UNITED STATES DEPARTMENT OF ENERGY

NATIONAL ELECTRIC TRANSMISSION CONGESTION STUDY

WORKSHOP

St. Louis, Missouri

Thursday, December 8, 2011

PARTICIPANTS:

Welcome and Presentation:

DAVID MEYER
U.S. Department of Energy

Panel 1 Regulators:

KEVIN D. GUNN
Missouri Public Service Commission

JERRY LEIN
North Dakota Public Service Commission

OLAN REEVES
Arkansas Public Service Commission

TOM SLOAN
Representative, Kansas Legislature

GREG WHITE
Michigan Public Service Commission

Panel 2 Industry:

MAUREEN BORKOWSKI
President and Chief Executive Officer
Ameren Transmission Company

JAY CASPARY
Director of Transmission Development
Southwest Power Pool

LAUREEN L. ROSS McCALIB
Manager, Resource Planning, and former
Manager, Regional Transmission Regulation
Great River Energy

DALE OSBORN
Transmission Planning Technical
Director, Midwest Independent System Operator

DOUG POWELL
Director, Transmission and Distribution
Planning, Entergy

DAVID TILL
Transmission Strategy General Manager
Tennessee Valley Authority

Other Attendees:

ALAN BAX
Missouri Public Service Commission

LOT COOKE
U.S. Department of Energy

PHILIP FEDORA
North East Power Coordinating Council

TERRY JARRETT
Missouri Public Service Commission

JULIA KAYNE
Consultant, ICF International

JEFF KEEVIL
Missouri Public Service Commission

ROBERT KENNEY
Missouri Public Service Commission

ANANT KUMAR
Consultant, ICF International

DENNIS LAWLOR
Project Manager Ecology & Environment

DAVID LINTON
David C. Linton, LLC

SAM LOUDENSLAGER
Arkansas Public Service Commission

JIM McGLONE
U.S. Department of Energy

ADAM McKINNIE
Missouri Public Service Commission

PATRICIA POLI
Michigan Public Service commission

BRIAN ROUNDS
South Dakota Public Utilities Commission

ALISON SILVERSTEIN
Consultant

CURTIS STEPANECK
Principal Engineer, Transmission Planning
Ameren Transmission Company

JANET WHEELER
Advisor to Commissioner Jarrett
Missouri Public Service Commission

LAWRENCE WILLICK
Senior Vice President, LS Power

* * * * *

P R O C E E D I N G S

(8:57 a.m.)

MR. MEYER: Ladies and gentlemen, if you will take your seats we will get started with our workshop.

Good morning, and welcome. I'm David Meyer from the Department of Energy, and I have responsibility for the 2012 Congestion Study. I'm going to lead off with an introduction, some context

about this study. I'll give you some perspective on it before we go into the discussions with our panelists.

The Federal Power Act, as amended, requires the Department to conduct transmission congestion studies every three years, and we did studies in 2006 and 2009, and so now we're initiating the 2012 study. I've got definitions here and other information about congestion, but you folks know those things already, so I won’t go through them.

We recognize that not all congestion merits mitigation, that any of the solutions to congestion have costs, and so it's a question of determining where it is economic to mitigate congestion and if so what's the most appropriate means of doing so. And we recognize that frequently a combination of approaches is really the most desirable.

The Federal Power Act directs DOE to show where congestion is occurring, but it does not authorize or direct us to prescribe the solutions or to undertake mitigation. So, we see our task as saying here's where it is, collectively let's see if we can figure out what are some of the most appropriate solutions.

In the 2006 and 2009 studies, we used a

conceptual framework that involved three kinds of congestion areas: Critical; areas of concern; and then conditional congestion areas, areas where congestion was certainly not presently acute but where there was a potential generation located in these areas that if developed without associated transmission would produce significant congestion.

I want to say a few words about what we call national corridors. The full legal term is longer than that. There is an acronym that goes with these corridors that I try not to use, mainly because a lot of people don't know how to pronounce it and they don't know how to spell it, and so we've just kind of gone over to the term "national corridor," which is, really, a much classier term anyway, so.

The national corridors may be designated only after the issuance of a congestion study and after the review and consideration of public comments on the study. But the identification of the congestion area does not necessarily lead to designation of a national corridor.

And as you may already be aware, the designation of a corridor has some very specific facts. I mean, first, it emphasizes that the government

believes that it is important to mitigate this particular congestion problem.

And it enables the Federal Energy Regulatory Commission in very specific circumstances under specific conditions enumerated in the Federal Power Act to exercise backstop siting responsibility, siting authority with respect to siting transmission in a national corridor.

And, thirdly, if the proposed transmission facility in a national corridor is also within the footprint of these two power marketing administrations that are shown here, those entities may then exercise their third-party finance authority with respect to the proposed facility.

So, let me turn now to the process for the 2012 study. We're holding four regional workshops, two in the east, two in the west, to explain our study process and to seek data information and perspectives that you think are relevant to this endeavor. It's important to emphasize that we're interested in a wide range of possible kinds of information about historic congestion and about projected congestion or conditional congestion for that matter, and we don't intend to, to the extent possible, we don't want to be

dependent on a single kind of information. It's very helpful for us if we get a sense of, yes, there seems to be a problem here based on this dataset; if we turn to other datasets do we get a similar, do we get corroboration? So, it's important not to be dependent solely on one kind of information.

We do intend to use only publicly available source material. We think that transparency is essential. Unlike 2006 and 2009, this time we will issue a draft report for public comment, and then after reviewing the comments received we will issue a final report. And if people have comments and suggestions on how to improve this process, we welcome those comments.

So, in today's workshop we are seeking especially fresh information about congestion-related conditions in this part of the country, and that is you folks know your neighborhoods, this region, far better than we; and so we wanted to get your views on what's happening, or what do you see on the horizon that in this part of the country that is especially relevant to congestion.

So, we will have two panels. First, we will hear from state officials, and then we will have an industry panel, and after those two panels there will

be an opportunity for anyone else who wants to offer input to do so. And so if you're interested in commenting on that basis, please let Sheri, from ICF, know.

We look forward to a wide-ranging discussion, and we are having a transcript made, and this is so that we have a record so that we can go back to it and be sure we are accurately interpreting what people said and to be sure we haven't missed anything.

Before we get started, I want to introduce some of my colleagues to you. We have Lot Cooke from DOE's General Counsel. We have Alison Silverstein, who is well known to many of you as a very capable analyst. We have Jim McGlone, Jim is an electrical engineer from the Office of Electricity at DOE. We have other staffers who are not here today who are going to be helping us on this project also. And from ICF we have Sheri Lausin.

MS. LAUSIN: Julia.

MR. MEYER: Sorry, I apologize. And we have Anant Kumar, also from ICF.

Thank you all, and let's go on to the first panel. The panelists we have here, I will introduce them only by name and affiliation. We have Kevin Gunn,

chairman of the Missouri Public Service Commission. Thank you for hosting us here in St. Louis. We have Jerry Lein, who is a staff engineer from the North Dakota Commission. We have Olan Reeves, who is a commissioner from the Arkansas Commission; Tom Sloan, who's a representative in the Kansas Legislature; and Greg White, who is a commissioner with the Michigan Public Service Commission.

So, the commissioners say that the order listed is one that works for them, and so we'll start with Kevin.

MR. GUNN: Thank you very much. I went first, because I'm setting the bar very low for the rest of these distinguished panelists.

I want to recognize a couple of folks in the audience. Commissioner Robert Kenney from the Missouri Commission is in the audience, as well as we have two members of our staff, Adam McKennie and Jeff Keevil, and they're up on this stuff and are doing a great job in helping inform where we are.

Thank you for letting me speak today. My name is Kevin Gunn, and I'm chairman of the Missouri Public Service Commission. We'd like to welcome you to St. Louis.

My remarks today will come in two parts. The first will be as chair of the Missouri Commission; the second will be in my capacity as vice president of the Eastern Interconnection States Planning Council. I plan to address some of the questions that were proposed but in a general manner, and I'm happy at the end if there's time to answer any questions that you may have.

The Missouri Commission is concerned with congestion issues, especially to the extent that they involve reliability. The solution to congestion is multifaceted. It can involve additional transmission, a different method of dispatching generation, or even additional demand-side measures such as demand response.

The Missouri Commission appreciates the effort that SPP and MISO have undertaken to study congestion, especially within SPP's state-of-the-market reports and MISO's top 10 congested flowgate studies. This year especially the Missouri commission appreciates MISO, including seams flowgate in the top 10 flowgate analysis.

These slides demonstrate that Missouri is a state with three different transmission regions: the

Midwest Independent System Operator, the Southwest Power Pool, and the Associated Electric Cooperatives, or AECI. MISO provides most of the transmission service on the east side of the state, SPP to the west side of the state, and AECI is the primary connection between the two in Missouri.

This is another quick example. I wasn't sure which one would be more clear. So, you can see MISO, Southwest Power Pool, and then this is AECI right down the middle.

In that regard, there appears to be no significant congestion with respect to market activity from Missouri into MISO or into SPP. In addition, the similarity between MISO and SPP market prices indicates either a similarity in the fuel mix of generation sources in the two RTOs or that there is no significant congestion between the markets.

Both MISO and SPP energy markets are based on nodal prices that reflect congestion through price differences at the various locations for generations and loads. The third transmission provider in Missouri is AECI, a non-FERC or Missouri Commission jurisdictional utility, who serves all but one of the distribution cooperatives and the small municipal

utilities located in its balancing authority area, control area. Neither AECI nor the Southwestern Power Administration participates in an RTO-facilitated energy market, and, therefore, wholesale energy prices and congestion within their control areas are not transparent. However, where AECI and SWPA are interconnected with MISO and SPP, there are interface nodes where market prices are calculated. Thus, to some extent congestion into and out of AECI and SWPA can be determined.

With respect to the SPP and MISO energy markets, it's important to note the lack of direct interconnections between MISO and SPP, and that's mainly a function of AECI being directly in between. There are only three lines with a total rating of 720 mva connecting these two RTOs. On the other hand, there are 112 tie lines with a total rating of 19,224 mva connecting SPP to AECI and 63 tie lines with a total rating of 15,409 mva connecting MISO to AECI. Those numbers might be a little bit outdated; they may be updated, but it helps get an idea of what the flow is. Thus, either east to west, MISO to SPP, or west to east, from SPP to MISO, flows may significantly impact the AECI transmission system. If that transmission

system is built primarily to move power from AECI generation to AECI's customer loads, this could imply significant congestion between the two RTOs.

SPP and MISO have about 6,900 megawatts of transfer capability between their existing footprints. There may be a need for more direct interconnections between the systems.

So, it's important for not only congestion issues but for a wide range of issues that these entities work together in order to benefit not only their members but the residents of Missouri as a whole. States and RTOs are in a unique place to understand the congestion issues within their state and to develop the best solutions for these issues.

In the future, we expect issues of congestion to include several possibilities. First is the possible changes in energy flows due to Entergy companies becoming members of MISO. You see significant expansion of energy flows from the Entergy regions, which is around here. You also see issues with bringing more wind generation online and potential issues of exporting that wind energy. Even if the congestion itself is physically located in Missouri, we want to make sure that Missouri customers would see a

benefit from congestion reduction.

Now, in a couple of specific areas in Missouri, in SPP, the principal congested flowgates of Missouri include the Kansas City area, which is right around here. Congestion in the Kansas City area is driven principally by north-to-south flows that occur in the Nebraska/Kansas interface. The Spearville and other projects are expected to help mitigate the congestion.

MISO is taking a look at these congestion issues, and the ongoing top 10 congested flowgates, including border flowgates, are due to be published in March 2012. There is some current congestion in Southeast Missouri at the St. Francois substation, which MISO is addressing in its upcoming analysis.

We do have concerns about the potential impact of a change of flows across the transmission grid if Entergy joins MISO and the potential for change in flows to cause congestion in Missouri. However, that's something we're just going to have to keep our eye on as Entergy and MISO continue their discussions about Entergy joining MISO.

The Missouri Public Service Commission recognizes that it makes sense for these groups to talk

to one another. We held the Missouri Transmission Summit in May of 2010 where the three transmission planning organizations in the state, SPP, MISO, and associated electric co-ops, were brought together to discuss interregional coordination. Certainly, we believed, and we hope that these discussions are ongoing, that it's much more efficient for transmission regions with close boundaries to meet as a group rather than as pairs of individual regions.

Missouri also supported comments to the FERC filed in September by the organization of MISO states regarding regional planning consistency. I'll provide a written citation to those comments when we file the written comments on the congestion study as requested.

I'd now like to turn to comments from EISPC. These comments are not necessarily those agreed to by the Missouri Commission, but as vice president of EISPC, these could be considered general EISPC comments.

EISPC urges DOE to be mindful of state authorities, requirements, and challenges, and not attempt to preempt the state processes. That would include possible expansion of backstop siting authority.

EISPC reminds DOE and stakeholders that sometimes it's less expensive for customers to pay congestion rates than to fund the infrastructure needed to alleviate the congestion, especially if no other benefits for such infrastructure editions are identified.

Congestion at different regions may be caused by different sets of factors. EISPC urges DOE not to assume that the causes of congestion in one region would be the same in another region but to be mindful of each region's differing characteristics.

EISPC welcomes the DOE and stakeholders' review of the studies currently conducted by EISPC and the EIPC. However, please keep in mind that the studies being conducted by EISPC and EIPC are high-level, long-term studies to provide information regarding potential impacts to energy infrastructure if certain public policies were enacted. As such, EISPC cautions DOE about using or relying upon the study information in identifying more immediate-term and specific congestion areas or any resulting energy corridors.

