMP tells you, and it tells you that every hour.
20 So it tells you how much more capacity it would be worth
21 over a time series, and you can do analysis and all the
22 rest.

23 The existence of the FTR also creates this
24 property right. That if I upgrade the system, and that may
25 be building a line, it may be upgrading a transformer, it

1 may be doing any one of a number of things that will
2 basically get some more transfer capability. In a financial
3 sense, you're creating more FTRs. Because now you could
4 have a different dispatch that was simultaneously feasible
5 with more injection at the low price point and more
6 withdrawal at the high price point, which is what you want.

7 And so what you have is the opportunity to
8 basically to have the RTO, have a development group or
9 whatever whose job it is to basically identify expansion
10 opportunities on the grid that would create more transfer
11 capability, the FTRs that would be created by that expansion
12 and the cost. And then you basically have the market. Now
13 that kind of transmission is competing with generation,
14 because as someone observed earlier, you could put more
15 generation in the high priced area. And the question is,
16 which should win? Which is the more economic situation in a
17 competitive price wholesale market?

18 If you basically have the project out there, much
19 like we do for gas expansion, incremental expansion, have an
20 open season for transmission expansion, say here's how much
21 it costs to buy those FTRs, to fund the expansion which
22 create these FTRs, who's willing to sign up for a 10-year or
23 a 15-year contract or whatever it takes to fund this
24 expansion? And then you see is that the economic thing to
25 do or is the generation location in the high price area the

1 most economic thing.

2 That's basically I think --

3 MS. BROWNELL: Or demand reduction.

4 MR. SCHNITZER: Or demand reduction. Exactly so.

5 Exactly so. And so that's how you basically have the
6 proverbial level playing field as opposed to giving
7 transmission expansion preferential treatment where we're
8 going to do that because we know it's the right thing and
9 tax everybody to pay for it, which was Commissioner
10 Brockway's concern, in particular, if you happen to be in a
11 state which is in the middle between the low price and the
12 high price.

13 So instead of saying we're going to do the right
14 thing based on central planning and tax everybody around for
15 it, we're going to basically let this project compete for
16 expansion with the other alternatives to it, and there are
17 alternatives to it. So I think that sense, LMP and FTRs are
18 totally compatible with expansion. In fact, they further
19 economic expansion in a manner consistent with a competitive
20 generation market, which is really what we ought to be
21 after. And I think they provide our best opportunity for
22 that.

23 As to the existing stock of FTRs or FGRs or
24 whatever they are, there's no question that anytime we
25 convert from the OATT to the new system, a lot of people get

1 very exercised about this because it's basically there's
2 money and value at stake.

3 The two broad options people talk about are
4 allocation of the actual rights themselves or auctioning of
5 the rights and allocation of the revenues derived from them.
6 Those are basically the two approaches. And then there are
7 hybrids. You can allocate them and auction the excess and,
8 you know, et cetera. But I think those are the two basic
9 approaches.

10 I guess the rule of thumb that has been used in
11 the jurisdictions that are furthest along here is something
12 like either whether we're giving you rights or money, let me
13 give you something which is more or less equivalent to what
14 you had before, sort of a grandfathering type of situation.
15 And that seems to -- that's difficult to negotiate. But
16 that seems to have the promise of successful negotiation to
17 sort of start from that principle.

18 That's why some of us are so concerned about this
19 option versus obligation. If to get through the transition
20 you have to have enough rights to kind of let everybody feel
21 like they more or less had tomorrow what they had yesterday,
22 and you change the system such that there's many fewer
23 rights available because you do them all as options and none
24 as obligations, you will complicate this conversion, this
25 grandfathering negotiation immeasurably.

1 In the places where it's gone on in PJM and New
2 York, you basically in PJM you nominate network resources
3 every year, you know, up to your peak load. And in New
4 York, there was an allocation based on what people
5 negotiated as being what they were, quote, "entitled to" or
6 what was equivalent to their historical usage.

7 Those are the models, and you can you adapt them
8 to create more liquidity in the secondary market, depending
9 on how you do it. But the first blush is just difficult.

10 MR. OTT: As the market matures and evolves, I
11 think you're evolving more towards an auction-based approach
12 to distribute the rights. And then essentially allocate
13 those auction revenues back to take care of the revenue
14 crossflow issues that fundamentally in PJM when we started
15 out, the allocation procedures for transmission rights as
16 opposed to an auction. That was done essentially to deal
17 with the issue of if the network loads are paying for the
18 wire, so to speak, and the wires are backing the
19 transmission rights, well then first in line for the
20 transmission rights should be the people paying for the
21 wires.

22 But that concept isn't necessarily, as the market
23 matures, won't necessarily go away. But as the market
24 matures, you'll get more competition, if you will, for the
25 transmission rights. Then those proceeds would go back to

1 offset the loads payments, if you will.

2 COMMISSIONER BROWNELL: So talk about the
3 maturation process in PJM where that allocation system was
4 more than controversial in the initial stages, was viewed by
5 some as an opportunity to manipulate the market and indeed
6 some suggested that there was a lot of market manipulation,
7 and that rather than foster competition, it had the contrary
8 effect.

9 So tell us how PJM has matured and how you're
10 dealing with those market issues please.

11 MR. OTT: Essentially I think in the first level
12 of the first allocation procedure for transmission rights in
13 PJM was that essentially the players who were in place April
14 1st of 1998 when this went in were allocated a set of
15 transmission rights consistent with their network resources
16 and the amount of network transmission service they were
17 buying, essentially paying for the wires.

18 And that was more or less set in stone. If you
19 were there when you started, then you have priority over
20 anybody else coming in into the future. Obviously that set
21 up a condition where the new entries coming in for retail
22 programs, et cetera, et cetera, were at a distinct
23 disadvantage.

24 So one of the maturing aspects of that was to
25 actually get rid of the priority rule. To more or less say

1 now we'll have an allocation procedure that when you have
2 the open enrollment window every year, everybody is treated
3 equally. So if you just acquired load in PJM versus if
4 you've had it for 30 years, it's really no different. You
5 have to be in line together. So that was one way to allow
6 -- because again, one of the problems early on was the
7 availability of FTRs.

8 Obviously we had added onto the transmission
9 rights allocation an incremental transmission rights auction
10 which allowed the excess capability of the system to be
11 auctioned off.

12 I think the next level then of maturing beyond
13 that then is to actually evolve similar probably morae
14 towards what the New York market has done, which is auction
15 the FTRs instead of allocating, then finding a way to
16 distribute that revenue. I think that's probably the
17 process we're headed towards. I think that probably
18 supports what we're doing. Does that answer your question?

19 COMMISSIONER BROWNELL: Yes.

20 MS. FAHEY: I do agree that I think it's a lot
21 better for the market if you auction the rights and then
22 allocate the revenue of that to load. Because a big part of
23 the problem is people got allocated rights based on peak
24 usage. But that doesn't happen every day. And then they
25 just held onto the rights, creating the problem of no

1 liquidity in the market.

2 So if an entity wanted to participate in retail
3 load, there was no way for them to hedge against the real
4 time congestion costs. So we would definitely advocate the
5 auctioning of all rights.

6 MR. MILLER: And let me ask everyone, including
7 customers and the Commissioner if -- because who gets the
8 money is a key component in this, do you all agree that it
9 should be allocated to load?

10 MS. BROCKWAY: I believe that that that was
11 NHPUC's position.

12 MR. OTT: If loads buying transmission -- to
13 whoever is buying transmission --

14 MR. MILLER: Yes.

15 MR. OREN: I think it's more -- the problem here
16 is that we have really three cashflows. One is the revenues
17 from selling the rights. One is the revenues from real time
18 congestion, and the other one is payoffs to the FTRs. Now
19 somebody can make the case that perhaps part of the revenues
20 from selling, auctioning off or selling off the FTRs should
21 be retained by an RTO as a way to cover some of the risk
22 that we're trying to avoid through limiting the number of
23 FTRs that are auctioned.

24 Like in every forward market, when you sell
25 forward, you basically use the income from the forward to

1 pay the settlement. Here, the forward revenues go to a
2 separate pot, and then the settlement for the FTRs gets
3 offset by the settlement for the congestion.

4 Well, it makes sense to consider the possibility
5 of retaining some of that FTR revenues as a way to mitigate
6 the risks faced by the RTO, and this would allow the RTO to
7 sell more rights rather than limiting the number of rights.

8 MS. GUTHRIE: But fundamentally, if the costs of
9 an RTO are going to roll downhill to load, then it should
10 come back to load.

11 MR. SCHNITZER: I would agree that the auction
12 proceeds ought to go to load but not necessarily pro rata or
13 load ratio share. When you want to try and hold people
14 where they were, the revenues from some rights may have to
15 go to some customers because they were the ones that were
16 benefitting from it historically.

17 There's cost shifting when you allocate revenues,
18 you have the opportunity for cost shifting. And so it may
19 not be the pro rata or load ratio share is the best way to
20 allocate the auction proceeds consistent with the conversion
21 rules. But in any event, it ought to all go to load some
22 way.

23 MS. BROCKWAY: If I could use that as an
24 opportunity to throw in a comparison between what we're
25 struggling with today and what happened before, and it's

1 related to transmission expansion, but it has to do with
2 this question of allocation of costs and benefits.

3 In the past, there was basically a backroom deal
4 that would be cut if a transmission line was going to be
5 sited across an intermediary state that benefitted not at
6 all from it. I believe New Hampshire and I know Vermont got
7 equity shares of the Hydro Quebec contract. We may or may
8 not have wanted to be part of that or be entitled to be part
9 of that otherwise, but it was a way for us to benefit from
10 the fact that our states were the site of transmission going
11 across our lines.

12 So there was rough justice then, perhaps not pure
13 justice, but rough justice. And similarly with this
14 allocation, you move the money around in different ways, and
15 it's a way to acknowledge people's expectations. It's one
16 thing to do it historically. I think the problem with
17 everything that we're doing here in developing markets is
18 how to do it in a situation that's not a snapshot of the day
19 you go into the market.

20 Texas had made a big push for building new
21 capacity in Texas under a regulated system. So they have a
22 nice amount of capacity. We had some irrational exuberance
23 in New England, so we've got some nice amount of capacity.
24 I worry about what's going to happen in 2007 when markets
25 have matured some and load has sopped up all of this extra

1 capacity that we're getting.

2 Again, the fundamental point I'm making here is
3 that whatever the system is that it has to work to actually
4 provide the systems over time, not at a flashpoint or a
5 picture, but consistently and that the process allows
6 decisions to be made in response to those signals over time.

7 MR. OREN: I want to make first of all a point
8 about market signals for investment. There was some
9 discussion here about how FTRs provide the signal for
10 investment, and I feel that there is a contradiction.
11 Because on one hand we are being told that point-to-point
12 transaction cannot be always mapped to congestion on a
13 particular element because the power shifts around. At the
14 same time, we are told that you can infer from the point-to-
15 point, from the nodal prices where should -- what elements
16 should be reinforced or where the investment should be made.
17 So I find that that's a little contradictory.

18 One advantage I think of FGRs is that they
19 directly price the resources. So you can look at the value,
20 the trade value of the FGR, and that will tell you
21 immediately whether you have to reinforce that particular
22 facility. It's a much more direct signal. I mean, you can
23 take, if you know all the nodal prices in a system, you
24 cannot infer that set of prices to find out which elements
25 were congested. That's a non-unique solution. There can be

1 many combination of elements that are congested that will
2 result in the same set of nodal prices. So that's a
3 noninvertible problem.

4 MS. BROCKWAY: I think what you're saying is
5 true. But, Professor, isn't the same thing true of
6 flowgates? To the extent it's not true, then those are
7 artificially fixed and not representative of reality.

8 MR. OTT: Exactly. If the flowgate doesn't have
9 the same characteristic, then the definition of flowgate
10 that we had talked about, which is financial, isn't true.

11 MR. OREN: Well, but it's attributed to a
12 constraint that you are running. When you published your
13 prices, you also publish a set of shadow prices on
14 constrained elements. Those are the prices that will
15 represent the constraints. Those are the ones that are
16 going to reflect the flowgate prices.

17 MR. OTT: But the difference between two nodal
18 prices is the same thing. I mean, it's no different.

19 MR. OREN: That's not true.

20 MR. OTT: It just one's a different way of
21 looking at it than the other.

22 MR. OREN: If I tell you all the nodal prices,
23 you cannot tell me which element was congested on the
24 network.

25 MR. OTT: No. But I can tell you what area I

1 should direct my development group to go look to see what it
2 would take to deliver more transfer capability from this
3 region to that region or from this node to that node. And
4 they for sure can come up with some alternatives which may
5 involve more than one flowgate element to create the next --

6 MR. OREN: But that's a direct -- that's not a
7 transparent pricing node to somebody that wants to reinforce
8 transmission that will tell them exactly where they have to
9 build the reinforcement.

10 MR. OTT: But it is a transparent price signal to
11 allow generation, transmission and load to all compete to
12 resolve the problem.

13 MR. MEAD: Can I ask a related question? And
14 that is, can we rely exclusively on congestion prices
15 whether it's through FTRs or FGRs or some other transmission
16 rights to direct transmission investment? Or are there
17 externalities or other factors that mean that some
18 transmission is going to be subsidized and just billed to
19 customers?

20 MR. OTT: Well, I think there's always the
21 backstop of a planning process that essentially looks at the
22 forward growth of the system. I don't think any of us are
23 willing to say, okay, let markets solve the problem. I
24 don't think we're ready to go there yet. Again, they may
25 mature someday.

1 It's sort of like the same concept of demand
2 response. If we get sufficient demand response over time,
3 you know, certain market products may not be necessary.
4 It's the same concept with transmission planning.
5 Essentially, you need a central planning function that
6 really has no interest whether generation, load or
7 transmission wins, but it more or less puts out the
8 benchmark, if you will. Then everybody can look at that and
9 expand some planning process, and they may actually come in
10 and do something quicker than the expansion process would
11 do. So essentially the process would say I need a line in
12 five years. Well, if a generator sees that study, he may go
13 out and put a generator on the receiving end of that line
14 two years from now, therefore resolving the problem.

15 But the process is sort of the safety net at the
16 bottom that supports the market. I think you must have it.

17 MS. FAHEY: I guess if I may --

18 MR. CANNON: Ms. Fahey, just one second and then
19 continue. Somebody brought to my attention that we don't
20 have a lot of Western representation on this panel.

21 MR. MILLER: But, Carol, you're all over the
22 country.

23 MR. CANNON: Well, except for Carol.

24 MS. GUTHRIE: I've spent my life in California
25 this year.

1 MR. CANNON: If there are people in the audience
2 who have questions or different points of view, we have
3 microphones. And so if you want to somehow raise your hand,
4 I will recognize you and add you to the debate.

5 COMMISSIONER BROWNELL: Do you have to be from
6 the West?

7 MR. CANNON: No, you don't have to be from the
8 West.

9 MR. MILLER: Well, specifically, let me ask
10 Shelton to form the question, because we do, Carol, you're a
11 customer mostly in the West although all over the country.
12 But is there something significant -- because we really sort
13 of haven't had a transmission or generation person from the
14 West -- about the radial system of the West that doesn't
15 lend itself to LMP? Because with the exception of Dr. Oren,
16 we're getting an awful lot of -- and Carol, with
17 qualification -- centralizing on LMP. And standardization
18 is grand, but I hate to not take into consideration perhaps
19 a physical difference.

20 MR. CANNON: So while you all are thinking about
21 that, Ms. Fahey, go ahead.

22 MS. FAHEY: Yes. I just wanted to make a comment
23 on what Mr. Oren had said about the flowgate rights, they
24 can be very specific telling you what the exact upgrade is.
25 In reality, you're not going to -- just because it tells you

1 that's the most congested flowgate, you're not going to be
2 able to have this perfect solution of adding lines between
3 Point A and Point B. It has to do with, you know, real
4 estate. There's a ton of other issues that deal with that.
5 So having this as the ultimate qualifier, in reality, you
6 know, who really cares? There's a lot of times where you
7 cannot build a line between Point A and Point B, and you
8 might end up building the line from Point A to Point C, and
9 that's good enough.

10 MR. OREN: I was talking about the pricing. I
11 wasn't saying by no means that that's the exclusive. But I
12 want to clarify one thing about the LMP. LMP should not be
13 taken as synonymous to nodal pricing. And I think that
14 that's very important.

15 I mean, I am a strong believer in locational
16 marginal prices, but I think that you can achieve locational
17 marginal prices by having prices on transmission lines as
18 much as you can have prices on generation at the nodes. And
19 in a situation, especially in a radial system, you can have,
20 you know, you can show that one congested line can cause
21 2,000 prices to be all different. In that case, it makes
22 more sense to focus on the constrained resources rather than
23 focusing on where you're going to offset it through
24 generation.

25 So you can achieve the same effect as locational

1 prices by properly pricing congestion both in real time and
2 in the forward market. So it's not inconceivable that we
3 can have a system that instead of specifying the prices in
4 real time or nodes, you can specify the prices in real times
5 on elements. And at any point in time there are going to be
6 relatively few elements that are constrained and you can
7 trace the causation of flow on those elements. So I don't
8 want people to think that LMP exclusively implies nodal
9 prices.

10 MS. BROCKWAY: I hear Dr. Oren, and maybe this is
11 a question to him, I hear him saying that in this type of
12 radial system, there's not in practice a lot of difference
13 between the flowgate approach and the FTR approach.

14 MR. OREN: Actually, in a perfectly radial
15 system, the two are the same.

16 MR. OTT: If I could, I mean, I'm not from the
17 West but I could try.

18 (Laughter.)

19 MR. OTT: If you're looking at the fact that they
20 operate the system, the utilities operate the system in the
21 West. They've got to operate the system. They've got to
22 somehow manage the generation --

23 MS. GUTHRIE: What utilities? Because it's not
24 necessarily utilities operating the system.

25 MR. OTT: Somebody operates the system in the

1 West.

2 MS. GUTHRIE: The Cal ISO operates the system in
3 California, and PacifiCorps is a utility that has a
4 multistate system.

5 MR. OTT: Okay. Presumably, at some point they
6 operated -- a utility operated a power system in the West at
7 some point. So presumably it had tools to do it. So to say
8 that you couldn't do an economic dispatch in the West I
9 don't think could necessarily hold.

10 MS. GUTHRIE: In the West it has never been
11 operated as a single system.

12 MR. OTT: No, no. Okay. I realize that. Right.

13 MS. GUTHRIE: And economic dispatch was done --

14 MR. OTT: Within each utility, right. Sure. Not
15 to say it was across the system. Absolutely not.

16 MR. OREN: And not all the lines are right
17 basically.

18 MR. OTT: And again, the lines weren't all radial
19 in the West.

20 MS. GUTHRIE: And in fact, the congested lines
21 tend to be heavily oversubscribed.

22 MR. OTT: Okay.

23 MR. SCHNITZER: My understanding is that whether
24 you're in the Eastern interconnect, the Western interconnect
25 or in ERCOT, security-constrained dispatch is what gets

1 done. And LMP is a way to accomplish the security-
2 constrained economic dispatch in a bid-based, as we've been
3 talking about. And I know of no reason that it's not
4 equally applicable to the Western interconnect as it is to
5 the Eastern interconnect.

6 MR. HELMAN: Could I get a question in? This is
7 such a tightly wound panel it's hard to know how to break
8 into it.

9 (Laughter.)

10 MR. HELMAN: But for those of us who've been in
11 the arcane world of congestion management and transmission
12 rights for a few years, this is great panel. And it's
13 interesting to see the new synthesis that's emerging out of
14 this debate.

15 My question is a practical one perhaps to Ms.
16 Fahey. And that is that the panel sort of, unlike the
17 panels we might have heard a year or two ago, nobody is
18 talking about transmission price certainty anymore. People
19 are talking about managing transmission price uncertainty at
20 this point, and what types of instruments we use as
21 imperfect hedges. We heard that from Professor Oren and we
22 heard that from you as well.

23 And I was wondering as a practical question,
24 perhaps you could talk for yourself and as much of the rest
25 of the industry as possible, could you give us some sense of

1 how the industry can handle a world of transmission rights
2 that offer largely imperfect hedges but that allow us to do
3 real time congestion pricing, which is what we want?

4 MS. FAHEY: I'll start with the point-to-point
5 rights. The only time they become problematic is that if
6 you're not flowing -- if their obligations -- if you're not
7 flowing, if you're not doing what you're supposed to be
8 doing, they become liability if there is congestion the
9 other way. That's a problem.

10 But the reason for that is to allow more
11 transaction to take place on the system. So to get to
12 perfect hedges, I don't think -- I mean I think in this new
13 world, you're not going to be able to achieve that.

14 MR. HELMAN: In a practical sense, what does that
15 mean for the way in which this debate moves forward for
16 people -- I mean, the driving force of this debate was to
17 try to create an instrument that would promote forward
18 trading, right? That was the argument against LMP and FTRs
19 was that they inhibit forward trading. And we're looking
20 for some kind of instrument that allows it so whether it's
21 fixed zones or flowgates with fixed PTDFs, the panel is in
22 agreement that those instruments are not the right way to go
23 because they create subsidies and they create an incentive
24 for people to game the congestion uplift associated with
25 those kind of systems.

1 So now we're in a new world of unsubsidized
2 congestion. And I was just wondering in a practical sense
3 if you could give some sense of what that world is like as
4 an operator. You can imagine doing hub-to-hub FTRs perhaps
5 or finding actually as you said some people might be able to
6 identify the commercially significant flowgates and buy the
7 rights on those flowgates. It's a slightly different world
8 than the one we've been used to. And I think for the
9 purposes of us here at FERC, it's useful to understand where
10 this world is going as opposed to where we were, which was
11 LMP FTRs on one side and transmission price certainty on the
12 other side.

13 MS. FAHEY: It's a great question. And basically
14 I don't think it's a different world. What happened before
15 was if utilities sold you firm transmission rights or firm
16 transmission, let's say point-to-point contract path, they
17 took some sort of risk in selling you that transmission.
18 But frankly, it came out of the slop off, you know, well,
19 you know, you have fixed rates and people take risks. So
20 somebody was taking the risk for that.

21 And moving forward, that doesn't mean that a
22 customer is never going to have a fixed price delivered
23 products, because I think that most of them, they need that.
24 It just becomes the power marketers, the IPPs or the
25 utilities that take on that risk. And you price it. I

1 mean, you price it in what you're offering. So I guess the
2 only disagreement that I have with you is that we always had
3 that risk. It's just before it was kind of hidden under,
4 you know, fixed rates of service.

5 MS. GUTHRIE: I'd like to comment. I think one
6 area, and again, I think it's a uniqueness between the West
7 and the East, is that you can't necessarily separate the
8 transmission and transmission pricing and FTRs from the
9 generation markets, particularly not when it appears that
10 the West is going through a time of scarcity in generating
11 resources. And so you are in a situation where it's
12 balancing the need for additional generation and then as
13 there's a push to add more generation, making sure then that
14 you have firm transmission or the ability to move the power
15 to where it's needed.

16 But even that situation aside, if you look at the
17 history in the West, and FTR and the whole concept of a
18 tradable right, they would have different values at
19 different times because of the interrelationship in the
20 West. So that, for example, hydro resources are a
21 significant component of the Western portfolio, and
22 therefore there is significant transmission investment to be
23 able to move hydro and then also to move power in the
24 reverse direction when hydro is not quite so available.

25 But there again, you get external variables such

1 as the amount of snowpack that can affect the value year to
2 year of the transmission rights in and out of a certain
3 area. So you do have these externalities that come into
4 play in ways in certain regions that may be more unique.

5 Similarly, when talking about the need for new
6 generation in the West, there's a bias toward the -- we call
7 it the fuel bias. Well, if there's a bias toward looking at
8 more natural gas fired plants, then you have to look at the
9 ability of the natural gas infrastructure to support that.
10 And so it again becomes an externality that can impact the
11 value of and the need for transmission.

12 MS. BROCKWAY: I'd like to follow up on what Ms.
13 Guthrie said. I think she describes a case in point of what
14 I'm talking about about taking a long view about planning.
15 That in areas -- in New England four or five years ago when
16 we thought we needed a lot more capacity in the West now, if
17 you talk to the financial markets, you can put up a chart of
18 the United States and there are areas where there's a glut
19 and there's areas where there is a shortage. There's a
20 mismatch of resources and loads, and there are areas that
21 are doing pretty well right now.

22 And you can imagine this map into the future and
23 do red/yellow/green and those colors will shift, and pretty
24 much in a standard pattern unless the lead time for
25 investments of the various things that we use in order to

1 meet those resource needs starts changing, in which case the
2 timing pattern of the movement of these colors around the
3 board will change.

