Before the

FEDERAL ENERGY REGULATORY COMMISSION

995th Commission Meeting

Thursday, June 20, 2013

Hearing room 2C

888 First Street, N.E.

Washington, D.C.20426

The Commission met in open session, pursuant to notice, at 10:07 a.m., when were present:

COMMISSIONERS:

JON WELLINGHOFF, Chairman

PHILIP MOELLER, Commissioner

JOHN NORRIS, Commissioner

CHERYL A. LaFLEUR, Commissioner

TONY CLARK, Commissioner

FERC STAFF:

KIMBERLY D. BOSE, Secretary

JIM PEDERSON, Chief of Staff

JOSEPH McCLELLAND, Director, OEIS

MICHAEL BARDEE, Director, OER

DAVID MORENOFF, Acting General Counsel

JEFF WRIGHT, Director, OEP

MICHAEL McLAUGHLIN, OEMR

JAMIE SIMLER, Director, OEPI

NORMAN BAY, Director, OE

PRESENTERS:

A-4: Coordination Between Natural Gas and Electricity Markets

VALERIA ANNIBALI, OE

JACOB LUCAS, OER

OSCAR SANTILLANA, OEMR

BUKOLA ADETAYO, OEP

A-3: Capacity Deliverability Across MISO/PJM Seam

MR. CLAIR MOELLER, MISO

MR. ANDREW OTT, PJM

COMMISSIONER KARI BENNETT, OMS-OPSI

CHAIRMAN PHIL MONTGOMERY, OMS-OPSI

COMMISSIONER GREG WHITE, OMS-OPSI

DR. DAVID PATTON, MISO Market Monitor

DR. JOSEPH BOWRING, PJM Market Monitor

COURT REPORTER: Jane W. Beach, Ace-Federal Reporters, Inc.

P R O C E E D I N G S

(10:07 a.m.)

CHAIRMAN WELLINGHOFF: All right, if we could bring this meeting to order, please. Good morning, everybody. This is the time and place that has been noticed for the open meeting of the Federal Energy Regulatory Commission to consider matters that have been duly posted in accordance with the Government in Sunshine Act. Please join me for the Pledge of Allegiance.

(Pledge of Allegiance recited.)

CHAIRMAN WELLINGHOFF: Well since the May 16th open meeting we have issued 81 Notational Orders, up from 57 last month. And I am going to throw our Secretary a curve here.

Kim, what meeting number is this?

(Laughter.)

CHAIRMAN WELLINGHOFF: Of the meetings that the Commission has had?

SECRETARY BOSE: It is the 995th meeting.

CHAIRMAN WELLINGHOFF: 995th meeting.

SECRETARY BOSE: Thank you for that curve ball.

(Laughter.)

CHAIRMAN WELLINGHOFF: So as I understand from Commissioner LaFleur, who we discussed this yesterday, the December meeting will be our 1,000th meeting. And I actually hope to be here then--I may be here then, you don't know. So--

(Laughter.)

CHAIRMAN WELLINGHOFF: So in any case, if we do we will have a party.

In any case, before we begin today's business I understand that Commissioner LaFleur has a personnel announcement to make, and also has a very fancy T-shirt on, as well.

COMMISSIONER LaFLEUR: Yes. My announcement is not about the Bruins. I have already kind of made that. But I just wanted to take one second to introduce, we have a summer intern in our office this summer who is here being financed by the Princeton In Community Service Program, Daniel Jang. He is a sophomore at Princeton in Operations Research. I'm looking all over for him. He's right there. He is smart enough not to sit on the bench, the uncomfortable bench seats.

(Laughter.)

COMMISSIONER LaFLEUR: But we welcome him to the Commission.

CHAIRMAN WELLINGHOFF: Thank you. And also we're going to have some presentations later on, but I want to recognize a couple of our colleagues that we have from our fellow commissioners. We have Chairman Phillip Montgomery from Wisconsin. Phil, thank you for being here.

And we have Commissioner Greg White from Michigan. Greg. I want to note that actually Greg is truly dedicated, because Greg got married yesterday. So to come here today, I don't know if I would have done that, Greg, myself.

(Laughter.)

CHAIRMAN WELLINGHOFF: And we also have Commissioner Kari Bennett. Kari. And Ed Finley from North Carolina, as well. Ed, good to see you here.

So thank you all for attending this morning, and we look forward to your participation and presentations later on in the agenda.

So, Madam Secretary, then, if there is no other announcements ahead of the Consent Agenda, if we could please move to the Consent Agenda.

SECRETARY BOSE: Good morning, Mr. Chairman, and good morning, Commissioners.

Since the issuance of the Sunshine Act Notice on June 13th, 2013, no items have been struck from this morning's agenda. You Consent Agenda is as follows:

Electric Items: E-1, E-2, E-3, E-4, E-5, E-6, E-7, E-8, E-9, E-10, E-11, E-12, E-13, E-14, E-15, and E-16.

Hydro Items: H-1, H-2, and H-3.

Certificate Items: C-1 and C-2.

As required by law, Chairman Wellinghoff is not participating in Item E-1. Also as to E-1, Commissioner Clark is dissenting with a separate statement.

As to E-2, Commissioner Clark is concurring with a separate statement.

As to E-3, Commissioners Norris and LaFleur are dissenting in part with a joint separate statement.

As to E-4, Commissioners Norris and LaFleur are dissenting in part with a joint separate statement.

As to E-16, Commissioner Clark is dissenting.

As to H-1, Commissioner Moeller is concurring with a separate statement.

We are now ready to take a vote on this morning's Consent Agenda. The vote begins with Commissioner Clark--

CHAIRMAN WELLINGHOFF: And prior to doing that, Madam Secretary, does anybody have any comments on any of the Consent Agenda items? Commissioner LaFleur, did you have something?

COMMISSIONER LaFLEUR: It seems somewhat anticlimactic as we're ready for the vote, but I just wanted to note, even though we didn't put them on the docket because we have so many imminent guests this morning, we have three big reliability orders. The approval of the bifurcation of WECC, which is a big step they've been working on, and the rate treatment for that. NERC's request to retire 34 requirements and reliability standards, and Commission staff chipped in 41 directives that were outdated or already met. And also the approval of the Fine Fixed Track and Report report that NERC did in largely approving their request to enhance and expand the program.

Also, just to advertise, we have a couple that really will be built on in a couple of tech conferences. July 9th we will be looking at some of NERC's ongoing efforts to build on their compliance and standards work, and the priorities for the coming year.

And on September 25th, another aspect of reliability looking at capacity markets. So thank you to the staff for getting out all those notices and working on that.

Thank you.

CHAIRMAN WELLINGHOFF: Thank you, Commissioner LaFleur. Does anybody else have any comments on any of the items on the Consent Agenda?

(No response.)

CHAIRMAN WELLINGHOFF: If not, I think, Madam Secretary, we are now ready to vote. Thank you.

SECRETARY BOSE: And the vote begins with Commissioner Clark.

COMMISSIONER CLARK: Noting my dissents in E-1 and E-16, I vote yes.

SECRETARY BOSE: Commissioner LaFleur.

COMMISSIONER LaFLEUR: Noting my partial dissents in E-3 and E-4, I vote aye.

SECRETARY BOSE: Commissioner Norris.No

COMMISSIONER NORRIS: Noting my partial dissents on E-3 and E-4, I vote aye.

SECRETARY BOSE: Commissioner Moeller.

COMMISSIONER MOELLER: Noting my concurrence in H-1, I vote aye.

SECRETARY BOSE: And Chairman Wellinghoff.

CHAIRMAN WELLINGHOFF: Yes, noting my recusal in E-1, I vote aye.

And if we could then, Madam Secretary, move on to the Discussion Agenda.

SECRETARY BOSE: The first item for presentation and discussion this morning is Item A-4 concerning the coordination between natural gas and electricity markets. There will be a presentation by Valeria Annibali from the Office of Enforcement, and Jacob Lucas from the Office of Electric Reliability. They are accompanied by Oscar Santillana from OEMR; and Bukola Adetayo, from OEP.

(A PowerPoint presentation follows:)

MS. ANNIBALI: Good morning, Mr. Chairman and Commissioners.

CHAIRMAN WELLINGHOFF: Good morning.

MS. ANNIBALI: This presentation reports the highlights from staff's second Quarterly Update on Gas-Electric Coordination Activities. The full report will be posted publicly on the Commission's website.

MR. LUCAS: This presentation captures events during the period from March 2013 to June 2013. We highlight national and regional efforts on natural gas and electric coordination, and include an overview of recent Commission activities.

At the national level, there continues to be significant activity. On May 22nd, the North American Electric Reliability Corporation, or NERC, released its Phase II Special Assessment on Natural Gas and Electric Power Interdependency.

It focuses on vulnerabilities that can affect bulk power system reliability. As part of that Special Assessment, NERC recommends incorporating fuel availability into national and regional reliability assessments.

The NERC Special Assessment also recommends increased coordination and sharing of operational planning information through formalized communication. Next steps include identifying how risk assessments are performed in different regions, and using this information to develop recommendations for a uniform seasonal and long-term reliability assessment process for consideration by the NERC Planning Committee.

There was also a Congressional hearing on May 9th, and a Senate Forum on May 14th, 2013, addressing increased interdependence of the natural gas and electricity sectors.

Other national trade organizations continue, both through the trade association and via individual members, to outreach with the RTOs and ISOs. Many of the trade associations' individual members continue to also be involved in the regional working group efforts and, in some instances, proceedings before the Commission.

Turning to the individual regions, each region continued some level of engagement and focus on issues of gas-electric coordination. This information is based on staff outreach and monitoring of the regional gas-electric coordination task force meetings.

We start with New England. Efforts in New England continue to be led by the New England States Committee on Electricity, or NESCOE, Gas-Electric Focus Group.

The most recent Focus Group monthly communication meetings focused on evaluating last winter's challenges and identifying short-term solutions for next winter, which included three proposals to ensure adequate fuel supplies for gas-fired and dual gas/oil-fired generators next winter.

One proposal by ISO-New England would create a regional energy inventory of 4.2 million barrels of oil equivalent. ISO-New England's plan would rely on oil-fired units, dual-fuel generators, and a wind demand response--winter demand response program.

NESCOE has also formed natural gas and electric market subcommittees to examine existing market issues in the region. The subcommittees are continuing to investigate a common information platform to better employ communication systems to enhance opportunities to buy, sell, nominate, and schedule natural gas supply during the less liquid times of the gas markets.

In addition, Black & Veatch presented its findings from the phase of its New England Pipeline Capacity Study. Phase III of the Black & Veatch Report is planned for completion in September 2013 and will update infrastructure cost estimates and provide recommended natural gas infrastructure and electric solutions for the region.

In addition, ISO-New England continues to coordinate with stakeholders through the Electric/Gas Operations Committee meetings. During the latest March meeting, the Committee discussed gas and electric postwinter operations, scheduled 2013 maintenance and system updates.

Turning to the Mid-Atlantic, progress continues on the Eastern Interconnection Planning Collaborative, or the EIPC Study. This study will focus on a multi-regional natural gas/electric analysis of major interstate, intrastate, and local natural gas infrastructure serving the Eastern Interconnection.

Recently, the American Gas Association was asked to provide a local distribution company perspective. The final documents for a request for proposal are being completed with stakeholder outreach planned for June and a final RFP to be issued by mid-July. Final work is scheduled to be completed by May of 2015.

The New York ISO staff continues its efforts through the Electric-Gas Coordination Working Group. Their working group reviewed gas-fired generation operating status during the Martin Luther King, Jr., holiday cold snap. Additionally, the New York ISO requested a short-term outlook "static" study to be conducted by Levitan & Associates and is nearing completion.

PJM held its first meeting of a newly formed Gas/Electric Senior Task Force on April 30th of 2013. During the meeting, the task force began creating a work plan including a charter and discussed gas/electric issues.

Their mission is to focus on the exploration and prioritization of gas/electric issues that are not already being addressed by other PJM market and financial groups. The task force expects to be active over the next three to four years.

In the Midwest, the MISO's Electric-Natural Gas Coordination Task Force continues to meet monthly to discuss MISO's resource adequacy construct and to discuss criteria for the potential designation of critical generators.