The resource studies conducted in Phase 1 of the EISPC and EIPC work looked at impacts to energy

infrastructure under certain public policies that do not currently exist as envisioned. For example, a national RPS, a national carbon mitigation policy, and mandated high-level energy efficiency demand response policies.

Also, the studies being conducted by EISPC and EIPC only looked at certain potential policies, and did not include all potential public policies. As such, these study results would not be applicable to the DOE congestion study.

Per its notice, DOE plans to look at the location of renewable resources and state reasonable policies with respect to renewable development. During 2012, EISPC, along with the Argonne National Laboratory, Oak Ridge National Laboratory, and the National Renewable Energy Laboratory will be identifying much of this information through its clean energy zone studies. EISPC welcomes DOE consideration of this clean energy study information as it becomes available. EISPC's interaction with EIPC on the scenario and future selections has pretty much been developed, and so it is going to be turning much of its attention to the development of these energy zones as required by the FOA. So, we are going to see a lot of

progress in 2012 in this study development on energy zones from EISPC.

So, I want to thank everybody for their attention. I'll be happy, after the distinguished panel gets finished, to answer any questions that you might have. Thank you. I'll turn it over to Jerry.

MR. LEIN: Thanks, Kevin. All right, I'm here to talk a little bit about the Upper Great Plains region and specifically North Dakota, because that's what I know most about. And in North Dakota, well, we've got some pretty good electric resources, and our problem is that we don't have good transmission out of the state. We're far away from most centers, and we're having difficulties with transmission constraints. We don't have transmission to interconnect all of the wind that wants to be developed. So, I'll talk a little bit about that, and I'll talk a little bit about just an update on some of the projects that we've got going over the next few years. And then I'm going to just talk a little bit about capacity deliverability between RTOs, too. Even without infrastructure upgrades, I think that we can do better on that.

But North Dakota was ranked No. 1 in U.S. wind energy potential, and this goes all the way back to

1991. There was a study that made quite a splash by Pacific Northwest Labs, and they found that North Dakota could potentially, with wind energy, provide 36 percent of the U.S. electric energy generation. And I think they were planning on us using all of our land for windmills, but that's the potential.

Right now we've got about 1,400 megawatts of wind capacity installed, and that's roughly doubled from where we were at back when the last congestion study was done in 2009. In addition to that, we've got another 6,000 megawatts that have been, they're either permitted already or they've filed what's called a letter of intent to file an application with the Commission for siting.

What drives them is our high capacity factors. I think pretty much everywhere in our better wind areas we can do 40 percent, and we're probably pushing 50 percent in some areas.

In addition to the wind, we've got hydro power. We've got 500 megawatts on the Garrison Dam on the Missouri River. It's a federal power project. I might add that South Dakota's got another 500 megawatts at Lake Oahe on the same river. In addition to that, we have late night coal generation. We've had about

4,000 megawatts of installed capacity now, and these are plants that were built in the '50s, '60s, and '70s. They're going to need some retrofitting and so forth as we look at EPA regs, and that's all out there.

But anyway, mine-mouth generation, which means there's no cost for rail to ship the coal, and we have a lot of coal, we have about a 300-year supply at our present consumption rates, and we also have geological formations that are favorable for carbon sequestration. We have one project right now that is a gas plant. It converts lignite coal to natural gas, and they actually have a pipeline that delivers CO2 to the oil fields where it's used to enhance oil recovery.

And I'd add that with our coal development and all the power plants that we have, North Dakota still meets all of the federal ambient air quality standards.

This map everybody's seen. This is 50-meter-high hub height wind data, and I put it up here basically to show that the region is basically class 4 and better, and that extends down into South Dakota and over into Minnesota. This area here in Minnesota you've heard of. It's called the Buffalo Ridge, and that extends all the way up through South Dakota and in North Dakota.

And this is 50-meter hub height. The EISPC energy zone's workshop right now is working on putting together a map of energy zones, and they're looking at getting 80-meter hub height data from NREL, and so that should come out some time next year.

This is focusing in on North Dakota on that map with the transmission system overview on it. And we have a couple of DC lines that deliver power out, and one of those goes to Duluth; the other one goes to the Minneapolis area.

But what I really wanted to show with this map is there's an area right in here that has outstanding wind resources, and we're looking at 50 percent wind capacity factors through there, and that's highly developed all through, or getting developed. It's probably the prize place that everybody wants. But there's a ridge that extends all the way along through here that's getting developed pretty well. We've got areas up that are developed and some over here a little bit, too. And the development is starting to come pretty much throughout.

But, like I said before, we do need some more transmission. We're having interconnection difficulties. There's an inability to interconnect

that's hindering our development. For instance, MISO has an interconnection queue process, and that has been overwhelmed for a long time, and it's been revamped and redone, and they've come quite a ways with trying to get hold of this thing with a restructuring of the process. They went from a first-in/first-out process now to a milestone-based process, and things have improved significantly. But still we're overwhelmed. As you can see here, Minnesota has got 9,000; South Dakota has almost 3,000 and so does North Dakota have almost 3,000 megawatts of wind waiting in that queue. And MISO's estimating that it's going to take years to get that cleared out with the regional transmission constraints that we have.

So, as a result of that, most of our wind interconnections have been with non-MISO participants. We've got WAPA and Basin operating in an integrated transmission system, and Minnkota is also a non-MISO participant. And they've accounted for a lot of it, but those opportunities are less and getting less all the time as they fill their needs with wind power.

So, as I said our problem is we don't have enough local load for a transmission export capability to accommodate the interconnection requests. And I'll

point out here that about three-fourths of the electric energy that we produce in North Dakota is exported, most of that into Minnesota.

But the primary problem is we have an export constraint called North Dakota export limit, MDEX, and it's a stability constraint. It's between the Dakotas and Minnesota, and there's a picture of it. If you just kind of draw a semicircle around this state and South Dakota and Minnesota, there's a total of about 17 mines that go through there that export capacity, and all of them added up have historically been operated as around 1,950 megawatts. And the entities there, they have an operating agreement that they use where they voluntarily reduce their capacity or their transfers when we start getting up that limit. And so as a result, you won't see a lot of TLRs being called, and so I just point out that that's not always the indication of congestion, just TLRs on flowgates.

So, moving on, and what we're doing to try and rectify that, the CapX2020 projects are moving along. We have a Fargo-to-Monticello line. There's actually construction going on between Monticello and up into Alexandria. We have a siting permit filed with the North Dakota Commission and hearings on that scheduled

for the end of January.

Brooking to Twin Cities line, we're looking at a double-circuit line. Brookings is in South Dakota, and this line is an MVP project actually, and the Commission just issued a decision that it was prudent for the participants to get involved in that line and build it. And that line we're expecting, I believe it's in the 2014 time range for in-service.

And there's a third line, Bemidji to Grand Rapids. It's also in that same time frame. It's not as big a line, but it has a significant impact on our Fargo area. But that's the third one.

And the fourth one is the Rochester to La Crosse line, and there are constraints between Minnesota and Wisconsin that need to be fixed, and this line goes that way.

There's also another MVP project I didn't mention here that goes on to Madison, Wisconsin, and with those, those will help us. If we could resolve the North Dakota export constraint, we still have to get across the Wisconsin/Minnesota constraint if we wanted to get to load centers, like in Chicago.

There's another MVP project, and I'm assuming everybody here knows what MVP projects are. MISO is

funding these with a postage stamp type of rate across the entire MISO footprint, and it was something that was recently filed with FERC, and FERC approved it, and we're looking at how it comes out on the appeals and everything at this point. But their first slate of MVP projects is up for approval at the Board here in December, MISO Board, and included in that was the Fargo to, I'm sorry, the Brookings line was one, and then there's an additional line going from Brookings to Big Stone, South Dakota, and another one going from Big Stone, South Dakota, to Ellendale, North Dakota. Now, Ellendale is that one area that I showed you just on the other slide that had the red on it. And so that will give us a 345 kV line coming out of that area and going into the Twin Cities.

I'll mention one other project that is of interest. We have the DC line that I mentioned earlier, and that was used to provide coal power into Duluth from the Milton R. Young plant. And there has been an arrangement between the owners of that line and Minnesota Power to sell that line to Minnesota Power. And Minnesota Power is developing wind energy in that area with their Bison Wind projects, and those projects will be taking wind energy into Minnesota, into their

service area in the Duluth area on that DC line, and we're looking at about a thousand megawatts altogether possibly being developed in that region. And then they're building a new line from Center to Grand Forks at 345 kV line to take the power off of that Milton R. Young station, and it will be used by Minnkota customers.

In addition to that, we've got Western North Dakota oil field development going on big time, and so we can, a few lines there that aren't going to help their export capability, but better it is just exploding with oil development. You've probably heard about it.

So, last I'll close up a little bit talking about capacity delivery ability between RTOs. And deliverability is just the ability to deliver energy, and capacity is that delivery capability. And I'm really focusing on MISO here and their energy market, and so access to a more diverse mix of resources will allow better optimization of resource commitment and dispatch in that market.

And the same thing works for PJM. They need the transfer capability from MISO.

And so given potential retirements and

timelines to comply with the EPA regulations that are coming up, this deliverability is really an important, urgent issue, and I'll back up on that a little bit. MISO's looking at significant, well, I think they were talking about 60,000 megawatts of potential coal- fired generation that need some sort of retrofit and probably 13,000 megawatts of stuff that's going to need immediate retirement if these EPA regs go through. So, all that's going to have to be replaced and dealt with.

Basically, the problem is that there is transfer capability that exists, but there are some artificial barriers that stop RTOs from trading capacity between each other, and I think what needs to happen is somebody needs to look into this and see if this can be fixed up, like maybe FERC.

There is a study that MISO has, a Brattle study it's called, and that study's almost out, and it's indicating that there might be 4,000 megawatts of transfer capacity possible between MISO and PJM. And that's like $2 billion in reduced costs for consumers.

So, in conclusion, I want to say that resolving the North Dakota export constraint is in the national interest and that North Dakota is able to contribute significantly to the domestic energy

national energy supply with domestic energy, clean, low cost. And I think we need to look into the artificial barriers that can inhibit transfer capacity between the RTOs.

And on here I just put some further reading and references that people can look up if they want to spend more time on this.

So, thank you.

MR. REEVES: Good morning, my name is Olan Reeves. I didn't know that was my name till I was 12. My name is Butch. I grew up in a small town, and everybody called me Butch, but my given name was Olan. I had a sixth-grade teacher who called me Olan. I didn't ever answer. She asked my grandmother, who taught first grade in the school I went to, your grandson, is he deaf? He doesn't ever answer. And she said, I guess he doesn't know that's his name. And I remember riding home in that car that day and my grandmother saying, your name's really Olan. And I said, what? And so if you call the office and ask for Olan I may not know who you are, but if you ask for Butch I'll know you really know me, so. (Laughter)

So, with that, I am a commissioner at the Arkansas Public Service Commission. Collette really

wanted to be here, our chairman, Collette Honorable. She couldn't be here, and she said would you go? And nobody says no to Collette, so I said yes, so that's why I'm here.

Besides being on the Arkansas Commission, in January I will be the president of the Regional State Committee of SPP, which is made up of a regulator from each of the states who have companies that are in SPP.

Under the OATT, the tariff, we have charge of the cost allocation for SPP, and so our role is really pivotal in what SPP does on the planning for transmission build-out. It's kind of a daunting task for seven state regulators, three of whom are chairmen I might add, of their commissions, to try to get together and resolve the issues that confront SPP.

And, as Kevin said, Arkansas is in a very unique, difficult position. Our biggest company, Entergy, has filed an application to join MISO. Entergy Arkansas is the only connection with MISO, so if Entergy Arkansas doesn't and can't join, the other states are stuck as well. Embedded in the Entergy system in Arkansas are all of the co-ops, Arkansas co-ops, which we regulate. They do not only need transmission. All their transmission is embedded in

Entergy or in Swepco. Swepco is an AEP company. They are a member of SPP. We have three IOUs in SPP, and then if Entergy gets to join we'll have one in MISO. And then Monday's announcement that Entergy's going to spin off their transmissions system to ITC, which is also a member of MISO and a member of SPP, we're going to have a lot on our plate going on with transmission in 2012.

And so these issues are very, very important to the Arkansas Commission. We've been involved in SPP. We've been involved in the Entergy Regional State Committee, which is a FERC-approved group that has 205 filing rights regarding Entergy's transmission system. Entergy's transmission system is currently being managed by a contract with SPP, odd, that runs through the end of 2012, I think, or maybe the end of 2011-2012. And so there are a lot of issues going on. And so I'd kind of like generally to answer the questions that were asked.

It's really difficult to say whether the SPP or Entergy region has become more or less congested since the 2009 DOE study. Congestion is usually reflected by TLRs and local area procedure events.

You know, the acronyms just drive me crazy in

this world. You know, you talk about the acronyms, and sometimes I can't even tell you what they mean; I just know what they are. We had a new commissioner join in January, and she said what are you all saying? So, she said I need a list of what the acronyms mean just so when you say something I can look it up and say okay, that's what they're talking about.

Okay, congestion is usually reflected in TLRs and local area procedures and in the Entergy region one of those issues that the retail regulators, the ERSC, has focused on during the last two and a half years. Has it improved? Marginally. The Entergy retail regulators have been very active in addressing and trying to get build out in the Entergy transmission system.