4 But what we're having now is a system where we're
5 having a failure of imagination because all we're thinking
6 about is generation. All we're thinking about is gas
7 generation. All we're thinking about is central station gas
8 generation. And then we're thinking about, oh, well, then
9 we've got to hook the gas generation up to the loads by
10 these wires. And we're really moving all the way back to
11 before 20 years ago when we had essentially central
12 planning, and it was based on generation and transmission.

13 And the whole effort to expand our imagination to
14 where we could understand that load also played a role, that
15 distribution upgrades play a role, that distributed
16 generation can play a role, and that these have different
17 environmental consequences, not to mention economic
18 consequences, we're just wiping that away as if it never
19 happened. And this is not the time to be doing that. This
20 is the time to be dusting that off and remembering that we
21 do have a society a lot more technological creativity and a
22 lot more options than just, oh, a central generator and a
23 line.

24 So we need to construct a process for making
25 those decisions that doesn't just drive all the decisions in

1 the one direction and exclude the other. I commend that
2 task to you. It's a tremendously difficult one because you
3 have this mix of monopoly and entrepreneurial, and how to
4 get the timing to jibe. I don't know how you're going to
5 do. But I do pray that you will do that and not create a
6 path dependency on the old central station generation model.

7 MR. CANNON: Professor?

8 MR. OREN: I want to make a point about
9 transmission expansion in the use of price signals. I think
10 that it's important to recognize that deregulation has made
11 a difference of what kind of expansion has to be made. And
12 it's not just because of change of patterns of flow.

13 In this world with generation being priced at
14 market clearing prices, we can have a situation where in
15 fact a transmission expansion will increase social welfare
16 but will reduce consumer surplus or vice versa. We can have
17 a situation where transmission lines will in fact not be
18 economically efficient, but by building them we create -- we
19 reduce market power and therefore we increase the transfer,
20 we reduce the transfer between consumers and producers.

21 All these market signals that we're talking about
22 are going to be a market signal that indicate social
23 efficiency. But they are not giving us good signal with
24 respect to transmission expansion that simply will mitigate
25 market power. You can have, for example, a situation where

1 you have two symmetric areas that are self-sufficient and
2 each one can self-provide by building a transmission line
3 that will never carry any flow, you in fact increase
4 contestability and reducing prices to consumers.

5 So I think that when we're talking about
6 transmission expansion we really have to recognize that that
7 new reality creates new standards for building transmission.

8 MR. O'NEILL: Shmuel, in your example, the
9 assumption is the generators in each one of those areas that
10 are not interconnected are withholding generation from the
11 market to drive up the price?

12 MR. OREN: No. They just exercise market power,
13 which we see.

14 (Laughter.)

15 They price what the market will bear.

16 MR. O'NEILL: And how do they do that?

17 MR. OREN: Well, they can --

18 MR. O'NEILL: Can they do that without
19 withholding power from the market?

20 MR. OREN: Sure. They can bid high. They learn
21 over time to bid high. They use strategy, you know, because
22 there is demand uncertainty, you can have, you know, where
23 they use kind of hockey stick bidding and things like that.

24 MR. O'NEILL: We define that as withholding.

25 MR. OREN: Well, in California they distinguish

1 between physical withholding and economic withholding. I'm
2 not sure I agree with that.

3 MR. O'NEILL: The key is both of them are
4 withholding.

5 MR. OREN: Okay. Well, yeah. In any case, the
6 point is when you allow rates to be market-based rates, you
7 can have market power and building transmission line will
8 create more contestability even if the transmission line is
9 actually is not economically efficient and you can do better
10 with generation.

11 MR. O'NEILL: Are there other ways to deal with
12 market power?

13 MR. SCHNITZER: Yes. I guess more panels on this
14 on Friday, but my own view is that we ought to look at our
15 other techniques for mitigating market power and focus our
16 efforts in this part of the congestion management system on
17 a system that allows for economic expansion of the
18 transmission system and leave it as a remedy for market
19 power for a distant fifth or sixth place.

20 MS. BROCKWAY: And I think if we're going to be
21 pushing transmission, it would be a much easier sell to the
22 folks that I have to deal with who come to the hearings at
23 the siting commission or the siting committee. If I try to
24 tell them I'm doing this to minimize market power, I don't
25 think it's going to go over.

1 (Laughter.)

2 MS. GUTHRIE: One of the things that I think we
3 don't want to lose sight of, and I know there's a whole
4 other panel that's going to talk about interconnection, and
5 I know the Commission is undertaking an initiative on
6 interconnection. But when you talk about transmission,
7 remember there is a differentiation among transmission
8 owners and RTOs and ISOs about what assets actually get
9 turned over and operated by or transferred to or basically
10 designated as transmission versus distribution. So it's the
11 functionalization of assets issue.

12 Plus there are many consumers or industrial
13 generators or independent power facilities, QFs, that may
14 own substantial transmission and distribution assets.
15 Chevron Texaco alone has over \$350 million of investment in
16 transmission and distribution systems. And when we talk
17 about that, a lot of that money is tied up in substations.
18 So substations are a component of the transmission system
19 and this whole concept of interconnection and/or the firm
20 transmission rights, the substations are a critical element
21 of allowing power to flow.

22 MR. MEAD: Let me introduce another question.
23 Sort of implicitly we've been thinking about congestion as
24 being created when an existing stock of transmission
25 investment gets used to capacity because people want to

1 transmit more.

2 Another way of creating congestion is you have
3 the existing stock of transmission for which there are
4 transmission rights of some sort that are issued, and then
5 for some reason, some of the transmission capacity goes
6 down. It could be because of maintenance, lightning hits or
7 a generator wants to interconnect and some of the
8 transmission line goes down. Is there any merit to the
9 notion that the people who are taking existing transmission
10 capacity down, for which there are already transmission
11 rights being sold, that those folks should pay for the
12 congestion that they create?

13 MS. GUTHRIE: I think you need to be careful
14 about setting up improper incentives about maintaining the
15 assets. And so I would be more concerned about withholding
16 of maintenance in that context.

17 And I think the other aspect that I think you're
18 really headed toward is a form of market power, which I
19 think is -- I'm not sure you want to have us get into that
20 debate at this late stage. I just really wanted to bring up
21 the point that you can have major substations.

22 For example, one of our 230 kV substations, there
23 was some concern expressed about how that substation was
24 used even though it is solely dedicated or we're the only
25 entity connected to that, but there are other major power

1 plants nearby. And so there was concern that if another
2 line was down, they wanted to make sure that our substation
3 would not be down for maintenance because it would not be
4 possible to get power out to the system from these power
5 stations.

6 So it's just a question of -- it is an element of
7 congestion, depending upon the size, magnitude and location
8 of the substation.

9 MR. MEAD: If the person who took that substation
10 down was charged for charged for congestion that it created,
11 wouldn't that create an incentive to keep the substation up?

12 MS. GUTHRIE: If I am operating a refinery and I
13 need to assure that my refinery can operate safely and I
14 need to maintain my substation within spec, then if I take
15 the substation down for maintenance, I should not have to
16 pay for any congestion that it may inflict on others if I
17 paid for the generation and it's dedicated theoretically to
18 my use.

19 MR. O'NEILL: But you could sell contingent
20 rights on that generation.

21 MS. GUTHRIE: Why do you think I brought up the
22 fact that I owned it?

23 MS. FAHEY: I guess we have to be very careful in
24 how we price these financial penalties or incentives to
25 maintaining availabilities. First of all, for a

1 transmission grid, if it was a scheduled maintenance, I
2 think, yes, there needs to be some financial penalties if
3 you don't bring the line back on time when you said you were
4 going to bring it, because others have sold capacity against
5 that, and especially if the RTO is a whole profit transco, I
6 think you have to have that incentive.

7 However, at the same time you cannot penalize the
8 RTO for outages because of a storm that goes by and takes a
9 whole bunch of lines down. That's completely out of their
10 control. And at the same time, you can't really penalize a
11 generator because his unit tripped. So it's really a fine
12 line.

13 And if the generator's unit tripped and he had
14 sold counterflow from his or her generator, then, yes, they
15 have a financial penalty because if they're not doing what
16 they were supposed to be doing and congestion is in the
17 other way, it's a liability. So it's a really a fine line
18 where if a generator was supposed to be available and for
19 whatever reason it tripped, they may not be penalized for
20 that.

21 MR. SCHNITZER: I hear three components to your
22 question. Let me just try and deal with each of them.

23 With respect to maintaining the network
24 availability which creates the transfer capability in the
25 first instance, I think that there are a number of

1 incentives games that people have talked about to give the
2 RTO an incentive to maintain and have maintenance on the
3 schedule such that they minimize the congestion that's
4 caused by their activities. And that basically is called
5 the revenue adequacy issue, where if you look at basically
6 whether they can always collect enough revenue to pay off
7 their FTRs, that's a measure of how well they've maintained
8 the grid vis-a-vis it's capacity. So you can have
9 incentives that are based on how well they do at that.
10 That's number one.

11 Number two, in terms of generators who are
12 existing who by virtue of something that happens, you know,
13 creates some congestion or whatever, if you have a two
14 settlement system as some of us are contemplating, where you
15 agreed to schedule on a day ahead basis and then in real
16 time you weren't there, you will have a real time imbalance.
17 You'll have a generator imbalance and so you will bear at
18 least a part of the consequences of what happened there.

19 The third thing is what about a new generator. I
20 thought I heard who locates in a --

21 MR. MEAD: That was really my -- and that issue
22 has come up before. You have a new generator who wants to
23 interconnect and the transmission line has to go down in
24 order to allow that generator to interconnect. Is that a
25 congestion cost that that generator should bear rather than

1 being socialized among all FTR holders who now have to get
2 less congestion revenue than they otherwise would?

3 MR. SCHNITZER: One opinion for sure, and then
4 beyond that, I don't know. Somebody should have an
5 incentive, and I think it's the RTO, to schedule that at a
6 time to minimize the disruption. In other words, you don't
7 want somebody indifferent to whether they happen to do that
8 in the middle of August or whatever vis-a-vis some other
9 time when you have less congestion. Whether that's a part
10 of an interconnection cost, if you will, I personally hadn't
11 thought about the element of the question.

12 MR. OTT: I think to answer your question, if you
13 look at it broadly, you have the ability to charge someone
14 because a line failed, which obviously would be an increased
15 risk to the transmission owner, which probably is a bad
16 thing.

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1 But essentially transmission upgrades for gain,
2 if you will, are probably a different category and you may
3 be able to categorize like for instance a line comes out to
4 string fiberoptic cable so the transmission owner can sell
5 the fiberspace. Is that different than taking a line out to
6 do some maintenance on the insulators. And the answer is
7 probably it is. But I think again if you're going to put
8 risk on the transmission company, then obviously there's got
9 to be an upside to it.

10 I mean obviously it can't be imbalanced but I
11 think the thin category of transmission outage for
12 commercial ventures, why there would be a generator being
13 built, or someone using a line space for another, it's
14 probably an area you can explore, a cause-and-effect-type
15 relationship, but it's probably something you've got to
16 explore with incentives on the other side.

17 MR. CANNON: Professor Oren, did you have a final
18 comment because what I would like to do after that is have
19 Scott go back through some of the points that he's recorded
20 dutifully up on our flip chart, just to see if, make sure
21 we're all on the same page in terms of where there's
22 consensus as well as where we may need to do some further
23 work, and hopefully get us out of here so we have a few
24 extra minutes for lunch. Talk about your congestion
25 management problems with the Sunrise Cafe.

1 MR. OREN: Yes. Even though this is the topic of
2 another panel, I thought that your question is a perfect set
3 up for my pro-IT seepage because I think by vertically
4 integrating ownership and control, this problem will go
5 away. I think that our problem that we are paying
6 transmission based on cost rather than based on what it
7 does. And I think that if we start to move to an
8 environment where we pay for transmission based on the
9 product of transmission, which we'll have to define, but
10 rather than based on what it costs to put it in the ground I
11 think that a lot of these issues and incentive problems will
12 be internalized.

13 MR. CANNON: Thanks. Scott?

14 MR. MILLER: Well, we started off on a little bit
15 of a debate, as I could tell, between flowgate and FTRs, but
16 the one question that Commissioner Brockway raised is who
17 determines the commercially significant and that was raised
18 by a couple of other people, what is commercially
19 significant.

20 There was some discussion, particularly amongst
21 the folks who I'll say are LMP advocates and please correct
22 me if I'm wrong here and this is the point of going through
23 this, is that you can offer both FTRs and flowgates
24 together, that they could reasonable coexist. And I thought
25 we had some consensus along those lines, with some

1 disagreement at the edges.

2 MR. MERONEY: Can I just jump in real quick
3 because I thought we had some fairly specific conditions
4 where we had the agreement. One was that the rights are
5 financial, not physical.

6 MR. MILLER: Right.

7 MR. MERONEY: Another one was that there would be
8 no socialization in the sense it would be settled against
9 the real time price. And then we had some partial
10 agreement, or at least some discussion on options versus
11 obligations and how those might work. We didn't really have
12 agreement there but that was a third condition.

13 MR. MILLER: Right. We've got agreement that
14 these had to be financial rights and that the settlement
15 versus real and that, well, let me see, that was part of
16 flow and FTR coexist so Bill the other part is on the
17 options versus obligations.

18 MR. MERONEY: Options versus obligations. I
19 didn't think we had a consensus there, but that was listed
20 as one of the conditions.

21 MR. MILLER: Okay.

22 MR. OREN: With the distinction whether that
23 should be one side versus two sides.

24 MR. MILLER: One-sided versus two-sided?

25 MR. OREN: Yes, because an option can always mean

1 somebody else on the other side of the option has an
2 obligation so there would be a distinction between options
3 versus obligations. Whether you either are entitled to cash
4 flow and you can forego that, or you have to pay something.

5 MR. MILLER: Right. So clearly we don't have
6 consensus on option versus obligation.

7 MR. SCHNITZER: Okay.

8 MR. MERONEY: And I think that's where we're
9 going. Whether it's one of the conditions for the co-
10 existence. That's I think we don't have agreement. I think
11 we have a consensus on what the issue is but we have two
12 different names for it.

13 MS. FAHEY: Plus I think, if I qualify this, if
14 feasible, if feasible, can the two coexist, and I don't see
15 why somebody would fight that.

16 MR. OTT: But again I think it depends very
17 strongly on what your definition of a flowgate is and I
18 think we're all over the board on that.

19 MR. MILLER: Yes, I was going to say that we
20 tried to define that a little bit. We did try to define it
21 and depending on what your definition was, we had some
22 agreement but not total agreement.

23 And we tried to define flowgate as the dividing
24 point for financial transactions and FTRs as the contract
25 between two points.

1 MS. GUTHRIE: And actually it might be worth
2 footnoting that the semantics for future discussions or
3 things that go out the semantics and definition around the
4 concept of flowgate and FTR has important ramifications for
5 discussion.

6 MR. MILLER: Yes, agreed. One of the things we
7 were discussing -- and this is your point, Carol -- who pays
8 versus what the risks are and we got to a point about that
9 later which was some level of agreement.

10 And we also got into a discussion do FTRs allow
11 for transmission to be expanded, and I think that there were
12 some folks who were saying yes, there was some level of
13 economic expansion of the system that allowed, allowing for
14 all system externalities involved in planning, albeit
15 Commissioner Brockway was trying to make the point that we
16 can't, you know, we have to be careful about how we use
17 these externalities to just perpetuate this central station
18 paradigm that we've got.

19 MS. BROCKWAY: And I would even say that that's
20 not really the right question, or that's only part of the
21 question.

22 First of all, do they allow economically
23 efficient and environmentally sound transmission to be
24 expanded, and also the best path. But do they similarly
25 allow generation, whether central or decentralized and load

1 management to be expanded, all to the economic and
2 environmental optimum?

3 MR. MILLER: So I guess to rephrase it, do FTRs
4 allow for the most economically efficient solutions to
5 include transmission expansion?

6 MS. BROCKWAY: Yes, that would be accurate on the
7 economic side and I would also add the environmental and
8 there's some other public good considerations.

9 MR. MILLER: Sorry. When I think of
10 efficiencies, I think of all those things together.

11 MS. BROCKWAY: Gotcha.

12 MR. OTT: Isn't it really the nodal pricing
13 signal that is not FTRs that necessarily do it as much --

14 MR. MILLER: We were, now bear in mind we were
15 jumping around here a bit, and I'd gone with where I thought
16 you guys were going which was FTR was some sort of
17 shorthand, code word for the LNP, the nodal system.

18 MR. OTT: I think it's both. I think you need
19 the price signals and you need the property right. You
20 won't get private capital without a property right.

21 MR. MILLER: Right.

22 MR. SCHNITZER: TR is a property right, the price
23 signal, and then obviously the decision whether it's load
24 generation or transmission is based on.

25 MR. MILLER: Right. Keeping caveats to a

1 minimum, the question can we offer both LMP and flowgate
2 trading, and this is where we got into a disagreement over
3 it depends on how you define the flowgate. But actually I
4 think I've misused your point here, and Dr. Oren, correct me
5 if I'm wrong. I said FTRs can be used as an index. Did you
6 mean FGRs used as an index.

7 MR. OREN: No, FTRs.

8 MR. MILLER: Use the FTRs as an index.

9 MR. OREN: The portfolio --

10 MR. MILLER: -- of nodes.

11 MR. OREN: No, of elements.

12 MR. MILLER: Of elements. FTRs. Okay, a
13 portfolio of elements.

14 MS. GUTHRIE: FTRs are a portfolio of FGRs?

15 MR. OREN: Yes.

16 MR. MILLER: Gotcha. Okay, this is where we were
17 trying to sum up some of the agreement that Bill was noting
18 about we all were agreeing on financial rights and
19 settlement had to be versus real use.

20 Carol, your point was I think you were trying to
21 make a pitch for some standardization of certain elements
22 that you wanted, but you wanted there to be room for
23 coexistence of differences, diversity.

24 MS. BROCKWAY: Are you asking if there was
25 consensus?

1 MR. MILLER: No, there was not consensus on that,
2 okay. I will actually make that point.

3 And when we asked the question of who allocates
4 the FTG FGR rents, we got into a little bit of debate about
5 that. The RTO needs to identify expansion opportunities and
6 the expansion could equate into FTRs.

7 The question I have is, do we have any kind of
8 agreement on that.

9 MR. SCHNITZER: Or FTRs.

10 MR. MILLER: Or FTRs.

11 MS. FAHEY: And also at the same time, if the
12 generator locates in the proper location, they should be
13 also able to get entitlement for all the --

14 MR. MILLER: If they located in the unconstrained
15 area --

16 MS. FAHEY: -- get the incremental FTRs or FGRs.

17 MR. MILLER: You look like you have a question,
18 Commissioner.

19 MS. BROCKWAY: I agreed with that. I'm trying to
20 understand what your note there means about expansion equals
21 FTRs? Are you talking about incremental pricing for users
22 of incremental transmission?

23 MR. MILLER: No, I think we were trying to get at
24 is the notion that if a generator where someone contributes
25 to the expansion of the transmission system, one way or

1 another, that they get FTRs that they can use or sell.

2 MR. OREN: I think that that's kind of
3 unrealistic, given the lumpiness of transmission expansion
4 because usually the expansion wipes out the revenues from
5 the FTRs in most cases.

6 MR. MILLER: Okay, so we don't have consensus on
7 this.

8 MR. SCHNITZER: I don't think we have agreement
9 on that. I think many places the congestion is so pervasive
10 that what you can do about it is not eliminated. You can
11 create more transfer capability but you're a long way from
12 eliminating the congestion.

13 MS. BROCKWAY: But I would split the difference
14 between those two or bridge them by saying that if you went
15 to incremental pricing of the transmission, if the
16 transmission really were the least cost option for relieving
17 the constraint, and you put the cost of that on those who
18 create the constraint or the benefit from that on those who
19 relieve it by building transmission, then you're sending a
20 correct price signal, as opposed to rolling in and averaging
21 the cost of the transmission across everybody.

22 MR. MILLER: Is that, I mean I actually thought
23 that's where you guys were going.

24 MR. SCHNITZER: Yes, I think that's a particular
25 example of how load might, you know, a sub-jurisdiction or a

1 particular, you know, load serving entity or distribution
2 utility could be the funder of the transmission rights on
3 behalf of their customers and they would internalize the
4 benefits as opposed to rolling it into the whole RTO rate
5 and that would also be possible.

6 MS. GUTHRIE: I disagree with that. So I would
7 say there is not consensus because by the same token, you
8 could have a merchant generator locating and needing an
9 expansion of the grid, and so it's not necessarily, it's not
10 clear who should be the funder and whose going to be the
11 beneficiary. In fact, the expansion or the interconnection
12 of a generator can in fact use up --

13 MR. MILLER: I think what we're going to do is
14 we're going to mark this as non-consensus --

15 (Laughter.)

16 MR. MILLER: -- because in order to get finality
17 on this, we'll never get there, but it was an interesting
18 idea, and what we'll do -- no because I mean honestly the
19 one area where we've tried to do this, it's an either/or.
20 Either the funder can do it, or it can be the system, and
21 then it gets socialized. Now it doesn't get to what the
22 Commissioner wants to get to but it's an either/or. So I'll
23 put expansion can equate to FTRS, but not consensus.

24 Okay. Allocation of revenue to load some way.
25 There was some disagreement about how you allocate it to

1 load but generally speaking we allocate it to load.

2 And this is Commissioner Brockway's point.
3 System has to work over time, not just to solve today. I
4 think that's your point that it's not got to just get your
5 irrational exuberance of today. But help keeping to solve
6 the problem over time.

7 And that was the last point we made. Is there
8 anything else that perhaps we should have done before we
9 adjourn?

10 MR. SCHNITZER: One last is Professor Oren's
11 point about flowgate methodology having a more robust
12 secondary market. Is there agreement on that?

13 MR. MILLER: No.

14 MR. SCHNITZER: I just want to know.

15 MR. CANNON: I just want to know.

16 MS. FAHEY: Maybe, maybe. There's merit to the
17 concept obviously because unlike point-to-point rights that
18 are pegged to point of receipt and point of delivery,
19 flowgate rights, if you want to take the risk of figuring
20 out if it's commercially significant or not. But putting
21 that aside, what happens is you may need more of one
22 flowgate and less of another. So they do lend themselves I
23 believe to be traded in the secondary market better than
24 FTRs.

25 MR. SCHNITZER: This goes to the question that I

1 think Judy asked. That there's disaggregation of FTRs into
2 hub-to-hub and source-to-hub and sink-to-hub that I think
3 could lend themselves to more liquidity in the hub-to-hub
4 type of basis, and I think that can be explored.

5 And I think likewise people can hold portfolios
6 of FGRs which in aggregate handle their hedging. We don't
7 have to view this as a back-to-back, a single FGR to go with
8 a single transaction, and otherwise you're not hedged if you
9 can't do that. I think that basically the traders are
10 already onto viewing a portfolio of supply and delivery
11 obligations and a portfolio of hedges, and they're looking
12 at the aggregate performance of the hedge, not the
13 individual elements.

14 MR. OREN: My point was that by selling the
15 access, FGRs, even in an FTR system, then you permit some
16 trading which will allow reconfiguration without having to
17 go through the center. I don't know if there is agreement
18 on that.

19 MR. SCHNITZER: I think you can sell the same
20 excess, you know, FTRs, as well.

21 MS. GUTHRIE: I think one thing that was not
22 discussed to the point where we could talk about consensus,
23 but that is a valuable subject, and that relates to this,
24 and that is is there one mode or mechanism that facilitates
25 secondary trading more than another?

1 MR. CANNON: Well, thank you very much.
2 Appreciate all the very good conversation.

3 COMMISSIONER BROWNELL: May I just say one thing.
4 I want Commissioner Brockway to know that we absolutely
5 listen to her and as a consequence of her solid advice,
6 we're having a demand side management conference on
7 February 14th. We hope she's there. And we're having a
8 series of technology conferences so that we can be sure
9 we're really looking at those, so we're listening, Nance.

10 MR. CANNON: And Chairman Wood got called up to
11 the Hill, but he will be joining us again at 2:00 o'clock.

12 (Whereupon, at 1:00 p.m., the hearing was
13 adjourned for lunch, to reconvene the same day, Tuesday,
14 October 16, 2001, at 2:00 a.m., in the same place.)

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A F T E R N O O N S E S S I O N

(2:10 p.m.)