In addition, the Task Force announced Phase II of the MISO Gas-Electric Infrastructure Interdependency Analysis which will examine the potential impact specific natural gas delivery failures may have on electric reliability. The study is expected to be completed by 2014.

SPP has established a Gas-Electric Coordination Task Force. The Task Force is developing coordinated communication plans for use during gas supply events, and is identifying any single-point-of-failure concerns in the SPP region.

ERCOT is working with the Texas Pipeline Association and the Texas Railroad Commission to incorporate the location of significant gas facilities into the ERCOT electric network model. This will facilitate ERCOT's study of the potential impact of electric outages on pipelines and pipeline outages on generators with plans to develop this analysis in 2014.

Regular discussions continue in the Southeast to ensure adequate coordination between the natural gas and electric industry.

The West has a number of subregional natural gas-electric coordination initiatives.

The Western GAs-Electric Regional Assessment Task Force issued an RFP for its Western Natural Gas-Electric Infrastructure and System Flexibility Assessment introduced last quarter. Responses to the RFP are due by July 3rd, 2013.

During the second quarter of 2013, the WECC Joint Guidance Committee discussed the recent FERC technical conferences and the NERC Phase II report.

Additionally, the Department of Homeland Security and FEMA conducted a successful Natural Gas-Electric Emergency Exercise during April examining emergency protocols in place during an emergency and energy disruption scenario. For the first time, the emergency exercise included electric and gas utilities, and WECC representatives. WECC is likely to hold a follow-up Natural Gas-Electric conference later in 2013.

ColumbiaGrid's Gas-Electric Interdependencies

Study Team finalized its I-5 Corridor Study investigating electric transmission reliability issues associated with a hypothetical limitation of gas supply to electric generators. The final study conclusions reaffirmed preliminary findings that the electric transmission system performed acceptably under this "what-if?" scenario.

Also in the Pacific Northwest, natural gas pipelines and electric utilities continue to discuss enhanced communications and coordination through the Power and Natural Gas Planning Task Force meetings.

As part of the Northwest Mutual Assistance Agreement, a collaborative Emergency Planning Committee was formed to discuss winter preparedness. The group met on June 12th, 2013, to discuss how the group would function in an emergency situation and to learn how the new communications package would work.

The California ISO continues to participate in discussions with the Western Electric Industry Leaders Group, providing inputs to the Western Interstate Energy Board gas infrastructure assessment.

The California ISO is also exploring best practices in communicating with natural gas pipelines and coordinating electric system and natural gas pipeline operations with other RTOs and ISOs.

A new group was created in the Southwest called the Desert Southwest Task Force, with its initial meeting held on May 23rd. During the initial meeting, stakeholders provided an overview of gas-electric coordination issues and began identifying immediate issues in the Southwest and potential next steps. The Task Force had its second meeting on June 18th, and it plans to continue meeting monthly.

Our final area to report on is activity at the Commission. As you know, the Commission held two meetings: a technical conference in April, and a special Commission meeting in May.

From staff's perspective, the issues raised at the April technical conference were familiar and included concerns in some regions regarding the natural gas operating day start time, the mismatch between the Day-Ahead electric commitments and the timely nomination cycle for natural gas transportation, and the potential need for additional standard natural gas pipeline nomination opportunities.

Participants also suggested that additional services offered by pipelines increase flexibility in constrained markets, but could be improved with more relaxed requirements.

At the special Commission meeting in May, representatives from each RTO and ISO, including ERCOT, shared their experiences from the winter and spring and described the progress made in refining existing practices to provide better coordination between the natural gas and electric industries and ensure adequate fuel supplies.

The RTOs and ISOs addressed natural gas transportation concerns that emerged during the winter heating season, and identified fuel-related generator outages that occurred during the winter and spring. Both the New York ISO and ISO-New England noted that they faced operational challenges in January and February.

More generally, representatives from each RTO and ISO discussed common issues, including a growing dependence on gas-fired generation, as well as a need to improve situational awareness, to address when communications are allowed, and to consider market rule changes.

Pipelines continued to file applications to expand pipeline capacity and increase operational flexibility.

Gulf South, Gulf Crossing Pipeline Company, and Sierrita Gas Pipeline proposed to construct facilities to provide new or expanded firm transportation service to electric power generators.

Approximately 1.6 Bcf per day of overall design capacity is being added to the Southeast, the Midwest, and the West. These cases are still pending.

In addition, several interstate natural gas pipelines made filings to provide increased service flexibility. These changes are designed to allow shippers additional nomination opportunities beyond the four standard NAESB nomination cycles. The Trailblazer pipeline case is still pending.

Filings made by the electric industry to address the increasing reliance on natural gas-fired generators are from the Northeast region and include a complaint by generators, a rule change by the ISO-New England, and a filing by a generator to recover fuel costs. More information about these filings is included in the online report.

Staff's next quarterly report is due in October. STaff will continue regular outreach with the national and regional entities regarding their efforts on gas-electric coordination.

This concludes today's presentation of the second Quarterly Update on Gas-Electric Coordination Activities, and we would be happy to answer any questions you may have.

CHAIRMAN WELLINGHOFF: Thank you, Jacob and Valeria. I want to thank all the members of your team for this report that you've provided to us.

Colleagues, questions? Phil?

COMMISSIONER MOELLER: Well thank you, Mr. Chairman. First I want to thank you for giving us time on the agenda. I know that we have a busy day today, and allowing this issue to be discussed and updated is part of the warm-up act for the next set of discussions and is appreciated.

Secondly, to the team led by Caroline Daly, the continued work you're doing on this, a lot of progress but we still have a long way to go.

Third, to thank the regions and the subregions for the leadership they're showing on this issue, continuing to keep it in front of people so that the discussions and the communication flows on trying to deal with this multitude of issues related to the larger topic.

Finally, I want to thank the Department of Energy for agreeing to fund the Icepick Study that will be a comprehensive look at how the regions basically in the East are dealing with this collectively.

So again, thank you for the time to discuss this topic.

CHAIRMAN WELLINGHOFF: You're welcome. John?

COMMISSIONER NORRIS: Thank you as well for your work on this, appreciate it.

One of my concerns in this area is that we maximize our current infrastructure first before we start putting new pipe in the ground, and I think you have addressed that in your report on the capacity release and the electric/gas scheduling procedures and the way to maximize the current infrastructure.

And then secondly, I think it is important for regions to think about what type of fuel mix is desirable, or makes sense for them, going forward so that we get cost efficient generation going forward, and also reliable power. But also, to take into account those states who have made decisions on renewable energy, low-carbon energy, both present and future decisions that may be made.

I think in New England this is most serious, from the data we have, and in discussions with folks around the country. You cite the Black & Veatch study and the Senate committee forum on this. I was curious if those initiatives are considering also ways to maximize the core infrastructure? Also, ways to consider what is a smart or appropriate fuel mix going forward, so that we address those two issues before we start investing in long-term infrastructure and assets that consumers will pay for for some time.

MS. ANNIBALI: Thank you for the question.

The Black & Veatch study, in the second phase that was presented recently, looked at a historical look-back of demand for natural gas from different sectors. That was one of the first steps into trying to analyze what future demand would look like.

The Phase III that Jacob mentioned will explore further how much demand is expanded in the region, and what type of fuel mix will be needed to meet that demand from the different sectors.

In addition to that, the study will also look at how much additional pipeline capacity is needed to reduce constraints in the region.

One of the issues you bring up, Commissioner, is utilizing existing capacity through secondary services. The study does not look at that. It instead looks at the proposed Algonquin incremental pipeline expansion, and it looks at the costs involved and how much would be optimal to meeting the demand to determine the size of the expansion needed.

And it also looks at alternative fuel supplies, using LNG imports through Canada as well as the Massachusetts terminal at Everett, as well as how much duel-fuel capability and imports of electricity that could be imported from Canada as well.

COMMISSIONER NORRIS: The second part was what the Senate forum is looking at. Is that all the Black & Veatch?

MS. ANNIBALI: That was the Black & Veatch.

COMMISSIONER NORRIS: Okay, that's adequate. Thank you.

CHAIRMAN WELLINGHOFF: Thank you, John. Cheryl.

COMMISSIONER LaFLEUR: Well I second and adopt all Commissioner Moeller's thanks to far and wide. I know a lot of work is going on, particularly in New England right now, working toward next winter. And we look forward to those filings, and thank staff for keeping on top of this. Thank you, very much.

CHAIRMAN WELLINGHOFF: Thank you, Cheryl. Tony.

COMMISSIONER CLARK: No questions, but thanks for the report.

CHAIRMAN WELLINGHOFF: Thank you all, again. We appreciate it very, very much.

Madam Secretary, if we could move on to our next discussion item.

SECRETARY BOSE: The next item for presentation and discussion this morning is Item A-3. On April 2nd, 2013, the Commission issued an Order requesting presentations by MISO, PJM, the Organization of MISO States, the Organization of PJM States, and the Market Monitors for MISO and PJM at the Commission meeting addressing, number one, the progress of their efforts working with stakeholders to address whether market rules and operating protocols concerning the transfer of capacity between MISO and PJM act as barriers to delivery of generation capacity between MISO and PJM markets.

Number two, the status of any remaining barriers to the transfer of capacity between those markets.

And number three, the measures that the Commission should take to address any such barriers that may exist.

In that Order, the Commission requested this information based on the numerous comments submitted in response to the Commission's June 11th, 2012, Notice of Request for Comments; and in recognition of the Joint and Common Market Initiative Stakeholders discussions that were addressing these issues.

The Commission welcomes the presenters and would like to thank them for travelling here today to provide the Commission with this valuable information.

I will now introduce today's speakers in the order in which their presentations will be given. In the interest of time, I will ask that discussion and questions be held to the end of the final presentation.

Our first presentation today will be given by Mr. Clair Moeller from MISO. Next, Mr. Andrew Ott from PJM. Following Mr. Ott, Commissioner Kari Bennett from the Indiana Regulatory Commission, providing a joint open statement for OMS and OPSI. Following Ms. Bennett's opening statement, a joint presentation from Chairman Phil Montgomery from the Wisconsin Public Service Commission, and Commissioner Greg White from the Michigan Public Service

Commission. They are also representing OMS and OPSI.

Next, Mr. David Patton, Market Monitor for MISO. And our final presentation will be given by Dr. Joseph Bowring, Market Monitor for PJM.

CHAIRMAN WELLINGHOFF: Thank you, Madam Secretary.

SECRETARY BOSE: Mr. Moeller, you may begin your presentation. Thank you.

(A PowerPoint presentation follows:)

MR. CLAIR MOELLER: Thank you.

Thanks for the opportunity to present today to talk about issues as we move towards a more complicated electric grid, particularly as we work our way through the gas-electric coordination and some of the resource adequacy challenges that we expect to face in the 2015-2016 kind of time frame.

Importantly, a previous Commission nudged the two markets of MISO and PJM to work harder at joint and common market issues some years ago. That nudge produced significant consumer benefits.

Of late, our progress towards achieving those consumer benefits has retarded a little bit as other priorities have gotten in our way. MISO's frustration with the current set of priorities in the Joint Common Market are twofold.

First, we are concerned about the fact that most of the priorities that we have been addressing in that forum are fairly short-term in nature. And our concern about ensuring that transmission is not an impediment to efficient markets is really about the longer term issue as we work our way through the capacity overhang that we have today into what we expect to be a capacity shortfall in the 2016 kind of time frame.

It would be our hope that important issues that are not urgent can be put on the priority list so we can solve them, get the questions asked and answered in a timely way so that they don't become urgent and then unsolvable as a result of our tardiness in getting to those issues.

A second issue that we are concerned about--and this is not only in the Joint and Common Market program, this is stakeholder processes in general. There's some tension between the interested public and the public interest in terms of how those priorities are set.

We are very grateful that OPSI and OMS have decided to weigh in on that and help us with that question about public interest versus the interested public. It is very important for people to show up and participate in those venues, but what you get is influence from the people who do participate. Again, we are grateful that the states are stepping forward to help us remember the consumers in all of this to ensure that their voice is sufficiently heard.