This has been difficult for a couple of reasons. Entergy's focus has primarily been on reliability and not necessarily economics, unless it's a project that has benefits to the Entergy region as a whole, because that's how they're managed. Entergy often relies on older generation that's paid for rather than investing in new transmission projects. SPP, however, while congestion has not been eliminated they have two projects going on right now: The basic

portfolio and the priority projects. Some work for reliability, many work for economics. Most of those are beginning to be built. 2017 is the goal for most of those to be built.

There's a new cost allocation methodology that SPP just got recently approved called Highway/Byway. We are studying that to see if the benefits and costs are roughly commensurate so that we can move forward those projects. But, again, those projects will really come into fruition in 2022. They're about a 10-year out.

And so is congestion being dealt with? Yes. There are still issues. I don't see a problem between reliability and economic benefits as long as the cost benefits are roughly commensurate, and FERC just recently said in their Order 1000. And so some of the projects that SPP at least is building are not totally reliability. They are economic, congestion being one of things they're looking at trying to fix, because who knows, today's economic projects could turn into tomorrow's reliability fixes when we get actually them in place.

SPP has certainly been working to address congestion within its region, and most of that has been

for two reasons. One has been to harvest wind, as Kevin's map showed in the western part of SPP; to move power to the load in the eastern part of the region; and to move wind to Memphis, Atlanta, Nashville. TVA is very interested in the wind that's in SPP, trying to get it moved, and it would have to go across Missouri or, more likely, across Arkansas to get that wind to the load centers in TVA.

While we've had success in SPP, it isn't without controversy, and, frankly, the level of wind at production is heavily dependent on the economic status of the economy of the country and whether or not the tax credit for that is renewed.

Certainly one of the areas for all of us, if it was certain, would be if there were a clear federal energy policy. But since there isn't, and there may not be in the near future, states have to come into the breach, and SPP does too, and try to figure out what's the best way to build transmission not knowing if these 40 or 50-year-old coal plants are going to be shut down, retrofitted, or what's going to happen. We just have to make a guess.

So, the short story is that wind resources within SPP will continue to be harvested for

distribution within the footprint and perhaps outside the footprint.

The second reason that SPP's been involved in this is to facilitate the development of the Day 2 market that they start, which will be up and running in 2014. SPP recognizes that the link between efficient Day 2 markets and lower cost overall is a robust transmission system that allows that to function.

A second issue that I'd like to talk to you on is seams. As Kevin showed, the seams between MISO and SPP and between Entergy and SPP and Entergy and Missouri and MISO are critical, especially if Entergy is going to join MISO. And with Monday's announcement that Entergy is going to sell their transmission system to ITC, which is already a member of MISO and a member of SPP, this is going to create some new issues that I, quite frankly, don't know how we're going to model all this, how we're going to know this is going to work.

So, as you can see, the Arkansas Commission has a lot going on in 2012. We thought it was going to be a slow year. It's not going to be slow at all.

While addressing seams issues, particularly planning to address congestion between regions and cost allocation has not been high on our list of things to

do at SPP. This is changing and changing quickly. In fact, the RSC at SPP, we've hired the Brattle Group to be our study group for working on seams between MISO and SPP and originally between Entergy and SPP, but now it would be strictly MISO and SPP, and can we get stuff built? How do we cost that out? How do we evaluate the benefits, which is tough?

Currently, in the Entergy system when the Acadiana load pocket, which was a congestion problem for years in Southern Louisiana, which is across the seams, was fixed, something was built across seams and costs were allocated to three different groups, suddenly the TLRs in Arkansas this last year went up. Is it as a result of that congestion being fixed? I don't think we know yet. So, what does that mean for the whole Entergy system in joining MISO? I don't think we know yet.

So, seams issues have become a big issue that at least SPP and the RSC are trying to do something about. And coupled with Order 1000, we think we're really going to have to figure out a way to boost line building and recoup costs on both sides, because when you run a benefit-cost study on a company that's on a seam, like one of ours, Empire in Missouri, and they're

stuck on the seam, it's very hard to make the benefit-cost work out, because you can't assess cost or evaluate benefits on the MISO side unless there's cooperation, and that's what we're hoping the Brattle Group will help us work out.

The planning process in SPP is pretty sensitive to the issue of planning and transmission to harvest wind within the region, but we'd like to transport it outside the region as well. But until cost allocation methodologies are addressed, planning will have to stay away from those seams projects. In this area, besides Arkansas, Missouri, we also have seams with Texas, Louisiana, and Mississippi. If DOE could focus some of its efforts in the area of determining congested paths in the Eastern interconnect, in and around the seams, I think that would be a huge benefit both to RTOs and to the planners if you could help us.

The RSC has engaged this consultant, like I said, the Brattle Group, to study ways to address that cost allocation. Of course right now it's going to have to be voluntary. The JOA may help some, but it's not going to cover every situation, and if we're able to make progress on that, that would benefit SPP and

WAPA and MISO and Entergy in addition to the SPP members.

An important part of this effort will not be solved very quickly. One way to address congestion would be to build transmission, but only to the extent that the benefits of building it are greater than doing something else. DOE might consider developing a way to monetize the benefit metrics that SPP and others have not been able to monetize. Currently, most of the modeling that was done for the two big projects in SPP, ATCs were about the biggest benefit that we could monetize.

I'm on a group called the RARTF, and don't ask me what the acronym stands for (laughter) but we are studying the cost allocation, different methodologies that SPP has to see if we can monetize the metrics and make the benefit-cost ratios more meaningful. We know there are benefits to doing certain projects; we just can't monetize it to put it in the formula to say the BC is roughly commensurate. That's what we need help with.

We have two groups, stakeholder groups and commission groups, working on monetizing the benefits. But it's not easy, and it takes time, and we would like

some help with that, and we think DOE might consider developing a way to help us monetize those benefits to give us a template to put those benefits in so we can work on the BC ratio.

A more fully developed portfolio of those monetized benefit metrics, such as ATC, would assist planning and allocate in the cost of the seams projects, which will also address congestion along the seams in the whole Eastern interconnect, not just between the MISO and SPP RTO but the whole Eastern interconnect, because there's a huge section of the country to the southeast that's not in any RTO. And I'm sure they have the same problems we do with cross seams trying to get projects built and to justify to ratepayers and to regulators that it's worth building that.

So, at the end of the day regulators are interested in how to address existing congestion, as well as trying to look into the future to address future congestion and transmission needs.

Up to this time, we've been using benefit metrics that would result in fewer and fewer net benefits as we go out, because what happens to those benefits, they don't always go up when you're talking

40 years out and you're looking at a BC trying to justify roughly commensurate to FERC and to everybody else. The benefits don't always keep going. It's a tough job. They only last so long, and if we could monetize more of them, it certainly would help.

I would also recommend that DOE spend some time in each of the planning regions for a more complete understanding of how congestion is identified, how it's addressed by the planning regions. One thing that this task force that I'm on when I'm SVP, it's made up of three regulators and four TOs in SPP, as well as a lot of other people who are on it, it's trying to make our planning models fit the benefit-cost ratio metrics that we've come up with. If we plan that way, we think the projects will have better value to us.

If ATC is all we're going to use, it's not going to help us really evaluate that very much. So, I think DOE could help in that area. And the way to help is, at least at the SPP meetings that I've been to, the RSC meetings, there's a FERC staffer, sometimes two there, every meeting. Every meeting. Many times they're at CAWG, and I don't know what that stands for, and MOPC, the two committees in SPP that work on the

metrics. FERC is there as well, and I think DOE, if you could think about this, I think it would really help if DOE was there and offered assistance on some of these projects. And then because, you know, there are many things that DOE and FERC do hand in hand and have a part in together. I think working on these planning models and helping us work on benefit metrics and cost and congestion planning I think would help. It would help all of us.

The other thing I would like to point out is the work of EISPC. I would hope that the work that EISPC is doing would provide an incentive for DOE to see that additional work is done on issues that the eastern interconnect will be faced going forward. As I mentioned, while there appears to be little stomach in Washington to establish a federal energy policy, the work that DOE could continue, post-EISPC, would be a valuable resource for planning regions, but only if DOE doesn't take EISPC and put it on a shelf. It's not going to do us any good if that's what's going to happen. And so I'm hoping post-EISPC something comes out of that that would be valuable to the planning regions to say we can use this in going forward to plan for economic and reliability projects.

My last note would be to provide a suggestion. Look at the joint efforts you have with FERC since 2003. Since 2003, FERC has had a presence in the RTO regions in both Entergy and in the SPP when the ERC was formed and the ICT with SPP was finalized and assisting with the retail regulators in those states to make sure the planning models and the projects that get built are really done on a basis that everyone agrees this is the best way to look at it. I, for one, think the FERC involvement in SPP at least, which is all I know about, has been very helpful.

The guy that comes, Patrick, who lives in Carmel, Indiana, and comes to all the SPP meetings, just his presence there and asking questions and having him explain what's going on at FERC and then having him go back to FERC and report on what the Board of Directors at SPP is doing, what the different committees are doing, what the RSC is doing and how they're looking at stuff I think has been very valuable, at least for me, because when we talk to the FERC regulators and we say this is what we're doing, they have a background knowledge of what we're even talking about, and I think that's been helpful. And I think DOE could help us out if they would join with

FERC and do that same thing.

Thank you.

MR. SLOAN: I've been trying to decide when I got old because I notice that when I step down I'm much more cautious now than I was when I was younger.

Well, I appreciate the opportunity to be here today and talk with you all. Yeah, I, too, have said that what this country needs is a national energy plan and have decried the lack of one. I've even tried to develop one in the state of Kansas, without a lot of success, which gives me some reason to understand why we don't have one nationally.

But the reality is that the EPA is creating one for us, and so I think that in some ways we need to spend less time talking about what Congress needs to do or not do or what the President and the Department of Energy need to do and not do and simply recognize that absent any other directive or whatever, EPA is the one that is driving this.

And speaking as a state legislator, and I'm probably the least knowledgeable person in this room, congestion for me and I think for most of my colleagues is the convergence of political and technological limitations on the operation of the grid. And it's far

easier to solve the technical issues than it is the political ones. Congestion's a pricing to incent investment in local generation or regional transmission or increased energy conservation or any number of other options, but on that where I talk about regional transmission, most legislators', most governors', most commissioners' charge is to look at only the things within their state boundaries.

Now, there are RTOs, obviously out to look beyond their super state, if you will, but for the policymakers, the ones who are largely going to be involved in helping to define the public support or opposition, we have got to spend more time collectively working on that more regional approach.

And as has been mentioned, particularly by Jerry, the Plains states have vast renewable resources to generate. I mean, we had wind in the north, solar in the south. There is no load in our regions. We have to move power if we're going to be the energy exporting states of the future as we are with coal in many cases today.

But, again, it comes back down to every state is trying to develop their own resources, as they should. But if the EPA is going to drive energy policy

into a carbon-constrained environment, and my concern is not just the impact on coal plants, as I've told several people, I was at another meeting in Tampa last week, and an EPA woman from Atlanta came in and spoke to us and said their modeling shows that there is no impact on reliability from their proposed regulations. And then I pursued some more questions, and she said, well, it may impact the operations of some old coal plants. And I asked what an old coal plant was. It's anything that's 30 years old.

In my state, we don't have a coal plant under 30, and we're extending their lives to 40, 50, 60 years. So, whether it's a difference in their modeling, whether it's a difference in their understanding, whether it's just a difference in their agendas is immaterial. I mean, if we're looking at congestion in terms of moving renewable generation power from the Midwest to the East, the opposition from those states, because they want to develop their own resources and such and they don't want more transmission, may become a moot question, because it becomes a reliability issue. If you have a carbon-constrained world and you haven't built a transmission, our lights will stay on and theirs may not.

I do commend the DOE for a number of things, you know, reaching out to Lauren Azar and an RTO engineer. You know, whether you agree with what they would advocate or not, just the fact that they reached out to the Public Utility Commission community and to the RTOs, you know, to bring them in and say on a more active basis what should we be thinking about is a good thing.

I do serve on DOE's Electricity Advisory Committee, and it's nice that they will listen to us and that they show up at more meetings.

I particularly want to commend something that they provided some funding for a DOE National Conference of State Legislatures and NARUC Transmission Technology Workshop that was held. The idea behind that was frequently people like myself don't even know what the appropriate question is to ask our utilities. They come in and say we want to build a transmission line or we, you know, we need to do something else. And we don't know enough to say have you considered these other options, storage, for example, to address a TLR? When is it appropriate to bury a transmission line? Yes, it's a lot more expensive, but if you avoid years of litigation, is it more expensive, you know, in

the large sense. So, that was a stimulating workshop, again partly because it involved policymakers like myself, as well as some commissioners and such.

But we start talking about political congestion, which I think is to me the primary problem. As I said, you can solve the technological ones or the technical ones are a lot easier. You know, NIMBY, build nothing, conserve, the cost allocation fights, least-cost option versus long-term benefits, and what is least cost and what is long term and all those things, the effort to maximize local renewable energy options regardless of price. And I mean, nobody here from Massachusetts I don't think, and so the Cape Wind project becomes a marvelous example. It's nice to develop your own resources, but if that resource is twice or three times as much as your regular other generation mix electric cost, how much of that can your consumers really stand? Where's the balance in there?