MR. CANNON: Good afternoon. I'd like to welcome this afternoon's panel. We had a great discussion this morning, I thought, and looking forward to another one this afternoon.

With us this afternoon, we have Jose Delgado. He's the President and CEO of the American Transmission Company.

We The Honorable Michael Dworkin, who is the Chair with the Vermont Public Service Board.

Mark Maher, Senior Vice President, Transmission Business Line for BPA.

Laura Manz, Manager of Transmission Planning with PSE&G.

Masheed Rosenqvist -- I hope I pronounced that right, correct me if I didn't -- Director of Transmission Strategy for National Grid.

And last but not least, Steve Walton, who is now Senior Director of Government Affairs with Enron Corporation.

And as we did this morning, I'd like to start by having staff kind of frame the issues that we'd like to have addressed this afternoon. And once again, I'm going to see if I can impose on Scott to be our facilitator and try to at

1 least record what we think we can get into agreement on, and
2 I'm pleased to see we've got some western representatives on
3 this panel, so if there's anything they want to set the
4 record straight from this morning, that there's maybe
5 another version of life west of the Rockies please let us
6 know and feel free to add that in.

7 With that said, Kumar?

8 MR. AGARWAL: Thank you, Sheldon. I'm Kumar
9 Agarwal with the Office of Markets, Tariffs, and Rates. At
10 one time, transmission planning went hand-in-hand with the
11 generation planning and expansion. This is no longer true
12 today. Transmission expansion has not kept pace with the
13 load growth and increased wholesale activity.

14 For the next ten years, NERC projects that
15 approximately 6,000 miles of new transmission line will be
16 built. Today, we have about 160,000 miles of transmission
17 lines. So the projected transmission capacity addition for
18 the next ten years is less than four percent and the demand
19 is expected to grow at a rate of 1.9 percent per year for
20 the next ten years. Therefore, unless we build more
21 transmission, we will see more congestion than we see today.

22 For this afternoon's panel, I would like to pose
23 five questions. Question number one is what planning
24 process should an RTO develop to identify transmission
25 expansion and enhancement projects.

1 Question number two is who should be responsible
2 for constructing transmission facilities in an RTO,
3 transmission owners, a competitive bidding process, or
4 something else.

5 A related question is what role should merchant
6 projects play in expanding the grid? Two merchant
7 transmission projects have been announced and approved by
8 FERC. The first one is Transenergies Cross Sound Cable
9 Project, and the second one is MAPP Original Transmission
10 Systems Project to connect New Brunswick, Nova Scotia,
11 Maine, Boston, New York City, Connecticut, Long Island, and
12 New Jersey.

13 Question number three for this panel today is if
14 there's not enough transmission capacity to satisfy all
15 customers, should the Commission continue to offer the right
16 of first refusal to existing users.

17 The fourth question is who should pay for the new
18 transmission capacity.

19 And fifth question is how should transmission
20 rights to new capacity be allocated. Does this answer
21 depend on rolled-in versus incremental pricing.

22 MR. CANNON: Thank you, Kumar.

23 Short opening statements if anybody wishes to
24 honor us? Jose?

25 MR. DELGADO: I'll begin by turning my microphone

1 on. I would just very briefly would like to tell you who we
2 are and what is our perspective, which I think it will help
3 a lot to understand my comments. We are a transmission-only
4 company. In fact, January 1st, 20 some utilities did divest
5 and we own 8,600 miles of lines, 50,000 Kv and above, and
6 that we operate lines and substations and provide service to
7 everybody who's a customer.

8 Interesting is that among our owners, and people
9 who divested, are Public Power Coops and Investor-owned. As
10 a consequence, in fact, our system has sort of unified and
11 there are very, very few holes in the Swiss cheese as a
12 consequence of it.

13 Our system began having a value of \$525 million
14 and right now it's nearly \$700 million, and it has to do
15 with additional increments, both of investments that we have
16 made, besides other people who have contributed more of the
17 transmission services.

18 We have only one business. Our business is
19 transmission access. We're members of MISO. We are a for-
20 profit company. We don't have native customers, we have
21 everybody's a customer. And the moment that you have only
22 one business and you get divested away from generation and
23 load, and everybody becomes a customer, then you acquire a
24 very different point of view. And I would like to be able
25 to describe it because it has a very big impact on the

1 subject at hand, which is our ability to build.

2 We are moving our planning by customer needs, and
3 we in fact, have right now our first ten-year plan and our
4 planning I will describe very, very briefly because I don't
5 have much time.

6 But it begins very low at the root at which we
7 look at who wants to connect and who's got load growth, and
8 then from there we go to a zone. We have five zones in our
9 system and actually that's where we have public meetings, in
10 order to identify need with all users. And then we go to
11 system wide, and then we go to the region.

12 After the system wide, we do it all ourselves.
13 Up to the region, at this point we basically talk to our
14 adjacent utilities. Luckily their names are very similar,
15 Excel, Excelon, so we have no problem.

16 (Laughter.)

17 MR. DELGADO: But anyway, we try to then see what
18 happens across the border, and all of this in fact helps us
19 to identify our priorities. Very top on the priorities is
20 connecting load and generation because those folks have
21 timing. And then there's reliability and we certainly are
22 the ones who can determine that. At this point, our plan
23 for ten years is fairly thick. It's over a billion dollars
24 of investment at the rate of over \$100 million a year. We
25 began unrated, this coming year's \$110 million.

1 For a company that began at \$525 million worth of
2 assets, this is a very significant investment. I would like
3 to propose to you that as we're planning, we find that there
4 is no single purpose transmission project. And I think
5 there are some fallacies about this. The bulk of this \$1
6 billion has to do with the ability of customers who want to
7 trade through in out connecting Wisconsin. In other words,
8 there's a lot of very localized thing.

9 In addition, we're getting rid of old stuff.
10 We're right now getting rid of a line that is 70 years old,
11 not because it's old because I'm getting old and I still
12 work very well, but we're getting rid of it because in fact
13 the line cannot hold a bigger cable that we need or to be
14 able to connect it.

15 We find that a single project for us is always
16 bigger than the project for our predecessors because we have
17 a bigger view, and we find that of course we're able to
18 address it. We expect MISO to collaborate with us. We
19 expect ourselves to continue to be very customer focused
20 because in fact that's what our charter is. It is our
21 purpose to build, to build to provide service. We've
22 floated nearly \$3 million worth of bonds early this year and
23 we had a very good rating, and the bond holders want cash
24 flow, and that is what we have proposed in a settlement
25 which is in front of you, and I shouldn't talk about it.

1 But in addition, our stockholders are saying, hey
2 we need equity. We expect to go in the equity market, we
3 expect to go public. At this rate it is obvious that we
4 have a lot of organic growth to do. I'm going to tell you
5 that our original project is what I expect MISO to help us
6 with. It's not a single long line, it's in fact many
7 projects like the ones we have talked about.

8 In fact, it is by these increments, at least in
9 the Eastern interface, that original interface has expanded
10 and that we are able to close the gaps. Kevin Kelly will be
11 happy to know that I'm on the project recently approved by
12 the Commission of Wisconsin. It's from Central Wisconsin to
13 Duluth, which in fact will bypass the infamous bottleneck
14 that we have of King Eau Claire.

15 Thank you.

16 MR. CANNON: Thanks, Jose.

17 Chairman Dworkin?

18 MR. DWORKIN: Well, it's often said that we stand
19 against what we sit, so I'm going to take a minute to tell
20 you --

21 VOICES: Microphone, microphone.

22 MR. DWORKIN: And in telling you some of the
23 places where I've sat, it'll sound like a bunch of nays, but
24 in the end I think we can turn them into something positive.
25 Because I'm the Chairman of the Public Service Board of

1 Vermont, and although I'm not speaking for the Board, it
2 does shape a lot of the way I've seen the world.

3 I'm the President of the New England Conference
4 of Public Utility Commissions and I'm not speaking for
5 NHPUC, but the fact that I know something about a region
6 where one state, Maine, can't get the power that it
7 generates to people in other states who want it because there
8 are other states in between matters. The fact that New
9 England can't connect with the rest of the United States
10 because New York is in between matters. And it means that I
11 have a knowledge of a relatively tightly integrated, multi-
12 state commonly managed transmission grid that's an
13 experience that I think goes beyond what a lot of the United
14 States has.

15 Just as the experience in Vermont of having, for
16 almost half a century now, had VELCO as a commonly pooled
17 state transmission authority, gives some experience that's
18 useful in some ways. I'm the Chairman of the Environmental
19 Subcommittee of the National Association of Utility
20 Commissioners, and I'm not speaking for NAUC, not even for
21 my subcommittee, but the fact that I've spent a little bit
22 of time there listening to concerns combined with the fact
23 that I spent five years as an appellate litigator for U.S.
24 EPA many years ago, means that I have some sense of what
25 people mean when they talk about environmental siting,

1 environmental permitting, what matters in the environmental
2 process and what is at risk as you go back and forth on the
3 balance between environmental or economic issues, what
4 matters when you go back and forth on the balance between
5 state and federal activities.

6 I spend a little bit of time on EPRI's Board of
7 Advisors and get a chance to look at whether or not there's
8 a chance to actually deploy technology, facts an obvious
9 one, so that we won't be arguing about transmission capacity
10 in terms of whether an increase from 160,000 miles to
11 166,000 miles is a six percent increase in the capacity of
12 the system. Because there's an awful lot of ways of
13 increasing the capacity without increasing the miles and our
14 measure of throughput and our measure of value is going to
15 have to be reformulated in ways that aren't linear.

16 So that's a lot of nays, if you will, about
17 things that I can't speak for.

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1 What I can obviously speak for is a set of uncertainties, a
2 set of questions. I have the belief that we are engaged in
3 a vast national experiment, restructuring across the board
4 the effort to try to rely more heavily on markets in general
5 for wholesale, the effort to try to figure out what that
6 means in the most fundamental sense in a transmission world
7 where it's hard to say what a market when you don't know
8 what the asset is, you don't know who owns it, you don't
9 know how its use affects others.

10 We don't have the equivalent of a security in the
11 Securities and Exchange Commission world where the security
12 is defined by something that a registered person holds and
13 a certificate that gets transferred. We have the somewhat
14 murky world of loss of load probability that we hope never
15 occurs because we're trying to isolate the probability.

16 We have reactive problems that happen. We have
17 the secondary problems that happen on lines that aren't even
18 in use -- I'm sorry, that are in use but are not directly on
19 the transmission path between owners and producers and
20 users. We have a very murky world in which to even say what
21 it is that a market might buy and sell, and that leads to
22 vast uncertainty.

23 Yet much as I see the uncertainty, and I might in
24 an academic sense like to sit back and think about it for a
25 few decades, I recognize that we don't have that option.

1 There is supply that could ease somebody's demand. There
2 are demand options that may be put in place that would avoid
3 the need for a transmission expansion. There are very real
4 world issues that we need to get answers on quite quickly,
5 and we need to have a decisionmaking process in place for
6 who decides, how it's decided.

7 I have some experience with joint boards on the
8 FCC side when I represented states and was a member of a
9 federal-state joint board. I see some value there, although
10 I know it's usually been regarded as anathema by FERC. And
11 yet when I think that there are problems bigger than any
12 state, and yet ones that require more immediate local
13 knowledge than, with all the deference and respect I can
14 have for FERC and its staff, more than you have, I think
15 that there needs to be a measure that takes advantage of
16 local knowledge at the same time that it has a federal role
17 and something that brings the two bodies together on some of
18 that decisionmaking. It starts looking an awful lot like a
19 joint board when you go forward.

20 I have a fundamental belief at the end that when
21 we're talking about what -- in the ISO's characterization of
22 the evidence from EEO and NARC is talking about \$56 billion
23 worth of investment in the next decade -- that we cannot get
24 by with just the assumption that, oh, it's only two or three
25 percent of the delivered cost of power, and we're sure that

1 in some way it'll reduce the cost of supply resources, so
2 let's just build it.

3 That amount of money is real money. Where it is
4 spent, how it is built has effects that go beyond its own
5 dollar cost because it influences the siting of generation,
6 it influences the kind of generation, and it influences the
7 balance between generation and end-use efficiency.

8 We need to come up with a meaningful process that
9 has that done, and I want to talk a little bit later about
10 how such a planning process might work and what its time
11 horizon should be. But I don't think we can let it go
12 forward as something which happens as a subsector of one
13 submarket without a test against the alternatives in the
14 larger world.

15 MR. CANNON: Thank you very much. Mark?

16 MR. MAHER: Good afternoon. My name is Mark
17 Maher and I head up the Transmission Business Line for
18 Bonneville Power. Bonneville Power is a federal power
19 marketing agency for folks that are familiar with us. We
20 have a fairly expansive scope. The geography that we cover
21 includes the states of Washington, Oregon, Idaho, Western
22 Montana, a bit of Wyoming and a bit of Northern California.

23 We have approximately 350 customers that operate
24 in 500 contracts and implement about 2,500 schedules a day,
25 transmission schedules. We're centrally located within the

1 Northwest, and as such, we interconnect the generators which
2 are typically on the east side of our system and wheel to
3 our load which is typically on the west side of the system.

4 We operate interties to the east that brings in
5 coal from Montana and Wyoming. We have a series of
6 interties with California, one DC and two ACs. We
7 interconnect with British Columbia mainly to the north.

8 As I said, we're primarily a hydro system. And
9 I'd like to add a comment about the discussion that occurred
10 this morning. I'm sorry I was not here for that. But I
11 would ask that the Commission leave room for some
12 differences in the West from that that's developing in PJMs,
13 on LMP. Because we are a hydro-based system primarily, it's
14 very difficult to price hydro because of the nonpower uses
15 of hydro and the seasonality of those uses. And I'm
16 speaking of fish. Fish protection is primary in the
17 Northwest. We also have flood control, navigation,
18 recreation concerns.

19 We also, as I mentioned, have generators long
20 distances from loads. And parts of the system are very
21 radial, so it may not be a good fit for LMP.

22 We are in the midst of developing our congestion
23 management for RTO West, and I'm here speaking for
24 Bonneville, not for RTO West. So while that's developing,
25 I'm sure that you've all heard that we have a process where

1 we're trying to reach consensus amongst all parties, all
2 stakeholders. And hopefully we'll be able to report to you
3 on that fairly soon.

4 BPA has been active in RTO West with all the
5 filings that have been made to date. We see probably the
6 most potential out of the eight or nine functions that
7 you've put forward to us in planning. Planning offers the
8 opportunity to gain a lot of benefits for our citizens in
9 the Northwest. If it's done right, we can provide better
10 reliability, least cost solutions and eliminate barriers to
11 trade. These are all issues that you know about. Also,
12 this should result in lower delivered cost of power to our
13 customers.

14 The message that I'd like to leave with you today
15 is that as we develop our RTO, we will not have all the
16 answers on planning, and we intend to have independent board
17 operating. And we'd like that board to have lots of degrees
18 of freedom to evolve the RTO through time as issues develop.

19
20 And on planning, we also do not want folks
21 handcuffed going in. We believe that the RTO must have
22 ultimate planning authority to compel solutions if all the
23 other avenues fail. We want to facilitate a market, and
24 market solutions to address the transmission congestion
25 needs for the expansion, but we feel that the RTO needs to

1 have a strong centralized planning function that's forward
2 looking, identifying problems, bringing them to an open
3 fishbowl-type planning, involve the states.

4 States are critically important for the investor-
5 owned, as they point out to me all the time. They need the
6 state commission buy-in to be able to pass any sort of costs
7 onto them.

8 So that's the avenue that we're on in developing
9 our planning functions on RTO West, and I think I'll stop
10 there and we can address the rest of it later.

11 MR. CANNON: Thanks, Mark. Ms. Manz?

12 MS. MANZ: Hi. I'm Laura Manz. I work for
13 PSE&G. We're one of the transmission-owning companies
14 inside the PJM interconnection. And my background has been
15 practically the whole time around PJM. I started in the
16 power plants, worked in a power plant, done generator
17 bidding, done energy accounting.

18 I did a stint as a system operator keeping the
19 lights on. And after that I moved on to work on retail
20 choice, building the infrastructure. We implemented retail
21 choice in New Jersey in 1999. And I'm now working in the
22 transmission planning area. So I've been sort of
23 coordinating and interfacing with PJM for longer than I want
24 to go on the record.

25 So my message is really that to the point that

1 was made, I don't think all the aspects of planning are
2 disconnected in the way that we may think. And one of the
3 things I think we can do is embrace sort of market-driven
4 expansion planning. It may be an idea whose time has come.
5 And we've heard an awful lot over the past two days about
6 location marginal pricing.

7 We heard from Chairman Wood that he wanted to
8 know about getting the rules right, and I think that's where
9 we start. We start with getting the rules right. That
10 means getting the prices right. That means to me signals
11 for market-driven investment, and that's the underlying
12 foundation for your planning process. To me, that starts
13 with locational marginal pricing with fixed transmission
14 rights, which gives you the short-term and the long-term
15 signals about where to invest.

16 In that world of locational marginal pricing,
17 transmission, generation and demand-side are all competitors
18 to congestion solutions. So you may have generation
19 locating in a high-cost area. You can look at the
20 difference in prices between any two nodes, and that's your
21 spot value for transmission. You can look at FTRs over the
22 long haul, maybe over a one-year period to see where people
23 would like to invest in transmission rights. And so all the
24 signals are there.

25 The important point I think on this is to make

1 sure that any one of those competitors don't have a special
2 advantage over the other. And that's the point in doing all
3 this through the pricing and making sure that all the
4 signals are transparent to the market so any investor can
5 come along with a solution to an expansion or congestion
6 problem.

7 With all of that said, I do believe that you need
8 an RTO to run the central planning process. That's an
9 absolutely necessary function. But the difference is that
10 the RTO itself doesn't push the solutions. It sits back and
11 it has the market solutions come to it, and those are the
12 first things that get incorporated into the planning
13 process.

14 If the pricing is right, you don't need command
15 and control. You don't need the side payments to have
16 generators locate in the right area. You don't need any
17 restraints on the market saying, sorry, you can't build
18 here, and you don't need deep upgrades to make sure
19 generators can get where they need to go. The pricing will
20 already indicate where that's valuable.

21 Another point we heard is why is this good for
22 customers? Well, it's good for customers because the risk
23 is then in the market investors and not put on the consumers
24 to bear the risk of the investment. And so we now have all
25 of these pieces in place that the market signals are driving

1 the market investment and that's where the risk is.

2 I don't want to go so far to say we can do this
3 all through a market. I do believe there needs to be a
4 regulatory backstop somehow through the RTO. And so for
5 those pieces, and hopefully that's the leftover piece of the
6 investment that needs to be made in the expansion of the
7 grid, that that can be done through the leftovers and not as
8 the primary driver of where we go with grid expansion. And
9 to the degree those costs need to be allocated, they can be
10 allocated through the backstop process.

11 And my closing point is that PJM has a regional
12 transmission expansion planning process. The process has
13 worked very well. It's a stakeholder process so all parties
14 can come in and sort of examine what's going on with the
15 regional transmission expansion plan and offer their
16 comments on the plan. So it's a very participative process.
17 And we think that's worked very well for the PJM region.

18 We have seen generators in the early queues
19 locate where the prices are high. Congestion pricing has
20 shown that's where value is, so the generators who want to
21 make profit go there. And we think it's been very
22 successful so far.

23 Thank you.

24 MR. CANNON: Thank you. Ms. Rosenqvist?

25 MS. ROSENQVIST: Thank you. My background is in

1 engineering. I started as a transmission planner, did that
2 for about eight or nine years and moved on to tariffs and
3 rates and basically regulatory policy.

4 What I heard this morning discussed was focused
5 on how to price congestion and how to hedge against it. I
6 hope this afternoon we all get a chance to talk about how to
7 actually manage congestion and to try to expand the size of
8 the markets by managing it, not by debating over how to
9 allocate it.

10 Planning and expansion has been a contentious
11 issue, at least in New England, because there were two
12 schools of thought on planning process. There are those who
13 believe that planning should be left to the markets. If you
14 go to an open market, the market solutions will take care of
15 it. And then there are those who firmly believe that you
16 can't rely on the market to respond to all of the system and
17 customer's needs and to ensure reliability.

18 To date, the Commission has not spoken with one
19 voice on these issues. On the one hand, the Commission
20 required that RTOs to be in charge of transmission planning
21 and to ensure the congestion is managed and sufficient
22 transmission is built that the size of the markets are
23 broad, that the markets are connected that a free trade
24 could take place. Yet at the same time, some believe that
25 the Commission has said that new transmission projects must

1 compete with generation rather than to accommodate it or
2 complement it, to move to a larger market.

3 Therefore, the industry is left with a series of
4 questions, some of them you asked at the beginning of the
5 session, and some other ones I have that I'd like to ask.
6 For example, how will the developers of new transmission,
7 whether they're merchant or regulated are compensated? How
8 does merchant transmission that sells physical rights or
9 even financial rights, how does that reconcile with the no
10 pancaking rules in the RTO?

11 How will the participants have the options to see
12 new transmission built and to have the option of buying new
13 rights over facilities that may or may not be in the central
14 planning process?

15 And another question that you raised about
16 whether the transmission projects should be open to RFPs or
17 not. And if they are open to RFPs, is the Commission moving
18 towards market-based rates for transmission? And if that's
19 the case, why should anybody remain as a backstop for
20 transmission anymore?

21 And then we go downhill from that point on. And
22 basically to settle these issues, I have a proposal for the
23 transmission planning process that may address some, maybe
24 most of the issues that were raised. I think there will be
25 a couple of questions that are still left that I'd like to

1 ask how to resolve it, because we're also working in our
2 regions to form a larger RTO, and we're struggling through
3 some of these questions.

4 I'm going to end it right here.

5 MR. CANNON: Thank you. Steve?

6 MR. WALTON: I'm Steve Walton with Enron. My
7 background and my career has been divided about in equal
8 parts between transmission planning, rate of return revenue
9 requirements kind of activity, and then transmission open
10 access.

11 There's a lot of commonality with some of the
12 others here on the panel in terms of that background. A
13 primary issue that seems to me that needs to be taken care
14 for an expansion of the system to take place is the
15 structure of the industry needs to be settled. We've been
16 at this RTO, ISO, transco discussion for at least seven
17 years of my career, and I sat on a panel with Commissioner
18 Massey three years ago in Houston and I asked the question,
19 we've got five ISOs in place. Can we get any more formed
20 that weren't formed under either FERC or state pressure?
21 And so far, that hasn't happened.

22 So I think that's a prerequisite. We have to
23 settle the matter, because as long as it remains uncertain
24 what the industry looks like, then it becomes a high degree
25 of risk for someone to invest substantial sums of money,

1 especially in long distance transmission that you get in the
2 West to move, say, coal resources various places.

3 The second issue is I think that we need to
4 tightly define property rights. Now the discussion this
5 morning about FGRs and FTRs was all around really about what
6 is the property right. Unfortunately, to date, most of the
7 property rights have been defined in a rather short term
8 period. The longest I am aware of right now for those
9 instruments is the five years that they've done in New York.
10 Most of the time, like in California, it's only for a year.
11 If the long-term right you get for building is only for a
12 year, what do you get for year after year after year?

13 And since you have to invest substantial amount
14 of money, it's my view that you really have to make a
15 forward sale of the capacity of that transmission system.
16 That is, that you have people committed to pay for it,
17 whether it's through a subscription process or committed to
18 charge it to access fees before you put the money into it.
19 You have to know what the process is going to be. And so if
20 you don't have a defined forward right that you can rely on,
21 then it seems to be very difficult to make a forward sale of
22 that capacity.

23 Basically what would happen then is the party
24 funding the investment is saying I think that I want to
25 reduce my cost, price differential between two points. I

1 will invest this much money to get that, and you build it
2 for me. Then the property right when given to them probably
3 doesn't produce any revenue initially, but it does protect
4 them when the system recongests later on and you have to
5 have that kind of a definition.

6 Now having spent all morning listening to the
7 discussion on congestion management, I am concerned when
8 people start talking about just putting things into the rate
9 base and simply building everything. Of course the problem
10 is that every transmission project is not clean. And it's
11 very difficult to sort out which part is the long-distance
12 capacity, which one is the local benefit, should I do this
13 for this reason or that reason?

14 So most of those can only be solved on a case-
15 specific basis. So I think one of the key issues, another
16 key issue that needs to be in the planning process is some
17 sort of decisionmaking process that allows you to be able to
18 go in and make those issues. Now Mark clearly described and
19 Laura as well the sort of bring the ideas to us, we'll check
20 them and test them out, try them out, put out information.
21 That's fine. But sooner or later you're going to run into a
22 situation.