A little history lesson on the formation of the MISO market. The MISO market is made up of what was previously 26 balancing authorities. Each of those balancing authorities had a control system that looked only at the dispatch of their own system, and had essentially no observability of the neighboring systems.

That was the premise of the Pro Forma Open Access Tariff; that fairly rudimentary energy management kind of look at the world. As we stood up our market, we combined all of those balancing authorities in what used to be point-to-point energy transactions that looked at the incremental feasibility because there was no observability of what was going on in the neighbor's system. We converted that to network service and unlocked an enormous value for our customers.

Essentially what we're asking to consider is taking that same set of strategy and that same set of tools and looking at applying the same notions to look at an intramarket network service. So the generators who would still have to schedule would know in advance whether or not transmission was or was not available as they contemplated their future.

We think that is achievable based on the new tool set that we have designed since 1996. Essentially and importantly, the market-to-market redispatch that we've already implemented to great success is a tool that allows us to coordinate our dispatch in ways that would allow and enable this kind of network service.

The transmission service will not answer important market design questions that remain. Market participants on both sides of the boundary between us have different complaints about the other market. Generators in the MISO market complain that because of the capacity construct in the PJM market they have an unfair advantage in the energy market inside MISO.

The reciprocal is also true. Where generation inside PJM worries that because of the rate-based generation inside MISO there is an unfair advantage on the capacity market. Those issues aren't going to go away as we remove transmission as a barrier to efficient markets. We will still have to work on those things. But this Commission and every Commission before it in my career we've been given the advice to try to take transmission away from the barrier to efficient markets. We think this is simply another step in that way.

We have made progress. In the beginning, before the original Joint and Common Market, there was not a lot of conversation between MISO and our neighbors. The nudge we got to consider Joint and Common Market has helped substantially. Our stakeholders' interest in participating in markets besides their own has led us to increasing coordination between us and PJM that has resulted in an increase in capacity transaction across the border.

That is a good thing. That is a harbinger of the good things that can happen if we make transmission less of an impediment to enable more of those kinds of economic dispatches. So essentially if you look at the slide, we're in the center right now. And what we are asking about is, are there ways that we can safely move towards the right and essentially give all customers access to the network on a network basis?

We believe we can do that reliably because we've proven we can do it reliably in both markets, as we eliminated the balancing authorities and created one big one and moved all of our customers to network service.

The other important thing about across-border network service is it will take--the way we operate the network and make it consistent with what we think the directives are in Order 1000's Cross-Border Planning, essentially we read Order 1000 to indicate we should do single-network planning between us and our neighbors.

We think that network service and single network planning are coincident, and that in fact the planning protocols that we have been asked to adopt, it's important to operate the network in the same way. And so we think that is an advantage of what is happening here.

Importantly, as we move into the period of tight capacity, gas/electric coordination, additional renewables, demand-side management, we want to ensure that we can make the system and its rules as flexible as we can for our market participants, both generation and loads. And it is that flexibility that network service brings; that point-to-point is less flexible by design. So that is why we are interested in pursuing this as a tool to allow us to think about those other market rules and market issues.

And transmission, again, removes itself from the front row and sits safely in the back row where I would prefer to be and not be a barrier to efficient markets.

The resource diversity is important to us, particularly as we move into the tight supply. We have about 8,000 megawatts of natural gas-fired generation in our generation interconnection queue. Our neighbors to the East have more like 40,000 sitting on the Marcellus Shale. The opportunity for gas-by-wire in future years is an important thing we want to explore to see if that is the least-cost alternative for consumers in our footprint.

Again, having transmission products that allow people to do that planning and understand what that need is we think is an important way to proceed.

And finally, later in this series of presentations the Organization of MISO States and Organization of PJM States will enumerate four important questions that we think can form the basis of a schedule that we can work towards to work out way through this process.

Again, as we look at it we would like to have these questions asked and answered going into 2016 when we see the capacity tightening the most. So we have got time to work on this in a deliberate way.

If we can work our way through these questions in 2014, we can make adjustments to tariffs in 2015 so we can have new rules in place should the new rules show to be beneficial for consumers. We can have them in place in late 2015-2016, so we can move on to the future with as much flexibility as we can muster.

We have had preliminary discussions around that sort of schedule with PJM, although with the interest of OPSI and OMS we would expect to have to visit that kind of schedule with state agencies, too, to ensure their questions are on the table and we have sufficient time to ask and answer those questions, as well.

So in the end, all we're asking of this Commission is to give us the same kind of nudge you gave us back when we began the Joint and Common Market. Hold us to a schedule that we would negotiate with parties at the table. Require us to send in our homework on a quarterly basis to ensure they're making progress on these issues.

And then we would have confidence that the questions that are on the table, the answers that might be available, can be safely completed before that 2016 timeframe so that we will know going into that tight capacity time what the rules are and we can provide our consumers with as much flexibility as we can going into those uncertain times.

With that, I look forward to your questions later today.

MR. OTT: Good morning, and thank you for the opportunity to discuss this issue before you today. If you go to my first slide, I wanted to discuss the issues related to capacity imports that PJM is experiencing in our forward capacity markets. Could you bring up my slide, please?

There we go. Okay. Great. Thank you. What PJM has experienced is, as we look over the forward capacity auctions, as you know, our capacity auctions are run on a three-year forward basis, and part of the requirements to transfer capacity between regions, whether they be New York, MISO, or the South coming into PJM, is to ensure deliverability and to have letters of nonrecallability to ensure that we don't have capacity counted twice for reliability.

What we found is that that is a reasonable barrier to participation, meaning it is in fact a requirement. It's a requirement of our internal generation, and a requirement of external generation. They are essentially the same requirement.

And the question has been posed: Does this create a difficulty to having capacity transport between regions? And what we see as the facts are that we really have not seen barriers. In fact, just more recent capacity auction in 2016-17, we actually saw a dramatic increase in capacity imports especially from MISO. That came from regions--more than about half of it came from regions in central MISO, in the Illinois area, and some other states; 25 percent came from the Michigan part of MISO; and another 25 percent came from areas integrating into MISO of that increase.

So what we see now is we have 4900 megawatts of capacity transactions coming in from MISO for that period. So if we look at the increase and the reasons for the increase, I think the breakthrough was I think the MISO capacity market now has stood up and actually produced a result. People saw the price. Then they could rationalize the economics of bidding into the PJM capacity market.

In many of these incremental increases, the integrating--the importing generator has agreed to upgrade the transmission grid to support the transaction. So it wasn't like transmission service was lying fallow and not being used before; these increased imports are actually using the mechanisms in the planning process to increase the capability of the transmission system to reliably support the transaction.

So basically from a factual point of view, it does look like we have a very healthy and competitive ability to transact a power today.

Now the question of the Joint and Common Market, it has been fantastic to see the Joint and Common Market process be revitalized. I thank the states, Chairman Montgomery, Commissioner White, for supporting the increase in priority on the JCM process. I think they have been extremely helpful in not only getting stakeholders to be engaged, but also in helping to set agendas and get the process rolling. I think it actually is working well.

I think I see engagement from stakeholders on both sides of the border. We see engagement from the states. PJM is committed. Obviously it's much better to have a highly coordinated scene and make incremental improvements to that scene.

So we have made substantial progress. If you go to the next slide, we have a variety of mechanisms, of initiatives I should say that are being worked on. Some of those have already achieved some measure of success.

The key is that we have very high-value items being discussed to many, many stakeholders and to of course the ultimate consumer. Those include information transparency, data exchange, transmission planning coordination, energy market coordination, and finally we get down and talk about the capacity market coordination.

There are many transmission outage scheduling and coordination, generation outage scheduling and coordination, all of those items are extremely high value. We actually ask stakeholders to prioritize those items of highest value to them, and that is the report you see in front of you.

We have made substantial progress on the high-priority items. We actually have milestones, time lines, et cetera, and we are moving forward. I think the key question is, and the key difference I think of opinion between PJM and MISO in this instance is: Can you take one of those integrated items and put it on a separate track?

In other words, can you have a highly developed plan to coordinate capacity market but not develop a plan to have comparable coordination--increase in coordination in the Day-Ahead energy market, for example, or in transmission planning coordination?

And what we see is that it is extremely integrated. So just having the Joint and Common Market congestion management coordination is not sufficient to move forward and increase capacity coordination through a network service type approach because obviously the scheduling of generation in the Day-Ahead market, the scheduling of generation in transmission adequacy analysis that we do a week in advance, that is obviously vital to the deployment of generation as capacity.

So you need much more sophisticated coordination before we could go into getting highly developed coordination within the capacity market. So that is really the--I think the difference of opinion is in that prioritization and integration, not in the desire. I think both PJM and MISO have expressed a strong desire to increase coordination at the border and see the value to that.

If we go to the next slide, I do want to emphasize we have--I think the revitalized process has been going now for at least a year. I think we have made substantial progress. We have actually achieved, or implemented improvements to Day-Ahead and Real-Time energy market coordination from a data exchange point of view.

We haven't yet moved forward into having more tight coordination in the Day-Ahead market yet because that discussion has not yet occurred.

We have done much more with data exchange. We have created more transparency on flowgates that are coordinated within PJM and MISO to show to stakeholders what's going on.

System planning coordination has improved.

Obviously the Order 1000 and its interactions has been discussed at least.

And then capacity deliverability. We have actually made some improvements in capacity deliverability. PJM had actually evaluated in discussion with stakeholders how our capacity--how our analysis of external resources compares to our analysis of internal resources from a deliverability point of view.

And we made adaptations to make sure those were directly equivalent--meaning, that both externals and internals are treated the same from a deliverability perspective.

Really, the JCM process and the prioritization of that, I think the stakeholders have recognized that there is a very deep interaction between the Real-Time market, the Day-Ahead market, the resource adequacy construct, and the planning process.

In addition to that, there are many high-priority items that stakeholders want to have discussed. One of those is of course the transmission outage coordination and how the differences between those can create cost shifts.

So I think we are making--have a heavily engaged group. I think we are making substantial progress. And my message to you all is: I think it would be very difficult to keep that process going, and keep that process healthy if one item of that group of items we're talking about is suddenly put on a different track and brought here before the Commission. That would create a disruption to our good work that is going on now. We have momentum, and I think we need to keep the integrated discussions going in the JCM process itself.

I will spend a minute on the MISO proposal on the network--cross-border network service. I think the key point here is to do that type of change in assumption between how generation is delivered between markets. If you harken back to when MISO first formed, they had separate control areas. They combined them into one dispatch, one Day-Ahead market, one system operation basically. And then they were able to achieve benefits.

What I suggest is to have a notion that you can have highly developed deliverability through a networked type approach without changing fundamentally how we do our Day-Ahead market integration, how we integrate our transmission adequacy studies in the short term, how we integrate our transmission planning studies, you simply can't have a highly developed network deliverability without doing these other very critical coordination steps. And that is really the key difference.

If you went that way and you did do a highly developed network service without the accompanying changes in the other parts of the market, we have a cost shift. We have issues where reliability type criteria violations would not be detected by the network service analysis. And we have some concerns with how the system would remain reliable. And of course we would have to make those adjustments.

So again, I think as we look forward I leave two thoughts with you:

First is, when we assess the deliverability of generation in PJM to access to forward capacity market, external resources and internal resources are treated identically. We've seen a significant ability for external resources to compete in our capacity market. In fact, in our recent capacity market we've had highly competitive interaction between demand resources, imports, new generation, and existing generation, all competing in the market. The market was very competitive, and the results of the last auction were quite competitive.

If you look at the issues of network deliverability versus unit-specific deliverability studies, the key is we do unit-specific deliverability studies to ensure that during those system stress events when we have the highest load, the last thing our operators want to hear is "I can't deliver a generator-2 load because of a transmission problem."

So when we analyze our internal generation or our external resources, we analyze those on a unit-specific deliverability analysis; so the deliverability of those units is not dependent on the generation outage pattern for other generators. So you can't look at the generation deliverability as a group; you have to look individually because one generator may effect the deliverability status of another if you didn't look individually.

So what we have done within both PJM's capacity construct for the internal resource, or external, is to ensure that we don't have isolated generation, what we call "bottle generation" during the time when we need it most. We do that analysis and order transmission upgrades to make sure we stay out of that type of unreliable operating state.