As you go further West, you've got the areas that the federal government controls, the Park Service and Wildlife and BLM and Forest Service that are difficult to get permits even though there has been effort led by the DOE to get lead agency status and find corridors.

In terms of what it is that the DOE may be able to do, I think that, as I said, helping policymakers, including commissioners and governors, understand the regional and national implications of needing to address either congestion as it exists or the need to construct new transmission lines to move renewable energy, if that's going to be the policy of the land, but helping to get us past the state-centric perception, part of which is in statutes. I mean, the commissioners frequently are charged with looking after their customers, their ratepayers. I certainly want to look after my voters. Kind of like to get reelected. But we have to, in my mind, do a better job of educating us so that we can educate the public about the larger implications. And that includes educating us so that it will change statutes that restrict their ability to take actions.

The technological options, I already mentioned that workshop, and, again, that to me is rather important.

Most of our states have legislation that directs our commissions to look at least-cost options. Most of our states still have consumer advocates in some formal or informal sense that advocate against

expenditures that they don't see benefiting their ratepayer today. And I think we need to, again, have the DOE engaged in those debates, not in terms of making proclamations or decisions for us but stimulating the discussion.

We over-invested in generating capacity in the '70s. We benefited from that for 30 years. We build interstate highways to meet tomorrow's needs. Unfortunately, at the other end of that we're today becoming much more constrained in terms of the length of our thinking out forward.

My county built a jail, because the old one was overcrowded, and they built it just to meet the needs that existed at that point in time. It was full the day they opened it, and they're now struggling with the fact that the courts are probably going to tell them they have to build again. We have got, I think collectively, to do a better job of looking at the long-term planning and the long-term benefits.

Certainly as was mentioned, the RTOs are trying to look at, particularly the SPP, because that's the one with which I'm most familiar. Translating their planning time frame perspective can be helpful.

Identifying model legislation at the state

level, it can provide ideal options or better options. Kansas has a law on the books that allows utilities to upgrade existing transmission lines on existing footprints without regulatory or environmental review. In other words, you got the permission once, go forth and do it.

Kansas City Power and Light a few years ago, I don't remember how many now, 5 or 6 probably, upgraded during a live power upgrade of 30 miles, and it took them 4 months. Again, for us that was a major issue within the SPP footprint in dealing with the congestion issue. But it was an example of a way that maybe it could be expedited. There are others that you may be able to help bring about.

The Council of State Governments, or CSG, actually has an interstate transmission siting compact task force working, trying to find a way to address the opportunity presented in EPAct 2005 where if states will band together to address siting transmission, then the backstop authority won't be necessary. And how do we do that in a way that makes sense? And this task force, there are several legislators on it, including me; Chuck Gray from NARUC is on it; we've got some folks from RTOs on it and some folks from the industry

basically trying to streamline a multistate planning process that still respects state sovereignty but also addresses the issues of the need to regional planning, the need to avoid invoking the backstop authority, which as far as I know no federal agency wants to do, but it's there and if the problem gets big enough and we can't solve it, there'll have to be federal action.

Again, DOE can help with efforts like this, not only in terms of maybe helping to fund the public education, and by "public" I mean policymaker, about the benefits of this or of some other approaches, but also just in terms of advocating for more of that interstate cooperation.

You know, again, it sort of ties into helping to bring the consensus building, if you will, between the various agencies, the various stakeholders over the sovereignty fights. I mean, for someone like me who's accustomed to thinking in regional and national terms on energy, it is very difficult to go back to the state, to my colleagues, who are concerned only with how much money their ratepayers are going to pay this year or, more correctly, in 2012 because that's the election year.

Congestion's been talked about in a technical

sense. I'm looking at it more as a political issue. Again, the Department of Energy, you know, supports the GridWise Architecture Council and its efforts to promote interoperability. I think, again, trying to increase that support for processes and organizations like that, trying to find additional technical solutions that can be then adopted by the commissions and people like myself and governors.

And no one really enjoys talking with the media, except maybe Hollywood people, but it's often very necessary. I have found that if I talk to an editorial board about large-scale issues in my area, it may result in editorials written. They have some influence on public opinion. What it does, more importantly from my perspective, is they talk to the reporters about balance in their stories about perspective, you know, long and shorter terms. And so, again, when Secretary Chu speaks, in a lot of ways he's becoming politicized, not by his actions but by the nature of politics today. But the technical people, someone like David who, if you're speaking to the media, can provide some of that education opportunities.

Now, with that, I too look forward to your

questions and I, again, appreciate the opportunity to be here.

MR. WHITE: Good morning. Thank you very much for the opportunity to be here. Thank you to the Department of Energy. Thank you to David Meyer. Appreciate the invitation.

I'm Greg White. I'm a commissioner with Michigan. I did not bring any slides, but I did ask if one of Chairman Gunn's slides could be put up, because I realized it would be helpful to me in my explanation of what's going on in Michigan.

I'd like to commend the outstanding comments by my fellow panelists. They really covered a lot of very, very important material and ideas, thoughts; and I commend those comments to the Department. I think that you've received already some very, very good things to think about in development of this congestion study.

I also want to mention that we are planning to submit written materials, and so my comments hopefully will be fairly high level and will provide some more detail and perhaps some studies and things that we've been working on that might be helpful to the department in this study.

I'd like to start with talking about Michigan specifically, and that's why I thought this slide might be helpful.

As you can see, you know, Michigan is made up of two peninsulas surrounded by the Great Lakes and, believe it or not, we actually have more shoreline in Michigan than the entire Eastern Seaboard. That's a blessing. It's a natural resource blessing. It's one of the things that make Michigan great. It's also a curse from the standpoint of the electrical system and electrical interconnectedness, which I'm not really sure if interconnectedness is a word, but having been in this industry for almost 30 years, to my knowledge I've never penned an acronym. I'm kind of hoping that maybe I just created a word, "interconnectedness," and I can get some credit for that. (Laughter) I know that I've often believed that people get commissions for how many acronyms they create, and I'm probably not going to do so well in retirement, because I haven't been penning acronyms. But I'll work on that.

But anyway, our challenge in Michigan and, whoops, I didn't mean to do that in Michigan, we have very limited interconnectedness. We're in two RTOs. Primarily you can see MISO. The Upper Peninsula of

Michigan is totally interconnected into Wisconsin. There's very, very little interconnection. Anything other than through Wisconsin there's a very small line of the Straits of Mackinaw; very, very small interconnection with Canada. But everything comes in and out of Wisconsin, and that creates a huge issue for Michigan.

The Lower Peninsula, we have limited interconnectedness to both PJM, well, PJM a little bit more, but MISO as well, a little bit with Ontario. This tie, the Lower Peninsula of Michigan, we have about a 215-megawatt tie into MISO. Now, that doesn't mean that we're isolated, you know, entirely, because certainly MISO and PJM are interconnected in fact.

But to kind of play off something that was mentioned by one of my fellow speakers, that is, the seams issue, a source of frustration for me, and this is not something I'm not sure that the Department can fix, but a source of frustration for me was one of the basic tenets of the formation of the RTOs, of which Michigan was front and center and very, very early supporter of the formation of the RTOs, recognizing that there regional benefits to markets that we could benefit from, was something called geographic

rationality.

And when I have a legislator or a governor say to me, you know, why is this transmission issue so difficult, we always start with the Lower Peninsula, and then Michigan, we always do this because the Lower Peninsula kind of looks like a palm, and I say, well, you know, Michigan is in MISO primarily, except the Southwest corner, that's over in the East, oh, yeah, and by the way, that's in the East, too. And one of the things we were trying to solve with the formation of the RTOs was the elimination of seams, right? And by allowing kind of forum shopping, I guess, in terms of where you serve and which RTO you're in, we've recreated some of those seams and made this whole effort significantly more complex than it really needs to be.

So, again, you know, Michigan has a large geographic territory and MISO a very, very limited connectedness in the Lower Peninsula. We have a very, very small geographic territory in PJM; however, our natural trading partners, Commonwealth Edison, American Electric Power, First Energy, tend to be in the PJM RTO, and that creates issues for us.

I'd like to say that we are very, very

actively involved in the RTO planning process, both with MISO and PJM. These are processes that are critical, and we strongly encourage the Department of Energy to support those planning processes as much as possible.

To address a few of the questions, I guess, posed by the Department, is our area more or less congested, and perhaps to talk about some recent developments, in 2008 Michigan passed a renewable portfolio standard, and one of the objectives of that standard, as has been pointed out by some of the panelists, is to develop resources within the state. It's not a secret Michigan's economy has struggled. Our heavy reliance on manufacturing, particularly the auto manufacturing, has caused problems with our economy, and so looking for new ways to boost our economy.

The renewable portfolio standard and the potential development of wind energy, along with the potential for manufacturing wind components, was very, very important to the state as a policy going forward. Recognizing that the wind doesn't always blow, the best parts of the wind resources are not necessarily where the load centers are. We developed, in certain parts

of the state, wind zones, as a part of the 2008 legislation, we convened a group that developed and identified what are the most promising wind zones. And then the Public Service Commission identified those and designated those as wind zones that would be allowed to receive expedited treatment for development of transmission in order to accommodate the development of wind in those regions.

In fact, we did authorize, this is called the thumb region, because it looks like the thumb of a hand, we did authorize the development of a significant transmission project in the thumb region of Michigan. And I'd like to point out that we did that based on, first of all, the compliance with the law; second of all, recognizing that there were benefits to Michigan, not only reliability benefits but also the opportunity to develop the wind, given that the thumb regions perhaps are our great wind resource in Michigan. But when I voted to approve that, I did it based on the compliance with the law.

The fact that that is a constrained part of the state, I did not do it based on the fact that we might be able to get somebody else to pay for it through an MVP type of a designation.

So, anyway, we do believe that the development of a transmission system in the thumb will help with congestion and voltage support in that thumb area. Because of that, the Lower Peninsula should be less congested with this new transmission. The Upper Peninsula of Michigan, however, has a greater level of congestion. The transmission system up there has waned over the years. Again, because the transmission comes up through Wisconsin, it is relying on development in Wisconsin in order to provide power into that part of the state.

We have a very significant coal plant. It's really the only major generation facility in the Upper Peninsula of Michigan, located right about there, that is at risk under the EPA rules. As a matter of fact, Wisconsin Electric Power Company has indicated that they would, are planning to shut that plant down around 2015. Given that that plant provides probably 80 to 85 percent of the power in the Upper Peninsula of Michigan, that could create some very serious problems for the state. American Transmission Company, which operates in the Upper Peninsula of Michigan, is doing very, very good work at developing transmission up into that area but, again, development transmission take

time.

We do rely on Wisconsin to help us, you know, in getting that transmission built up through there. So, it's going to take a while for us to be able to ensure that the Upper Peninsula of Michigan is going to continue to operate its electric system reliably. And we have tremendous economic considerations there, given that we have some mines, We Energies. Wisconsin Electric is one of the large providers up there. They have one customer that's 70 percent of the load, and that is a mine company. And so if that plant goes down and if we're not able to get some reliable power up into that area, then we're faced with the potential of shutdown of those mines, which would be catastrophic to the economy of Michigan and particularly in the Upper Peninsula.

Just some other things to consider besides, for example, the EPA rules. Such things as trading transactions to arbitrage different prices between the U.S. And Canada could increase congestion.

A significant issue for Michigan that we've dealt with for many, many years is something we call Loop Flow around Lake Erie. It's the inadvertent movement of power through the physical as opposed to

the contractual path. Historically, it has tended to draw power out of Michigan in this Loop Flow in which Michigan doesn't get the benefit. So, we might be planning very, very well; we might be paying for our generation only to find that it's being inadvertently lost through this Loop Flow of consideration as power moves along the physical path as opposed to the contractual path.

So, you know, what kind of factors, I guess, should the Department be looking at when identifying and evaluating congestion in our region? Certainly Loop Flow is something that we would like to have identified; new trading patterns due to generation resources.

The RTOs are implementing transmission solutions based on where the generators have said they will locate. The Department of Energy perhaps could encourage, which I believe they're doing, as David has pointed out, coordinated resource planning among the states so that the entire range of solutions can be considered.

And on that point, you know, one of the comments that we've talked about at EISPC that I'd like to mention here is as the Department conducts its

congestion study, we support EISPC in urging the Department to look at circumstances causing each of the congested areas that DOE identifies. For example, is the congestion caused by infrastructure issues, supply issues, demand issues, or by market issues? Certainly, these are differing causes, and they may prompt different steps to alleviate the congestion, you know, the point being there is no one-size-fits-all approach or solution, as David Meyer mentioned in his opening comments.

But I'd also like to emphasize in other words building more transmission is not necessarily the answer to all problems. The opportunity to locate distributed generation closer to the load centers, the opportunity to develop energy efficiency, and some other solutions, distribution solutions, also need to be on the table, and we hope that the Department will consider those going forward.

Some of the consequences, I guess, of congestion on reliability resource options, wholesale competition, cost of power, et cetera, you know, the impact in Michigan is primarily financial. If the MVP cost, as Jerry Lein mentioned, MVP, MultiValue Projects, if those costs are allocated unfairly,

Michigan's customers, due to our large load in the Midwest, I mean, if you look at MISO, it's a 13 state region, and not meaning to take out a Canadian province, but a 13 state region, Michigan is 20 percent of the load. So, as MVP projects are built in these regions, Michigan's customers are being expected to pay about 20 percent of the costs, and we're not really sure that there are benefits necessarily commensurate with those costs. There have been studies done. We're continuing to examine those. We're continuing to look at those numbers ourselves.