23 And here's the for instance. The parties who
24 want to build want to build a 138 kV line over a right of
25 way that's restricted. You know you'll never go through

1 there again because you can't get through the canyon lands
2 in Southern Utah or some other place. So what you really
3 ought to do is build a 345 kV line, but that costs 3.5, four
4 times more. So the right thing to do is to build the high
5 voltage line, but the only need the people are willing to
6 pay for right now is the low voltage line. Should you then
7 invest that additional money, pool the cost of that among
8 the RTO owners? And if you do that, how do you allocate
9 that cost?

10 So there is no simple answer to that. It has to
11 be a case-specific evaluation, which means that the planning
12 process has to include some way to have an
13 arbitration/decisionmaking process, some way to adjudicate
14 that, have the RTO make a decision appealable to this
15 Commission for final resolution.

16 So I think that then the structure of the
17 industry needs to be settled, that we need a clear
18 definition of property rights that allows us to use market
19 efforts, and we need some way to settle these matters
20 expeditiously as we go forward in time.

21 MR. CANNON: Thank you, Steve. Kevin?

22 MR. KELLY: I have a question for Steve and Jose,
23 but others are welcome to comment. Steve, you've just
24 finished outlining some of the problems of inducing
25 investment in transmission and I won't repeat them. You did

1 a good job.

2 But two possible other problems that an ISO-type
3 RTO might have -- and comment if you think this is true or
4 not -- is that many of the holders of firm transmission
5 rights get congestion rentals. And as any monopolist, they
6 wouldn't want to lose those. In a sense, it's charging
7 monopoly rents, and they have an incentive to maintain
8 congestion. And those folks may wear one hat when they're
9 voting on congestion rights, but if an ISO has a planning
10 committee, the same folks walk over and sit on the planning
11 committee and have an opportunity to vote against expanding
12 the system.

13 And then some of the generators in the area who
14 arguably, you know, may not have that same incentive, may
15 feel that if they vote for expansion, what they're doing is
16 diluting market share. They have a local monopoly, and by
17 building bridges to neighbors, their 80 percent market share
18 may go to 40 percent market share over time, and that gives
19 them an incentive not to do it.

20 And the question in part is, is that inherent in
21 an ISO compared to -- and I heard Jose speak. He said he
22 started as a \$500 million company and is up near \$1 billion
23 now and is soon going to \$1.5 billion. If we didn't have
24 restrictions in investments in utilities, you know, you'd
25 take all your money out of technology stocks and put it into

1 Jose's company.

2 (Laughter.)

3 MR. WALTON: The return would be better.

4 MR. KELLY: That seems to be a different model of
5 how you get things done instead of working through
6 stakeholder committees, a transco-like organization is just
7 out building. So comments from Steve and Jose on whether
8 I'm missing the point in that analysis and others if they
9 care to chime in.

10 MR. DELGADO: I think the point is very good.
11 Sometimes, listening to the conversation this morning you
12 get the impression that the purpose of competition is to
13 protect the competitor, and that's not the case. The
14 purpose of competition is to protect the buyer.

15 I know every time I remove congestion there are
16 losers and winners, okay. And yet I'm indifferent to it
17 because I am a transmission-only company, all right, and I
18 do not participate in those wins and losses.

19 The process that we have is public and iterative.
20 By iterative, it means that there is no simple solution to
21 everything. There's no single solution to everything, and
22 everything we do has multiple reasons. And incidentally,
23 there has now come a time when we have a hard time getting
24 enough labor to build everything we have to build. So there
25 are limitations to what we can do, okay. But from our

1 perspective, we see the Midwest ISO as an assistant to us in
2 providing service to our customers to help us to integrate
3 the whole regional opportunities and possibilities in
4 planning.

5 But it begins at the grassroots. If you don't
6 begin at the grassroots -- you know, I heard about
7 centralized planning, but the Soviet Union couldn't make it
8 work. I don't think we're going to make it work either,
9 okay.

10 It is important to start right at the grassroots.
11 You've got to start with the people who are going to say, I
12 want service. And there's a lot of conversation that misses
13 that point. The point is somebody needs service. They want
14 to connect somebody, they want to move some load. It could
15 be a large marketer, a small marketer, a big distribution
16 owned by investors or a small company that is a muni or a
17 coop. To me they all look very similar. I aggregate their
18 needs and try to find the best solution to the thing. And
19 this is our business, okay. And we invest.

20 And if in fact as a consequence of doing this we
21 eliminate congestion and we reduce losses in the system,
22 well, hallelujah, brother. This is our way of doing it.
23 And we think that ultimately helps competition. The
24 competitors may lose a buck or two, but that's the way she
25 goes, okay.

1 Besides, being in public, if I'm truly--if in
2 fact the project is not needed, which is the other aspect of
3 it; there's a great need to build--the question is: Are we
4 going to build too much?

5 Well, first of all, you can't help but to build
6 too much. Transmission comes in big lumps. Luckily, you
7 have built so much because since we haven't built for a long
8 time, we would have sunk a long time ago, okay. So let's
9 put it straight. It comes in big lumps. There's just no
10 way to do it.

11 But are we going to build too much? It takes so
12 long to build transmission. We put it out there. If the
13 need goes away, we don't build it. So are there other means
14 of meeting the need? Yes, but they're not my business. My
15 business is defining the need. If the need is still there
16 when I have to build it, I will build it. And remember, I
17 have to stay ahead of load growth.

18 Now if you find a different way of doing it, I
19 won't build it. But if in fact the load growth is there and
20 I don't have the transmission to do it, there is hell to be
21 paid. And I don't intend to be there. That's an easy way
22 of getting a one-way ticket out of Milwaukee, and I don't
23 intend to do that, okay.

24 (Laughter.)

25 MR. DELGADO: So this is what is driving our

1 planning process. And we expect MISO to help us with that.
2 We absolutely do not expect, and we would object if MISO
3 were to interrupt our ability to meet customer needs, and it
4 begins locally. And even the original projects are a bunch
5 of local projects, because it's like you say with politics,
6 it's always local. Transmission is always local.

7 If we find the ability to meet original needs by
8 taking care of local needs, we also improve the ability to
9 convince the public that in fact it's needed. And
10 regardless of what you do with preemption on the FERC level,
11 you're going to have to meet the public and convince them
12 this is a good idea, and we have done a lousy job in the
13 past. And that's not where we're going to go. We're going
14 to have to do a better job. I intend to be very close to
15 the grassroots. Does that answer your question?

16 MR. WALTON: I agree with some of the things that
17 Jose said. I guess when I look at this transmission
18 planning process, it's never really made a lot of sense to
19 me, particularly for an ISO to be in the situation of making
20 the decision about what gets built necessarily. As a
21 backstop matter, and that's why I brought up this issue of
22 the way to make those decisions, backstop kind of decisions,
23 there's a local component to transmission that I think we've
24 been using in RTO West the language of adequacy. You have
25 to have a certain level of adequacy, and that probably just

1 gets built and is put into rates.

2 There are several different ways to do that. We
3 in the old Indigo proposal, we had a method call area
4 planning where all the properties were involved. RTO West
5 is relying on the current owners to do that, but that's the
6 local issue.

7 But when you start talking about the long
8 distance stuff, then, yes, there are situations where
9 there's a price spread or a congestion in between the two
10 that creates a price spread. And when that happens, then
11 the people who -- that seems like an ideal location to get
12 the people who would benefit from that reduction in the
13 spread to fund the reduction. And anybody who wants to fund
14 that or put forward a project ought to be allowed to build
15 it as long as it does no harm to system reliability. As
16 long as the rating is appropriate and so on that is
17 appropriate.

18 So the planning process for the RTO is a matter
19 of providing information to the customers, providing
20 information to the generators, to all the users of the
21 system about where congestion is, where they think it might
22 happen, what's going to happen. Then as proposals come
23 forward, as people bring their proposals in and want to
24 build them, they should be allowed to build them. I've seen
25 proposals where only the current owner is allowed to build

1 in a given territory where they have a right of first
2 refusal. I think that goes downhill quickly, because that
3 party may in fact have a vested interest in things staying
4 the way they are. You cited two examples of that. And
5 whether it's congestion rents or whether it's indirectly
6 because of dollar value generation.

7 So you need to have people be able to -- one of
8 the questions that Kumar asked, you have to let other people
9 build on the system. And when you do that, if they can
10 bring forward a project that doesn't do any harm and you
11 test that out, then they bear the responsibility to get any
12 right of way and doing all of those other things.

13 In terms of that, then that brings up the natural
14 consequences of putting this in place, how are you going to
15 get the right of eminent domain to do that? And at least in
16 two different inversions in the Northwest, we've written
17 language into the RTO operating agreements that would
18 require the original party to make their efforts to use
19 their eminent domain rights as a utility to help create this
20 new line. Because there's eminent domain status is
21 different in every state. So that way that was resolved.

22 But I do think that you need to be able to let
23 people who want to spend the money to buy down their cost of
24 energy, spend the money, whether it's the generator who
25 wants to make delivery from Wyoming into California, or a

1 load in California that wants better access to energy in
2 Arizona.

3 MS. MANZ: May I take a turn on this? I want to
4 go back and talk just for a moment about FTRs and what they
5 are. FTRs are a financial representation, if you will, of
6 the room on the power grid. It's the room of the
7 transmission asset. And so what we're doing is saying,
8 okay, we're going to take the room on the transmission
9 system and we're going to convert it into a tradable
10 product. We call these FTRs. So these FTRs, which
11 represent the room on the system, could actually exist for
12 the life of the asset, the life of the transmission system.

13 And so it can be a market rule wherever you are
14 to say, well, these FTRs are good for whatever the life of
15 the asset is. Pick it. Fifteen, 30 years, however that
16 group decides.

17 And then the next question is, do we have a
18 mechanism for these financial rights to get to the people
19 that value the most? And so one of the things we've seen in
20 the areas that have FTRs, Financial Transmission Rights, is
21 the value of an auction. The value of being able to
22 reallocate -- I think we heard about this this morning. To
23 make sure that those who value those transmission rights can
24 actually go buy them from somebody who may not value them as
25 much. And so that's an important piece of the FTR mystique

1 if you will.

2 There's more than one way to get more room on the
3 transmission system. And so what we may see is a generator
4 who's in a constrained off area, which means they don't have
5 a market to sell to. In locational marginal pricing, that's
6 what happens. You're in a low cost area. You don't get to
7 run, because we're doing a security constrained dispatch,
8 which means you're constrained off. So that generator may
9 have a reason to want to build a pathway if you will, build
10 more room on the transmission system to get to a market
11 where they could sell more product more often.

12 And so it's perfectly reasonable for whoever
13 upgraded the system to make more room to get the value of
14 those assets. They get it in two ways. They get it first
15 of all because they've now accessed a market they didn't have
16 access to before. And they get it in another way, which is
17 if that path becomes congested, they still have financial
18 entitlement to the room they built in the first place. And
19 so that's how those FTRs I think can work in many
20 directions, not only for the transmission owners but for the
21 generators and consumers as well. If they're in a high cost
22 area, they might want to build a pathway into a lower cost
23 market.

24 So I think this can all work together.

25 MR. CANNON: Mark, go ahead. And then Jose

1 wanted to make a comment.

2 MR. MAHER: Okay. I'd just like to add that
3 there are non-transmission alternatives to the solution
4 also. And when I spoke of centralized planning, I was
5 talking about centralized facilitation of planning. I think
6 there needs to be a strong role for the RTO to be forward
7 looking with a planning staff. It does not preclude the
8 other utilities from carrying their own planners, from
9 marketers coming in with solutions, with others coming in
10 with solutions also.

11 But I think it's imperative that an RTO also
12 assure that we're looking at nonbuilding alternatives like
13 conservation, demand-side management also get into the mix.
14 Also some consideration perhaps for renewables needs to be
15 integrated in. In a lot of cases, that's not cost
16 effective.

17 I also think that the RTO should look at the mix
18 of resources that are available. All new resources going in
19 in the Northwest are gas resources. And they're going in
20 locations where areas are congested. We have a congested
21 system in the Northwest. And it's easy I think to talk
22 about room on the system, but we don't have room on the
23 system. We need to start out looking at building.
24 Bonneville is in a program of trying to build 700 miles of
25 500 kV transmission as we speak, and it's not easy to build

1 transmission. Our first line we're trying to build to
2 reinforce around the city of Seattle is going through their
3 watershed. And we're going to get into every one of those
4 kinds of issues as we built transmission. So we need to
5 look for non-transmission alternatives also.

6 MR. KELLY: Just a quick follow-up. You were
7 talking about taking into account generation alternatives,
8 DSM alternatives and other. It reminded me of Jose earlier
9 talking about how he takes those other things into account
10 because they compete against him. If he overinvests, he
11 will lose, and if he underinvests he'll be criticized.
12 Whereas the process you described seems to be more of a
13 social central planning process where various groups of
14 stakeholders decide whether to build transmission or invest
15 in DSM or generation. Is that inherently less efficient
16 that the process Jose articulated?

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1 MR. MAHER: I can't really speak to the
2 efficiency of that, Kevin, but you need a process, and I'm
3 talking about an open process where all participants can
4 enter into, and you're open to other alternatives other than
5 just the transmission build alternative.

6 Now is that more efficient? Well, what are your
7 considerations? Is it just the market considerations, are
8 there environmental considerations, other aspects to it, so
9 that's why it's hard for me to just address efficiency.

10 MR. CANNON: Can I have just another follow-up on
11 that because I'm hearing almost across the board this
12 morning and here that RTOs ought to set up processes so that
13 whatever the least cost best societal solution is to a
14 particular constraint can be built; if it's new
15 transmission, if its generation, if its a demand side
16 response, whatever.

17 By I heard Ms. Manz say earlier that that doesn't
18 entail having some sort of sidebar contract or some sort of
19 add on and I'd like to get some sense across the panel of
20 when would it be appropriate for an RTO if the best solution
21 is generation and they need to pay some premium. The had
22 the generation located in a place which is particularly
23 advantageous to the system, when would it be appropriate to
24 include that extra contractual cost in a transmission rate,
25 or should it be something we just never allow.

1 MS. MANZ: Well, I have a response to that. It
2 gets back to the efficiency. I want to address that because
3 the question is are the engineers, and I happen to love
4 engineers, they're a great bunch of people and love
5 efficiency, so the question is, can they do efficient job
6 planning? Sure they can.

7 The question is, are you going to leave this to
8 the engineers to do, or will you allow the market to do it,
9 and that's why the pricing signals are so important because
10 what we're doing through the pricing under this nodal
11 pricing scheme is we're actually pricing the physics that
12 all the engineers deal with on a daily basis.

13 And what we're doing is we're allowing the
14 business people to observe the physics through the market
15 prices, so you may get identical efficiency in either
16 solution. I don't want to say anybody's going to do a
17 better or worse job. The question is, how many participants
18 can you gather, and once you start letting the pricing, you
19 know, represent the physics, you can have business people
20 involved that don't need their electrical engineer on their
21 arm to say, yeah, this might be a good place to invest, so
22 it's driven through the pricing signals.

23 MR. DELGADO: Sheldon, I think part of the answer
24 is luckily, we do not need, and that sounds to me like
25 another layer of regulation. On one aspect, transmission is

1 the longest thing, that it takes longest to build if you get
2 plenty of room for people to implement generation on demand
3 side. In other words, totally open to distribute generation
4 on demand side. In fact right now we're trying to get
5 demand side available for redispatch, okay, and we have used
6 it for that purpose in our system because we think it's a
7 very economic best way of doing it.

8 The other thing is that every project that we
9 have has a regulatory process to look at the certificate of
10 necessity and convenience. And I think it's a very
11 appropriate place for the people that have alternatives to
12 meet the solution to come up and express themselves. The
13 advantage of a process like that is open and it's on the
14 record, and in fact the different components can come
15 together.

16 There's a lot of promises about demand side and a
17 lot of promises about generation, and frankly, from my
18 perspective, not a lot of delivery. I think it is a serious
19 mistake to put those in transmission rates. I think that in
20 fact, that'll skew what appears to be the market. I don't
21 know. My impression as a lawyer is it was going that way.
22 That in fact it is better for the market. There's a market
23 for these things.

24 And the state regulators who do have a role to
25 play in here can in fact impose that, it appears to be state

1 policy, on the distribution utilities. Okay. So there's a
2 whole variety of ways, regulatory and commercial, that these
3 things can work. The point is that when it comes time to
4 bring transmission -- when I said build transmission, please
5 don't think that I'm all I'm doing is putting sticks in the
6 mud and stringing wire between them. The fact is it is
7 mostly transmission substation work. Most transfer
8 capability opening is removing limiters and a limiter
9 sometimes is a wire inside a substation or a breaker or a CT
10 or something like that.

11 So we do a lot of work, okay, that in fact is
12 transmission expansion which doesn't exactly require right-
13 of-way, but the fact is that when it comes to the point of
14 transmission that's basic infrastructure, you don't dare to
15 fall behind.

16 Now states are interested very much so in knowing
17 this because they have to do an energy supply within the
18 state and such a thing is in fact implicated with public
19 policy of the state. Our interest is working with them so
20 they realize if they're going to develop any aid to the
21 state, they're going to have to give us access to it.

22 We would like to see right-of-way decided ahead
23 of time, even before we need it. We would like to see it
24 even get proactive by working with the states and the state
25 commissions and everybody. We do need help across states.

1 A lot of the projects that this country needs right now are
2 across state lines, and there's no single process to do that
3 today. And we have challenged the state commissions with
4 this. For the last three years, I've been going to NARUC
5 meetings and challenging them and it is a complicated
6 matter. So we're going to have to find solutions is the
7 point I'm making. I think it's a serious mistake to put
8 them in generation. I think you complicate the whole
9 driver's seat.

10 If you are making me build generation, which is
11 Wisconsin at least I cannot do by the state law, I think
12 you're complicating my business plan tremendously. I will
13 support any generator by anybody, demand side, no problem.
14 Don't make me pay for it.

15 MS. ROSENQVIST: If I could just add to that. I
16 asked for a chance to talk about a model that I had in mind,
17 and I agree with Jose that generators and demand side
18 management have plenty of time and opportunities to come to
19 the right places. RTO's job should be to give them the
20 signal of where the right places are. And I think that is
21 the piece that's missing today.

22 This morning we heard Commissioner Brockway talk
23 about limits in Boston. My analysis shows that there won't
24 be much of limits in Boston because of some of the actions
25 that have taken place in the recent past or are taking place

1 in the very near future. That is information I have that no
2 one else might have because they haven't analyzed like the
3 way I have.

4 And I'd like to talk about a process that starts
5 from the beginning, takes the demand, takes the generation
6 for gas, and I look forward looking because everything we
7 heard this morning was talking about the situation in the
8 past, near past, but it was still in the past, that my
9 analysis shows may not be valid anymore. And you mentioned
10 this morning about taking a list of top ten congestion
11 interfaces. I'd like to compare mine with yours and see if
12 we have the same answers.

13 Because I have done, at least in New England and
14 New York, I've done some analysis forward-looking that I'd
15 like to compare. But the job of the RTO ought to be to put
16 this information in the market so the market can decide
17 where are the good places for generation, where are the
18 prime places for demand side management. Where are
19 opportunities for merchant transmission if that's where they
20 want to go. But give this information.

21 Actually, another thing that would come out of it
22 is people can decide how much FCRs or FDRs are worth in the
23 future market, and that could then decide whether they want
24 to go and play in the auction or not.

25 But this is a series of information that the RTOs

1 may have that the market participants don't, or don't have
2 the technology of it or the hardware or software of it to
3 analyze. It's a service RTO must provide that doesn't exist
4 today.

5 If you go from that assessment phase and
6 basically publish all of this information to the market, the
7 market can decide where to buy FCRs, where to locate
8 generation, where to focus on demand side management, where
9 to build transmission, merchant transmission, and therefore
10 you answer yourself, why do we need a competitive
11 solicitation for the backstop anymore. And the answer is,
12 you don't because you've given plenty of opportunity to
13 market to respond but you do need a backstop just to ensure
14 that if the market chose not to respond, somebody is
15 responding and keeping the lights on, or at least keeping
16 the economics down to a reasonable rate.

17 But that proposal is just that. Provide
18 sufficient information to the markets and decide, but let
19 the transmission owners, through the RTO, or if the RTO is a
20 transco and owns transmission, build it as a backstop. But
21 in that process, as they analyze it, they must consider the
22 impact of announced generation, merchant transmission,
23 demand side management, so that they give the most updated
24 view of what the market looks like to the market
25 participants to make that decision.

1 And if you move on with that process, actually I
2 think you may deal with the dispute resolution already
3 because there is no dispute to resolve anymore, it's just a
4 backstop and you have dealt with a who-builds decision,
5 you've dealt with the role of merchant transmission. I
6 think the state commission needs to answer whether, if you
7 have merchant transmission, you still have to deal with a
8 non-pancaking role. I'd like to hear some discussions on
9 that and how you plan to deal with it because we are
10 struggling with that one issue.

11 But I think the planning process itself can
12 answer some of the fundamental questions that you've asked
13 if you set it up right.

14 MS. MANZ: Yes. I would just like to echo that
15 that's very similar to the regional transmission expansion
16 plan in PJM and we think it's proven itself to be very
17 successful.

18 MR. DWORKIN: Maybe I could toss a few thoughts
19 in here. One is that there's much that I hear that I agree
20 with, which is that there seems to be a major recognition
21 that it's valuable to have somebody, the RTO is the most
22 likely body, that compiles and presents in a rational,
23 accessible, almost neutral way, a lot of information about
24 where there physically are constraints and, as best as it
25 can, some economic statement of the value of those

1 constraints through some version of financial congestion
2 rights.

3 To be blunt, I am bewildered to understand some
4 of what I've heard here, which is the statement of, let's
5 just leave it to the market, at the same time that I hear a
6 reliance upon eminent domain. Those two things don't fit.
7 You can't say, as I hear said, allow us to do this when the
8 vocabulary of allow us to do this means force some private
9 landowner to accept it at a price that they don't feel like
10 accepting. Those two things don't fit.

11 And when you're talking about a pure merchant
12 solution, in which it's all voluntary -- you're not asking
13 landowners, you're not asking building owners, you're not
14 asking state right-of-way people to give you anything they
15 don't want to -- then you can talk about just let the market
16 do it. But as soon as you find that you've built 958 of
17 your 960 mile line, and somebody owns two miles at the end
18 that they don't want to sell, and you want to take it at a
19 value that represents something less than they want to
20 charge, then you're out of that world.

21 You've got a fundamental issue here which goes to
22 the heart of what was said by, well the states will review
23 it later. The fact is that almost every state has a statute
24 that says something like, the right to eminent domain will
25 be granted if and only if there is no lower cost alternative

1 that will meet the need through either efficiency or
2 generation or some other form within the same time frame.
3 Those states have to make that decision to say yes or no
4 about whether or not to allow the siting.

5 If FERC takes over and preempts it, FERC will
6 have to make that decision, and in making it, it will be
7 making a mandatory, governmental exercise of power that is
8 not a market decision.

9 The other part of it is that there's an
10 extraordinary amount of common goods associated with a
11 transmission upgrade. When you put a line between point A
12 and point B, and generator A and demand source B, they carry
13 on it, but not only do they have an effect, they influence
14 every other line for hundreds of miles around. And when
15 that line is upgraded, it may be because A wants to sell twice
16 as much to B, but the upgrade reduces the line losses for
17 people for hundreds of miles around.

18 I spent a fascinating year-and-a-half as the
19 mediator of a seven-utility dispute about who would pay for
20 an upgrade that two utilities wanted for reliability
21 reasons, but that was going to have line losses of
22 equivalent value for five other utilities. Who would pay?
23 The owner? The party who would be at the end who wanted it?
24 The party who would be owning the land in between? The
25 allocation issues are issues that are not readily

1 susceptible to a simple market price. In many ways, this is
2 a common good, and common goods need to have common
3 allocations and common recoveries.

4 I'm not an advocate of postage stamp pricing. I
5 think we need locational pricing to show where the
6 constraints are, to signal where the investment goes, but I
7 think that to simply say, let the market do describes a
8 hypothesis rather than a reality.

9 As it stands, if you want the investment to come
10 in, the investment either needs an assurance that it will be
11 able to get the land that it wants or it needs an
12 extraordinarily high risk premium for the fact that it may
13 not get the land that it wants.