All we're simply saying here is, within--the external resources have to have that same standard. They have to be deliverable on an individual basis. They can't be dependent on transmission flow patterns, because we have to have it. We can't--we can't--we are depending on those resources to serve load during the highest peak load conditions.

And with that, I thank you and look forward to your questions.

INDIANA COMMISSIONER BENNETT: Good morning, Mr. Chairman, Commissioners:

Along with Chairman Ben Lee, I want to thank you for inviting the organizations of PJM States and MISO States to address you today.

OPSI and OMS have embarked on a collaborative effort regarding the MISO/PJM Joint and Common Market, as well as exploration of the capacity deliverability issue. This collaborative effort grew out of a mutual interest and concern by several of the states along and adjacent to the MISO/PJM seam about the state of affairs regarding the process to address a host of these seams' issues.

We have come together to provide a common voice regarding states' interest in establishing a joint, transparent stakeholder process focused on rational discussion and study to resolve issues and achieve defined objectives along the seam for the benefit of stakeholders and customers in both RTOs.

Our presentation today is going to be given by two of our leaders on JCM issues: Chairman Phil Montgomery of the Public Service Commission of Wisconsin, and

Commissioner Greg White of the Michigan Public Service Commission. We are also joined today by Tia Elliott of my staff, and Chris Devin of the Michigan Commission, who are here if there are any specific technical questions that come up later on in the discussion.

Thank you. I will turn it over to Chairman Montgomery now.

WISCONSIN CHAIRMAN MONTGOMERY: Thank you. Good morning. Thank you for the invitation to address the issues of capacity deliverability between MISO/PJM before the Commission today.

Commissioner White and I are here on behalf of OPSI and OMS and appreciate the opportunity to provide our perspective on the most important aspects of the capacity deliverability issue.

As Commissioner Bennett articulated, Commissioner White and I really represent a team approach that is taking place, from Commissioner Bennett, to Commissioner Finley, the staff, Tia Elliott, Chris Devin, others, Phil Jones of NARUC, Andre Porter was involved, it has very much been a team effort.

And our work to date at JCM has focused on installing a governance, accountability, and transparency, all which we believe are in place moving forward. To be clear, our message today is that we believe JCM is the forum to provide analysis, collaborative prioritization, and to move a collaborative proposal not only on capacity deliverability but the other 15 or so topics that we are currently exploring and may explore in the future in a timely manner.

A brief outline of our presentation is as follows: We will discuss Joint and Common Market initiative; review the docket and highlight the major issues the Commission has identified in the proceedings; and then we will identify an OPSI and OMS joint recommendation.

I want to take a moment and again highlight the fact that, other than we have a Michigan State, a Wisconsin, an Indiana, and a North Carolina guy working together, having OPSI and OMS work together is a highlight.

(Laughter.)

WISCONSIN CHAIRMAN MONTGOMERY: The PJM interconnection--the MISO, are two of the Nation's leading regional transmission organizations. The Commission is familiar with the arduous process that initially led to the complicated PJM/MISO seam with the ongoing process to manage that seam.

Defining the process to effectively manage this seam has long been an issue. For over a decade, seams issues have been addressed on a case-by-case basis by PJM/MISO and the other stakeholders in a somewhat limited ad hoc process, often resulting in markets and policy outcomes that some stakeholders find disappointing.

Within the last 18 months, and with much stakeholder urging, PJM and MISO renewed their combined efforts to confront the many challenges along their shared seams by renewing the Joint and Common Market Initiative, JCM.

State regulators, as well as all PJM and MISO stakeholders, now have an opportunity to participate in a more comprehensive and collaborative initiative. OPSI and OMS have been active participants in this much-welcomed process.

A flash point at JCM is who is the capacity deliverability between the two regions? MISO identified its concerns regarding efficient deliverability--delivery of capacity between the two RTOs, and circulated a capacity deliverability white paper in support.

Many JCM participants from both RTO stakeholder groups, including PJM, did not agree with the conclusions of the white paper. This disagreement evolved over time and eventually became the FERC Docket No. AD12-16-000, which was opened prior to the reinstatement of the JCM.

The Commission has identified the following issues in this proceeding:

Identifying the progress of efforts to address whether existing market rules and operating protocols concerning the transfer of capacity between MISO and PJM act as barriers to the delivery of capacity between markets.

Two, identify any unaddressed barriers to the transfer of capacity between the markets;

And three, identify the measures the Commission may take to address those barriers that may result in unjust and unreasonable rates.

In order to inform the Commission and stakeholders on potential barriers and alternatives, OPSI and OMS believe that additional fact finding within the JCM process is necessary.

After an initial fact finding has been accurately completed, it will finally be possible to determine if any additional work within the JCM process would be necessary.

With that, Commissioner White.

MICHIGAN COMMISSIONER WHITE: Thank you, very much. I would like to reiterate the appreciation that's been voiced by my fellow Commissioners for the opportunity to come down today and present on behalf of OPSI and OMS to the Commission on these important issues.

I would also like to indicate that we are pleased with the JCM process. I for one felt early on that we needed to get this process back up and running. We have done that. It is going very well at this time.

And so in the remarks that I will be making, I do want to emphasize that we think it is really important that we maintain this JCM process. The discussions, any types of reviews or analysis should be conducted within the JCM process, and it is important that we maintain the prioritization that's been established within the JCM process. We don't want to get into a situation where we could have some intended consequences by pulling certain things out and putting them ahead of other issues that need to be addressed. And we have a very thoughtful and collaborative process in place, and so I think it is very important that we try to maintain that to the extent we possibly can.

This slide I think does warrant some clarification. I think it is important to note that we are not asking for a third party to step in and provide the analysis, unless things stall. And so we want to maintain the JCM process going forward. We think that any kind of a review--and I'll talk a little bit about the fact finding approach that we're encouraging--but however that's done, whether it be jointly analyzed within the JCM process by MISO and PJM, or if at some point in time it looks as though the process is stalling and we need to call in a third party, an independent party, to participate, we still want to emphasize that that needs to stay within the JCM process.

The fact finding that we're calling for is really intended to inform the Commission and all stakeholders and participants on whether there is actually a need for a further detailed analysis. In other words, the fact finding as we're describing it here would in effect be a precursor used to educate and inform the Commission on whether or not there is the need for a more detailed analysis.

As noted in this slide, we have identified several steps that we think such a fact finding should include. The first two emphasize the methodology, the agreed-upon methodology for determining transfer capability between MISO and PJM in both directions, identifying a methodology for determining the magnitude of capacity that could reliably bid into PJM's capacity market and MISO's, and again in both directions.

Reliability, as you know, is a critical component of all of this. And so our third point is to have a fact finding that identifies and studies the reliability impacts of the feasibility of potential revisions to existing market rules and operating protocols.

And then the fourth is, once again, to focus on an agreed-upon methodology for determining a cost/benefit analysis of implementing any necessary solutions.

Are there actual barriers? I think that is an open question. You know, we've seen some things with the capacity auction, as Andy Ott pointed out, that raised the question as to whether or not there are potential barriers. But that is an open question. I think we feel it is appropriate and reasonable to look into that question.

So certainly OPSI and OMS agree that potential barriers may exist, and part of the value of having a fact finding would be to examine those issues.

So questions for consideration:

Are there any of the asserted or potential barriers to participation in the capacity markets?

Are they unjust or unreasonable? That's kind of the key question.

May some of the barriers, if in fact they exist, be characteristics of the unique--you know, the uniqueness of the various RTOs, their rules, their market rules, how they go forward. So it is important again that we look at these from the perspective of reliability and the economics for both of these markets.

Further questions for consideration:

Would the use of remaining transmission capability between MISO and PJM for long-term capacity transfers be discriminatory to other parties' ability to otherwise utilize the remaining transmission capability?

Is there potential discrimination against internal RTO generation or external generators to MISO and PJM that would also desire similar ability to provide capacity to PJM or MISO?

So again, the fact finding, the concept of the fact finding is to have some of these threshold questions asked and addressed, and OPSI and OMS believe that the initial fact finding must be utilized to evaluate and analyze these critical issues.

Evaluation of some of the issues. Again these are what we have identified as being important to making these determinations going forward:

Determining the possibility and significance of cost shifts between MISO and PJM. As state economic regulators, you are well understanding our concerns there.

Consider the impact of any proposed or revised deliverability scheme on reliability.

Consider whether further work on capacity deliverability is cost effective.

Conclude, if there is an overall incremental joint deliverability benefit over that currently occurring, consider whether the revisions can be cost effectively and realistically implemented.

And determine the long-term rate impacts on each RTO's retail customers.

And with that, I am going to pass it back to my colleague.

WISCONSIN CHAIRMAN MONTGOMERY: So thank you again. As Commissioner White articulated, accurate fact finding within the JCM process that provides RTOs and all stakeholders with the requisite information to take well-informed positions is necessary to advance vital coordination while still allowing RTOs to maintain their unique characteristics. And we believe that JCM provides that collaborative effort to come up with those fact findings.

Without collaborative involvement, both RTOs-- with the involvement from both RTOs, the output of any fact finding and subsequent analysis would likely be unreliable. Prior to OMS and OPSI Joint Comments, it was February of 2013 that joint comments in this docket, that OMS and OPSI described the role that state regulators proposed to serve in the JCM process.

Since February, the productivity of the JCM process has improved. OMS and OPSI expect the JCM process to continue to be productive and to include progress on the issue of capacity portability in this expectation.

State regulators do not want to actively direct or moderate fact finding or the particular technical efforts described herein. Instead, it is expected that state regulators will continue to be active JCM participants and provide feedback, suggestions, and information for the assessment of the capacity deliverability issue and on the most effective implementation of any necessary solution to issues identified as it is expected of all participants in JCM.

All JCM participants should be confident that a proper identification of facts surrounding these issues will allow the JCM stakeholders to determine the need, appropriateness, and timing of the implementation of any proposed capacity deliverability solutions that might need to be developed.

On behalf of OPSI and OMS, we appreciate this opportunity to discuss these issues with the Commission and we look forward to working with PJM and MISO in a cooperative examination of capacity deliverability.

Thank you.

CHAIRMAN WELLINGHOFF: Good morning.

DR. PATTON: Good morning. My name is David Patton.

I appreciate the opportunity to talk on this issue. I am going to be covering--due to time, I will be covering things at a relatively high level and try to provide some context around the recommendations that we have been making on this issue.

So I think what is important to recognize, I actually liked Mr. Ott's chain that showed the chain exploding between the planning and--system planning and operations. It is important to recognize that these things are two sides of the same coin.

You have an operating horizon on one side, and there you are talking about your Day-Ahead market and your Real-Time market and how power actually gets scheduled between the two areas. And then you have a planning horizon and, you know, really there's the capacity market exists to satisfy your planning needs.

You could potentially operate a market without a capacity market. The problem with that is, there would be no guarantee you would meet your planning horizon targets or requirements. So the capacity market helps ensure that you're going to meet those planning horizon targets.

But what really happens in the Real-Time is that you're relying on your energy market, your ancillary service markets to ensure that you meet the load reliably. And the capacity market makes sure that in both areas the total capacity that's installed is sufficient to meet those requirements.

Now when you think about how these issues fit together, and this goes to I think some of the ways in which we talk past each other on some of these issues, is what really happens in Real-Time? Do we deliver megawatts from specific resources to the neighboring control area? Well, the answer is: No, we don't.

When power is being transferred from MISO to PJM, what happens is they both agree that the total load being served in PJM is going to be turned down 50 megawatts, and MISO is going to be turned up 50 megawatts, and that effectuates a transfer between MISO and PJM of 50 megawatts.

There is no designation of what resource that is coming from. It is simply coming from the overall MISO dispatch. And if a particular resource that you happen to be concerned about may affect a constraint, what MISO is going to do is dispatch around the constraint using their nodal dispatch.

And it is for that reason that, you know, you look at the reality of what is happening and you say: Well, if we need in a capacity context to ensure that megawatts can be delivered from the neighboring control area, then we need to think about how those megawatts get delivered; how the neighboring RTO can ensure that those megawatts will be delivered if they need to be delivered on a firm basis; and then structure our capacity deliverability analyses and our capacity obligations around how in the operating timeframe that's actually going to happen.