Another comment that I'd like to perhaps make in closing, something that I think the Department needs to seriously consider is the fact that the states are not sitting by idly while these problems take place. States, and this was mentioned by some of the other panelists, states are actively working to solve problems, developing their own resources whether they be renewable resources, whether they be looking at potential for combined-cycle gas.

You know, the shale gas can significantly change the paradigm and needs to be considered such that long-haul transmission, again, may not be the answer to things. One of my concerns is if we take an

approach that focuses primarily on long-haul transmission, which takes time to site and build, in the meanwhile some states will be solving their own problems by building generation in their states, developing their own resources such that when these transmission lines are completed, while there may be some reliability benefits to them, the markets that were intended to deliver resources over those lines may not be as robust as was originally considered. In other words, states will be working actively between now and then to solve some of their own problems.

I think with that, I'll go ahead and close again mentioning that we will be submitting comments and glad to take any questions. Thank you very much to the Department for the opportunity to speak. And again, I want to commend the comments of the previous panelists as being very good information for the Department to consider.

Thank you.

MR. MEYER: Well, thank you all for some very thoughtful and I think useful suggestions to us. Yeah. We're at the end of the hour, but I still want to give some opportunity for, particularly for some of our people here to raise questions on things they may

particularly want to pursue.

So, Alison?

MS. SILVERSTEIN: One fast question if I may please. We had discussion at the, I'm going to ask this at the next panel, too, so those of you who are up next can listen, we had discussion at the Philadelphia Workshop about recognition of congestion areas, and there was particular focus on the issue of granularity. How big should a congestion area be? Several of you mention very specific, localized spots as being important to look at. In other cases, you'll recall that we drew congestion areas that cover many states and are very indistinct. So, the question for you as a policy matter is how important is it to recognize this spot on your map or to go really big or go small or not at all?

MR. GUNN: If I could make a quick analogy on some of this stuff, the Poplar Street Bridge, which is across the Mississippi River over at Illinois, there's something like 60 percent of all East-West truck traffic crosses that one single bridge. If that bridge were to fall down for whatever reason, you would see incredible disruption of the trucking system throughout the country.

I think the answer to your question is it depends, because there are congestion points that need to be identified as a specific point on the map because they are critical junction points where flows really are moving in and out. But, so, there are circumstances under which I think you have to get those specific, because it may be very simple as well, within that very, very small congestion area there, just some things that we need to do in order to, that would relieve that to help accommodate greater flows. But then if you have large, chronically kind of congested areas that are larger than that second point on the map, I think that makes sense as well.

MS. SILVERSTEIN: I know Greg wants to answer this, and I bet Jerry's going to after I ask this question. How valuable or important is it to you that we identify one of those pinpoint spots? That's a problem. For instance, it was really important originally when we identified conditional congestion areas. For renewables, that sort of validated a whole idea. If you're already working on, for instance, Weston-Arrowhead or your bridge or Jerry's little red spot near Allendale, does it make a big difference that DOE says, yes, that's important in terms of your

ability to get something done?

MR. WHITE: Yeah, if I could answer the question and kind of springboard a little bit off of what Kevin said as well.

You know, David, in his opening comments, indicated the three definitions or levels of congestion. You know, certainly I think what we would call critical congestion would be those very specific points, you know, those nodes where, you know, the congestion is jeopardizing the reliability of the system and/or causing tremendous economic duress. That needs to be, in my view, the focus on those specific congestion points first and foremost. I think they're appropriately titled "critical." After that, it's okay for the Department to focus on the other two areas perhaps from public policy standpoints. But those should be given, I think, a lesser criticality, because what we really need to do is we need to figure out where we can get the biggest bang for the buck where there are significant reliability issues, you know, that, again, can jeopardize the ability to deliver electricity into those specific areas and have an economic harm. So, that's, I think, what I'd like to propose or support is the focus.

MS. SILVERSTEIN: Thank you.

MR. REEVES: I would also like to say I agree with what Greg says about the pinpoints, but I don't want the seams to be forgotten. Modeling on the sides of the seams is different. Cost benefits are different. It's hard to get cost back and forth to get a seam fixed, to get it, and that's where some of the congestion is that could be alleviated, especially for those people who live on the seams. And so I don't want that to be forgotten, but it's probably the second tier or maybe even the third tier of the slide that David had. But I would agree, the pinpoint needs to be addressed first, but don't forget the seams. Whatever help you all can help us do that would be helpful.

MS. SILVERSTEIN: Representative Sloan.

MR. SLOAN: I guess I want to take a different perspective. I mean, I understand dealing with the pinpoint problems, because that's the crisis or focus today. And I agree with Mr. Reeves about the seams issues. That's vital if we're truly having a national grid system.

I want to go back to my, if EPA is de facto developing the national energy policy, then spending time on the pinpoint things today to me may be less

productive and valuable for the Department than figuring out where the congestion's going to be tomorrow as we shut down power plants or curtail their uses. And so I guess I would encourage the Department to focus on the seams, because that's going to be involved in this larger picture, but looking at the consequences of EPA regulations and not using their models, use the RTO or industry models.

And the other part of that is if the environmental scientists and the public start to say closing coal plants still does not stop global warming, the next focus is going to be on natural gas plants, which admittedly have 50 percent of the carbon emissions of the coal. But it's still an emission. So, again, I would encourage the Department to be looking at maybe worst-case scenarios, and those may be 10, 15 years out or more, but the planning for transmission, the planning for DG, the planning for conservation and getting the political and economic will take that long, too.

MS. SILVERSTEIN: Thank you. Okay, Jerry.

MR. LEIN: My thoughts here along have been the MISO seam, and so I'm thinking more seams. But to me congestion occurs between two spots. You've got a

source and a sink. And so that whole path is a critical congestion area, not just one point along it in most cases. And if you're looking at trying to pinpoint it, well, how big is your pinpoint hole? I mean, are you just going to look at one substation and then, well, there might be 10 lines that go into that substation then to the lines going into it. Is it an operating issue that can be solved? So, I guess it's more of a case-by-case answer.

MS. SILVERSTEIN: And now you know why DOE turned large blobs and talked in text about here's a problem. Thank you very much.

MR. MEYER: Jim? Jim McGlone, do you have any questions you want to put to these people?

MR. McGLONE: No.

MR. MEYER: Okay. I want to thank our panelists, but it, let me speak very briefly to the next panel, because I think some of these issues that have been teed up, I hope that you will address them, particularly the questions of granularity and the question about the implications of the EPA regulations. The latter point in particular, the challenge to us, it seems to me, in this analysis is going to be striking the right balance between the uncertainty that the

regulations create versus trying to do some kind of, the question is can we see through some of these uncertainties, some of these questions, enough to say, well, here is what these regulations mean or are likely to mean with respect to new patterns of congestion? Clearly, the regulations will rearrange the flows. We know that. The question that then comes to mind is, all right, in that new pattern of flows, where are the likely constrictions, constraints going to be?

And I, to the industry folks in particular, I'm going to ask, do you have answers to those kinds of questions, or are you folks still scratching your heads on these things?

Okay, we'll take a short break. Let's come back in, say, 10 minutes? And we'll get started on the next panel.

(Recess)

MR. MEYER: Can you take your seats? And we'll get started on our second panel.

Let's get started on our second panel, then, our Industry panel. I'm going to ask the panelists to keep their, since we have six panelists for this group, I'm going to ask the speakers to try to keep their material to 10 minutes or so. And we will run a little

bit over, but we'll try not to cut into your lunch hour too much. And because time is a little short, I'm not going to do introductions. We're going to take, the individual speakers' names and organizations are listed on the agenda, and we'll take them in the order shown. Yeah.

So, with that, Maureen Borkowski?

MS. BORKOWSKI: Well, good morning, everyone. I'm sure that, I got here a little late today, and I apologize for that, but I'm sure that Chairman Gunn's already welcomed you to St. Louis. My name is Maureen Borkowski, and I'm the president and CEO of Ameren Transmission Company, as well as senior vice president for Transmission for Ameren Services Company. Ameren's headquartered here in St. Louis, so this is our home, and we welcome you. It looks like the weather's not too bad today, a little crisp but sunny. Sounds like we may have some snow flurries tomorrow, so hopefully St. Louis is welcoming you.

I was really excited that Alison invited me to do this today, because obviously I think transmission is really a wonderful effort to be involved in, certainly my passion, and it's great to see that at the national level people are looking at congestion and

transmission as an opportunity to really help solve some of our energy problems.

I was also happy to see the other panelists here, and Dale Osborn from MISO. Ameren is a MISO member. We serve Missouri and Illinois and have about 7,500 miles of transmission, and we've been MISO members since 2004. And a little bit of news for those of you who haven't heard yet today but just this morning the MISO board approved their transmission expansion plan for 2011, and included in that are over $6 billion worth of new transmission projects, the multivalue projects all across the region, which will provide benefits from integrating renewables, relieving congestion, improving reliability, improving the efficiency of the grid. Really, just I think a remarkable accomplishment, and I want to congratulate Dale and the rest of his counterparts at MISO for the fine, fine work they did certainly in conjunction with the stakeholders and the regulators to have that achievement. They really went above and beyond to demonstrate that investment in this transmission would not only have extreme benefits to the regions, but for each individual area within the region the benefits would far exceed the costs. So, I think that's a

wonderful little benchmark for today that we're here. And so we want to see more of that, right? We want to address this congestion problem as well.

Just in terms of a little bit of background, and I will kind of attempt to answer the questions that were posed, but the Midwest ISO performs regular congestion studies looking at historical and expected future congestion. Some of the major studies are the Top Congested Flowgate Study, the Cross Border Congested Flowgates with PJM.

And certainly in answer to the initial question, yes, in the Midwest ISO significant congestion does exist in a number of different areas. One of the areas that's very close to Ameren's, you know, concern is the Southeast Missouri, Southern Illinois, and Indiana kind of generic area. That has become and is continuing to become a particularly challenging area as new generation is located in that area. Prairie States Power Plant, which is a 1,650 megawatt, it's a two- unit total coal fire plant, is actually doing its testing right now, so it's been connected to the grid and has been generating just one of the two units. And when that plant comes online in full, that area will have in a fairly concise

geographic area 6,000 megawatts of generation pretty compacted down there. So, there's congestion in that area today. We expect there to be even more congestion in the future as that plant comes on line and begins full operation.

Certainly the gentleman from Michigan, as he was addressing before, is familiar with this next area where you're talking about congestion around the Chicago area, Southern Wisconsin, and, you know, pretty much Northern Indiana, that whole loop around Lake Michigan. Obviously complicated by the factor that that's also, you know, you're going in and out and in and out of different RTO regions when you're kind of in MISO, when you're in Wisconsin, and Chicago is PJM, Northern Indiana is MISO again, and then you've got some of the AEP, Indiana Michigan Electric Company there, too. So, that makes it even more complicated in terms of developing solutions to address that congestion, not only on a long-term basis but even on an operational basis in terms of how you coordinate generation output on real-time basis to maintain system reliability.

And then there's also been some significant congestion at the Indiana/Kentucky border. That is by

no means comprehensive, but I think you'll see on Dale's presentation when he gets it up there that there are certainly a number of different areas that reflect that kind of congestion.

Historically, in the Midwest ISO, dozens and dozens of projects have been proposed almost in every planning cycle to reduce congestion. I think in 2009 there were almost 50 projects proposed; in 2010, again over 40. But the problem has been in the past that the way we evaluated whether or not a transmission project was beneficial and could move forward in the planning process was strictly on the cost benefit test in RECB II, which is one of the cost benefit categories that MISO has. And despite all the concerns about congestion, we just could not, on that standalone basis, find projects that met that cost-benefit threshold to move them forward.

With one exception, there was one little project in Illinois. It was actually an Ameren Illinois project that was 1,200 feet of transmission line, and that actually passed the cost benefit test. So, woo-woo, you know. (Laughter) But, yes, definitely some challenges there.

So, what are the solutions? I think what

we've learned, and, again, I started off talking about the MISO plan that was just approved today and the multivalue projects. I think that's what we're learning. I think what we're learning is that rather than looking at an isolated little problem and trying to come up with an individual project that is justified just on the basis of addressing that problem is not the way to move forward.

MISO in their tariff has developed this concept of multivalue projects, which looks at, first and foremost, a multivalue project was to look at public policy objectives, primarily renewable energy targets for the states in MISO. But in addition to that, they have to be able to demonstrate that they can deliver energy in a manner that's more reliable and/or more economic; i.e., more economic eliminates congestion, makes the market more efficient than it would be without the transmission upgrade.

And what we found is that when you look at projects across a variety of benefits and projects in a portfolio approach rather than an individual segment by segment, that the benefits that accrue more than justify the costs, and not just to the individual area where that transmission happens to be constructed, but

they provide broader benefits to the entire marketplace.

So, I think that's what we're seeing in terms of how we move this process forward, is that the projects that could not be justified just strictly on congestion relief alone can now be developed based on this broader view of what are the benefits and a portfolio approach to the project development itself.

This just as an overview is to show you what the multivalue projects are, and you can see a lot of them are centered in the north-western part of MISO, again to kind of integrate the renewables. There's quite a bit in Northeastern Missouri and Central Illinois. What we didn't address in this part is the issue that I mentioned, which would be down, let me see if I can get, well, I missed the little thing here, down in, basically the boot heel area of Missouri, which is, you know, kind of way down in here in Southern Illinois. We've actually teed that up for consideration in MISO 2012 transmission expansion plan to address this issue of all this generation of fairly geographic centered area. Certainly we expect it to require mitigation in the future.