14 And we can get away with that in many local
15 areas. We can get away with one project or another. But
16 for the fundamentals of what we're doing, we're still
17 thinking about taking something that people don't want to
18 give up and allowing it to be used. And that's something
19 that I don't hear addressed by the general statements.

20 When we do talk about taking something for the
21 public good, and giving it to somebody to put a line on,
22 that's when we need to have a statement which is credible
23 and believable to the land that's taken, to the people who
24 are the neighbors about whether or not there is some lesser
25 or alternative way that could be done instead, and we need a

1 process for getting there.

2 Maybe the states can do it when you've got a huge
3 state and the issue is only within one, but frankly when we
4 talk multistate projects and even big projects within a
5 small state, you've got state influences where you really
6 need the RTO to gather the data, have a credible planning
7 process to describe what the alternatives are, to do it
8 within a time horizon that gets the need met.

9 When I hear a conversation about getting rights-
10 of-way defined long before they may be used, what I hear is
11 somebody who wants an asset that doesn't feel like paying
12 for it right now. If you want to pay, great, but if you
13 want to pay, then you're going to need a valuation.

14 MR. DELGADO: I would like address what I think
15 is very important because being a Cuban, I hate confiscation
16 with an absolute hatred of forever.

17 (Laughter.)

18 MR. DELGADO: I've seen it and it doesn't work.
19 So I think if any time you found confiscation in anything I
20 said, it's absolutely a misunderstanding. Maybe it was the
21 accent.

22 (Laughter.)

23 MR. DELGADO: But it goes this way. I believe in
24 the public process. We are a regulated utility. That makes
25 us a monopoly but it's regulators, the only way a monopoly

1 is legal in the U.S., thank god, okay. So that from that
2 perspective, is a public process, certificate of public
3 necessity. And in fact, what I was saying is exactly what
4 you were saying. We'll let the market work for as long as
5 they can but when there is a need that can be shown that is
6 not met by the market, I, the monopoly, regulated by the
7 state, approved by the state, can step in and do what is
8 right in the public interest. It's the only reason that
9 anybody can ever justify confiscating land, private land for
10 public use, and you have to pay for it.

11 Incidentally, the only way we can get landowner
12 agreement to a better, more rational way of getting right-
13 of-way, is if we pay ahead of time. And I may be coming
14 back to the Commission to let me recover it. Under no
15 circumstances, would I ever propose a plan that would take
16 land without paying for it. I don't think it's appropriate,
17 I don't think I'll ever get it passed by any regulator no
18 matter where it is. And so we are I think in more agreement
19 than you think.

20 MR. WALTON: I used the term eminent domain so
21 let me at least half defend myself. When you use the term
22 "eminent domain" Jose, it means that you have to pay -- the
23 court makes you pay the value of the land. There's no
24 confiscation. That's not what we were talking about at all.

25 Number two, I agree with Mr. Dworkin in terms of

1 the principle he made and which has come back to what
2 Shelton asked earlier about which is the fact that you
3 really ought not to be sticking generation costs onto the
4 transmission charges. And I think the reason, if you start
5 down that path, you wind up with the big old utility again.
6 You just go right down, he's run right down that path. So
7 what I was talking about is the fact that when you come into
8 these complex decisions that you have where you have an
9 actual line where you need to get through and it is the
10 right thing.

11 Now when you go through the siting process, you
12 have to answer every question that's been raised here about
13 all the other options, about the non-transmission options.
14 In the West, the biggest landowner is the federal
15 government, and so when you go through all the federal
16 siting processes, I've never worried much about overbuilding
17 transmission in the West because it's so painful because
18 you'd have to actually show that you had a public necessity
19 even to cross the federal forest. You can't get across
20 federal forests or BLM land without having to make that
21 showing. So you'd have to show that that was the case.

22 Now, if the showing is made that that shouldn't
23 be done, that a demand sider alternative really shouldn't be
24 and you therefore can't open the right-of-way, then the
25 buyers of energy need to respond by either operating on a

1 demand side basis or offering to buy energy from somebody
2 whose site's there. It doesn't make any sense to me at all
3 to go put that cost into the RTO's cost because now the RTO
4 has a position in the market with energy it's trying to deal
5 with. It's now become a utility again, it's no longer an
6 independent party.

7 MR. DWORKIN: Actually I think, if I can for a
8 minute, I agree with a lot of what I heard there,
9 particularly the isolation of transmission costs from
10 generation costs, and I don't think they just need to be
11 isolated as separate lines on some hypothetical future bill,
12 they need to be isolated in a way which allows an unbundled
13 decision about which of them to purchase, so that it's not
14 just identification, it's separation that's essential.

15 But I think that, although what I heard was a
16 helpful comment on timing, you don't want a long term,
17 right, without paying for it now; you'll pay for it now.

18 What I didn't really hear was an answer to the
19 point that when you pay through eminent domain, you're not
20 paying a market price, you're pay a price defined by a
21 judge. And that's a big difference.

22 MS. MANZ: I'd like to try a different spin on
23 the same theme, which is you now have the value comparison,
24 and I think that's the point that we might be trying to get
25 to, is that you now have all the data, once you have sort of

1 these nodal pricing in front of you, to say what's the value
2 of buying the land versus what's the value of putting in
3 another solution, versus what's the value of sitting through
4 paying through the congestion. Not all congestion is bad
5 and that may be the cost effective solution and we should
6 let that be okay.

7 MR. KELLY: Can I follow up on a couple of things
8 I heard. Jose said he's never seen a single purpose line,
9 and Commissioner Dworkin said that, you know, there are
10 these common goods, and Steve Walton described, at least for
11 local transmission, that you need a certain level of
12 adequacy but distinguish the long-distance lines out west as
13 maybe serving the needs of a particular customer.

14 If it's true that transmission lines always serve
15 or almost always serve multiple purposes, what does that
16 imply about pricing of transmission as to whether you ought
17 to try to figure out who the beneficiaries are and allocate
18 the prices to the beneficiaries to the prices, whether it
19 ought to be rolled into a single average, and then depending
20 on how you answered that, what does that mean for giving out
21 transmission rights, which we heard a lot about this
22 morning.

23 Do the transmission rights go to those who pay.
24 If you roll it into everybody's rate, how do the
25 transmission rights get allocated, or does a transmission

1 rights model somehow now work well in that situation for
2 anybody.

3 MR. DELGADO: Kevin, maybe I can just address it.
4 I try to be brief. The fact, it has been my observation
5 that an integrated companies, particular when they are
6 medium to small, they cannot afford a transmission system
7 that their customers need. The reason for that, even though
8 the benefit of anything they build is original, they can
9 only collect 90 percent of it from the retail jurisdiction.
10 The benefit that we have seen we bring and the burden that
11 we carry is that we have a much bigger footprint, so
12 anything we build, we actually serve a much greater portion
13 with a benefitted public. It is, we traditionally call "the
14 benefit area."

15 And as a consequence, we can build bigger
16 projects with lesser impact for each customer because we can
17 in fact be able to collect for most of the customers.
18 There's such a thing as an assigned line. Radio comes to
19 mind which in fact brings no particular benefit to anybody
20 else. There's some services like that, and you need very
21 high voltage or whatever. And in that case absolutely have
22 heard of contribution by the customer and the customer being
23 able to get a credit if in the future there are other people
24 who come into that, and these are the things that we have to
25 do because they definitely do not bring a particular value

1 to the rest of the network.

2 But I look at our company's assisted by something
3 like that I just showed that covers a bigger area where in
4 fact we can look at projects that have original benefit and
5 in fact we can see that it's appropriate. This is not
6 rocket science. It is appropriate to collect from a certain
7 portion of the public.

8 Okay. If it's all within the same transmission
9 owners, fantastic, because we can do it readily in the
10 regime that we are proposing. If it is not, then the MISO
11 ought to be able to help with that. This is part of the
12 concept.

13 Now, what about rates? We have two flavors of
14 what we sell that work in point-to-point, firm and unfirm.
15 You know, in New Orleans they sell shrimp with 55 different
16 flavors, so I don't know what the future brings. I'm not
17 going to say that's all we are married to. But the fact is
18 that at this point, network service basically picks up the
19 cost of the overall benefits that point-to-point gets netted
20 against it, and there's, at least for the time being, a
21 certain amount of charm to that. But it can change in the
22 future. I'm not against it. I think we have to think about
23 how it goes.

24 Network service. There is a necessity for
25 somebody to sign a 30-year contract for supply. I think

1 that what happened in California shows the fallacy of not
2 having firm contracts you know for a good portion of supply,
3 and the entities that serve load must be able to do that.
4 We have to respect those contracts.

5 They have to be able to come to us and say, I
6 need 30 years of access, and we have to say we'll make a
7 commitment to that, which means a commitment to continuously
8 adjust the network as necessary to make that happen. Okay.

9 Now, always under regulatory oversight, but
10 unless we respect those contracts, and then people will have
11 a great difficulty protecting their own cost structure, and
12 this is a load serving entity so ultimately will have a
13 greater impact on the customers.

14 MS. MANZ: I'd like to take a shot at this. Part
15 of what we've been pretty successful in and so far we've got
16 about 30,000 megawatts of proposed generation and three-
17 quarters of a billion dollars worth of transmission upgrades
18 on this plan. We think that proves it's kind of working for
19 us anyway.

20 The model we have is that anybody who wants to do
21 a merchant investment or a merchant upgrade would pay their
22 way. We have put PJM sort of in the platform of no
23 socialization to the extent possible, and that's working for
24 us. So to the extent a merchant would like to come in and
25 build a line and whatever, need an upgrade, they can do that

1 on their freight and they're welcome to do that. And again,
2 that gets that risk away from the consumers that we talked
3 about earlier.

4 To the extent that there's a backstop, and there
5 is in PJM, they're cost-sharing mechanisms and the higher
6 you get on the voltage -- so in other words if you're on the
7 500 kV system, those costs are shared. The lower you get in
8 the voltage, those costs go more and more to the local
9 beneficiary, but there is a cost allocation method.

10 And then what we're trying to do is make sure
11 that those who pay for the upgrade get the rights. So if
12 you have a merchant investment, you get the rights for your
13 merchant investment. If you are an embedded cost sort of
14 payment, you're the backstop, it's actually the load-serving
15 entities that get them on the behalf of consumers that have
16 paid for that transmission asset, so it flows back to those
17 who pay.

18 And with that, we've been very successful in sort
19 of this backstop allocation. We have the license plate
20 rates in PJM because we have different costs for various
21 transmission service territories that in paying off the
22 embedded cost of the system, those customers that are paying
23 that embedded cost get entitlement to the FTRs.

24 MR. O'NEILL: Laura?

25 MS. MANZ: Yes?

1 MR. O'NEILL: When you do that over here, when
2 you were talking about the merchant investment and the
3 transmission rights that go with it, Steve I think earlier
4 was wondering how long they would be.

5 MS. MANZ: Well, my view on that is that you're
6 right, since they represent the transfer capability of the
7 transmission system could actually be valuable for the
8 entire life of the transmission system. Those rights could
9 be good for 30 years.

10 MR. O'NEILL: Is that in the PJM system or is
11 that just the way you feel?

12 MS. MANZ: I'm not sure how long our rights are
13 good for but it's I want to say 15 years at this point, and
14 those go to the generators, for example, that pay for an
15 upgrade to make more room available. They get those
16 transmission rights.

17 MR. DWORKIN: Do you mind if I just ask, what
18 happens at the end of the 15 years? Who do the rights
19 accrue to then?

20 MS. MANZ: Well, that's a really hard question.
21 I don't have my 15-year crystal ball with me.

22 MR. DWORKIN: That's the long run and we're all
23 dead.

24 MR. CANNON: Commissioner Massey?

25 COMMISSIONER MASSEY: Here are two different

1 philosophies. Tell me which one is right. Maybe there are
2 different flavors of philosophies in between. Philosophy
3 number one is the transmission grid is tremendously under-
4 built all over the country. We shouldn't be at all worried
5 about creating a system that is prejudice in favor of
6 building more transmission because that's what we need, so
7 it really shouldn't be a neutral planning process, it should
8 be a process that favors getting more transmission in the
9 ground.

10 Versus the RTO ought to run a neutral process in
11 which transmission is an option, generation is an option,
12 demand side is an option, and what you come up with is a
13 least-cost plan for meeting the need that is neutral with
14 respect to whether it's a demand side option or generation
15 option or transmission option.

16 Have I stated the two philosophies in naive
17 terms? If I am intending to draw a great distinction
18 between them, which is right?

19 MR. WALTON: I think there's a mixture here. In
20 fact, I don't quite, given your two poles, I don't think are
21 quite the poles.

22 COMMISSIONER MASSEY: Okay.

23 MR. WALTON: There's the philosophy that you'd
24 say well anything we build is great, we'll just roll it into
25 access fees and have at it. It's only x percent of the

1 cost. The danger of that of course is that if we go to the
2 trouble of building all this congestion management that
3 we're going to do this morning, and have all this price
4 signals going out there, and as someone said this morning, I
5 can't remember who, that the pricing now provides the
6 linkage that vertical integration used to provide. Now if
7 you suddenly just build everything, you just wiped out the
8 reason for doing all that. To me, that doesn't make sense.

9 On the flip side of that, if you decide on this
10 least cost plan, and you decide what the optimal least cost
11 plan is, who is to say that my judgment, although I'm very
12 smart, is the least cost plan? We each have different views
13 of the future. Every plan has inherent in it my assumptions
14 about what tomorrow is. If my assumption is that gas is
15 going to be cheap, it's going to be two dollars an Mcf for
16 the foreseeable future, I have one view.

17 You, on the other hand, think it's worth five to
18 ten dollars, then you'd want to build some more transmission
19 to a coal-fired area, so when we have the RTO make that
20 decision about what is truth and justice and what is the
21 least cost plan, they're making a decision about the future,
22 a future view which may not be consistent with everybody in
23 the marketplace.

24 Now the difficulty of course is if somebody wants
25 to build a long distance line, let's say from Wyoming into

1 California, they've got a long process to get it built, but
2 if they are willing to risk the capital, if they can get
3 through the other process and get it built, then they ought
4 to be able to go ahead and do that even though it doesn't
5 fit the RTO's vision of least cost planning, as long as it
6 does no harm to the reliability of the network.

7 But I don't also want us to see just go build
8 anything because that's why we're doing congestion
9 management.

10 MR. MAHER: I'd start with the neutral process by
11 the RTOs. But there are instances where you have to build
12 transmission now, and we find ourselves at Bonneville
13 stability limited in a lot of places. We've put in the
14 serious capacitors, we've put in the remedial action schemes
15 and pushed probably as much as we can through our system,
16 and we find that we have to string some wire now. So there
17 are cases where that is the only solution for meeting
18 reliability criteria.

19 However, on the expansion load growth future
20 looking, I come from the position that we take the neutral
21 process by the RTOs, as you described it.

22 MR. DWORKIN: I should probably indicate that I
23 might well say, let's take a neutral process but I happen to
24 believe that a well-done neutral analysis will lead to
25 recognition of a need for material enhancement of the

1 transmission grid, and that that includes a very heavy focus
2 on the kind of substation work you referred to, significant
3 restringing, I think a major technology enhancement, the
4 facts generation is ready for deployment, not at a dozen
5 spots but at ten dozen spots around the United States.

6 It probably even includes some new transmission
7 lines in untouched areas, although I don't take that as an
8 automatic even as to a broad spread solution but I think a
9 recognition that you can do a neutral analysis and get the
10 answer, let's build a new transmission line, is nothing
11 fancy.

12 We've done it to build the old transmission lines
13 that we did and we can do it again.

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1 The point about the neutrality that I think is
2 vital, though, is we don't want to be in the kind of
3 situation where everybody is on the right-hand side of the
4 ship and then we all run to the left-hand side of the ship
5 and it tips over.

6 You can say we are short on transmission. Let's
7 open the wallet and throw everything at it. It is not a
8 smart decision. It is not just smart because you've got \$56
9 billion of which maybe only \$38 billion is justified. It's
10 not smart because of the secondary effects that you get:
11 that if you build transmission that you don't need, you
12 distort the question about what kind of generation will be
13 put in; you distort the question about whether enough energy
14 efficiency gets put in at the end.

15 And there is where the comment earlier about
16 whether the pricing is the linkage that used to be the old
17 vertical utility seems absolutely vital to me.

18 We spend an awful lot of time discussing what
19 goes on inside each of half a dozen submarkets:

20 What's going on in the choice among the
21 generators?

22 What's going on in the choice of how to allocate
23 congestion rights and transmission?

24 What's going on within the distribution utility?

25 The only thing that really counts, if you're

1 counting on a healthy market, is a price signal that
2 translates to an ultimate end-user through a retail price
3 signal. And it has to translate to them soon enough for
4 them to make their decision about demand before somebody
5 commits them to an uplift charge that they are going to have
6 to pay on a socialized basis later.

7 So that if you don't have, for example, a multi-
8 settlement system in which there is an opportunity to
9 compare the expected demand costs, and back off if it isn't
10 worth it, you've got the classic economics issue of a
11 variable supply--I'm sorry, an invariable demand and a
12 variable supply curve, and you have the bird with one wing.
13 It won't fly.

14 Does that sound like a transmission discussion?

15 It is a transmission discussion. Because it is
16 the test of whether or not the end users should be putting
17 up their cash in the end.

18 When we talk about creating a marketable right to
19 transmission, there are a lot of pieces to what we are
20 really saying is somebody should pay for this.

21 I agree that somebody should pay for this,
22 because it is not going to get built if nobody does. But
23 the somebody who is going to pay for it ought to have a
24 chance to decide whether they want it before they get their
25 name put on the check.

1 And that is why, to make this discussion about
2 creating marketable transmission rates meaningful, you need
3 to talk about what is the process by which that price gets
4 translated out of the transmission market into the load-
5 serving entity; from the load-serving entity to the retail
6 customer in a way that lets the retail customer modify their
7 demand before, not after, the transmission line gets built.

8 MS. ROSENQVIST: Could I try and answer that?

9 It is not such a black-and-white cross to decide
10 whether we go ahead and build too much transmission, or not
11 build at all and wait for the market.

12 I do agree pricing is everything in giving the
13 short-term signal to market participants. It is very
14 important that the pricing in Boston, for example, gave the
15 signal in the last couple of years to market participants to
16 go build new generation.

17 And that is the reason that our analysis shows
18 that maybe that limitation is, with some additional quick
19 fix on transmission issues, it got resolved. The planning
20 process should be ongoing and be updated every year.

21 The fact that I show a brand-new line needed, or
22 somebody showed a brand-new line needed from Maine to Boston
23 doesn't mean it is going to be built.

24 Even if it is upgrade, it is going to--even the
25 upgrades take a couple of years. If it is brand-new, add

1 five more to it. That gives you enough time to revise the
2 analysis, look at how the market responded, whether prices
3 gave enough signal to load or to generation to go to the
4 right places, or move out of the wrong places, and revise
5 the planning process.

6 The needs come and go as the system changes.
7 Planning process cannot be a stale process where you do it
8 once and you go build it and be done with it. You have to
9 look at it constantly.

10 In fact, when we do our five-year statement that
11 shows the status of the system, we revise it even in between
12 the annual publications. We revise it if something
13 drastically changes in the system that needs to give the
14 market participants the right signals:

15 The system changed. Maybe you don't want to buy
16 FCRs over there, or build generation over here.

17 It has to be a dynamic process. And if the
18 markets and the price signals have been given and the market
19 does the right thing, transmission need would be eliminated
20 and you don't need to debate over it whether we overbuilt or
21 not as you are dynamically revising the plan.

22 MS. MANZ: May I answer him?

23 MR. O'NEILL: Please answer.

24 MS. MANZ: I wanted to make a point here that, no
25 matter what, you need a neutral planning process. No matter

1 what.

2 So when we talk about there is this underbuilding
3 of transmission, there are two types of drivers. There are
4 primary drivers, and there are secondary drivers. And what
5 happens when I hear about there's not enough transmission,
6 it means the secondary drivers have taken over.

7 And what I mean by that is that the primary
8 drivers are your market clearing prices. It is what says
9 the prices are high; locate your generation here. If the
10 prices are low, don't go there.

11 What happens in the absence of prices is that
12 generally you will find generators will locate where the
13 fuel is easy to get to, the labor costs are low, and that
14 generally means there is not a lot of value to putting a
15 generating unit there anyway.

16 So when I hear that, it is the secondary drivers
17 of fuel costs, labor costs, land costs, rather than the
18 primary driver of the market price says this is a high
19 congested area we need more generation.

20 So that is what I think we are seeing, is the
21 secondary drivers taking over because of a lack of clear
22 pricing.

23 I'm sorry, Dick.

24 MR. O'NEILL: This is your panel.

25 I guess I hear I would say three, four, maybe a

1 lot of you saying prices are important. And I've been in
2 the Western debate I guess since the early 1990s, maybe too
3 long, and I thought I had heard every argument as to why we
4 should let the market evolve and why we shouldn't be
5 prescriptive in the West, and why LNP didn't work, but I
6 thought I heard a new one today. That is, that LNP is a
7 threat to fish protection.

8 (Laughter.)

9 MR. O'NEILL: Could somebody tell me exactly why
10 LNP won't work in the West, and maybe will work in the East?

11 MR. MAHER: I don't believe I said that LNP was a
12 threat to fish protection.

13 (Laughter.)

14 MR. MAHER: What I was trying to get at is there
15 is a cost to fish protection, and to translate that into the
16 cost of power and have the right market signal associated
17 with LNP I'm not saying is impossible but many of us in the
18 West have looked at LNP to see if it is a fit for congestion
19 management.

20 We have not arrived at a solution at congestion
21 management, but it didn't appear to be the right fit for the
22 Western system because of the location of generation to
23 load, very spread out, congestion occurs in between those in
24 the mountainous areas or other areas where transmission is
25 underbuilt.

1 But it is a stretch to say it is a threat to
2 fish, but it just does not appear to be the right model in
3 the West. And I wish we had our congestion management
4 people here who have been debating this, and we will provide
5 a lot of this in writing to you, but I am not prepared to
6 defend why LMP--other than I know that it is very difficult
7 to price because of the nonpower uses of hydro power. And
8 we are primarily hydro power at Bonneville.

9 MS. MANZ: I want to jump in here, because I have
10 been a system operator. There is only one way the physics
11 go. What is crucial is the least-cost security constrained
12 dispatch.

13 What that means is you always use the lowest cost
14 resources, but don't damage the transmission system while
15 you are doing it. So you may need to use a slightly more
16 expensive unit in a particular location because you don't
17 want to do any damage to the transmission system.

18 That is true everywhere, because it is based on
19 the physics.

20 And then the question is: Are you going to do
21 this, first of all, at least cost? And there are areas in
22 the West that don't have this rule that this has to be done
23 at least cost. So that is the first thing we have to make
24 sure is that we have a requirement to do this at least
25 cost.

1 And then the second thing is: Can you do this
2 using bids? Can you have voluntary participation? Come on
3 in. Give me your bid to solve my security-constrained
4 dispatch problem.

5 Once you have the dispatch and everybody
6 somewhere operating a transmission system has a system
7 operator doing the dispatch, can they use bids? And we are
8 now trying to go to markets, and the only way you can get
9 them information is through bids.

10 Out of that falls the locational marginal
11 pricing. It is just a calculation that is done for the
12 accounting when we are all finished.

13 So I am having a hard time connecting those two
14 pieces of logic. But I think what we are hearing here is
15 that we have sort of the art of scheduling hydro resources.
16 That is a hard thing to do because they are limited energy
17 and they have very special characteristics on those units.

18 It doesn't mean you can't use LNP. We have hydro
19 resources in PJM. They also have to go through the art of
20 hydro scheduling. There is something very special about
21 limited energy resources.

22 And I think the other issue we are hearing here
23 is that they do offer other products. You can get spinning
24 reserve out of a hydro resource. You can get area
25 regulation out of a hydro resource.

1 It kind of ties back to yesterday's panel about
2 what should the system operators be paying for? And I think
3 that is an important thing, is, sure you can use LNP because
4 it is just pricing what the dispatchers do anyway.

5 But then the next part is: Can you make sure
6 that for these limited energy resources they have other
7 payment streams so that they remain a viable business?

8 MR. DWORKIN: I would just like to say a
9 substantial degree of agreement with that.

10 There is a perception, perhaps, when you use the
11 phrase LNP that it means one very specific model. Certainly
12 my usage is much more open; that I don't necessarily mean
13 the way it's been done in California. I don't necessarily
14 mean the way it's been done in PJM. But I do mean that an
15 explicit recognition of the costs of congestion, and an
16 explicit price statement that signals to people the value of
17 putting their generation on one side of it rather than the
18 other.