And it is for that reason that I think when we start talking about unit-specific deliverability analyses and the extent to which that has contributed to the barrier to selling capacity, and things like the capacity obligations we place on external resources, consistency for consistency sake is not a virtue.

We generally are opposed to discrimination, but due discrimination is actually good. And the reason due discrimination is important in this context is that when you are delivering megawatts from an internal resource in an RTO that may be a capacity resource, you are actually sending them a dispatch instruction and you need that power to get from that resource to the load in the market.

However, when you're getting power from a neighboring RTO, the neighboring RTO through its dispatch is delivering those megawatts. And therefore that should be recognized in how you evaluate deliverability and how you establish the transmission requirements between the areas.

Now I say these are two sides of the same coin. Probably the biggest economic problem between PJM and MISO is what happens in the operating time horizon; that the way we schedule the interface, incredibly powerful from a reliability and economic perspective, but the way we schedule it leads to large inefficiencies, and it leads to reliability problems.

The poor scheduling of that interface as the largest single cause for most of the shortages that MISO experienced this last summer. And it is not just an economic issue. The fact that prices were $2,400 in MISO certainly raises costs to consumers. It actually raises costs to consumers in both areas and raises uplift costs. But it also affects reliability because if you're not scheduling that interface efficiently and you therefore go short of operating reserves, you then are in a position where you can't respond to your largest contingency.

And so since 2005 we've been suggesting that the interchange process, and scheduling process be modified to optimize the interchange. We have--since 2003, we have proposed that between New England and New York. And in neither area has that come to pass.

And so why hasn't that come to pass? And this is--capacity deliverability is the planning horizon reflection of that same seam issue. I believe one reason that hasn't come to pass is that there are a lot of stakeholders that actually benefit from inefficiency on the seam, and therefore if you rely on stakeholder prioritization you do end up with some priorities that aren't going to be consistent with economic efficiency in resolving the issues.

And that is where I think FERC really can play a critical role. In the Lake Erie Loop Flow process, you required that MISO--or PJM and New York put in place some improvements to how power is scheduled, how power is priced at the seams, coordinating the congestion management process. It's actually a more complicated problem than this problem or the interface scheduling problem, but PJM and New York were able to put that in place in part because they had a deadline from FERC to do it.

And I think, you know, when you have two sets of stakeholders, all of whom have economic interests, and you have a fairly complicated process, having a deadline from FERC is enormously powerful. And, you know, given the time frames that we've watched the inefficiencies mount in both the operating horizon and the planning horizon on these issues, I think it's--you know, that's why I think we've ended with the recommendation that FERC not dictate a solution, but dictate a time frame in which these are going to be resolved.

By the way, I will mention, because you have it in your package, that interchange optimization to solve the operating horizon problem is number 11 out of 15 on the stakeholder prioritization list.

So there's, you know, I think in both areas I think FERC should take a hard look at what role they can play in helping facilitate this process, not disband the process but ensure that we get to an efficient outcome.

Thank you.

DR. BOWRING: Good morning, assuming it's still morning.

(Laughter.)

DR. BOWRING: Thanks for the opportunity to be here. My watch is on time--PJM has a robust capacity market. The definition of "capacity" in the PJM capacity market is critical to its operation.

Capacity--and you will note some subtle points of disagreement here--capacity is physical, and it is linked to specific units with explicit performance criteria to which they are held.

Capacity is not liquidated damages contracts, and it is not slice-of-system. Capacity must be deliverable in PJM to PJM load, and in MISO to MISO load. Capacity must offer in PJM into the Day-Ahead energy market every day, and energy from capacity resources in particular units is recallable in an emergency, and it is linked to very specific units.

The capacity market has a must-offer obligation for all capacity resources in PJM, and has a must-buy obligation for all load in PJM. Capacity in the energy markets are tightly integrated by design. As Andy pointed out, they can't operate separately. The design of them works hand in hand.

So these are, in brief summary, the core elements of the capacity market that have been characterized by some as barriers to entry, but they are in fact key attributes of the market and core to the way it works.

So the--I actually do have slides here somewhere. Who do I go to for slides? Anyway, I'm sure you have those slides in front of you. Great. Well I can talk from the slides. Whatever.

Anyway, so I have some numbers up there. And really the point is that the assertion that they are inefficient barriers to entry into the PJM capacity market, particularly from MISO, I think were called into question by the results of the recent '16-'17 base residual capacity auction in which the level of capacity imports from MISO increased by 3,000 megawatts and more than 200 percent. And particularly in light of the fact that MISO itself is indicating that it probably is going to be a little bit tight on capacity in '16-'17. It is not clear exactly what effect any even alleged barriers to entry could have had there.

Imports also have a significant impact on price. I won't walk you through the details, but--I've been accused of having slides that are too hard to read from distances. This probably continues to meet my criterion.

(Laughter.)

DR. BOWRING: But suffice it to say that the actual import levels--and we just did a series of sensitivities--the actual import levels from MISO and elsewhere have very significant impacts on PJM. The market was competitive and it contributed to that.

But actually the significant levels of imports and the significant increase in imports in PJM has raised issues within PJM in the PJM membership process that need to be discussed about the extent to which imports are truly substitutable for internal resources.

Are they a perfect substitute? And to what extent can PJM and its load rely on import capacity as compared to internal capacity? Can those resources, for example, compete in the PJM capacity market and participate in that market in a way comparable to internal units?

Can those resources provide the same kind of physical reliability to PJM load that internal units do?

The seam between PJM and MISO certainly does create some issues related to capacity. PJM has a capacity market which I believe is both competitive and which reflects the economic fundamentals of supply and demand in the PJM footprint.

MISO does not have such a capacity market, at least not yet. MISO relies primarily on cost-of-service regulation to cover the net revenue requirements that are covered by the capacity market of PJM. And that's a fundamental difference. Neither one is right or wrong; but it is a fundamental difference.

As a result, the MISO capacity market does not monetize the value of merchant and nonregulated capacity, and I think that is part of it and as has been explicitly stated that is part of the reason incentives to enter into the PJM capacity market have arisen.

In fact, given those incentives, MISO could face incentives--MISO capacity could face incentives to export to PJM even when MISO is extraordinarily tight, given that difference in pricing.

So one part of the global review that's been talked about should certainly include the capacity market designs. The way to address the incentive issue in my view is not to--not to weaken the PJM capacity market design, but to make sure it remains robust and that nothing then gets done that undercuts that design.

It is important to continue to address, as has been pointed out by a number of my fellow speakers here, to address the MISO and PJM seams issues in order to improve the efficiency of both markets.

And David has pointed out repeatedly and for a number of years that the efficiency of the energy exchange at the seams needs to be improved. I absolutely agree with him, and I think that is a key area that MISO and PJM can agree on and can make progress on.

I support, along with everyone else here, the JCM continued active analysis of the issues of all stakeholders and the development of facts. Factual issues remain, and as OMS and OPSI have said, here and elsewhere the purpose of the JCM is to ensure that all the relevant facts are known before any significant changes are made.

So the improved energy scheduling, again just to emphasize that, a point that David has made repeatedly, is an area that could lead in the very near term to substantial improved efficiency at the seam.

I think the question of capacity markets is a very different one. But I believe that the JCM process will hopefully get us to both a discovery of the facts, underlying issues, and hopefully a proposed joint solution.

Thank you.

CHAIRMAN WELLINGHOFF: Thank you, everybody. I appreciate very much the presentations that you have given and the effort that you've put into this. It is really a very important issue for us all.

I have got a couple of questions, and then I will turn it over to my colleagues for their questions.

First starting with you, Chairman Montgomery. I think I heard your message very clear that you are indicating to us that the JCM you believe is the best forum to move forward with a collaborative multi-issue proposal.

Is that correct?

WISCONSIN CHAIRMAN MONTGOMERY: Very much so. And I think that one of the things to note is the fact that, while JCM came back together in July of '12, the focus has been on getting the governance, the collaboration, the accountability, and transparency right. And so that is where we are at today to move forward.

CHAIRMAN WELLINGHOFF: And I don't think I'm hearing any disagreement on that in the panel, other than I'm hearing Mr. Patton say that's fine but let's just set a date here that we get some concrete things from that process. And I understand that the process is moving along, and I appreciate that.

And so the timeframes that we have talked about, I think Mr. Ott talked about in his testimony, working through this in '14 and getting something out then to put something in place by '15. Does that make sense to you?

WISCONSIN CHAIRMAN MONTGOMERY: Well I think that whether it makes sense to me, more importantly does it make sense collaboratively to the stakeholders.

CHAIRMAN WELLINGHOFF: Right.

WISCONSIN CHAIRMAN MONTGOMERY: And that is what we have in place, I believe, and Commissioner White and Commissioner Bennett believe, is we now have that in place.

Do we need to continue to revisit prioritization? Can we multi-task? Can we have something that staff is exploring in addition to the face-to-face meetings? Is there opportunity for ad hoc to facilitate? But I think the point that I would take away is, yes, we believe that the process is in place, and the transparency, so that you or any stakeholder can see where we are at on any issue, and determine for themselves whether or not it is being slow-walked, whether or not it is not adequately being addressed.

So, Commissioner White?

MICHIGAN COMMISSIONER WHITE: I would just add, you know, again part of our message is that this process is in place and the process appears to be working. I certainly would support reporting. I think I would stop short of calling for deadlines at this point.

I think that we should watch this process work. And if you're getting adequate reporting, then you are informed as to whether or not we are looking at potential problems in a couple of years or, you know, whatever the appropriate timeframes are. We all know when it looks like there could be potential issues with our reliability on our system.

So that would be my recommendation: We all need to pay attention. Reporting can inform, but I would probably stop short of establishing firm deadlines.

CHAIRMAN WELLINGHOFF: Commissioner Bennett, did you have a comment on that?

INDIANA COMMISSIONER BENNETT: I think they covered that very well.

CHAIRMAN WELLINGHOFF: Thank you.

And on the prioritization, I just had a question or two on that. I guess it was your slide 4, Andy. First of all, the issues that were put in the survey. Who developed those issues? Were there options to add issues by the survey participants? Or how was this structured?

MR. OTT: Yes. I think the initial issues list was developed basically collaboratively with stakeholders. Obviously PJM and MISO had a list we started with. We discussed it with stakeholders, said what was important to stakeholders by having discussion at the meetings. And then to actually assemble the questionnaire to get to prioritization, PJM and MISO worked together to put that out.

So, effectively, as Chairman Montgomery indicated, there was a basic collaborative process to say, okay, what's the scope of discussion? And I think it was key to make sure that the stakeholders were involved in setting that. So it was a pretty broad input set.

CHAIRMAN WELLINGHOFF: And how many people participated--how many stakeholders participated in the survey?

MR. OTT: I think between 130 and 150.

CHAIRMAN WELLINGHOFF: Okay. Could we see the distribution of the scores? I mean, if you could provide that to us I would be interested, because obviously--I mean, you could skew the thing if there was a group that all wanted to vote one on something, and five on something else, ultimately. I would just be interested in seeing that.

MR. OTT: Yes, Mr. Chairman, we have the complete list. I can certainly get that to you all.

CHAIRMAN WELLINGHOFF: Great. I appreciate it.

All right, I think that's all I have. Phil?

COMMISSIONER MOELLER: Thank you for the presentations. I think it was about five or six years ago that we unfortunately kind of de-emphasized the discussions between the two markets. Maybe it was appropriate at the time, given all the work that had been done, but it is overdue that these discussions started again.

So I have high commendation for the people here, and who aren't here, who made that happen. It is really good work, and we have to obviously support you in keeping those conversations going.

I have a couple of other points, but I thought because I have enormous respect for both Mr. Ott and Mr. Moeller--and as far as we know we're not related--

(Laughter.)

COMMISSIONER MOELLER: I would like to give you each kind of a chance, and maybe with Dr. Patton and Dr. Bowring, too, to perhaps rebut each other's point.

Clair, could you start?

MR. CLAIR MOELLER: Thank you.

First, if I left the impression that we are interested in looking at this kind of network product in a different process, or not including the context of the other priorities of the Joint and Common Market, I apologize.