With regard to where else do we go from here,

I think this process of looking at the system in terms of congestion is getting more and more complicated. This was already mentioned by the earlier speakers, but certainly there are so many different things happening at one time that it's really going to impact the way we look at the marketplace in terms of congestion, which I think further emphasized this need to look at the multiple types of benefits you achieve and to look at things on a portfolio basis, because obviously one of the factors is continued wind development.

It's already been mentioned the potential plant closures. Certainly, that's being triggered by environmental regulations, but we're also talking about market conditions in Illinois, which is a deregulated state. The prices just won't support the independent generation staying on any longer. And then even just the age of the units, that, you know, the investment that would be required to keep them on board. Even aside from environmental regulation-driven investments, some people just aren't willing to make for some of those older units.

A big one I think will be the changing generation dispatch patterns due to environmental regulation, you know, in simple terms, more of a

movement to gas away from the traditional coal fire generation. Certainly to the extent that Entergy moves forward with its MISO membership, that brings a whole portfolio of new gas generation into the MISO marketplace that really doesn't exist. MISO's primarily a coal-fired environment.

To the extent that environmental regulations tend to favor gas or that prices tend to favor gas over coal, you'll see such a shift in the traditional generation patterns that I don't know that we're even ready to say what the impacts would be from a congestion standpoint.

One of the other problems that I think we'll need to address, both in real time and going forward, is the impact of transmission maintenance on congestion. I mean, quite frankly, when we look at this, a lot of the times the focus tends to be in the summertime when all the transmission lines are generally planned to be in service.

As we're constructing more and more transmission, we're going to need more outages to get that stuff in service, and in some cases they're actually rebuilding lines that are lower voltage lines to 345 kV, so the line could be out of service for an

even extended period of time. That's going to create some additional pressures. You always have new sources of generation, whether it be gas or even distributed generation, the new market participants, I meant kind of the changing market configuration like Entergy, and then changing load profiles due to demand response and energy efficiency. So, there's just so much there.

I guess my recommendation would be, with regard to the DOE congestion studies, that flexibility is the key. Looking at a wide variety of scenarios that consider a variety of different futures is really the way that needs to be moved forward. Certainly I think the RTOs and their models provide good sources of information, EIPC and EISPC as well.

I know I'm out of time, but to address Alison's question, I loved Chairman Gunn's example of the Poplar Street Bridge. That was an awesome example to explain congestion. But in terms of this issue of granularity, if you change the Poplar Street Bridge to eight lanes in each direction but did absolutely nothing else on either side of it, that's not going to address your congestion problem. And it's the same thing on the transmission system, that if you focus on the points, then all you'll do is have a new point when

you fix that point. So, you really do need to look at it in a little broader of an area. I certainly don't think you look at it MISO-wide, but I think you do need to look at it in a way that's less than a particular, you know, trigger point flowgate, congestive flowgate today and just fixing that one problem. I do think that it needs to be a little broader in its approach.

Anyway, look forward to your questions and to working with you in the future. So, thank you very much.

MR. CASPARY: Thank you so much. Thank you, David and everybody for having me. I'm Jay Caspary with Southwest Power Pool. I'm executive director of Transmission Development. It's nice to be here.

I want to share some thoughts. Many of these remarks you've heard before at prior workshops, but some of them are new.

Things continue to change. Timing is everything in life, and there's a ton of public information out there, and I don't know if there's going to be information available to actually help DOE to meet their deadlines for the next congestion study. But I think we need to continue to look forward and work together to define congestion and identify these

corridors.

One thing that you can see in the real world is there's competition to build transmission today. I think that's indicative of congestion and business opportunities that exist. We didn't see that a few years ago. So, there's a need for that, and there's an interest, and there are also ways to manage congestion in the short term. And we're doing that with synchrophasors, consideration of things like dynamic line ratings. But I see those as bridges to the future. We need to really think about what we want this grid to look like when we grow up.

You know, it's really difficult to identify future corridors and in particular absent any broad comprehensive analysis, and I support the other remarks of the other panelists. Currently, SPP is hoping the FERC Order 1,000 will help us to formalize interregional planning processes in cost allocation. But this will take time since compliance plans are not due to FERC until April 2013.

I need to note that the existing approved scope of the DOE-funded Eastern Interconnection Planning Collaborative efforts is not a congestion study. But I do think we can get some information from

it that will help us.

We need to consider, too, that doing nothing has a cost. And let's not be in endless pursuit of perfection when the very, very good would help our customers and their bills. Engineers have a tendency to do that, and I think that's our own fault.

SPP expects that wind development in and around Southwest Power Pool in advance of approved transmission build out will cause temporal congestion. We see it today. We are in the midst of a $5 billion transmission build-out right now, which will help a lot. Most of those projects will be in service by 2014, some out into 2017, but in the interim with the wind development in our backyard, we expect some congestion that we're going to have to deal with, with operations, in the next few years. And when I talk about congestion with this, within SPP, I'm focusing mostly on congestion literally within SPP. We're trying to get the wind resources to the loads from the Western part of our system to the East.

It's important to note, I think, that planning studies rely on very conservatives assumptions, no unplanned outages; no weather events, like floods or droughts, which I think we've been experiencing

recently, and have a drastic effect on the flows on the system and the economics across the system. So, actual operations may not mirror planning studies, so let's be careful.

We're investigating ways that planning studies need to evolve to capture more of the real benefits of the EHV transmission expansion and/or constraints and congestion that will be experienced in operations.

With regard to congestion, we think that DOE needs, first, to provide the objectives of a study so that the types of congestion in the congestion areas can be identified. Clarity about the expected future of renewables growth in the U.S., as well as the impact of these pending EPA regulations on the existing and future resource mix, will have a drastic effect on flows and on congestion.

DOE's funding of the EIPC and EISPC efforts to designate potential renewable energy zones and clean energy zones in eastern interconnection I think should provide very valuable input into future congestion studies. Formulating a study scope with the right performance objectives is critical and a key to success.

Bill Clinton in his new book, Back to Work,

notes that if you ask the right questions you may not always get the right answers, but if you ask the wrong questions, you can't get the right answers. So, let's ask the right questions and make sure we're on the right track.

SPP would suggest that DOE leverage existing efforts where key issues and opportunities can be identified. A prime example of that is the Power Systems Engineering Research Center's, PSERC's, future grid initiative, which is focusing on plans through 2050. That's being funded by DOE. Yesterday in Berkeley, California, SPP attended a very good workshop on that topic, and we look forward to seeing the results of that effort.

Management of variable renewable energy resources, as well as capturing the diversity benefits of those resources and managing that against loads will only be successful with major transmission expansion as an enabling infrastructure. We think it's really important that long-range planning studies focus on long-term needs and other defined transmission system performance objectives. DOE needs to continue to focus its efforts on grid modernization and efficiency with a focus on robust and flexible conceptual plans to

address our energy needs.

As I noted at the prior workshop in Oklahoma City, congestion in the future may not look anything like congestion in the past. Many of the biggest opportunities to improve overall grid efficiencies and lower consumer costs may require bridging gaps between broad market areas with no or very limited existing transmission connectivity.

Data regarding TLRs, wind curtailments, market monitor reports, SPP metrics, they're all posted on our website and publicly available to look at historical congestion.

SPP members and our stakeholders have been driving to make transmission an enabler of future plans for the region. I think that's critically important, given the EPA rules and other things going on right now.

It's anticipated that congestion between SPP and adjacent areas will be the most productive to explore. As a note of caution, unless common objectives within the U.S. are agreed to and accepted, this effort may identify congestion needs that will not be mitigated. The key issue is who needs to pay for the transmission so that it can be built. The EIPC

Phase 1 efforts may provide some insights into congestion between modeling zones for scenarios evaluated. I think we can probably leverage some of that data and explore it.

Congestion measured within zones may be very misleading if doesn't consider external options, which are viable and economic solutions. Transmission defines and enables markets. The lack of transmission increases cost in ways that are rarely measured. But they are actually seen on consumers' bills. Doing nothing does have a cost, so I'd encourage us to get our hands around congestion.

We can compile and leverage data that has already been provided to FERC and market participants, which could focus on interregional, even national plans and opportunities to relieve congestion, as well as existing gaps in air connections that could provide value to consumers. It's important to look beyond existing flowgates, since they may not provide any indication of future opportunities.

It may be beneficial if SPP and our neighbors go beyond the minimal requirements of FERC Order 1,000 and do the right thing in the right way for the right reason. Focusing on existing interconnections and

opportunities for joint planning with neighboring regions on a one-on-one basis may not address long-term needs for a robust age-free network that fits the needs of the U.S. long term.

In term of EISPC going forward, the scope and deliverables of the existing EIPC and EISPC efforts have been defined, and Phase 2 efforts are well underway for 2012.

Beyond the scope in the approved plans, FERC and DOE may want to take advantage of interconnection wide studies and investigate delivery costs between markets, noting that nodes physically closest to adjacent systems may not be the best place to interconnect the networks. DOE may want to consider leveraging the existing models and data that they have, investigating increased connections and the benefits of advanced designs and conductors to improve grid efficiencies as aging infrastructure is replaced and right-sized as we go forward to help inform regional, interregional, and maybe even national electric plants.

I look forward to your comments and appreciate the opportunity to be here.

Thank you.

MS. McCALIB: Good morning. My name is

Laureen Ross McCalib. I work as manager of resource planning at a cooperative in Minnesota called Great River Energy. I'd like to thank the Department of Energy for inviting me to speak and for your participation.

The advantage I think that I can bring is a little bit of a market perspective to what we're seeing in the transmission arena. I have the benefit and opportunity of having recently worked in transmission development with a CapX2020 organization where we were looking at some of these very issues.

In my current position now I'm responsible for resource planning, which of course is matching the generation and the load that we have within our service territory within the Midwest ISO footprint. So, there are some new challenges there as well.

As a result of this market view, I see congestion very much from an almost hourly/daily basis as we are looking at real time prices to serve our members' loads, to the much longer-term, well, what are we looking at in the next 10 or 20 or 30 years in terms of generation sources and locations and load growth?

So, I've learned through the CapX2020 project that many of you well know transmission can take over

10 years to develop, so we have to take a longer-term view, and I commend the Department for its interest in helping us all work toward this difficult and complex project.

Just to give you a three-second background on Great River Energy, we are a not-for-profit electrical cooperative serving 28 members. One thing that I'd like to point out is as we look at infrastructure development, whether it be generation or transmission, the costs of those to our utility are borne directly by the members. We're not rate-regulated by our commission in Minnesota or Wisconsin. Everything that we do flows through, and I'll tell you, we're hearing in this economic environment quite a bit from our members about increasing prices year to year, about the need for some of these facilities.

And we at Great River are very supportive of additional transmission and generation to serve the market needs and to meet our load. But we always balance that line between what can we provide, how can we serve our members from a very localized basis to, you know, taking advantage of large station generation.

So, we do file our resource plans with the Public Service Commission of Minnesota, as well as the

Public Utilities Commission there. They review it, approve it, or, excuse me, accept it but don't approve it.

I pulled this map from the 2009 DOE Congestion Study, so it should look quite familiar, but the area in the box there is one that we tend to pay most attention to. We're located directly in this area. There is, as has been noted already, a tremendous availability of wind to our western borders. We have seen some limited access and interconnection to the wind facilities because of lack of transmission in the area. However, that's also being, those needs are being met and satisfied by some of the CapX2020 lines that are going into service.

There's also quite a bit of shale gas and development in Northwest North Dakota, which is interesting in that it's becoming a huge load growth for the area of the upper Midwest. But it's also reflecting the availability of natural gas, shale gas, that's in that area, and some of the constraints we're seeing are beginning to be in the natural gas pipeline business as much as the electric transmission business.

And when we think about generation and the next sources of fuel, many people tend to think through

industry studies analysis that the next fuel type, because of the difficulties with nuclear large-head hydro oil, is going to be natural gas. So, much of this availability coming from that area will serve this central and upper Midwest area.

Minnesota also has a renewable energy requirement of percent of energy sales being met by the year 2025, so all the utilities in that area are working to comply with this regulatory policy. You can well understand, again, we have conflict between, as many states do, are we developing those resources within our state? Are we developing them in the high area of wind concentration? What's the best economics for us to do?

We typically think of congestion relief options in three areas. One is load curtailment, and many of the utilities have demand side management, load management programs. Transmission development is a second option, which we're here to talk about today. But localized generation is another option. As our organization state, we're looking quite a bit at dispersed generation, or DG, and what that means to our service territory, to our rates, to the impacts in the transmission grid.

And I think especially the idea of generation is a very important one that as transmission planners and evaluators we should not forget. The Midwest ISO has indicated that because of the pending EPA requirements, potentially 9 to 10 gigawatts of coal could be retired in that footprint sometime within the next 5 years, and that's quite a bit of generation. And yet, again, when you look at the time it takes to site and build and approve and run the economics of new generation and new transmission, we're caught in a bind, I would say. And, again, the opportunities to develop shale gas in the upper Midwest.

So, very briefly, these are the CapX2020 lines that have been referred to earlier by Jerry this morning, and this is nearly 700 miles of high-voltage lines. It does, these lines were developed partially for reliability, partially for renewable energy policy. And we were caught very much in that conflict between what's a reliability project and what's an economic project, and we believe, I think, as most folks who are active in this industry do that it's hard to differentiate between those two, because as you build a project for economics, in the long run it's likely to have reliability benefits as well and vice versa.