19 I will only add that the kind of comment about
20 how ancillary services, whether it is spinning reserves or
21 anything else, can be met by hydro brings me to a topic that
22 I think is really important here:

23 That there has been a danger that has been hit
24 quite often in practice of defining what is desired in ways
25 that are not technologically neutral. If one wants a

1 reserve that can produce 100 megawatts on 10 minutes'
2 notice, or one hour's notice, and you want to be 90 percent
3 sure you get it, that ought to be what the definition of the
4 service is.

5 It should not be one that says we want steam-fire
6 power; it shouldn't be one that says we want hydro power; or
7 it shouldn't be one that says we want wind power. The
8 constraint of what you want ought to be defined in terms of
9 its ability to influence the system.

10 And there are hundreds of characteristics. Hydro
11 has got its needs to honor fish, and to honor stream flow,
12 and minimum 7 Q 30s of flow downstream for a hundred
13 reasons, but power plants have theirs.

14 Some of them get an extraordinarily favorable
15 treatment in New England right now in which basically they
16 get the opportunity to bid because they need four to six
17 hours to ramp up and four to six hours to ramp down, as if
18 those four to six hours of time were cost free.

19 It is a crazy system, and yet we do it because
20 people have been encouraging the introduction of some forms
21 of technology over others.

22 There is no doubt that we are going to need to
23 design systems that focus on the delivered power rather than
24 the characteristics of the kind of plant that delivers it,
25 and hydro is just one of a hundred characteristics of that.

1 But I don't think that that goes to the issue
2 really of whether locational marginal pricing as a model for
3 reflecting congestion has to be rejected. I just think it
4 has to be intelligently designed to focus on when the power
5 will and will not be available; what the lead time is; what
6 the minimum time is; and what the probability of achieving
7 it coming online are.

8 Those are the constraints that really matter.

9 MR. MAHER: I just wanted to add that we are
10 looking at a financial rights' model, and it may not mimic
11 LMP at this point, but we are looking at sending the right
12 price signals so that we do get generation in the right
13 spot; that we do the transmission upgrades that are needed.

14 But again I don't have the specifics of why the
15 LMP won't work, but we are not on that track.

16 MR. CANNON: Steve, could you comment? And then
17 I know Commissioner Breathitt has a question, and I think
18 Commissioner Massey.

19 MR. WALTON: Yes. Actually, I have been eating a
20 lot of crow lately. I've gotten accustomed to it. I have
21 been buying lots of ketchup, and I have been eating a lot of
22 crow because I've come to the conclusion that at least for
23 the real-time dispatch that you have to have an LMP, a
24 locational marginal price.

25 LMP seems to go with it a whole bunch of

1 implementation details. You do need locational prices.
2 Everybody in the West has known that since the 1970s. When
3 I was a simple planning engineer, we knew what the price
4 differential was in Arizona and Utah when we were trying to
5 decide whether to build a new line into Arizona.

6 So everybody understands that prices are
7 locational.

8 The difficulty that you have run into I think in
9 the translation of this, especially for people in the
10 Northwest, is their optimization function is not hourly
11 price. Their optimization function on the rivers is maximum
12 energy over season. And in fact there is a whole set of
13 rule curves and other things where they're trying to
14 maximize how much production you get out of the chain of
15 dams in a given river, and how you do that. There is a
16 whole set of agreements between the United States and
17 Canada, between the utilities in the United States about how
18 they are going to accomplish that.

19 Now having given that, there are probably some
20 implementation issues that have to be dealt with in terms of
21 applying an LMP application to the Northwest.

22 And one of those, a key one, is that you have to
23 allow bilaterals. And you have to allow people to set a
24 unit and run it where it needs to be because they're moving
25 energy down the river. In fact, they're shifting it from

1 dam to dam through the day as they release a block of water.

2 So some of those things, those implementation
3 details, have to be allowed or built into. And I know that
4 PJM has hydro, but they are not 70 percent hydro. And that
5 is an entirely different equation.

6 Because the system is energy constrained, then
7 the thermal resources in that system tend to be baseload
8 coal because they are filling an energy need; they are not
9 filling a peaking need. The peaking is coming off the hydro
10 system.

11 So some of that dynamic, and some of the issues
12 about unit commitment, is a whole different question. Unit
13 commitment is a--the baseload thermal units are going to be
14 there day after day. They don't come on and off. And so
15 the peaking requirements are coming off the hydro system.

16 And you can look at the swings in energy from
17 California to the Northwest, or from Montana to the
18 Northwest, and you can see the daily swing, how that peaking
19 is taking place.

20 So you need an LMP type of thing. A financial
21 kind of a right has to be built. But in terms of the
22 details of the implementation of the dispatch model, it may
23 need to have some tweaks to allow it to--it will need tweaks
24 to allow it to take into account this longer optimization
25 cycle.

1 Now having said all that, people who own hydro
2 who have been bidding in the market prices for a long time
3 and have figured out where to use that against the thermals
4 so the market works, other wise there wouldn't have been a
5 COB or a mid-C.

6 MR. CANNON: Commissioner--

7 MS. MANZ: I would like to just take a moment and
8 echo what Mr. Walton has said because bilaterals and self-
9 scheduling are one of the fundamental truths in the PJM
10 platform, that standard market design; that that has to be
11 allowed, because you do have limited energy resources and
12 they must be able to accommodate the special operating
13 characteristics of any particular unit.

14 MR. CANNON: Commissioner Breathitt?

15 COMMISSIONER BREATHITT: All of you, with the
16 exception of Chairman Dworkin and, Steve, I'm not sure
17 exactly what your responsibilities are with Enron but I know
18 Jose and Mark and Laura and Masheed all have primary
19 responsibilities for electric transmission. Is that right?

20 (Nods in the affirmative.)

21 COMMISSIONER BREATHITT: Do you factor in, in
22 making your decisions, if the goal is to get to least-cost
23 results or least-cost planning, do you care whether in
24 achieving that goal it is better to certificate a gas
25 pipeline as opposed to an electric transmission line?

1 We have not talked about that today, and I
2 wondered if there was any competition in what you do, which
3 is thinking about infrastructure for electric transmission,
4 versus whether or not a natural gas pipeline certificated
5 and built might solve the problem?

6 It hasn't been factored into any of this
7 conversation and I just was wondering why. Because we've
8 talked about demand-side management. We have talked about
9 economically siting generation. We have talked about the
10 need to build new infrastructure. But we have sort of
11 limited that conversation to electric transmission
12 infrastructure.

13 And I wondered if that other piece of
14 infrastructure, which is gas pipeline, is being factored
15 into this great thinking we are having this afternoon.

16 Jose?

17 MR. DELGADO: Let me try it, because my
18 observation is that in fact they are extremely compatible.
19 And the reason I say that is that we have like 45 to 55
20 generator interconnection requests at this point, and
21 invariably they all tend to be where there is a crossing
22 between gas and electric.

23 This is a feature of every gas generating
24 project, which is that they would like to connect and then
25 be able to go in any direction.

1 Now the infinite bus is a methodology that does
2 not exist. You cannot go in every direction all of the
3 time. Neither we cannot afford it. You cannot afford it.
4 It is in fact impossible.

5 So in fact we find that we need the
6 infrastructure of gas. I would say for a lot of the states,
7 this is a significant risk of fuel failure, if in fact we
8 don't have more gas infrastructure. Because the single
9 failure can take a lot of our new generation.

10 But I would say that in fact whatever they cross
11 is likely to be a point in which we are going to have to
12 beef up the transmission system so that in fact it becomes
13 an appropriate--when somebody wants to connect, it's going
14 to have to be beefed up, because they want to move in many
15 different directions not just locally.

16 I have a fantasy that goes this way: That I
17 would in fact be proactive and talk to the landowners and the
18 city folks and decide that there are some sites around the
19 network that in fact would be a wonderful place to put
20 generation, and maybe they can want to go into the market
21 and we'll support them.

22 The reason for that is that where generation and
23 gas cross is not necessarily the best place to put 900
24 megawatts of generation. And it does create some very
25 significant stress in the need for transmission.

1 There may be other places and they are not
2 terribly apparent to the promoters. And where those places
3 are, maybe the public doesn't want them. So we lose a lot
4 of opportunities that I think we are going to have to catch
5 up on.

6 But in brief to you, I think my answer is very,
7 very clear. My observation is that wherever they cross,
8 they are very compatible and frankly the construction of
9 gas-burning generation usually requires more transmission
10 because they do want to get to the broad market not to a
11 narrow market. And the economics of the power plants suffer
12 a lot if they are transmission-limited.

13 MR. MAHER: We too have about 30 gigawatts of new
14 generation in our queue, about 50 plants wanting to
15 integrate into the Bonneville system. Obviously not all of
16 them will do that. They are probably the same 50 plants
17 that are in everyone's queue--

18 (Laughter.)

19 MR. MAHER: --but they do want to locate at the
20 intersection of transmission and the pipelines. And we have
21 been approached many times by operators, or generation
22 builders wanting the perfect location.

23 What we find in the Northwest is that to get
24 around congestion to serve the load that we are seeing
25 needed to be served in the Northwest, you would build that

1 generation close to the loads, which moves generation over
2 to the west side, the Seattle-Portland corridor.

3 But those generators need to get out of the
4 system. And we find that we are congested getting out of
5 the system, also. They need the market during the summer
6 when load is down in the Northwest to get to California or
7 inland Southwest.

8 So we have yet to find the perfect place that you
9 could run pipeline into and not have a transmission issue,
10 or vice versa. So the generators see that, and they are all
11 lining up at the intersections right now.

12 MS. MANZ: Yes. The gas by wire is a very
13 interesting concept. There are a couple of parts to your
14 question, so I want to take them in order.

15 First of all, as an electricity--as a
16 transmission owner, we don't work on gas solutions. But the
17 RTO, PJM as the RTO, coordinates all the solutions. So they
18 would take a solution from us, the transmission owner, and
19 they could integrate it with perhaps a generator who wanted
20 to locate on this pipeline you have in your vision.

21 And then the other part of it I think we see with
22 Neptune saying, well, we think we have this gas pocket off
23 the shelf up in New Brunswick, Canada, and we would like to
24 wheel that generation via a very long wire down into your
25 market.

1 So I think it is the RTO's planning process that
2 is looking at all those options and then coming up with what
3 is the least cost.

4 MS. ROSENQVIST: We monitor pipeline development
5 in our planning process. I don't know of any occasion where
6 we actually needed to speed up the process, or maybe
7 actively seek new pipelines to get new generation, if that
8 was your question, because we also have a lot of generation
9 in the queue in New England.

10 But I also thought maybe your question was going
11 a step further beyond just the generation gas supply and
12 maybe--

13 COMMISSIONER BREATHITT: Yes, it was.

14 MS. ROSENQVIST: --supply gas to customers
15 instead of generation.

16 The problem with that might be if you have gone
17 into retail access so that you take customers of other
18 suppliers away and give them gas.

19 COMMISSIONER BREATHITT: No. I was going more to
20 whether or not it makes more financial--whether it is
21 financially advantageous to construct an electric
22 transmission line or a gas pipeline according to where the
23 load is and where the generator can get real estate, and
24 whether or not that is factored into--Laura, you answered
25 it. It should be factored in by the entity that has the

1 overall, or the backstop system planning function.

2 But the other part was, you are in the business
3 of electric transmission, and the competitive--there may be
4 a competitive reason that you would prefer that the ultimate
5 decision end up being to build an electric line versus a
6 pipeline.

7 MS. MANZ: That is why you need the neutral RTO
8 who is not going to favor one of those over the other, but
9 is really looking at what is the least-cost solution.

10 MR. WALTON: And it even goes beyond the RTO
11 because, to give you a for-instance, Kinder-Morgan announced
12 their Sonora Project to bring more gas into California.
13 There are also a lot of projects announced in southern
14 Nevada and in Arizona.

15 If we had an open season and they were then--and
16 there was also a transmission line competing, then the
17 people building the plants would decide: well, gee, should
18 I pay for the transmission and build my plant in Arizona and
19 southern Nevada? Or should I buy transportation on this
20 Sonora Project and build the thing in California?

21 Well then some other factor may come into the
22 fact like pollutable air may be the issue, or whatever that
23 issue is.

24 So I think the issue, as Laura has to some degree
25 said, yeah, you need the independent, but I think you need

1 to allow especially for that kind of a situation for the
2 competition between the two to take place and for people to
3 use the price to make that decision.

4 MS. MANZ: The point I am trying to make is that
5 you cannot have the competitive entity in the decision-
6 making loop on that.

7 COMMISSIONER MASSEY: Well this is a good point
8 here. I am trying to understand what the ultimate--and,
9 Laura, I would like for you and others to comment on
10 this--what is the ultimate decision that the RTO makes in
11 the planning process?

12 That is what I am trying to get a handle on.
13 Does the RTO just identify problems that need to be solved
14 and throw the data out there, and welcome market
15 participants to come in with solutions?

16 Or, for example, the RTO could say we have this
17 congestion point here and it could be resolved with 500
18 megawatts of demand reduction, or 500 megawatts of
19 generation, or we could build transmission. What happens at
20 that point? That is question number one.

21 And question number two is: Jose, why wouldn't
22 you always prefer to build new transmission within this
23 planning process?

24 So I want those two questions answered.

25 MR. DELGADO: Let me begin with the first one, or

1 actually the last one as the first one.

2 The reason I do not want to build only
3 transmission is that I have to go through a process that
4 requires that I show that it is the best solution. And you
5 do not go to the well with a lousy case too often before you
6 lose your credibility. And pretty soon everything you bring
7 up is absolutely, you know, the good, the bad, and the ugly
8 goes down.

9 It is not in our business interests to lose
10 credibility with the regulators or with the public. It is
11 absolutely essential that we retain credibility because it
12 is what means that we can in fact convince people that it is
13 truly needed, which is a concern that Mike here has that in
14 fact I am not confiscating land for things which are not
15 necessary.

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1 The other thing is there is no lack of investment
2 possibilities, as I hope I have been able to show. For
3 somebody who is only in this business because the
4 requirements from the customers are very extensive.

5 You're almost going back to the question that
6 Linda had, that Commissioner Breathitt had, is the issue of
7 what happens if you put a generator with a pipeline next to
8 a load so that in fact they don't need to use transmission
9 system? Fantastic. Because none of us has extra
10 capability. If we get some more, we have a place to sell
11 it, and it will not cost us anything.

12 So this is I think I'm trying to just give you a
13 flavor for where I stand. Understand that if I were an
14 integrated company, I might have a different perspective,
15 but I don't.

16 Now if the RTO is a transmission owner and owns
17 every transmission stake all the way down to distribution,
18 they're responsible for the whole solution from the
19 grassroots to the subregional all the way to the regional.
20 And they basically would be in a position which I don't
21 think is very adequate to decide the alternatives except the
22 way that I do. To put up a plan which is public, iterative
23 and comprehensive and is absolutely in the public view all
24 the time so people can see it coming from a distance.

25 When the need disappears, the plant is adjusted

1 and is adjusted every year at least and is put in the public
2 view. As a consequence of transmission owner, the RTO end
3 up only building. But ultimately the time has come that
4 either you build it now or you're going to have significant
5 consequences.

6 In an ISO like the one that I'm involved with,
7 the ISO has to look at the regional view because we, the
8 transmission company, are going to be looking at it from the
9 grassroots all the way to the original view, will need their
10 help to integrate original view. At that time, it is the
11 same way. We put out the plan. It looks like this more or
12 less. Everybody can read it. And we have meetings and
13 people know what we're doing. And if in fact the need goes
14 away, we don't build it. I don't even try to build it.

15 COMMISSIONER MASSEY: But does the plan say let's
16 build transmission here, or does the plan say we have a
17 problem here? We're looking for solutions to the problem.

18 MR. DELGADO: The plan says there's a problem
19 here, and these are the potential solutions. And as we go
20 on closer to the point of decision, the solutions begin to
21 get narrowed down. If the problem goes away, the project
22 goes away.

23 MS. ROSENQVIST: Exactly that. The plan would
24 identify the need of the system, then it would go through
25 the second phase of it and identify potential solutions of

1 it. ANd if the RTO is doing it presumably would identify
2 alternative solutions on the transmission system. But it
3 has enough information for the market to decide that if I
4 plug in a 500 megawatt generator in that location, that need
5 will go away. And if it does, the transmission will be
6 built. Why would we not always build transmission? Jose
7 answered one of them.

8 Another one is it depends on the type of rates
9 you have. If the RTO comes in with a fixed rate, it has no
10 incentive to build too much, and if you have tagged that
11 along with other incentives for system performance and
12 whatnot, they have to balance that, the cost versus
13 performance of the system. So it all comes down to what
14 type of rate structure and incentives you have imposed.

15 MR. WALTON: I think there's another issue too,
16 and that is another planning -- part of this planning
17 process. And that is, people bring in proposals and they
18 want that proposal evaluated. They get a rating. They get
19 how many FTRs or FGRs or whatever the property right is.
20 That's defined for them. And so that's another piece of
21 this that says here's the plan, here's the needs. And not
22 only is there a identification of need, but there are also
23 people bringing in proposals for projects they want to
24 build, for instance, that have to be rated, that has to
25 make this the process then iterate again so that this

1 dynamic planning takes place.

2 But the planning process, at least in the West,
3 has always included in the recent years the rating of the
4 facilities that people propose to determine what you're
5 really adding to the system so that you now know what's
6 going to happen next. So it isn't a decision about, yes,
7 we'll build this or we won't build this. It says this
8 person wants to build this. This adds this much capacity to
9 the network. This is an appropriate thing to do. And it
10 has these reliability impacts that have to be mitigated if
11 this line is to be built.

12 COMMISSIONER MASSEY: Laura, I wanted you to
13 comment on the way it works in PJM.

14 MS. MANZ: Okay. Basically, the regional
15 transmission expansion planning process is going to look at
16 all uses on the system first. So that would be the demand
17 forecasts and long-term service requests and things like
18 that. So they want to get a sense of how much room on the
19 system are you going to need first of all.

20 And then the next part is, we have these
21 generator queues. I think you've at least, if you've
22 touched PJM at all, you've heard of the generator queues.
23 And so they're going to look at generators that are
24 requesting to come into a certain queue and take any
25 merchant transmission that presents itself. And that's all

1 going to go into a coherent plan.

2 And merchant investments don't get sort of turned
3 away. If you really feel that you've got a viable business
4 case and you want to come in and take all the risk, come on
5 in. We're happy to have you, as long as you are paying your
6 costs and incurring your own risk. Nobody will be turned
7 away under that scenario.

8 And then it's the backstop piece that I talked
9 about earlier to say, is there anything else? Are there
10 special reliability concerns on the system? And one of the
11 things we need to sort of keep in the back of our head is
12 that there are reliability criteria and stability criteria.
13 The engineers are going to get into the workings of the plan
14 and say, gosh, is there anything else? And they work in
15 conjunction with the local transmission owners that are the
16 engineers that really know the components of their local
17 system to see if they can find the least cost recommendation
18 to solve those stability and other special reliability
19 enhancements or upgrades.

20 COMMISSIONER MASSEY: But does the RTO late in
21 the process then decide what the least cost enhancement
22 ought to be?

23 MS. MANZ: They aren't doing sort of a least cost
24 integrated resource plan in that if we're looking at a
25 congestion management solution and a merchant wants to come

1 in and nothing else needs to be done, that's fine. But what
2 they're looking at, when I talk about the least cost
3 solutions, it's the least cost options for those sort of
4 backstop reliability upgrades.

5 MR. DWORKIN: Could I think about this for a
6 moment? It seems to me that the question that Commissioner
7 Breathitt asked is not a hypothetical one. It's a very real
8 one. Every Commissioner faces it in many ways. I face
9 should we have a 1,200 megawatt unit in Southern Vermont
10 that would be fed by a gas pipeline from Albany, or should
11 we have 1,200 megawatts of additional power brought in from
12 the nuclear power plants in Connecticut Valley. And one
13 means a transmission line through Southeastern Vermont, and
14 one means a pipeline through Southwestern Vermont with an
15 electric line going north from it. Those are very real
16 questions that we're going to have to face.

17 When we look at it, I want help from some kind of
18 information from the regional transmission organization,
19 whether it's the ISO of New England or whether it's a larger
20 one. And the help can come, in my mind, through a plan, but
21 it goes up a gradient. And this is the question I've heard
22 you asking as to what is the plan.

23 And when I think about it, it seems to me level
24 one is that it's informational. It gathers a bunch of data
25 about perceived need, assuming the status quo persists and

1 only a few things change like demand.

2 Level two is that it can be seen as a
3 prerequisite as in nothing can forward unless it's
4 consistent with the plan or there's a very good reason to
5 allow a breach of the plan. And we see that in practice in
6 terms of who gets in line to be allowed to get into the
7 interconnection studies long before we get to the regulatory
8 decision about what is the prerequisite.

9 Level three is whether it's essentially a
10 proapproval. And I mean that more in a financial sense than
11 in a regulatory one. We see the fact right now in New
12 England that once something has been approved by the
13 relevant NEPOOL committee without the ISO having overruled
14 it, the costs get rolled into pooled pricing for all of New
15 England and get added to uplift charges and everybody pays
16 for them. They're essentially deemed prudent. They roll
17 right through and wind up in charges. They get charged to
18 distribution utilities or load serving entities and
19 eventually from ratepayers.

20 So that proapproval function which looks in
21 practice to be nongovernmental is a vital part of what is
22 happening through the informal planning process that we have
23 right now.

24 And then the fourth level is responsibility,
25 which is where it's not merely an announcement of a need and

1 a hope that somebody in the world will fill it, but
2 acceptance of a responsibility for curing it. The catch we
3 have, of course, if we go down that is that once they start
4 curing it, the RTO winds up owning the transmission, and
5 you're back in the world that we started with. But if they
6 don't go down the path to curing it, you need to have a set
7 of signals which are so clear, there's such a nice set of
8 cost recoveries that at minimal risk, people will make the
9 investment.

10 I don't see a clear description of where we are
11 in that spectrum from information through prerequisite to
12 proapproval to responsibility in most of the discussion that
13 I hear. And yet I see a heavy need for something, some
14 institution. And the best I can see is an ISO-type
15 institution to give that information. It's one of the many
16 reasons that I think an ISO needs to be totally independent
17 of the transmission owners so that it doesn't favor them
18 over the old gas pipelines. And it's one reason that I
19 think I need to go beyond that and believe that there ought
20 to be an explicit public role and an explicit fiduciary duty
21 to the general public in the ISOs or RTOs as they're
22 created.

23 MR. MAHER: On the end of the day decisionmaking,
24 I'd like to enter into that discussion. I agree with the
25 planning process that Laura laid out, and that's the path

1 that we are on with RTO. Forward looking, looking at
2 reliability problems, stability problems, working with the
3 participating transmission owners, trying to integrate their
4 solutions with other utility's solutions so that we don't
5 get singular fixes, but try to facilitate a more global
6 solution.

7 Also, solicit the nontransmission alternatives
8 and facilitate the least cost planning.

9 But at the end of the day, if the market has not
10 responded, if the PTOs have not responded, I believe that
11 the RTO makes a decision. And in that decision, they're
12 going to prescribe what they felt was the best outcome of
13 that planning process and compel construction, allocate
14 costs according to benefits and go through the ADR process
15 and see where it settles out at that point.

16 But have a backstop authority by the RTO so that
17 we minimize the price volatility that we've seen in the
18 West. It's something that's not going to be politically
19 acceptable. So I think the RTO needs to prescribe if no one
20 steps forward in and the problem persists.

21 MS. MANZ: I'd like to add one more piece about
22 that. BEcause the mandating generation, we haven't seen the
23 need for that in PJM. The generation projects self-select
24 in based on the market clearing prices. They self-select
25 out if those prices go away. And we think that's a very

1 critical part. And one point the new generation looking to
2 site inside PJM was about 75,000 megawatts, is bigger than
3 the pool itself. And we're now down to about 30,000. LAnd
4 again, that was all the market signals driving those
5 investments.

6 COMMISSIONER BREATHITT: Chairman Dworkin, I have
7 a comment to make to your last statement. I think that we
8 have just had no experience at all with electric
9 transmission siting because we don't have that authority.
10 We've had a lot of experience certificating gas pipelines,
11 and we issue preliminary determinations and we had a new
12 process for factoring in environmental needs, landowner
13 concerns, price, needs, whether a pipeline has contracts or
14 not.