My point instead is, if the goal of the Joint and Common Market is to move to this type of deliverability, the answers to the questions of the other 15 priorities may well be different in order to facilitate that kind of markets-without-borders philosophy.

So apparently I misspoke in terms of trying to add this to the priority list and not replace the priority list with something like this network service.

COMMISSIONER MOELLER: Andy.

MR. OTT: I think the key is that if there-- there's a fundamental interrelationship between energy market and capacity market. We don't run the capacity market because it's just planning and we forget what happens in planning and go into operations. They are actually, as Dr. Bowring indicated, very tightly tied together.

So it is not--for us, the way we schedule and dispatch the system, the way we do on a week-forward basis our transmission adequacy analysis and our generation adequacy analysis, is very tightly integrated with what happened in capacity. And the transmission planning process is also of course change--every time we clear a capacity auction, there's a new planning analysis, because the planning process has to actually recognize that.

So the concept that unit-specific deliverability doesn't tie back to the Day-Ahead market just simply does not comport with how we actually schedule and operate the grid. So to the extent that Mr. Moeller is talking about having the network deliverability be able to be accomplished without sort of fundamental changes to the way we do the Day-Ahead market, I would disagree. But it sounds like that may not be what he's saying, and it may in fact be that he's saying we have to talk about it altogether.

And if that's the case, then it's just a matter of what's the cost/benefit. Can we put a common Day-Ahead market together across the borders with a--and make that--you know, do that in a cost-effective manner? Meaning, how hard is it going to be to do that and still maintain separate, pseudo-separate markets? Because obviously the easiest thing to do is just put them altogether and that is very direct.

But I think the key is, the stakeholders are very actively discussing this. They are very interested in getting stuff done. I think we have that momentum. Anything you all do here to have stuff reported down here, or are called down here for--can only disrupt that process. You have staff that can monitor the process. Let's stay with that. I think you'll get better results, is my point.

COMMISSIONER MOELLER: Chairman?

WISCONSIN CHAIRMAN MONTGOMERY: I thought the Chair's comments were very insightful, or your questions, on the prioritization survey. Again, as with anything, I'm sure if we did a prioritization of football teams again the Greenbay Packers would always come out number one.

(Laughter.)

WISCONSIN CHAIRMAN MONTGOMERY: Sorry. Having said that, sometimes we do go back and have to re-examine how the questions were asked, the distribution of the stakeholders. So that was very insightful, and something that is taking place within JCM.

COMMISSIONER MOELLER: Dr. Patton, Dr. Bowring, any thoughts about your individual comments?

DR. PATTON: Sure. I guess I would reiterate the notion that these two RTOs can deliver tremendous economic value and tremendous reliability value if they coordinate in both timeframes. And I think the--you know, just the one most significant disagreement probably is with regard to obligations on capacity resources and how you deliver capacity resources. Because I think if you were to just look at what happened last summer, although MISO is a capacity exporter to PJM, MISO is generally an energy importer.

And what happened on some of these peak days is the interchange between the two areas was swinging around as much as 3 gigawatts and just causing havoc because you have to schedule 30 minutes ahead. So you get a price spike in MISO, and everyone would say, oh, my gosh, you get 3,000 megawatts flowing out the door, or in the door to MISO, and prices would crash.

You see very little consistency between if you were to look on a peak day and what the energy transactions are doing versus what the capacity transactions were. And so that's why I say, you know, it's important to really mesh up how megawatts get delivered and how MISO is going to ensure on a firm basis that megawatts get delivered.

Because if the capacity resource really does impact a constraint, that doesn't matter. MISO is not going to say you don't get your megawatts because this resource is hitting a constraint; they are going to dispatch right around it.

So that sort of recognition is important on a substantive basis. I think from a process perspective, we certainly monitored and participated in the JCM process, and I would say it's fair to say I'm maybe the last optimistic of the panelists. Just listening to the discussion on the items that are at the bottom of the priority list, there really is not--I would be very surprised if a year from now there was a plan on how to address the issues and move forward.

Because I think the focus--the reason we did the prioritization is that's where the focus is going to be, because you can't do all these things simultaneously. So that's why I think a deadline is appropriate, even if the deadline is 18 months out. You know, it's still an important message from the Commission that we expect results, and we'll give you plenty of time to get there, but not infinite time.

DR. BOWRING: So it's been my experience in imposing deadlines on the stakeholder process is sort of trying to take over the process. I don't think you can make it work any faster than it's going to work. We all know from painful experience it takes a long time, and there are lots of disagreements. But I don't agree with David that putting a deadline is going to make it more effective.

Interestingly, David's comments about energy redispatch are consistent with the priorities as specified in the underlying--in the questionnaire, which is that primary is the energy redispatch. And energy redispatch--and that's what we were talking about last summer in July--could certainly be made much more efficient. And that is something that could be done without changing the capacity markets, without having to address the fact that capacity markets are very different, and there are very different incentives within them.

And just a comment on what Mr. Moeller said, markets-without-borders, I like the concept. But I think where that ultimately goes--and we're probably a ways away from that. First we take the step toward better energy seams' management is ultimately what that really means, consistent with what happened in MISO, would be a single RTO across both of them.

I mean, that's really what's being talked about, is a single market. So again, I'm not recommending that at the moment, but that's what the ultimate market-without-seam is. It's the only way really to make the capacity markets and energy markets work together.

But there are plenty of things to be done before that. I think the JCM will get there. Thanks.

COMMISSIONER MOELLER: Well thank you. I appreciate the discussion and the dialogue.

Two points. The first is that I certainly understand the economic interests on each side, and they can therefore affect the priorities. But to the extent this becomes a reliability issue, it is something that we absolutely cannot ignore.

And the second point, on deadlines. Understanding the concerns of Commissioner White and Dr. Bowring, I just go back to my experience in the Pacific Northwest where it is so collaborative that sometimes they let the perfect be the enemy of the good, and they don't recognize problems that are obvious because they are too collaborative.

And I would just hope that that discipline of a deadline is at least in your mind so that we get some action.

Thank you, Mr. Chairman.

CHAIRMAN WELLINGHOFF: Thank you, Phil. John.

COMMISSIONER NORRIS: Thanks. Chairman Montgomery, I would first just note that Chairman Wellinghoff is a mathematician, so it is no surprise that he figured that survey skewing out.

(Laughter.)

COMMISSIONER NORRIS: But I would say, Andy, I would appreciate seeing the results. I don't know if it was done confidentially, but at least broken out by stakeholder group I think is what we're really looking at.

PJM has stated that the internal and external generators are treated identically, but MISO states the generators internal to PJM can utilize network service to confirm deliverability but PJM requires external generators to utilize point-to-point transmission service.

Who's right? Who's wrong? Or is that equal treatment? Anybody?

MR. OTT: Well I can start--explain why I say they're the same. I think for an internal generator in PJM, it can utilize network service of course to get to the load but there's a test. There's a unit-specific deliverability test that says can that generator get from its local area out onto the grid?

So we do that test. If it can't, it has to upgrade the system. When we do an external resource, the test says can that generator get from wherever it is in the external region to the PJM border, and then it can use network service to go on in.

So the point-to-point analysis that gets done on the unit-specific deliverability internally is from the generator to the grid, meaning getting it out of its local area so it's not bottled.

The same analysis gets done, you know, externally to get from wherever it is to PJM, and we require that same set of deliverability. They are equivalent. And the generator would have to pay for an upgrade in PJM if it can't get from its local area to the grid. And obviously if a generator needs to get transmission service out, it may have to pay for an upgrade. So I see them as equivalent.

Now there is a difference between, you know, the designation--meaning, one has point-to-point service; the other has to be deliverable on a unit-specific basis. But from an analytical perspective, they're exactly the same.

COMMISSIONER NORRIS: Anyone else have comments?

MR. CLAIR MOELLER: We do the same fiction when we evaluate external units to MISO, because the tools and the pro forma OATT require us to use this incremental feasibility for external resources and network feasibility for internal resources.

They are both safe. They are both reliable. We think that there is more deliverability available if we were to use the network-type test for all resources and not have the two-part test, point-to-point plus network for external resources; and only the network, and then the individual deliverability for internal resources.

So we don't see them as equivalent, although we see them both as safe protocols to maintain reliability.

COMMISSIONER NORRIS: Has OMS and OPSI looked at this issue? Or do you have any thoughts?

MICHIGAN COMMISSIONER WHITE: I guess if I could, Commissioner, this is part of our concept of the fact finding. From our perspective, some of these are open questions. It's not always transparent, as I mentioned, how much capacity is currently being utilized in the different directions; what those potentials are. And so that's I think part of our rationale for suggesting that this fact finding would help inform where we need to go and how exactly that would work.

So there are some open questions, from our perspective.

COMMISSIONER NORRIS: You did say, at least in your comments, you're looking at a consultant to help sort through this. Do you know what would be the signal for when that might be necessary?

MICHIGAN COMMISSIONER WHITE: Well, you know, again because we are pleased with the fact that the parties have come together, and having participated in the JCM discussions and sat in on the meetings, I've tried to be an observer more than an active participant because this is an opportunity to learn from a Commissioner's perspective. But we think that the progress has been very, very good.

And so we would like to give the two RTOs the opportunity to do that kind of fact finding, with the input of the stakeholders. And then, you know, at some point in time if it looks like we're not making any progress again, I don't have the crystal ball to say what exactly that milestone would be, but I think we would know pretty quickly whether or not this is something that is not going to help inform.

And if that point is reached, I think you will hear several of us who will say I think it's time for an independent third party to administer this type of a review. But again, I want to emphasize that we'd like that to stay within the JCM. So the independent review would be within that process; it would just be administered from an independent third party.

COMMISSIONER NORRIS: Okay. So would they go at some point to a consultant to help assess this? I mean, would you characterize more now your look at this as is there an issue there? Or there's an issue there, and how do we resolve it?

MICHIGAN COMMISSIONER WHITE: I'm still in the "is there an issue there?" You know, we can argue both ways, and you're hearing it here, you know, that there's different perspectives on that. But I think from where we're sitting, you know, that's why we tried to identify what we think are some very threshold issues as part of that fact finding. That will inform whether or not there is in fact an issue there.

And if it is determined through the fact finding that there is, then we think that there should be a more concise, more granular study done.

COMMISSIONER NORRIS: And does that change your opinion on a timetable? If it's determined through that "is there an issue there" that there is, and then how do we resolve it, does that change your opinion on a timetable?

MICHIGAN COMMISSIONER WHITE: Well, and as I responded to Chairman Wellinghoff and to the point that Commissioner Moeller made, you know, we know pretty well I think when there is going to be potential reliability issues, and reliability is key here. And so certainly I think if we get to that point we would probably be more open to establishing a deadline for when a study should be done. But again, we want to stop short of calling for that because we think the fact finding will inform whether or not there even needs to be that kind of granular analysis beyond what we are currently doing--if that's helpful.

COMMISSIONER NORRIS: Anyone else on that?

(No response.)

COMMISSIONER NORRIS: I'll go off script here in thinking of some questions--let me just go forward with this. I noted that, I don't want to qualify this--or not "qualify" it, but I don't want to characterize you as negative or positive, but I would say that MISO is more on the offensive here. There's an issue that needs to be resolved. PJM is more defensive: no, let's look at this for awhile.

So I also note that MISO sent Mr. Moeller as their Vice President of Transmission and Technology to speak to us today, and Mr. Ott sent their Vice President of Marketing to speak to us today. Now I know it could be just because you're great representation for your respective entities and your charming personalities, as I think Phil pointed out, but is there a distinction there?

I mean, is this rooted, first of all, in a transmission operations reliability focus? Or is this a market problem? Or where do those two converge?

MR. OTT: Actually, I think this area is both transmission--effectively, the RPM is a physical market. And the way PJM markets work--and by the way, Mike Cormos and I are, to an extent, interchangeable. So--

(Laughter.)

MR. OTT: We both have worked in operations, and he knows a lot about markets, too. But the point is--and I was a transmission planner for 14 years; I will plead guilty. But the key is that the RPM isn't like--it's not like our Day-Ahead energy market where there's a lot of financial participation, virtual bidding, things like that.