So, as I said, 10 years is a long time to plan these. They were first designed or recommended by the Transmission Planning Group in 2004. We are just starting construction on the first line this year. They expect to all be in service by 2015 is what we're targeting.

The interesting thing about this is it really took a collaborative approach by some of the utilities in the area where individual utilities had needs that could probably have been served by either lower voltage projects or shorter projects. And as the group came together in a cooperative way to do collaborative planning, we identified the opportunity for larger lines that have both economic and reliability benefits.

And I love this picture, because these are the workers, actually, on this 345 single-pole line who are putting the top part of it on with the helicopters. And for those of you in big utilities or involved in this, it's kind of like, “yeah, we do that all the time,” but I'm telling you for us in the Midwest this is an exciting thing to see.

So, generally, you know, regarding the questions about what is congestion in the Midwest? It does typically fall West to East. There are not a lot

of load centers in the Western part of the area. The loads are in the East. Low-cost generation tends to be in the West. The CapX2020 and MISO lines are going to help alleviate congestion in this area. And I would like to also commend the MISO board of directors this morning for their decision to approve these multivalue purpose projects.

You know, two years ago so, I guess we could take out the candidate in MVP at this point, right? (Laughter)

MR. OSBORN: Finally.

MS. McCALIB: So, finally, yeah. So, about two years ago we really became involved in big discussions with the FERC and with our neighbors and our regulators about what is holding up transmission development. And our feeling was it very much was cost allocation. You know, I think there are some decisions some utilities make or some transmission providers make about when and where they will build. But we felt very strongly that if cost allocation was resolved we would be able to build these transmission facilities. And in fact with the approval through the MVP process at MISO, that has come to be true.

We are a little concerned about the seams

between especially the Midwest ISO and the WAPA Basin area. As many of us have already referred to, seams are a very big issue, and I think that, you know, we've spent all these years just developing the wholesale market and understanding the FERC and the RTO changes. It's time for us to address these issues.

And I think environmental requirements are really going to impact what we're going to see for congestion in the future.

So, to bring it to a little closer to a daily level, this is a picture of the locational marginal prices for a day in November right before Thanksgiving. The interesting thing about this, of course it changes every five minutes; it changes day to day, but what you'll see based on the similar color in this region, in the Midwest MISO footprint, is fairly levelized prices. And that, in fact, is directly a result of the transmission that's been developed and the generation and the management of loads, I would say, as well.

We really do see the MVPs as a solution to the problem. Cost allocation is just, has been so critical to this. And I think now the next challenge before us is going to be the change in generation nexus, as I mentioned, from coal to natural gas potentially.

This is, of course you've seen this before, the Midwest ISO Top Congested Flowgate Study, an annual study that shows where areas are congested. I'm aware that the DOE is already looking at this.

The data sources, already, again, many of these the DOE is familiar with. I would refer the DOE, as well, to of course the NREL studies, the JCSP, the EWITS, and on the EPA requirements. It's going to be important for us all to understand that.

And a question about the EIPC, too, has come up in terms of how the DOE can evaluate that information. And I think at this point, as I understand that study, it's really to pay attention to where the generation facilities are planned as a result of that analysis.

So, just in conclusion, what I would say is there has been congestion in the upper Midwest, especially in our footprints. But it has much improved over the last probably 8 to 10 years. There are scenarios where congestion continues in the index and in the MISO/WAPA scene.

I think the regional planning that's underway through the Midwest ISO is very beneficial to the industry and to our members and to our consumers. The

Midwest ISO EMTA process requires a regional view of the needs, and I think that's going to continue. We look, EMTA does, as well, beyond just reliability.

So, in the specific question you asked about how can the DOE help. I would encourage, as Maureen has mentioned, not a very granular approach but instead a regional approach. As has also been mentioned earlier, I would encourage looking at future congestion. Although very difficult to determine, it's the only way we're going to sort of get ahead of ourselves, I think, in getting beyond just very localized needs.

I think that we need specifically to pay attention to the EPA and the environmental requirements and the impacts that those are going to have on the generation fleets and to continue to work with the states as we have. These CapX transmission lines, for instance, crossed state boundaries, and because of the need, certainly, but because of communication, because of the renewable energy requirements, we found the states who were affected to be very interested, and, in fact, I wouldn't necessarily say working together, but I might say at least they're not opposing each other in terms of approving these cross-border transmission

facilities. And I think, again, it's important just to pay attention to future scenarios.

The Midwest ISO looks at futures in resource planning. We've instigated a process where we're looking at what different futures will be, and hopefully the conclusion of that will lead us to identifying infrastructure that meets the needs in many of the futures, not just in any one.

Thank you for your time.

MR. POWELL: My name is Doug Powell. I'm director of T&D Planning for Entergy. I'd like to thank the DOE, David, for inviting us.

You can see that we're in the news a lot lately. It's because we've got a national championship game coming up in New Orleans. (Laughter) And hopefully everybody's pulling for LSU. We do party a lot in New Orleans, so it's going to be a good party. So, if you can go. My daughters have asked for tickets to the game, so, you know, if you all can help me on that, I'd appreciate it. (Laughter)

One of the things I wanted to do was try to address some of the issues. The panel sessions have hit a lot of the key issues, but some of the things, based on the last 2009 study, there were congestion

areas that were addressed and the Entergy issue that brought out issues that we needed to address. We think we are addressing those types of issues. A lot of those kinds of things were because of a massive build, out in generation in our territories that drove those issues. But we do believe that those issues are going to come from different directions as we move forward.

You can see from this, some of the areas that we talked about. A lot of the information from the last study didn't have a lot of production cost analysis and studies but was mostly based on TLR-type issues and local congestion-type issues.

The thing that we're looking at in congestions, we are doing those studies. We are working with the ICT, the ISTEP, which was part of the 890 studies, directions by FERC to do those kinds of studies, look at the areas, get inputs from out customers. We feel we're getting good information out of that. Those helped direct the 2009 areas that we addressed and looked at. Not the same projects that were in those studies but the same areas were addressed, looking at the best project from both economics as well as reliability.

We believe that DOE can still look at that

same kind of information but be careful at what that information says. And just an example of what our congestion showed in 2010, was a high congestion in the summer months.

In 2011, we see our biggest congestion was in the spring, and it was due to the storms: the Arkansas storms, the Mississippi, the stuff that hit TVA and Southern. We had a 500 kV line with 52 structures down. It took us six weeks to get that back up. We had to get it back up before the summer hit. It was very important. So, you have to look at the information and causes.

We believe that the regional state committees are helping that effort and looking at those issues, bringing out where the issues are, what kind of, what's causing the congestion, where the congestion is at. With the help of the ICT, we're able to look at those areas, look at studies, and address those as we're going forward. We believe our construction plans are doing those kinds of issues, and you can see as we go through this, our massive buildup in some of these areas and construction as well.

Other areas we think, you know, like you said, looking at cost benefit potentials, our area is kind of

unique and we'll look at it from the map. We're bordering up against the Acadiana area, against the Gulf of Mexico. Just like the Michigan discussions, we do have some unique areas of getting transmission into those lower areas along the I-10 corridors along the South.

But all those kinds of issues are something that I think we have to continue to look at, and how generation, what is going to be the generation in the future, is going to help kind of drive those. As a transmission planner, it was real easy back 20 years ago when we knew where the generator was being located and where the load was. Today it changes dramatically, and you can see some of the things that we're doing at Entergy is trying to move forward for those dramatic changes.

This was the 2009 study in areas that we got, the presentation on the back table will go into a lot more details, but these are some of the areas that we addressed last time. In Central Arkansas, you know, we're building a 161 kV line. We're looking at issues associated with what kind of flows come across in the Little Rock area. Those are the kinds of issues that we address. We've got projects that we're going to

finish up this year. The TVA-Entergy interface, the McAdams area, was one that showed up. A lot of loop flows, a lot of new transmission service drove those kinds of things. So, these are the things that were driving congestion in 2009. We're finishing those projects as we go forward.

One of the key areas was the Acadiana area. It took a coordinated effort. It took a leadership role by the Louisiana State Commission, as well as the ICT, SPP ICT, in helping get that done. Three utility companies in the area, $200 million worth of projects to eliminate. We had no TLRs this summer, and it was due to the fact that just Phase 1 of the projects was in. So, those are the kinds of things that we benefited from. A coordinated effort across seams, and more and more of that as you can see with our announcements coming up on the MISOs and the Transcos, that we'll need that kind of seams coordination will be very necessary as we move forward.

As you look to 2011 and going forward, you know, these are some of the areas that we're working on today and where we have projects and where we're looking at studies. These congestions can change as we saw last spring with all the tornados and floods. The

only thing we didn't have was locusts. (Laughter) But those are the kinds of things that, you know, can drive the congestions, and it could be off peak as well as on peak.

The unique South area, and this is an area that we're constantly looking at. We look at it from a reliability point of view. We try to keep the import from around 2,100 megawatts to 2,400 megawatts in that area and economics up to around 28 to 3,000. So, those are the kinds of things that drive our kind of unique area and zones.

Other areas that we're looking at that came out of the last year's ISTEP program by the ICT is the Southwest Louisiana and Southeast Texas. We've got a project that's a reliability project that we're looking at. Economic studies may push that up, and I think that's a key-type thing that we have to continue to look at, and as we move to the new environments continue to look at those. Now, the Texas area, TLRs, economics, must-run units are driving that. That's in a study mode right now between AEP West, ETAC, and Entergy, and hopefully we'll see a good project that drives out of that as well.

One of the things I just wanted to show you a

little bit is, you know, the kind of dollars that we're spending in our territory: $1.9 billion looking at both O&M and capital on a rate base of about $4 billion in transmission. So, it's pretty high. It's been driven by a lot of different factors.

This is one area that I just wanted to show you a little, you know, as the wind builds out and everybody's seeing the type issues that occur when you get that kind of build out, we started in around 2000 to see that kind of build out and the gas industry with more of the CCGTs. Then we move to adding some pole units.

Then the next thing was going to be the nuclear. So, what is that new resource going to be? You can see here we had 16,000 megawatts. We had 160 interconnections in the queue, a hundred thousand megawatts that were in our queue of trying to locate on the Entergy system. About 16,000 megawatts have actually hit the grid, and 70 percent of that has long-term service. So, over the last five years we've seen a lot of long-term service being granted to those new resources, and we're seeing the mix of how the load-serving entities within our territory is changing on generation. Going forward, about 62 percent of that

has long-term service as we move out forward.

So, these are the big critical issues that we've seen and we've had to deal with in the planning environment. Where that next generation, where the next build out is going to be is going to be very important, I think, in the DOE look as where the congestion may be coming next. And what kind of congestion? Is it going to be local? Is it going to be these coal plants shutting down that create local congestion? Or is it going to be heavy flows from wind that are causing regional congestions that drive across the system?

Just to kind of look at what we've got going forward, we have moved to a five-year construction plan. These are the kinds of projects that we've got. The handout has our three-year plan in it. It's a little bit different numbers. That was our draft. The DOE will have this presentation with it updated. This will be a look at what our five-year plan looks like that comes out at the end of this year, first of next year, and it's a coordination with the ICT.

Again, just to kind of close real quickly, Entergy has made several announcements over the last year. As Commissioner Reeves said, we will be busy as

they will with all the trying to get approvals in all our state commissions for both the MISO as well the Transco. We feel that both of these initiatives -- moving to MISO and moving to the Transco -- have several benefits. From MISO's point of view, get the price signals so that we can see where the congestion is going to be. Look at the customer savings that were identified in the cost benefit studies and why we chose MISO. It's a broad region. There are a lot of interfaces in the Missouri area, as Commissioner Gunn talked about, that we all are going to have to address. The seams issues are there. We will be working with MISO. We will be working with SPP in all of those types of issues. We feel that the RTO environment and the model that is there are the right to go.

And then this past Monday we announced our move to transfer all our transmission to the ITC. So, trying to get those initials right is kind of difficult.

Our employees, our customers, and our stakeholders will all benefit with this move. We see this as a single focus that the Transcos can provide. We will be creating if, all are approvals, one of the largest Transcos, or the largest Transco in the

country: 30,000 miles of transmission will be at the TC, ITC.

So, we feel that, you know, we've announced several initiatives. We feel that these initiatives fit the models that FERC has outlined and fit the models for moving forward with this change in industries, you know, because we don't know, is it going to be gas the next thing? Are we going to have even more gas facilities being, generators being located, distributed across the system because gas supplies can come from all directions. They used to come from the Gulf, Oklahoma and Texas. Now they can come from all different directions. So, that's going to change the characteristics, and we think DOE ought to be looking at those.

And then just closing, we think, you know, you've got to look a little further out. We think looking out the 6-year, 10-year horizon with these kinds of studies is where you have to build because of what it takes to build transmission, and trying to understand where the regulations and where that next generation is going to be built, where the state mandates may be are going to be key drivers as we move forward.

Thank you.

MR. OSBORN: I'm Dale Osborn, principle advisor for the Transmission Access Management Group.

The studies that we've done probably have run for years, and they finally came up to fruition this year with the MVP processes, so it took us 10 years to get a result, so these things take a while. People think we're going to cure them in a minute. That's not possible.

One thing, I looked at the last question, and that was how do the EIPC study and the DOE study fit together? Look at the guiding principles of our region. That was set by the Board of Directors, what they want the outputs of our studies to do and our results.