15 But I think we need help, and we're getting a lot
16 of it from all of you, in trying to determine what RTOs
17 should do in the planning and expansion process, because we
18 just aren't very good at all because we haven't had to do
19 it. And the lines are muddled now on big kV lines that are
20 used to move bulk power that we're asking state commissions
21 to think through the approval process on. But it's for
22 interstate transmission.

23 So it's a tough assignment that we have had no
24 experience doing, and you still have the responsibility to
25 do that, but we're trying to place some of that on the RTO.

1 So I think your frustration is well founded, because we have
2 no experience doing it. We're trying to make sure -- Bill's
3 questions I think went to a lot of the heart of this session
4 is what should the RTO really do in terms of transmission
5 expansion.

6 MR. DWORKIN: That's why I guess I'd like to
7 suggest that at a minimum, it should be helpful to those who
8 have to make the decisions and need some data.

9 You can go up the scale, and I probably drop off
10 before many people do at how far I'd want you to go, but I'm
11 on from the beginning at the point that there is an
12 important function to be performed here.

13 And I want to draw an analogy to the last major
14 round of transmission siting, which isn't all that long ago.
15 Early 1980s, when many lines were put in, and one that I'm
16 going to particularly mention is from Quebec through Vermont
17 to Central New England for the specific purpose of
18 reinforcing demand in southern New England. The Vermont
19 reaction to should there be a line built across Vermont,
20 varied as you might imagine. And there was a proceeding at
21 the Vermont Public Service Board as to whether it should be
22 authorized. And the statute didn't look exactly like the one
23 now, but it basically said, only if there's no good
24 alternative. And the line was authorized.

25 It was an authorized in an opinion that gave two

1 rationales, although they meant the same thing. ONe was one
2 that was written in regulatory-speak that talked about
3 common reliability benefits and reductions of wholesale
4 demand and the ability to have a reliable network. The
5 other was a quote from a dairy farmer who said I sell my
6 milk down south and I want them to have the electricity to
7 run the refrigerator to put it in.

8 (Laughter.)

9 MR. DWORKIN: Now they both meant the same thing,
10 frankly, once you just translated the vocabulary. But what
11 drove that decision was that NEPOOL at the time, a tight
12 transmission grid, had data that was able to be produced
13 that showed a common value to having it done. People will
14 argue about how the costs were assigned, how the benefits
15 were assigned, did Vermont get too much or too little for
16 giving up the land. But it was put in. It was put in at a
17 reasonable price in a reasonable time period, and state
18 proceedings were able to address it even though it was a
19 multistate issue.

20 But critical to addressing it was high quality
21 good data from a tight transmission grid. And I think you
22 have to have that. You can't move forward without it. But
23 to make it credible nowadays when the range of alternatives,
24 or at least cost alternative, goes beyond just where to put
25 the transmission line or whether to put in another power

1 plant, it needs to be done by a board that is independent of
2 one of those sectors, technically competent, and open to in
3 my mind explicitly charged with the least cost alternative
4 in the general public good.

5 CHAIRMAN WOOD: Chairman Dworkin, what exactly in
6 the last I guess six weeks ISO New England put out a
7 constraint study of sorts. That was postured at one point
8 to identify and I think you were on that as I recall. Is
9 that right?

10 MR. DWORKIN: I was not on it.

11 CHAIRMAN WOOD: Okay. One of your colleagues
12 was. What exactly was the final product? Was an
13 engineering determination that there is a constraint issue?
14 I think the southwest Connecticut one comes to m ind as
15 being probably the most pronounced one in that report. Was
16 that the end state of that report?

17 MR. DWORKIN: I'm in grave danger of saying more
18 than I know.

19 CHAIRMAN WOOD: Okay. Because I don't want to go
20 further either. But I mean that may be a good template.

21 MR. DWORKIN: I think it is.

22 CHAIRMAN WOOD: We've got existing work product,
23 the ISO New England thing, certainly got sufficient trade
24 press and got a lot of interest from the industry as to
25 identifying where the problems were. I don't recall that it

1 identified that that should be solved by a transmission
2 solution. In fact, I'm pretty sure it did not.

3 MR. DWORKIN: The ISO New England part in
4 particular focuses on transmission constraints and it
5 identifies at a broad strategic level a certain number of
6 them. Boston area, heavily constrained with a particular
7 problem not just of demand but of market dominance within
8 the transmission constrained area.

9 Rhode Island and Maine both with a fair amount of
10 power that can't be gotten out. Some small hot spots in
11 Vermont, some of them revolving around an extraordinarily
12 large semiconductor plant.

13 There are issues that it does identify and say
14 here are areas that need to be addressed. It also sets out
15 some decision rules for who should recover the cost,
16 including what looks a lot like a presumption of the
17 prudence of the investment of anything that an interior ISO
18 NEPOOL group approves.

19 I think there's real value to it. It has some
20 dangers that I would worry about which I would call more
21 than tweaks, such as whether there is a timing process that
22 gets serious input from alternatives in before something is
23 essentially preapproved. But believe me, it's a lot better
24 than not having anything. It's a major leap forward.

25 MS. MANZ: I would like to jump in on this point

1 very quickly because New England still has uniform pricing.
2 They don't have locational marginal pricing. And that is
3 the second order effect that I talked about was that you
4 aren't getting the generation locating in Connecticut,
5 because there's no price signal that says it's really
6 worthwhile to go here. And so that's the second order
7 effect is that it starts looking like underbuilt
8 transmission.

9 So I just wanted to tie that in to the point I
10 was trying to make earlier that this may be a symptom of
11 that.

12 MR. DWORKIN: I agree.

13 MS. MANZ: Can I jump in on that one? I think
14 that study just ended at identifying the problems on the
15 system. It never proposed any solutions to it. But
16 although New England hasn't moved into locational pricing
17 yet, generators that are in a congested area get paid their
18 bids or close to it after some mitigations. So the signals
19 are still there although the other side doesn't pay less,
20 and there is a single clearing price in the market, but the
21 generator still gets its bid in the form of an uplift above
22 the clearing price.

23 So it is easy to identify where the congested
24 areas are, and the price signals are there, at least for the
25 generators to move into that area.

1 MS. MANZ: Well, there's a whole debate on pay-
2 as-bid pricing which is probably beyond this panel. I'm not
3 sure you're getting the signals under uniform pricing.

4 MR. DWORKIN: Let me just suggest how it comes
5 across to me is that there's a signal which should in the
6 midterm prompt generation to install in the constrained
7 areas, but there's no signal that sends a clear incentive
8 for transmission to be built to avoid having that generation
9 put into those areas.

10 As it stands, you can say uplift charges are
11 occurring and they're very significant in whether it's
12 Burlington, Vermont or whether it's Massachusetts in the
13 Boston NEMA area. They both occur. They both exist. You
14 can identify them and you can say, hey, I'd like to put a
15 plant into that area and run it out of order out of economic
16 merit, and you can do it. What we don't have is something
17 that says, hey, for half the cost of what you're paying for
18 uplift, you could put in place a transmission alternative.
19 Or for a third of the cost of what you're paying in uplift,
20 you could have a load-serving entity get an incentive to put
21 a load response program or a demand-side management program
22 in place.

23 We're sending a clear signal to generators.
24 We're not sending that signal across the markets. And as we
25 said before, it's the pricing across markets that's far more

1 important than the pricing within markets.

2 MS. MANZ: And actually, the prices if you're
3 under uniform pricing don't price the nodes because the
4 uplift to those specific generators, it's specific to those
5 generators. It's not a transparent market clearing price.
6 So the particular generators that are solving the problem
7 will actually get a higher payment, but there won't be a
8 corresponding market clearing price that's higher in that
9 location. It'll be uplifted to everyone. And so you don't
10 see the siting signal under that particular brand of uniform
11 pricing.

12 CHAIRMAN WOOD: To just follow up on that, Ms.
13 Manz, the earlier panel, someone stated that the LMP did a
14 real good job of telling generators where to go but did not
15 or was very complicated to find the price signal as to where
16 transmission ought to be constructed.

17 MS. MANZ: I don't think it's that complicated.,
18 At any particular point on the electric grid, and we talked
19 about the 2,000 nodes in PJM. But you're usually going to
20 look at one or two. You're not going to look at 2,000. So
21 you look at an area. And if you're a generator, say, oh the
22 prices are high there. I'm going to locate.

23 If you want to build transmission, you can look
24 at two points instead of one. You look at two. And you
25 say, okay, there's value to transmission going between those

1 two points. And you also have the numbers now to say I
2 shouldn't pay more than the congestion between those two
3 points to solve the problem between the points.

4 CHAIRMAN WOOD: And you indicated I think three-
5 quarters of a billion dollars of transmission are being
6 built as a consequence since the '98 LMP was put into place?

7 MS. MANZ: Yes. That's part of the regional
8 transmission expansion plan. Not all of that is Merchant.
9 Not all of that is looking at the locational marginal
10 prices. Some of it is what we would call the backstop
11 upgrades.

12 CHAIRMAN WOOD: Can you kind of split that out
13 for me just so I understand how this --

14 MS. MANZ: I don't have those numbers, but I
15 could have somebody get them to you if you'd like.

16 CHAIRMAN WOOD: Okay. Just be curious if it was
17 more than half, less than half. I mean, certainly I would
18 expect as people get more comfortable with the process that
19 hopefully relies less on the backstop approach.

20 MS. MANZ: I think the important point is you are
21 seeing the Neptune Project, Merchant Generation. The
22 TransEnergy project. They're looking at the signals, and
23 those are basically two points. They're saying all of New
24 York, all of New England, but those are the two points
25 they're looking at to say I want to capture the value

1 between those two markets. That's how it works.

2 CHAIRMAN WOOD: Just a very unrelated issue to
3 anything we've talked about. Does the presence of multiple
4 control areas affect congestion management and transmission
5 planning, or is that really just a side issue?

6 MS. MANZ: Well, I have a view that multiple
7 control areas may be in existence for a long, long time.
8 You have a span of control issue that there's so many system
9 operators on the desk that can work with so many
10 transmission, you know, sort of the switching people out in
11 the field.

12 And so you have this hierarchical structure that
13 our field guys, if you will, roll up to our local system
14 operator, which rolls into PJM. You have sort of a more
15 global system operator. There's no reason why you can't
16 have those control areas then roll up to something even
17 larger. And let me just take the Northeast because it's
18 something we've talked about recently.

19 There is another question which says given that
20 you're still going to have these sort of span and control
21 need for control areas, can you overlay a market between it?
22 Can you exchange the market data and make this look as if
23 it's one large regional market? And I think the answer to
24 that is an overwhelming yes, and that there are great
25 benefits from even if you have the multiple control areas,

1 overlying the market data, because we're solving a computer
2 problem at that point to say can we get the data fast enough
3 to say, sure, we can do this.

4 MR. MAHER: We have nested control areas within
5 our control area already, and we have contracts with many of
6 those utilities, and we will be working those seams issues
7 as we develop RTO through the existing contracts. The
8 nested control areas will have to conform with the rules of
9 the RTO if they choose to use the RTO to export their
10 products.

11 We have an extensive effort going on between our
12 development in RTO West with deserts that are now West
13 connect and with California to assure just what Laura talked
14 about, a seamless market. We find that there are some
15 physical impediments to having a single control area for the
16 West. It's something that could evolve over time, but there
17 is more than a comfort level in having your own control
18 area. We are going to maintain local switching for safety
19 reasons, and so Bonneville will maintain a dispatching for
20 its substation breakers and for maintenance reliability
21 types of issues.

22 But the control of our control area and with the
23 IOUs will go to the scheduling and generation dispatch of
24 the RTO.

25 MR. WALTON: But Mark, just to clarify that, we

1 have been talking, though, at RTO West about a single
2 control area, meaning that there's a single balancing area
3 dispatch. There's a single dispatch for that whole area
4 even though you have all these control centers below. Isn't
5 that correct?

6 MR. MAHER: Right. Within RTO West.

7 MR. WALTON: Right. And currently that would
8 collapse or you'd have a single dispatch for what's now
9 eight separate control areas?

10 MR. MAHER: Well, except for those that don't
11 join the RTO. You know, the Seattle City of Lights and
12 that.

13 MR. WALTON: I agree. But you take PacificCorps
14 and Bonneville in Idaho and Montana and the rest of the
15 list, and that becomes a single control area, which means
16 that what was inadvertent now becomes balancing energy and
17 it becomes explicit.

18 MR. MAHER: Right.

19 MS. MANZ: And to some degree, this is the same
20 problem that had to be solved in Texas to form the Texas
21 ISO, was to get those various service territories to
22 coordinate with a single control area and then, you know,
23 that worked very well to make the ISO. You can have that
24 coordination go on at an even higher level. But it
25 shouldn't stop you from getting the market started.

1 COMMISSIONER MASSEY: I have a question to any of
2 you. To what extent do you think a solid, strong, rational
3 RTO planning process will make it more likely that states
4 will actually site the facilities that are necessary?
5 Commissioner Dworkin, what do you think about that?

6 MR. DWORKIN: I think it's vital. I was
7 mentioning earlier the role that data from NEPOOL had
8 provided in 1982 to '84 in -- I'll put it bluntly --
9 justifying a transmission line across Vermont to central New
10 England.

11 The credibility of that kind of data from a
12 market participant is extraordinarily low. The credibility
13 from an independent ISO or RTO-type group is high enough to
14 get you over a fundamental public acceptance credibility.

15 It's also, in addition to credibility, it's vital
16 to making the right decisions. You might actually get a
17 better answer because of having it, and the faith in that is
18 high.

19 COMMISSIONER MASSEY: Well, you're using the word
20 "credibility". And what do you think is the hallmark of a
21 credible process? Is it just the independence or is it the
22 process as a whole?

23
24
25

1 What, as a state commissioner who is responsible
2 for siting those, what do you find credible.

3 MR. DWORKIN: Well, first, I'm the author of a
4 law review article on siting an environmental criteria by
5 utility commissioners. A lot of states, the siting
6 authority is the state commission.

7 The things that create credibility in an abstract
8 sense are twofold. One is a lack of bias, and the second is
9 a technical competence. The availability of the relevant
10 information and the ability to assess and appraise it.

11 Those are the two key elements, and I can go into
12 detail but those are the ones that matter.

13 COMMISSIONER MASSEY: So the RTO should have a
14 process that, at the end of the day, you see as a highly
15 credible process?

16 MR. DWORKIN: I think so. I don't just want one
17 that meets a small pea political face-saving test, I want
18 one that gives good data, and that means a number of things.
19 It means a long time period, it means it doesn't just get
20 ramped up on a project by project specific basis. It means
21 some capability of staff, some capability of information
22 gathering. I think it probably needs to have an explicit
23 commitment, essentially a fiduciary commitment to the
24 general public good, and in my mind, it needs some public
25 membership participation. There are a number of things that

1 come from that. But the key elements are technical
2 competence and an absence of bias, and if possible I would
3 go for absence of bias rather than the model of
4 countervailing interests. If you bring in all the
5 stakeholders and give each of them a veto right or a
6 majority right, you wind up with lots and lots of process
7 issues but almost no resolution capability.

8 MR. MAHER: That's why we'd hope we'd have an
9 independent board to try to get rid some of the absence of
10 bias, but I think that's very difficult to do.

11 As you know, Bonneville is not a jurisdictional
12 utility. And we see great benefits in being a participant
13 in the RTO, RTO West development. It brings together not
14 only the utilities but our vision is to bring in the state
15 commission, so that we can accelerate transmission siting
16 process or other non-transmission alternatives. Some of our
17 participants, like Pacific, has to go through six separate
18 states if they're going to go through some process to site a
19 transmission line that we'd like to consolidate. So we think
20 there's great benefit in coming together in that process,
21 good data, good people, I'd just echo everything that Mike
22 said here.

23 MR. WORTHINGTON: I have a question here that
24 we're talking about today planning an expansion within
25 independent RTOs. What seems issues or how are you handling

1 seams issues between various RTOs in regard to planning and
2 expansion?

3 MS. MANZ: Well, I'll start. I mean, obviously
4 we have -- we tried very hard in the Northeast through the
5 MOU process, the Memorandum of Understanding, so we were
6 actually on a trail to try to coordinate because one of the
7 things that became very obvious to us was that the larger
8 the coordination, the better your planning process is going
9 to work, and we especially had some issues at the borders of
10 PJM, so we would like to see a planning process that works
11 on a very large regional basis, you know, with a capital V.

12 And one of the things that I think is absolutely
13 critical, and it gets back to one of my beginning points, is
14 that your operations gives you your dispatch signals, gives
15 you your pricing signals for the short-term which gives you
16 your pricing signals for the long run, which gives your
17 pricing signals for planning, and to the extent you don't
18 have those short term market signals lined up between the
19 seams, you're going to have problems lining up your planning
20 process as well.

21 So I think that ties back into yesterday's panel
22 on the standard market design, that that will go a long way
23 toward getting a meaningful planning process over a large
24 region.

25 MR. KELLY: I've a question. A lot of the

1 panel's discussion seemed to be to say that an RTO should
2 develop a plan and then others could come in and fill the
3 need, a merchant plant, for example, could build a line.
4 And that seems to solve a lot of problems and I think I
5 understand how that works.

6 I wonder, though, if it will meet large needs.
7 Steve said in his opening remarks that sometimes you can
8 only build one line across a canyon and right now the market
9 only has a willingness to pay for a small line, but
10 ultimately you'd like to see a larger line in place.

11 I think I've seen in the last few years, an
12 unwillingness on market participants to pay for lines.
13 They're looking for available capacity, and if they can't
14 find it around one route, they'll chose another contract
15 path and presumably RTOs will do away with that by getting
16 rid of contract paths.

17 But I wonder if the small incremental additions
18 that market participants might be willing to pay for to what
19 is basically a single machine, you know, the Western grid,
20 the Eastern grid, would be as fruitful as a centralized
21 planning process. I know that's a bad term because it has
22 soviet connotations, but where you do have a single machine,
23 having a single planner figuring that, you know, will we
24 ever get again the 765 kVA backbone system. Will we ever
25 get again the Pacific interties built. Will we develop

1 large interstate highways for electric transmission across
2 the south where they never have been built if we are
3 depending on market participants to come in and just add
4 those tiny little incremental additions which, in the
5 aggregate, may be a very efficient way if you had a 20-year,
6 30-year planning horizon as opposed to the market's two- or
7 three-year planning horizon.

8 MR. MAHER: I think that's a challenge of the RTO
9 to understand in a future sense what's the mix of resources
10 that they want. As you know, the western governors embarked
11 on a planning process where they looked at that and they
12 came out with two answers. One was sort of the least cost,
13 stick with gas. And the other was you can build
14 transmission and start integrating more coal, less costly
15 resource, but it's offset by higher cost transmission.

16 They didn't complete the economics on that to
17 look at whether it was a push. If it was a push, you know,
18 what sort of the social decision that you would make there,
19 and that's where this open planning process that I've been
20 advocating would come in, and you'd try to get the region to
21 help make that decision, which way you'd go, but it's a
22 costly alternative to you probably won't have subscription
23 to it right away, that you're going to have to build if you
24 make that decision.

25 MR. WALTON: To some degree, that's what I was

1 talking about earlier when I gave that example of the 138
2 versus the 345. And the right thing to do. In my earlier
3 years, we did planning studies, we a lot of times would make
4 a decision to build double circuit tower and only hang one
5 side. And we were making a substantial investment up front,
6 even though it wasn't needed for the new transmission for
7 the specific generator that was being built.

8 And in fact, every time we added some of these
9 lumps, when we were growing rather rapidly, we found that we
10 were accumulating stuff that eventually we could pick up
11 with a fifth unit could be brought on where we'd really just
12 build transmission for four, a fifth unit would fit because
13 we had been incrementally adding additional capacity as we
14 went along.

15 The difficulty of course with that is is that can
16 only be -- that's what I meant about having to have an
17 arbitration decisionmaking process because at some level,
18 you're going to have to say this is the right thing to do,
19 this is the thing we have to do, and in fact the land
20 agencies in the West, say poor service is never going to let
21 us through here again, they want us to do that, and so
22 you're going to have to make the decision to pick those
23 additional costs up which brings you to the cost of
24 allocating that cost to the set of people who are the
25 beneficiaries, auctioning off those rights eventually and

1 bringing the money back.

2 So while the ideal is to have the expansion and
3 where we can have the customers come forward, pay for the
4 expansion and get the rights as a result, they're going to
5 wind up with a lot of cases where there's a case where it's
6 do the right thing, or where there's a backstop issue where
7 nobody's responded and you have to go do that.

8 And somebody says, well, we're going -- the RTO
9 has decided we're going to build this line but there may be
10 people who are building a gas pipeline, for instance, or
11 somebody with generation saying, wait a minute, don't go
12 sticking me with that cost because I'm going to solve the
13 problem myself, so you need some way to settle those
14 disputes as a part of this planning process.

15 In other words, as it goes down to where
16 Commissioner Massey said, okay, we're going to decide we're
17 going to build that, then at that point there still needs an
18 opportunity for people to say no, you shouldn't build this,
19 and there's some way to bring it to this body, to the
20 Commission itself, if need be, to make that final
21 determination.

22 Because these are all great, we can talk about
23 these in the abstract, but you almost always have to have
24 the facts of the specific case, especially for transmission
25 because transmission is so tied to geography and geography

1 is never the same. And so because you're tied to the
2 geography, and the existing topology of the network, then
3 it's almost always case specific as to what you should add.
4 And then there's a judgment call as to what the best long-
5 term expansion is. Some people may say, no, that's the best
6 use of this right-of-way, this is the way it should be used.
7 And someone else says differently.

8 MS. ROSENQVIST: Kevin, when I listened today
9 about least cost planning, I often wondered whether you
10 really meant least cost planning or most efficient planning.
11 Because the example that Steve gave about you build a new
12 structure, you might as well make it for double circuits for
13 future expansion is a good one. In many cases, it pays off
14 over time.

15 To answer your question of whether we would get a
16 backlog system like you did in the eighties, I seriously
17 doubt it after I heard so much fear about overbuilding
18 transmission and biases for transmission and so forth. I
19 think it's just not practical besides. Thirty years is a
20 long time. Things change a lot in 30 years, so my personal
21 feeling is I doubt you will see that kind of infrastructure
22 built.

23 MR. DELGADO: I'm going to differ because I think
24 that those projects were built based on opportunity and a
25 need. The Pacific Northwest, if we had another company like

1 that source of water power, we will in fact go ahead and get
2 that power to the market, and that will require long lines.
3 Whenever that happens, and you know the opportunity for that
4 is actually reduced.

5 The case of the 765 is a whole bunch of nuclears.
6 They got built just about the same time. They needed access
7 for stability of the market. Were we to go back to
8 something like that, we will have to build another 765 if
9 that's the voltage that we choose.

10 I think that the ISOs, RTOs having the original
11 view of need and getting original requests for original
12 service will be very well suited when it is considered what
13 is the suitability. Now not every request can be taken into
14 account.

15 I mean, if I were to get a request to move a
16 thousand megawatts from Vermont to Wisconsin, the first
17 thing I'd check is the sanity of the person.

18 (Laughter.)

19 MR. DELGADO: The second thing I would check is
20 their pocketbook and credit. The third one is I do a study
21 and I give them a quote on the study. Ain't going to be
22 cheap, just the study alone. Now unless I want to pay for
23 it, I'm not going any further. Okay. Because just because
24 somebody requested or can imagine, doesn't mean that it can
25 be done or should be done. But if in fact, we're talking

1 about an energy plan, we find new sources which ought to be
2 tied for stable operations, then I think we will very
3 quickly find it very persuasive to extend the backbone.

4 And now that Bill Massey's back, I just have to
5 get back to him because there's something you said which
6 absolutely I think have to be. On one of the bookends that
7 you posted awhile back, you said that the system appears to
8 be very underbuilt and extremely somewhat decrepit.

9 (Laughter.)

10 MR. DELGADO: The transmission system in North
11 America is probably the strongest energy delivery system in
12 the world. Okay, so much for the propaganda.

13 The fact is it has some very significant gaps.
14 And the gaps were not visible until we changed the way we
15 used it, and you know where that came from, that came from
16 open access. Perfectly good idea, it was a federal policy,
17 you implemented it, and as a consequence we found the system
18 couldn't quite deliver.

19 So we have some gaps. It's no mystery. I can
20 get the map and show it to you and you will agree at one
21 point or another, if in fact we want to implement the policy
22 of Congress, we're going to have to close some gaps.

23 Now on top of that, we have a lot of stuff to do
24 because load keeps growing and generation in existing sites
25 gets shut down and moved way out there which requires far

1 more transmission than before. We used to have a lot of
2 generation downtown. Okay. And that was very efficient.