The RPM is a physical market. We are actually seeking to acquire commitment of assets to be essentially reliable capacity resources in PJM. And obviously that's very tightly tied to resource adequacy. It's very tightly tied to transmission planning, and very tightly tied to how we actually do transmission operations.

So they are inextricably linked. I think the key point on this is what capacity is defined as is a call on energy during times of system shortage. So the point is, I want that energy from that unit when I'm short.

I don't want any--you know, I don't want just to be comforted that I'm going to get some kind of dispatch of energy. Because when we had the protocols with New York, when we cut transactions we're sending to New York, there are specific transactions that are tagged as capacity-backed. We won't cut those because they need to keep going to New York because they're capacity in New York.

What I can't have is a system operator going through their list of transactions to say which ones do I cut and which ones don't I cut when I send the order to cut on a hot summer day. You have to have that all predefined. It all has to be unit-specific and physical or you can't operate.

And so I would just tell you, because the markets in PJM are so tightly tied to operations--it so happens I'm the guy who did capacity. But don't take it as an indication that it's all just about markets.

MR. CLAIR MOELLER: So "less filling."

(Laughter.)

MR. CLAIR MOELLER: My first assignment as an engineer in 1980 was to design the way to connect a redeveloped hydro plant for North American Hydro as a result of the Public Utility Regulatory Policy Act of 1978.

My whole career has been about trying to ensure that transmission is not an inappropriate impediment to competitive markets for generation. We see this fundamentally as an Order 889 kind of transmission problem that we seek to resolve to ensure there isn't any unused capacity. We maximize utilization of existing transmission resources. We acknowledge that there are important market rule problems because the two markets have different sets of rules.

But we don't think that transmission as an impediment to trade between the two regions is an appropriate proxy for rationalizing those market rules. So we would prefer transmission not be an impediment to trade to the degree we can make it that way. We would prefer the transmission assets are fully utilized on behalf of consumers; and then we would expect that the market rule rationalization takes place over time, as it should.

So I think it is a matter of which end of the question we start at as we seek solutions to these important issues.

COMMISSIONER NORRIS: Chairman Montgomery.

WISCONSIN CHAIRMAN MONTGOMERY: Just to talk once more about the process, one of the things that we identified early on was that when a question such as that was asked, you would have the various stakeholders--the markets, the transmissions, the environmental, the state--all chiming in and talking past each other from their perspective.

One of the things that we have done in setting the JCM agenda is to better define in what aspect are we discussing this? Are we discussing the market aspects? Are we discussing the transmission? Whatever it is, we've further defined that to where the discussion is much more focused.

COMMISSIONER NORRIS: Mr. Patton?

DR. PATTON: Could I tread slightly off the beaten path in response? I think it really is important to look at these seams issues between RTOs, because I think you are hearing some differences between some of us where there are nuances that I want to try to emphasize.

The capacity market ensures that we have enough capacity on the system to meet the reliability in both areas. There is significant disagreement about the role of capacity in day-to-day operations. And I can tell you that when we use capacity obligations to respond to reliability situations and allow RTOs, as they do today, to unilaterally cut things, we lead to not only economic problems but significant reliability problems.

Just to talk about a seam that maybe will get people less excited because it's two different RTOs than these ones, we routinely see New England and New York cutting exports when one RTO may be going into a 30-minute reserve shortage and causing the other RTO to potentially go into a 10-minute shortage, which means the RTO that is not receiving the megawatts is perilously close to shedding firm load, while the other one is not close at all. And that may be the outcome of today's system where, you know, you have capacity transactions that go in one direction or the other based on economics and the planning horizon.

But in the operating horizon, nobody is going to feel good if RTOs are taking these sorts of unilateral reliability actions to cut transactions and causing firm load to be shed in the neighboring areas.

What really ought to be happening is, regardless of which way the capacity is flowing, the RTOs--I talked about interchange optimization, which you can think of as maximizing the economic use of the interface--but when we get to a reliability situation, we really ought to be maximizing the reliability value of the interface.

And RTOs should not be cutting things. I think in the long run what should be required is that the interchange be adjusted to maximize reliability regardless of which way capacity happens to have been imported or exported. Because, just because MISO is a capacity exporter to PJM, for example, doesn't mean that it's likely that PJM is going to be the one that is short on the hot day.

That depends on a lot of different factors. And I think if you address that issue, then this--some of the issues around capacity deliverability become much less important.

DR. BOWRING: Can I just add that transmission, the transmission system and the physical generation capabilities are a limit on markets, whether we like it or not. They are a constraint on markets. Markets have to operate within those physical limits.

Within an RTO, we have transmission constraints all the time that affect the way energy is dispatched. You can't get away from that. And the notion that we should ignore capacity ownership when we have a hot day is also I think again inconsistent with markets.

If PJM has paid for capacity, PJM load has paid for capacity which is being exported to New York and PJM load needs it, then there's a choice between where there's going to be load shed. I mean, that's what a market is about. It's about ownership rights and having paid for it. So it actually would make sense in that case for New York to shed load and PJM not. Or, the reverse, because in fact there's substantial capacity exports from PJM. PJM is actually obligated to shed load and not cut a capacity transaction from PJM to New York, that makes sense. That's consistent with the rules of the market. Everyone has to understand that you get what you pay for, and there is this interaction between markets and the underlying physical reality.

Now can we do it better, and the examples of it where the--of course we can do it better. So the first steps would be the energy optimization. But also having comparable rules in terms of what the actual criteria are for cutting load, and for going into a scarcity or a shortage situation.

Thanks.

COMMISSIONER NORRIS: Thanks. Pardon my awkwardness in introducing that question, but I'm glad I did. That's why I'm struggling with this, the approach of either or both, and there's obviously some both to it. But that is helpful. Thank you.

CHAIRMAN WELLINGHOFF: Thank you, John. Cheryl.

COMMISSIONER LaFLEUR: Well thank you. This has been fascinating, listening to the discussion. Every since

Standard Market Design crashed and burned a long time ago, all the RTOs have developed their unique forms and tariffs respecting regional differences, like the fact that, you know, the Midwest has a whole different underlying structure of vertical integration than some other parts of the country.

And so the seams' issues, I mean the two of you have probably done more on seams I dare say than anyone, and there's still a long, long list of things to work on.

As I look at the list, and in listening to the last questions especially, it seems like there's a mix of coordination things that you do to optimize, and kind of more fundamental gnarly things. And where I feel the real heat coming seems to be differences in the markets between the fact that PJM has the forward capacity market, and MISO runs its resource adequacy a different way, seems to be where I see the most bite here.

And short of Dr. Bowring's vision of this big colossal RTO, are there opportunities for more market convergence? I mean, do you see the markets getting closer together over time so there's less of that kind of commercial tension? Or are we actually--are they more, as they kind of calcify, they are getting farther apart?

MR. OTT: I think I see more energy market, especially Real-Time operations transforming into the Day-

Ahead energy market. I see more coordination there. I think there, as Dr. Bowring indicated, I think Dr. Patton had indicated, that's where the money is. If we can do a better job of coordinating the energy markets, I think stakeholders will jump at the chance to do that.

There are certain equity issues that will need to be addressed before we get there, like transmission outage scheduling and some of the things like that. But I think you will see that.

I think the question on capacity, though, which is just fundamentally, and that's sort of--I think Commissioner Norris had indicated sort of defense versus offense--I think it was really more I think we both, PJM and MISO sincerely want to improve the seam.

I think the question is: What's the highest value item to work on?

And I think if you looked at the commercial aspects, it's the energy markets. That's really where I think you'll see more work. And any improvement you make in energy, then you may be able to make improvement in capacity.

But this fundamental disconnect between a forward capacity market and a shorter-term capacity market I think gives you some limitations on how far you can go in capacity, I think, because they are just fundamentally different. But I don't think that has the same characteristic in the energy side.

On the energy side we are much closer, design wise, and I think there's a lot more capability there. And that is sort of where we're at. That's where we should put the primary focus. That's not to say we should ignore the others, but I think we have some positive things that can happen. I think both RTOs are committed to that.

COMMISSIONER LaFLEUR: Dr. Patton?

DR. PATTON: Yes. I do think that the markets are going to evolve and make it easier. The one thing that I agreed with the comment earlier is that the MISO capacity market still has a ways to go, which I don't think will be a big surprise if you've been reading my state of the market reports.

And the biggest thing I think, when you look at resource adequacy in MISO and elsewhere in the country, there's one common denominator in the RTOs that price capacity in ways that will facilitate enough investment to maintain adequacy. And a common denominator in those that don't seem to be doing that. And that's the slope demand curve. Because the slope demand curve reflects much more accurately the fact that, as you build more capacity, reliability value continues to be delivered but it diminishes over time.

New England and MISO, where we have basically vertical demand curves, it produces--because that's an odd way to think about the value of the reliability from those planning megawatts, it produces an odd performance in the capacity markets. And I think ultimately MISO will get there. And that I do think will improve the interaction between the two markets.

I don't think the time frame is necessarily a barrier to trading capacity nearly as much.

COMMISSIONER LaFLEUR: Commissioner Bennett?

INDIANA COMMISSIONER BENNETT: I don't have a crystal ball, so talking about that longer term capacity market issue and whether there will be a future convergence, it's impossible for me to say anything about that.

I do have the benefit of hindsight, and the recognition, as you've acknowledged, that if you're looking at the longer term reliability resource adequacy issues, PJM and MISO do those things very differently because of the regional differences that we have.

As you acknowledged, the vast majority of the regulatory structures within MISO are traditionally regulated. And the majority of the region within PJM is retail choice. And I think that the reason that you have those differences in capacity, those four capacity markets, is very much a reflection of that.

I think if we spend too much time focusing on that as a problem or a barrier, dealing with any seams issues and capacity deliverability in particular, we are selling ourselves short of an opportunity to focus on first of all, I'll go back to our theme of fact finding.

We need to make sure that we really thoroughly understand all of the issues that need to be considered in this. But we are also missing an opportunity to come up with some rational solutions that do still respect the fact that each RTO has its own processes for some very legitimate purposes.

COMMISSIONER LaFLEUR: Thank you. I just have one other question. One of the facts we do have that seems quite significant is that the recent PJM capacity markets seem to produce a very different amount of capacity coming from the Midwest than in earlier years.

So I guess I'm curious, from Clair or anyone, do we think there's a lot more unlocked capacity in the Midwest that's trying to get out? Because MISO's reserve margins are going down, too, because of all your retirements.

I mean, are we getting to where what needs to get out, you know, if all was working well, is getting there? Or is there a lot more that's trying to get out than already cleared? Or, you know, no crystal balls, but--

MR. CLAIR MOELLER: So we continue to believe that capacity will tighten over time, and we continue to believe that opportunities for generators in both regions to participate in the other region's markets are valuable for consumers.

So while in the short run it appears that we are capacity long in MISO, and PJM can benefit from accessing and acquiring that, we would expect that to flip over time as--hypothetically, as PJM would see more gas-fired generation in the Marcellus region.

We continue to have a lot of coal. Who knows what environmental regulations will do what to coal over time. Essentially what we're saying is, for consumers the best outcome is as much flexibility as we can provide. And that includes as much market reach as we can provide. And that's why we're interested in working on this, on the longer term.

You know, we agree there are short-term things that we should do. But we think we need to find venues to have these longer term issues actively worked on and not wait until 2016 when it's a crisis and I'm here with my hair on fire trying to figure out how to get access for our customers to generation in the Marcellus shale.

COMMISSIONER LaFLEUR: Chairman Montgomery?

WISCONSIN CHAIRMAN MONTGOMERY: Thank you. Actually, staff had me very well prepared for this. First, of the 7500 megawatts that cleared auction, 2700 megawatts, 36 percent, has not secured transfer--firm transfer. And PJM/RPM guidelines require firm transmission secured.

Next, the actual total transfer still requires fact finding. How big is that number? And what are the cost implications?

And last but not least, the MISO/PJM interface transfer capability is unknown, and it is not transparent. And so part of the effort is finding that number, making it transparent, as well as some of the other issues.

COMMISSIONER LaFLEUR: Thank you. I'm glad to at least ask one question that you expected.

(Laughter.)

INDIANA COMMISSIONER BENNETT: I would like to reflect on something Clair was just talking about, and it has to do with his answer to your question about what the future looks like.

One of the other things that Clair and I in particular have talked about as we're looking into the future of resource adequacy within the MISO footprint is, it's fairly obvious that there are going to be a lot of retirements over the next several years going into that 2015-2016, especially, timeframe.

The other thing that I think that we want to see what we can do on a variety of issues, including capacity deliverability, has to do with the fact that replacement generation should be appropriately sized.

We would prefer not to see overbuilding happen in the future so that we get to those very generous excess reserve margins in the future. And everything that we can do to optimize, including capacity deliverability with other regions, is very helpful in making those decisions, those right decisions, for the future.

COMMISSIONER LaFLEUR: Thank you.

CHAIRMAN WELLINGHOFF: Thank you, Cheryl. Tony.

COMMISSIONER CLARK: Thanks. My questions I think have primarily been asked and answered, so this probably falls into the category of observation and you can respond to it or not.

First I would just compliment the filing of OPSI and OMS. I thought it was very substantive. And in many ways as I read through it, I thought well this is kind of the blueprint for where we should be going from here. So kudos on that. I think it's very good work, and it offers a good way of framing the questions and the issues in the context of what is in the best interests of consumers first, and then we can work from there.

So I think it offers the Commission, as I said, a blueprint.

Where there seems to be a bit more disagreement, and I have to say that I am not entire--I'm waffling as I sit here--is on the issue of how much of a thumb does the Commission put on this in terms of pressing things along?

I am concerned that the benign neglect model didn't work very well for the last, you know, six or seven years. The JCM has been going on awhile, and it was only recently that it was reinvigorated. So it may require something more than that.

The question becomes, in my mind, is it simple reporting? Or is it something more like a timeline? And I'm not sure that I have that firm in my mind.

As I said, history would seem to indicate that we need to do something more than just kind of be an observer in the back of the room. Any more sort of food for thought that anyone can provide on exactly what sort of guidance we can give that falls somewhere between kind of the PJM position and what I would characterize as the MISO position, which is a little bit more of a nudge as opposed to a little bit less, would be helpful. Thanks.

WISCONSIN CHAIRMAN MONTGOMERY: First to your comments on the OMS and OPSI, the authors are in the room, Tia Elliott and Chris Devin worked collaboratively across the frames with the oversight of the OMS president, Kari Bennett, and Commissioner Finley. So thank you for those comments.

Commissioner Clark, I would say very simply: As you identified, to bring JCM back together, we identified that we needed a role. The next identification was an understanding of a governance accountability and transparency. That is what we have been working on.

So we are just now at the--our ability that we believe, that JCM has the tools in place to address these issues.

To answer your question, if you don't have somebody with a hammer is that going to be needed? Yes. We don't doubt it. All we're asking I guess is advocates of the JCM process, the fact that we've not gotten into some of this yet, give us at least a period of time to see if we can make it work. But obviously at some point a hammer is always needed and we're not opposed to that. But I will say, we have not had a chance to delve in substantively to the issues.

MR. OTT: Commissioner Clark, I think as Chairman Montgomery indicated, we have momentum. We have engaged stakeholders. We are actually making progress. There are at least six of those items that have milestones, timeliness, work plans, et cetera. MISO and PJM have been talking about a work plan interrelated to the discussions on capacity portability. We are going to present that to the stakeholders and say here is a work plan to get these discussions done by the timeframe that Clair had indicated.

We will talk to the stakeholders about that and work it into the process. The point is, even something as simple as reporting to the Commission, if the reporting to the Commission is we all writing comments to the Commission and you all get a bunch of comments, what that does to the stakeholder link is if I as a stakeholder am in good faith negotiating my position, I'm going to give a little, take a little, try to get a collaborative process going, and somebody does the end run and throws in a comment to you all, it just backs everybody away from the table and gives them more of an incentive to let's just wait and see what happens down there.

So it ends up, you own the process. My suggestion to you all is, even the most benign--you all have staff. They can monitor the process. They can watch. These meetings are open. You can see the dynamic. I'm sure you can talk to us all.

If you have periods of time where you incent people to throw comments down to you all, it may actually detract from the process. Again, you all need to decide how much you want to be involved, but just something as simple as staff monitoring it I think is a very powerful incentive also. But I would caution against having the events down here too often.

COMMISSIONER CLARK: But just to follow up on that, I mean staff had monitored this process for some period of time over the last six or seven years, and it stalled. And my concern is, I don't want to be sitting here in another six or seven years saying, yeah, you know, we still need to be, what should the priorities be? And is this really a problem, and something we can work on? In the meantime, we've had serious reliability issues.

So I am trying to differentiate between what the difference between what that suggestion would be going forward is, and what happened over the last period of time.

MR. OTT: I think the JCM process you indicated that stalled, I think it was moving at a very I'll say "maintenance pace," meaning it wasn't an identified issue the stakeholders had said we've got to get together and actually renew the process, until about 18 months ago where it became very obvious there were some things we had to do.

And then the process started itself up but didn't require an order from any specific area. So it wasn't a maintenance period, but that may have been because there were no issues, at least none that were raised. But again, I mean, the point is we are engaged in a process where we're moving forward. As long as whatever you do doesn't detract from folks being collaborative within that process is really my message to you all.

COMMISSIONER CLARK: Clair.

MR. CLAIR MOELLER: Sort of "less filling" again. it's been my experience this Commission isn't timid about asking me for reports.

(Laughter.)

MR. CLAIR MOELLER: And in fact, transparency that those reports provide we've found to be a very useful tool at keeping the priorities fresh and people actively problem solving.

We are not troubled by those reports, and our experience is different than Mr. Ott reports. We find it to be a valuable add to the process so that the oversight is fresh, and that this Commission shows that it is a priority of this Commission to keep proceeding.

A suggestion that I glossed over in my presentation is perhaps this Commission could allow us time to negotiate those schedules for when resolution might be, and insist that as those resolutions occur the Commission is provided with those kinds of reports about what those resolutions are what minority opinions might be at those milestone junctures.

It might be a little less disruptive than a quarterly report because it would follow the milestones of the schedule, but it would still be responsive to the need to continue to advance the ball. If the milestone isn't done, you've got to send in an excuse. You said it's October. It's October. How come we're not done? We're not doing for the following four reasons. Here's what we're working on. Here's the planned resolve.

It's just kind of standard project management kind of reporting. It might be a ground that can continue to show that this is a priority but not be burdensome to the process itself.

WISCONSIN CHAIRMAN MONTGOMERY: I think, just in common language, the low-hanging fruit was taken care of early and often and collaboratively. When it was then identified there were some very contentious issues left to be addressed, we shied away from them.

But I think one of the things stakeholders stated coming in was, wait a second. We have to get after the contentious stuff. And so that's where we're at. So I think when you put that with your timeline, I think you sink a very direct correlation between the collaborativeness and low-hanging fruit to, have things gotten more contentious? Yes, they have. Do they require a different governance structure, accountability? Yes, they have, and I believe they're there.

COMMISSIONER CLARK: Thank you.

CHAIRMAN WELLINGHOFF: Thank you, Tony.

Let me just follow up here, just to make sure I understand. So in the process, the JCM process, first of all who is responsible for organizing the process? Who is in charge of organization?

MICHIGAN COMMISSIONER WHITE: I'll offer the RTOs.

CHAIRMAN WELLINGHOFF: The RTOs?

MICHIGAN COMMISSIONER WHITE: Yes.

CHAIRMAN WELLINGHOFF: And so is there a timeline with milestones, internally?

MICHIGAN COMMISSIONER WHITE: Not that, you know, concise, but--

CHAIRMAN WELLINGHOFF: Could we get one?

MICHIGAN COMMISSIONER WHITE: Well--

CHAIRMAN WELLINGHOFF: Because you can't do what Clair says unless you have one, and I agree with what Clair is saying. I think that is what we need to do, is sort of a project management type thing of we'll let you formulate it. We're not going to impose anything. But come to us and show us what your timeline is, what your milestones are, and then let's see that you're meeting the milestones and then we'll talk about it if you're not and you can tell us why you can or can't. I mean, that just makes sense.

MICHIGAN COMMISSIONER WHITE: And that's exactly I think what we've been doing in this process. And, you know, as Chairman Montgomery has pointed out, we really tried to focus early on on, you know, developing some form of a structure and governance. So that it's not just discussions without end.

CHAIRMAN WELLINGHOFF: Right, right.

MICHIGAN COMMISSIONER WHITE: You know, let's try to figure out what needs to be addressed, and how we can go about addressing that. And that's where I'm very complimentary of the JCM process. I feel like both of the RTOs have really come together on this. And as I've observed from my seat, we are making tremendous progress. And also there is a constant look at what we're doing, when we're doing it. You know, so kind of a reprioritization as we move forward.

It has been I think a good process so far, very collaborative and bringing the parties, moving things forward better than we have in the past.

CHAIRMAN WELLINGHOFF: I appreciate that. But from my standpoint--I don't know about my colleagues--but I would appreciate seeing a timeline, and milestones, and a structure. I mean, I think that would be very helpful to us as far as seeing that things are moving forward.

WISCONSIN CHAIRMAN MONTGOMERY: So, Mr. Chairman, having learned my lesson before, Commissioner White and I agree to that. What we would ask of you is, let us take that back to the JCM and see if we can collaboratively come up with a structure that we can bring back to you, and we will do that in less than three months.

CHAIRMAN WELLINGHOFF: That would be great.

WISCONSIN CHAIRMAN MONTGOMERY: We have two meetings scheduled. I don't know if we have the ability to add it to our next agenda, but we will collaboratively address that and report back to the Commission. How does that sound?

CHAIRMAN WELLINGHOFF: That would be terrific. Thank you, very much. We appreciate it.

Does anybody have anything else?

COMMISSIONER NORRIS: Just one more?

CHAIRMAN WELLINGHOFF: Go ahead, John, sure.

COMMISSIONER NORRIS: Thanks. Thanks for that discussion, and thanks for sharing your thoughts. I think it's great for you guys to get some sense of where our heads are at, and the Chairman's follow-up.

I would just say to Mr. Ott, I don't disagree that if we get too much of our hand in this thing there is some chance of driving stakeholders back.

Having said that, is why I asked the question of the OMS and OPSI. Is there an issue? Or is the issue how do we resolve the issue? So you know where my head's at, my sense is that there is a "there" there. And we are going to have to figure out how to get the issues resolved to create more efficiencies and create a better path to deliverability.

So just following up what the Chair said, I think if that's where we're at we need to have you know that there's an expectation to make a determination so that we know how to move forward. And it can't be prolonged just for the sake of not feeling the pressure.

MR. OTT: And I agree with you. I think the key point is the timeline milestones that we're discussing here are for the entire process. So it is on transmission outage coordination. It's on transmission planning coordination. It's on energy market coordination. And I wholeheartedly support that.

Us developing through this process, in fact we have milestones and timeliness for some of the high-priority items already. But actually ferreting that out and coming up with a family, what I as objecting to was a separate timeline and process for the capacity item and not the others, because I think that would be viewed by stakeholders as very disruptive.

If what you're asking is that we discuss with stakeholders and with each other how are we going to reasonably get through a work plan on this family of items, that's absolutely--makes perfect sense. I think it avoids the concept of then every once in awhile you all get a report that everybody jumps in and throws in their comments, but it gives you some reasonable assurance that, hey, there is a process, there is a plan. And oh, by the way, if the plan said you're going to do something in December of 2013, and that did not happen, what's up? Is it just--so that makes a lot of sense.

As long as it's the family of issues, I think we're good there.

CHAIRMAN WELLINGHOFF: Thank you for that clarification, Andy, and thank you, John, for that question. Does anybody else have anything else of this panel? Okay, I think we are through this discussion. I thank you all very much and we appreciate it. I don't think there is anything else on our agenda.

SECRETARY BOSE: Nothing more, Mr. Chairman.

CHAIRMAN WELLINGHOFF: Thank you. With that, we are adjourned.

(Whereupon, at 12:26 p.m., Thursday, June 20, 2013, the 995th meeting of the Federal Energy Regulatory Commissioners was adjourned.)