3 But the point I want to make is that in fact the
4 ISO are the integrated collaboration between ISOs and us, we
5 can in fact find those solutions. In fact, they're not
6 thousand mile lines, until we get to the point that Kevin
7 Kelly's pointing out, if we find a new, enormous source of
8 power.

9 The fact is that there is a multitude of
10 projects, it's a multitude. Some of them require new right-
11 of-way, some of them actually do not require a new right-of-
12 way. The ISOs having original view in fact can identify the
13 best solutions from that, and really is our accumulation of
14 local projects. Thank god for that, because that would be
15 the best way of getting them approved.

16 Otherwise, we have the problem that Mike had in
17 Vermont, which is the humongous line going through Vermont
18 and not exactly providing much benefit, which is very hard
19 to get approval for. So I am far more optimistic, I am far
20 more optimistic about the result of having an overview in
21 the original fashion whether it's an RTO or an ISO, because
22 I think that there'll be some very compelling cases that
23 will be made by the express need of the users and the
24 market.

25 MS. MANZ: Kevin, can I answer your question?

1 I want to just make sure that something I said
2 earlier about the transmission infrastructure the lack of
3 infrastructure may actually be a lack of pricing, is I think
4 that's one of the key questions that has to be answered,
5 hopefully by an RTO in the planning process, to say are we
6 really looking at a 345 kV line that has to be built, and
7 that's, you know, the best solution, or do we really need to
8 get the market prices out there so maybe there's a
9 generating solution that may present itself that could be
10 more cost effective.

11 So, again, make sure you're not looking at only
12 the second order effects.

13 MR. WALTON: And my comment was based on the
14 assumption that you had that already working, that you got
15 the prices already in place, and now you come up with this
16 problem that you have to resolve.

17 MR. CANNON: From a pricing perspective, though,
18 if generation is going to be sort of market-driven, and we
19 want to have this very level playing field in terms of if
20 there's a transmission solution, a demand solution, or a
21 generation solution, that those are all on equal footing.

22 What do we need to do as regulators in terms of
23 the transmission pricing for RTOs to make sure that those
24 decisions are indeed on a level playing field? I see you
25 shaking your head, Jose. I thought this would be a softball

1 to you. But if you're trying to mesh up a market-based
2 system for generation solutions with a cost-of-service
3 regime for transmission solutions, is there something more
4 or something different that we need to do on the
5 transmission side to make sure that we don't bias the
6 solutions that the market would provide.

7 MS. MANZ: I'll jump in with both feet. You need
8 locational marginal pricing with FTRs. That's it.

9 MR. CANNON: That's the Rosetta stone?

10 MS. MANZ: Yes, yes, that's it, and meaningful
11 regional transmission expansion planning process. You have
12 the roadmap, it's there.

13 MR. DELGADO: I think that you have a system that
14 is naturally biased against transmission. The difficulties
15 in building transmission are very significant and they're
16 not going to change. It's a land use issue, it's a property
17 right issue. I think that if we're going to build any
18 transmission in this country, we're going to have to create
19 such a compelling case, that in fact it will be very
20 susceptible to any other solution.

21 So it's internally driven to be biased against
22 transmission. Somebody has said, maybe we should try to
23 bias a case in transmission. I'm perfectly satisfied trying
24 to make that compelling case. And if I can't, I shouldn't
25 build it. I'm very satisfied because above all, we want to

1 make good economic use of capital, okay.

2 MR. DWORKIN: I'd like to chime in on that with
3 an enthusiastic hurrah which is really that when I hear a
4 fear that the need to justify transmission means that it
5 won't be built, I'm not happy because what I actually think
6 is that justifying transmission is the key to getting it
7 built. There is so much of an inherent starting bias
8 against building it, that you need to make the case before
9 in order to overcome the local siting and zoning issues.

10 There needs to be a rational case for why it
11 should be built. I also think that when you expand your
12 horizon of what it means to be least cost, for example, to
13 including air emissions, you'll find that transmission looks
14 far more attractive than many alternatives. It tends not to
15 have a lot of air emissions. And if you think that carbon
16 is important, transmission is a zero carbon solution to an
17 awful lot of problems. It makes sense in a least cost
18 planning if you are pro-transmission to enter into that with
19 your head up and your chest out proud that this is a place
20 in which transmission, as an alternative, can make its case
21 and make it stick.

22 MR. CANNON: Well, I'm looking at the clock, and
23 thinking maybe we could get Scott to do his facilitation
24 voodoo here again and quickly go over the points where we
25 think we have consensus and where we have more work to do.

1 MR. MILLER: Okay, great.

2 I think that the first note of consensus, and
3 what I'm going to look for is the panel to correct me if I
4 mischaracterize consensus, and having known some of these
5 participants, they aren't shrinking violets but please leave
6 your microphones on so people in the back can hear your
7 disagreement.

8 That there needs to be a regulatory or RTO
9 backstop but that at least there's some market expansion
10 contemplated.

11 That's to say that transmission expansion isn't
12 always the solution but sometimes it is. When it is, the
13 market does it or there's an RTO or regulatory backstop.

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1 This was to characterize Chairman Dworkin's point
2 that in his view eminent domain, or the use of it, isn't a
3 market solution, in other words.

4 I kept seeing "info" pop up all the time as one
5 of the RTO benefits. RTO needs to put information into the
6 market so varied solutions can compete.

7 MR. WALTON: I think on the first point there is
8 a dis--I think Masheed and I agree the word "some"--I would
9 say with market expansion "wherever possible" as opposed to
10 just "some."

11 It may be a switch in emphasis, but it is an
12 important one.

13 MS. ROSENQVIST: In fact, I would put number
14 three first because that is that information that gives the
15 market expansions the options to move ahead.

16 MR. MILLER: Well I would put it first except
17 that this came up first.

18 (Laughter.)

19 MR. DWORKIN: If we are all going to chime in, I
20 will have to quibble with my concerns about the commonality
21 of the goods in these cases and the difficulty of assigning
22 them in many cases.

23 So that although I believe we should add
24 significantly more market, and in fact almost exactly what
25 Laura said, locational marginal pricing with a viable right

1 that lasts for as long as the life of the asset and can be
2 relatively easily reassigned.

3 MR. MILLER: Okay.

4 MR. DWORKIN: I have to say that if you take away
5 the sum and imply by that that we think that the market can
6 handle it, it goes further than I think reality will take
7 us.

8 MR. WALTON: No, that's why I said "where
9 possible."

10 MR. MILLER: That's why it says "where possible."

11 MR. WALTON: And when you can't, that's when you
12 have the backstop.

13 MR. MILLER: And by the way, Mr. Maher, are you
14 okay with saying Locational Marginal Price?

15 MR. MAHER: No, I'm not.

16 (Laughter.)

17 MR. MAHER: Because I don't think that is the
18 solution for everyone. It may work in PJM and other places
19 in the U.S., but--

20 MR. MILLER: How about "locational pricing"?

21 MR. MAHER: Well, some financial--

22 MR. MILLER: Come on, work with me here.

23 (Laughter.)

24 MR. MAHER: Well, some financial pricing here is
25 going to have location dimensions to it, yes, but it is not

1 going to be the Harvard formula here.

2 MS. MANZ: How about locational signals?

3 MR. WALTON: And there is a split right now. We
4 haven't been working on that very long, and so if we start
5 down the road of financial rights I think it is going to
6 reopen that question.

7 MR. MILLER: Okay. I'm not going there.

8 MS. MANZ: Scott, I will give you a softball.
9 How about "meaningful pricing signals".

10 MR. MILLER: Okay, meaningful pricing signals.
11 Thanks, Laura, I appreciate it.

12 COMMISSIONER BROWNELL: She's a professional
13 stakeholder.

14 (Laughter.)

15 COMMISSIONER MASSEY: Laura, are you going to be
16 happy if that's what our Order says?

17 (Laughter.)

18 MS. MANZ: I want a softball back now.

19 (Laughter.)

20 MR. DELGADO: What is the criteria for
21 "meaningful" is the next question.

22 MR. MILLER: I don't think there was any
23 agreement on this point. This goes to the right-of-way and
24 the eminent domain issue.

25 I think what, Steve, you were trying to say was

1 that is one way of pricing it but the Chairman was trying to
2 say that is not a market solution.

3 MS. MANZ: Scott, I think where we got on that
4 that was actually consensus was there needs to be an
5 evaluation process on that issue to look at what are the
6 competing interests there. So I think it was, you know,
7 finding the costs between land use and things like that.

8 MR. WALTON: Which really goes back to the
9 information issue because it provides so much more
10 information.

11 MR. MILLER: I'll look to Chairman Dworkin on
12 that to give his assent to that.

13 MR. DWORKIN: The fact that there is a conflict
14 between the concept of market and the mandatory land
15 acquisition is an easy one that we all agree on.

16 MR. MILLER: Well, maybe not.

17 MR. DWORKIN: Well, let me--

18 MR. MILLER: I'm sensing non consensus, and so I
19 am tempted to move on.

20 MR. DWORKIN: What I want to suggest is most
21 important to that, is it's implication for what you draw
22 from that, which is that there needs to be some mechanism
23 greater than the market to resolve the tension that at least
24 most of us see there.

25 MR. MILLER: Okay. But that would go to

1 valuation.

2 MR. DWORKIN: And then we get to whether the
3 valuation is an arbitration panel that we heard from Enron,
4 whether the valuation is a state siting proceeding, whether
5 the valuation is some kind of RTO planning process with a
6 least-cost planning imperative. You know, there are a
7 number of remedies to the tension, but the tension I think
8 is there.

9 MR. MILLER: So you would look for a process to
10 resolve that. And then there is the sort of standardized
11 judicial valuation process.

12 Isolation of transmission costs. I don't exactly
13 know what I was meaning about that point.

14 MR. WALTON: That for generation, that you have
15 not the same party making both decisions.

16 MR. MILLER: Right, right.

17 MR. WALTON: That you have--

18 MR. MILLER: Unbundled, right.

19 MR. WALTON: And particularly Chairman Dworkin
20 was I think specifically referring to the fact that it
21 didn't just need to be a separate line item in the same
22 corporation, but that they were separate entities.

23 MR. MILLER: Got it.

24 MR. WALTON: Isn't that right?

25 MR. DWORKIN: The buyer needs to be able to make

1 separate decisions about what kind of purchase they want to
2 make.

3 MR. MILLER: Okay. All right.

4 COMMISSIONER MASSEY: Is there an agreement on
5 the concept of a least-cost planning process? Or is that
6 going too far?

7 MR. WALTON: The problem with the term "least-
8 cost plan" is that it's got all this freight baggage,
9 there's all this baggage that implied integrated resource
10 planning, which means that you'd made the decision about
11 which resource got built. And I don't know that we can do
12 that. There is a least-cost transmission plan, but I don't
13 know that it's an integrated resource plan.

14 COMMISSIONER MASSEY: Well, Laura can probably
15 come up with a phrase to define it--

16 (Laughter.)

17 COMMISSIONER MASSEY: --so we're all happy.

18 MS. ROSENQVIST: I thought we called it "most
19 efficient solution" not necessarily--

20 MR. DELGADO: We have a conflict, which is what
21 is most efficient for Indiana may not be the best for
22 Illinois. Okay? So when you're talking about least-cost in
23 a regional fashion, I think you are going to face the fact
24 that there is no original government in the United States of
25 America to make that decision, the policy decision.

1 And I think that you can in fact say the
2 components are there for creating a least cost, which means
3 resulting lower costs it will get done before transmission,
4 which is the point I've been making all along.

5 But there is a great difficulty trying to say the
6 RTO will decide on least-cost. That is something the state
7 commissions could do because they represented the
8 government. It only affected the states. And in fact the
9 costs were all contained in there.

10 It is very difficult to do that across state
11 lines. What is least cost for one state may not be the
12 least cost for the other.

13 MS. MANZ: I think we need to look at is it
14 stakeholder driven? And everyone that I have heard talk, is
15 it in the public interest?

16 I am not sure we want to put "least cost," but I
17 think we can all agree it needs to be in the public
18 interest.

19 MR. MILLER: Well that goes back to process,
20 which needs to be stakeholder driven and in the public
21 interest. Right? Okay.

22 And this goes to Commissioner Massey's question
23 under the two theories: Either the transmission system is
24 decrepit and underbuilt, or everything is okay and the
25 market will do it.

1 And what I heard was that there was some sort of
2 mix, and that goes back to your process by which there is
3 the market solutions. And when that doesn't work, that the
4 RTO under process will build some of these things.

5 I guess this goes to Dick's fish question. Is
6 LMP not feasible in the WSUC?

7 MR. MAHER: Drop the "M" and we can probably say
8 that it may be feasible there.

9 MR. MILLER: So what we're saying is locational
10 is feasible. Locational system is feasible.

11 MR. MAHER: We're working on it.

12 MR. MILLER: Got 'cha.

13 COMMISSIONER BROWNELL: How far away?

14 MR. WALTON: About 2000 miles.

15 (Laughter.)

16 MR. MILLER: There's always a smart one in the
17 group.

18 MR. MAHER: We're closer than we were in the
19 physical.

20 MR. MILLER: Okay, this goes to Commissioner--

21 MR. MAHER: Maybe we need Laura to come out and--

22 MR. MILLER: I'm sure PSG&E will allow her to go.

23 (Laughter.)

24 MR. MILLER: This goes to Commissioner
25 Breathitt's question: Can gas transmission/electric

1 transmission co-exist?

2 I think the panel was sort of talking about there
3 needing to be the underpinning of an RTO process whereby it
4 makes all information, the total information available so
5 that solutions are driven mostly through the markets, but
6 everyone can see that there may be need for gas
7 transmission decisions to be made as well as electric
8 transmission. Again, information is the key here.

9 MR. DWORKIN: Well I would like to stress two
10 points in regard to that.

11 One is, I regard it as an example of why we use a
12 vocabulary of least cost, whatever its baggage from a decade
13 ago, because if we define only the lowest cost transmission
14 solution we miss the option of whether a gas pipeline might
15 be a lower cost, and many of us have to make that decision.

16 The second half of it is the implication of that
17 isn't just informational. Somebody has to make the
18 decision, and there should be an imperative for the
19 decisionmaker to make that decision in a way that has
20 tradeoffs and that chooses what actually looks like the best
21 solution instead of floating into one or another.

22 And they need to have a broad enough world of
23 allowable answers to not just say this is the best answer
24 within my tiny little world. They need to have a world that
25 includes the feasible alternatives.

1 MR. MILLER: And I think that is an amplification
2 on the RTO process, which then again gets into your various
3 levels here, which again I had information:

4 The establishment of a prerequisite.

5 Then, preapproval.

6 And then finally, assigning responsibility.

7 And, Masheed, did you have something that you
8 wanted to add?

9 MS. ROSENQVIST: I didn't know if this was the
10 end of the list or not.

11 MR. MILLER: I think I've got more.

12 MS. ROSENQVIST: I will wait.

13 MR. MILLER: Let's see. Well, does LMP
14 facilitate all congestion solutions?

15 I doubt that we will have agreement on that.

16 MS. MANZ: I need to make a point here. LMP
17 doesn't "do" anything. It just gives you a set of prices so
18 that others can do things based on the pricing information.

19 MR. MILLER: I think that is why I was
20 underlining "facilitate."

21 MS. MANZ: Okay. It is the information that we
22 have talked about in all the other pages.

23 MR. MILLER: Would it be okay to say "locational
24 pricing"?

25 MR. DWORKIN: Yes.

1 MS. MANZ: Well, I don't know because then it
2 depends on what kind of locational pricing. I mean that one
3 gets a little harder. And I have been trying to be fair on
4 this.

5 (Laughter.)

6 MR. MILLER: Well, it always gets difficult when
7 you get to the degree of granularity. I understand.

8 And again, this keeps coming up again and again:
9 RTO process requirement: independence and technical
10 expertise.

11 MR. DWORKIN: I guess I would like to comment on
12 that, because I said--

13 MR. MILLER: Good. It's yours.

14 MR. DWORKIN: Yes. I said technical competence,
15 and I said lack of bias. And I think I'll accept technical
16 as a good constraint for technical competence. But
17 independence and lack of bias are not essentially the same
18 thing. It is important to distinguish between being
19 independent of the market participants for whom the rules
20 are written and whose behavior at times has to be
21 controlled, and who at times have to be scored.

22 You don't have to have the kind of situation
23 that we had when Happy Chandler was the Commissioner of
24 Baseball and all he wanted to do was to make the owners
25 happy, and he ruined the League.

1 You want to have the kind of, you know--Judge
2 Landis--

3 MR. MILLER: Could I buy you a beer and talk to
4 you about that?

5 (Laughter.)

6 MR. DWORKIN: We would have a long conversation.
7 The point is, independence of the market participants in an
8 ability to regulate them, but not total independence. I
9 actually believe in accountability.

10 And accountability is different from
11 independence. It is one reason that I think there ought to
12 be seats on many RTO for people explicitly committed to a
13 fiduciary responsibility to the general good.

14 I have had a variety of proposals ranging from--
15 they get selected from a pool nominated by the State
16 Governors or Legislatures or commissions to anything like
17 that. They should be a minority. They ought to be long-
18 term. But they should be people who have--they should be
19 non-removable to keep them from being politically jerked
20 around. But they should be people who have an
21 accountability in the end.

22 MR. MILLER: Would the rest of the group agree
23 with those four criteria as a minimum for an RTO process?

24 MR. DELGADO: It creates some very significant
25 problems. If the RTO happens to be a transmission owner, it

1 is going to be very difficult for it to be considered free
2 of bias. And then we are talking about perhaps something
3 that is proposed to be over the RTOs.

4 If the RTO was an independent company and does
5 not own transmission, then they will have to see what is the
6 level of responsibility it has for an overall solution. Or
7 is it in fact still a transmission operator, transmission
8 planner that is looking at original solutions?

9 I think you are going to be asking a pear tree
10 for apples here. Okay? And I am concerned that in fact
11 those two concepts are not going to match. You're either
12 looking for a different organization, or you are not looking
13 at the RTO organizations that have been proposed right now.

14 MR. MILLER: Well, then to back this up and to
15 say that we need--that there needs to be a credible RTO
16 process, but we can't quite discern whether or not it is
17 independent or has accountability.

18 MR. DELGADO: Or whether it belongs at the RTO.
19 It is not that the siting remains with some service
20 organization, or maybe it goes to the federal organization,
21 but the fact is that you still have a regulatory
22 organization that actually makes that judgment.

23 I think as long as the RTOs have the structure
24 that we have proposed to date, that it is going to be
25 difficult to meet those four requirements.

1 Independents, yes; the technical, yes; a lack of
2 bias, I would swear on a stack of Bibles that I am without
3 bias, but I am a transmission provider.

4 MR. MAHER: No, I like your list.

5 MS. ROSENQVIST: I do, too.

6 MR. MAHER: I think it hits everything that needs
7 to be in an RTO: the independence, the competency, lack of
8 bias, and the accountability.

9 MR. MILLER: Okay, we almost have consensus, but
10 not quite.

11 MR. WALTON: I think the issue turns on whether
12 it is an ISO or a transco, because a transco is an owner.

13 MR. MILLER: I was hoping you weren't going to
14 bring that up.

15 (Laughter.)

16 MS. ROSENQVIST: Well, you're going to get there
17 because--

18 MR. WALTON: I mean that's where the difference
19 is here. That is what Jose is really talking about is that
20 other forum. If it is the ISO, that is a list that, sure,
21 we can agree to.

22 MR. MILLER: No, I think that is where the rub
23 is.

24 MR. WALTON: And with transco you can't have
25 accountability because they're responsible for what they

1 invest in and whether they get it back.

2 MR. MILLER: Right.

3 MR. WALTON: But the bias issue becomes
4 problematic with that particular forum.

5 MR. MILLER: I trust you, Masheed.

6 MS. ROSENQVIST: No, it's a tradeoff between
7 accountability and a bias. And if we pick the model that we
8 talked about this afternoon about transmission built as only
9 a backstop while you give all the market participants their
10 opportunities, then the bias issue should not exist anymore.

11 MR. MILLER: Yes. I guess one of the issues that
12 has come up, Mr. Chairman, is if all other avenues have been
13 exhausted and yet you haven't found any of the solutions,
14 and so your backstop is still there, you know, how you get
15 over that hurdle I don't know. I guess it's because the
16 regulator is--you know, some regulator is going to be
17 standing there.

18 MS. MANZ: Scott, I would like to offer that form
19 follows function. You're talking about essential functions
20 of a process, and those are essential functions of the
21 process. And we need to leave the organizational discussion
22 perhaps for a different day. But I think those are the
23 process characteristics, if nothing else.

24 MR. WALTON: True. But what we were talking
25 about is who is running the process has an effect, too, on

1 the process.

2 MR. MILLER: Yes. That is why I think that we
3 are not at quite consensus.

4 MR. WALTON: It is entangled.

5 MR. MILLER: And this was just something that I
6 threw up there in a giddy moment. That is, when you get to
7 that final point and the RTO is building, should they build
8 big? Or should they just build to need?

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1 MR. DWORKIN: I'm going to suggest the answer to
2 that turns on your time horizon. If you take a least cost
3 approach, you want the least cost over 20 years, least cost
4 over 30 years. If you're looking for least cost over the
5 next quarterly earnings report to stockholders, you're going
6 to make some bad decisions. If you take a planning horizon
7 that matches the weighted average of the investment, then
8 you're going to have a horizon in which you make a rational
9 choice about how to make it.

10 MR. WALTON: My only dissent from that is we made
11 some what we thought were long-term policy decisions 15
12 years ago about the use of gas generation, for instance, for
13 generation. And we signed a bunch of QF contracts, some of
14 six cents, which turned out to look pretty bad after awhile,
15 because we misjudged the future.

16 So as a former planner, I'm pretty sure that
17 we'll -- the thing you do about planning is you're trying to
18 make the right decision. You look out as far as you can so
19 you make next year's decision best, knowing that every
20 decision you're going to make is going to be wrong in the
21 long run.

22 MR. MILLER: And I think one of the things we
23 have to take into consideration are things like distributed
24 generation as it comes on. But I think that the qualifier
25 of depending on time horizon is probably adequate.

1 MS. MANZ: And I think you have a very important
2 point there is knowing the planning process will be wrong.
3 It's just a fact of planning. Who's going to bear the
4 costs? Who is that allocation? Where is that allocation?

5 MR. MILLER: Right. It's subject to allocation
6 and appeal.

7 MS. MANZ: I think that ties back to trying to
8 get the Merchant investment in, because it doesn't have all
9 of those cost of being wrong go to a larger group.

10 MR. MILLER: Mr. Moderator?

11 MR. CANNON: This is where I say thank you to a
12 great panel.

13 MS. ROSENQVIST: Can I?

14 MR. CANNON: Okay. One more.

15 MS. ROSENQVIST: I started asking a question on
16 page one. What did you end up writing on the last item on
17 page one? It was something about isolation.

18 MR. MILLER: Isolation of -- in other words, that
19 it has to be unbundled, that the transmission -- that you
20 don't lump in generation and other things into the
21 transmission costs. This is the debate.

22 MS. ROSENQVIST: Okay. Thank you.

23 MR. CANNON: Okay. One, one one last more.

24 MR. DWORKIN: This really is a courtesy thank
25 you, and it's meant really seriously. There's a lot of talk

1 about people talking together, trying to be useful, trying
2 to collaborate. How the states and FERC get along with each
3 other is an issue we always wonder about. There's actually
4 some mechanical issues about how this is done that may not
5 be right, but the fundamentals of trying to do it this way,
6 real high value. And I want you to know that I appreciate
7 it and I think a lot of people do.

8 The mechanics we can all work on because I'm
9 hoping you'll do this again and again in lots of way. But
10 the fundamental effort is tremendously valuable, not just to
11 us getting along with each other, but to getting a better
12 answer.

13 CHAIRMAN WOOD: Thank you for that reminder.
14 I'll clap to that.

15 (Applause.)

16 CHAIRMAN WOOD: The point of what we're doing is
17 just that -- making sure that the customer gets a better
18 market than he has under the old work. Camp FERC resumes at
19 ten o'clock tomorrow promptly with Standardizing RTO Tariffs
20 and RTO Facilities Costs Recovery and Shifting. Meeting
21 adjourned.

22 (Whereupon, at 5:10 p.m. on Tuesday, October
23 16th, 2001, the meeting was recessed, to reconvene at 10:00
24 a.m. Wednesday, October 17th, 2001 at 10:00 a.m.)

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