And then there was another one that's very important, is the conditions precedent to build transmission. That's a robust business case, and the increased consensus around the regional policies and the regional tariffs matching of who pays and cost allocation. And I'd suggest that the EISPC and the EIPC form a set of policies and that the congestion study be an input to the EISPC process. And the reason for that is we found out to get our processes done

first we had to find an example.

The congestion study will tell you, one example I saw. You take the worst case example and you start working on it, okay, how do you solve this problem? And then you take the next one and the next one, and you only have to take about 10 or 12 of them and you've got about 80 percent of the biggest ones. So, that is the way to form the policies and the structure that you need to solve these problems.

One question was about the loop flow around Lake Michigan. I know how to solve that problem; I don't know how to pay for it.

The problem is that New York, they don't think they're involved, but they are, PJM, MISO, and Ontario all participate in that, and they're, it isn't just MISO's problem, in our opinion, and we don't think we should pay for it. And the others have the same opinion: It's our problem and we shouldn't pay for them. So, until those types of problems are addressed, and that is the conditions precedent and the principles, we're not going to make any progress with congestion on the interregional basis. The regions, we're doing just fine. I can say that today as of 9 o'clock this morning, because the MVPs will settle

about $8 billion worth of congestion over a 20-year period.

And then questions are based on current analysis. Do we have congestion? Yes. And we have a whole lot of material for you to read. We have about 90 pages in MTEP 10, and we have about the same amount in MTEP 11. MTEP 10 identifies where the congestion is, and MTEP 11 identifies the solutions. MTEP 11, the amount of work is probably four or five times greater than the amount of finding it.

The other one is the Top 10 Congested Flowgates Report. This is an annual report that tells where the top 10 flowgates are. There are 3,400+ some flowgates, and of the ones that need to be fixed there are just a few, a very few. And if you take the top 10 every year and you get those fixed, pretty soon you don't have a very big list. It isn't like you have to fix 500 flowgates; you have to fix a few.

And the other one is the Market Monitor Report. The difference between a planning report and a real time operation report like a Market Monitor Report is all kinds of things happen during the year, tornadoes, ice storms, floods, generators have problems. Those occur in the real-time system, and

you'll see congestion. So, we take the real-time congestion off the system, and we take the planning congestion. We put those two together to answer our questions, and I'm sure you'll use the same type of information.

If you want to see the trends, we have it on a nice chart for you. That's split into two parts. TLR is when you can't solve it by re-dispatch. You have to physically change generation dispatch based on their shift factors or their contributions to the problem. As you can see, most of the congestion can be settled by re-dispatch. That's the yellow. And then they say what's the trend? Well, that's kind of hard to say. If you look at the peaks, they're going down. And if you look at kind of the bottom, it kind of goes down and then it kind of comes up again.

If you want to know where the congested flowgates are, this is the top 10. It's very specific. And if you look at the cross border flowgates between MISO and PJM, this is where they are.

One thing to note is that some of these areas, like Kentucky, there are a bunch of flowgates there, but there's just one major load, so maybe skipping over all of those might be the solution rather than having

to rebuild everything in between. That's one of the things an interregional study can do that the region or state doesn't do.

The other thing I wanted to say is it takes a long time to build transmission. This is MTEP 03, and we still have a few lines that are still in the planning stage that haven't been constructed. And, as you see, there are some that we changed our mind or are withdrawn, and there's a small amount of those.

And this is the MVP process here. This is a huge step compared to the investment called for before. That's going to change the congestion in the MISO region, but it's going to take time to build all of those lines. It's not going to change in one day.

And the other one that I wanted to point out is that we have found that a portfolio analysis works. Individual lines, if you pick them out one at a time, it doesn't work very well. We went to a lot of frustrating work trying to find solutions one at a time, and that doesn't work.

There are two things you need to really solve. One is the cost allocation, and the other one is what is the benefit-to-cost ratio for the criteria to pass. And if you don't have those, you're just identifying

congestion. You don't have a clue about how to solve the problem. But we've found that portfolios work, and when you go to FERC Order 1000 and it says do them bilaterally one at a time, I think you'll still have the question whether a portfolio would work better but will probably do them one at a time.

And the other thing is the contribution factors. This is the production costs, and these are all the other factors that you have to justify a transmission line.

The avoidance of generation construction is the next largest contributor.

And the rest of them I just give you references. I'm done.

MR. TILL: I'm David Till with the Tennessee Valley Authority. I appreciate the opportunity to be here today.

Thank you for allowing me to say that we don't have congestion in the Tennessee Valley Authority by the definition that we use. (Laughter) By the definition of the 2009 Congestion Study, then you'll find that we're an equal opportunity supplier of congestion.

We have the Volunteer FIP line in the

northeast of our system. We have the Browns Ferry to Murray 500 line both, all of these are 500 lines , in the middle part of our system. And we have the Shawnee Marshall 500 line in the northwest of our system.

To the issue of how granular we should be on this, we back all of these lines up primarily with underlying 161 kV, and so the 500 line is not actually the issue. It's the limited backup of the underlying voltage that's the issue. And so you could say that our issue is we don't have enough EHV transmission, and I would propose that approach. Or you could say that we've allowed our EHV to run at too high ratings.

But from a market standpoint, we do have congestion in the system. From the standpoint that we, with our mandate, planned the system, we did not. However, we're looking at both as we go forward in the planning arena.

I'd like to address just portions of a couple of questions. I appreciate so much both the regulators' comments earlier and my peer planners' comments, and so I'll just add a few things.

From the standpoint of what is changing that could possibly impact congestion, the very number one thing is the EPA regulations. And I appreciate Tom

Sloan's comments that EPA is in fact proposing national energy policy with their regulations. It's significant that you can look at the TVA system and see that in response to our coal idling efforts, some related to potential EPA regulations and then also related to other drivers that we're going to make hundreds of million dollars of investment in our transmission system that produces absolutely no benefit except to allow the flows that we have today with the loss of the particular injection points associated with those coal idlings.

This is a very significant thing to note. We would much rather be in a position where the time frame of these regulations allows us to produce an EHV transmission plan that meets your needs as well as other TVA needs than just the coal idling. But it's not just the policy. It’s important to have the right policy. More important than the policy, though, as far as transmission is concerned, is the time frame of compliance with the policy, because we are constrained to come up with the transmission solutions that we can implement within this very tight time frame. And so many beautiful transmission solutions that would provide extended benefits are taken completely off the

table by the time frame.

The second issue is, you've heard of today, many times, is Entergy joining MISO. It's not so much Entergy joining MISO that will impact TVA's congestion; it's Entergy joining any market. It's the market dispatch of resources embedded within Entergy that have not been dispatched very much under the current arrangement that we anticipate will be dispatched into the market, and we have a job ahead of us to ensure that this doesn't impact reliability even beyond just producing congestion. So, we'll be collaboratively working on that.

Then the potential for HVDC terminations into the TVA service territory has to be viewed with an eye toward how will that affect congestion. Also, the ancillary services that are not robust enough today to support the variable generation coming into our system and beyond has to be looked at and particularly with respect to Fault-Induced Delayed Voltage Recovery, or FIDVR. I'll back up and say that this is a voltage collapse situation where huge concentrations of induction motors, particularly air conditioning compressors, are concerned, and for us our exposure is Memphis. And so as the regs come into play, as Entergy

moves into a market, as HVDC transmission lines terminate in our territory, all this is centered around the area of our largest vulnerability for this air conditioning-caused voltage collapse, which is Memphis. And so that's something to respect from a congestion standpoint.

Then how does the EIPC potentially play into the congestion studies? Let me say, first, that it wouldn't be a congestion workshop if David Till didn't get up here and say there is no such thing to date as a national interest electric transmission corridor. And the reason that I say that is we all know what really defines a national interest. A national interest is when all the parties stand together on the steps of the Capitol and say we're all agreed that we have a problem, there's a national interest that drive us to unity, and we're bringing money to the table to ensure that the national interest is met, and it is that money to the table piece that has prevented me from recognizing any national interest electric transmission corridors. And so while the congestion study is very helpful to get us together and to share perspectives and to learn more about our grid together, these congestion studies are supposed to drive the

designation of NIETCs, as I call them, and yet these NIETCs don't really meet the smell test for national interest.

So, setting that aside for a moment, let's look at the EIPC and EISPC work. Well, the EIPC and EISPC does not result in a plan in any form or fashion, but what it does is it educates both our original planning processes and our federal and state, well, I was going to say regulators, and that's not really the right word, our federal and state policymakers. It educates all of us about what transmission is needed for what future worlds.

So, as we work together, EISPC and the EIPC, I've been very impressed with the educational process that has occurred. I've been very impressed with the collaboration, both within the stakeholder group, the stakeholder steering committee, and the extended stakeholder group that includes and has in many instances provided excellent leadership by EISPC or the states. And my thought is that while I agree that the EIPC result could inform congestion studies, the timeline of this initial EIPC and EISPC work won't really support the 2012 congestion study in all likelihood.

But I think that the end result of the DOE project to fund interconnection-wide planning with EIPC and EISPC actually brings more potential to produce transmission infrastructure expansion and particularly to get upstream of the problems that you would note in a congestion study and to give the policymakers as well as the planners a chance to come to a consensus earlier and to prevent anything showing in any congestion studies later. So, I hope that's clear enough.

With that I yield the floor, thanking you again.

MR. MEYER: Well, I want to thank our panelists for some very insightful comments and discussion. Before we break, I want to ask people again are you, do you have studies underway or do you expect studies to be completed in time for our use that pertain to the EPA regs and their impacts? And some of you have mentioned things, studies that you have underway, but not all of you, and so I just want to raise that question with you. You don't have to flag some of these things on the spot at the moment, but in particular anything that you file with us later be sure that those things get identified.

So, if some of you want to address that now,

please do. I see Alison has things she wants to raise.

MS. BORKOWSKI: Is this on? I think it's really a tricky issue. Obviously the Midwest ISO is doing some work in that regard. NERC is in conjunction with every one of the regional entities. But the reason it's so very difficult, and I don't know if you listened in at the FERC technical conference last week where this issue was being discussed, the impact of EPA regs on reliability.

But what everyone wants is what no one can give, particularly in organized markets. What they want you to say is what are you doing with your units and let us know which ones you're shutting down. Which ones are you, you know, whatever, are you going to be switching to, you know, installing gas generation? What are you doing? And the problem is no one can make that commitment right now, because in part we're still waiting for further rules to come out, but over and above that, particularly in an organized market and particularly in areas where's there's deregulated generation, people are in kind of a waiting game to see what other people are going to do. Because there are winners and losers in this game, and, you know, it's very, very difficult for someone to get out in front

now and say this is with certainty what my long-range plan is for my generation, because there are market issues involved in that. And it's very, very difficult, then, for either the RTOs or NERC and the regional entities to make that determination themselves, because it's really not just a technical issue. It's a matter of having to decide how much money is someone willing to invest to keep this plant open or not.

So, it's a very, very difficult thing to do. I mean, I think the RTO and the NERC studies are the best place you can go, but I think they're basically just best guesses based on what they know of how the regs will affect various units, but it's, I don't think you're get definitive answers now.

MR. MEYER: Right. I appreciate your perspective there, but to me the next question is well, then, somebody has to go first or do, does everybody agree, all right, we'll all announce on the same day and see what happens? Or I just don't see how this unfolds.

MS. BORKOWSKI: Well, it happens as people make the business decisions. But not at some predetermined time that the EPA or FERC or RTO says

this is when I want your information. A lot of it's going to come out via state IRP plans. What kind of cycles are they on? I mean, some people are probably going back to their states saying, okay, we need to make some of these decisions, and it's out of sync with our IRP normal schedule, so we have to go back today and talk about that. So, that's true in vertically integrated states, and that information will come out then as those business decisions in conjunction with the integrated resource regulatory decisions are made. But the ones that, you know, if you look at the state of Illinois where all the generation is deregulated, you know, they don't have an integrated resource plan per se, and the decision on what the generators do with their units is for them and them alone. We have units closing down right now separate from the EPA regulations just because the market price doesn't make it cost effective for them to say open.

MR. CASPARY: Just a little comment from SPP's perspective. We take this really seriously, and we will get compliance from our members and do reliability assessments well in advance of reliability problems. So, we're in the process of basically forcing information and getting it into models and running

analytics and making sure we can keep the lights on.

MS. BORKOWSKI: With all due respect, you really can't do that. I mean, you can try to force them, but you can't require them to do that. And what people tell you can only be their best estimate. It may or may not be their final decision.

MR. CASPARY: I agree, but we have to plan.

MS. BORKOWSKI: I agree, and again that's why MISO and the regional entities are doing that, and I think it's the right thing to do, but I don't think it's the final answer.

MR. OSBORN: Well, one thing that MISO has said is that this is too short of a time frame. You only have so many suppliers, and you get a bid from 50 or maybe 30 suppliers, and the same units are all using those same suppliers in their bid process. So, there's going to have to be a shakeout between the suppliers that are available, the number of all five welders, the craftsmen that are available, the tradespeople that are available to do the work. And no one is to that level yet. And when it does shake out, it's still a competitive decision. Are you asking the generator to reveal its position, and RTOs have no power over the generators making that decision, but we have a power

about when we'll grant the outage for reliability. We do have a reliability. That is where our concern is, to make sure that the outages are coordinated so we have a plan that will work and is reliable.

MR. MEYER: And I understand the commissioner has a question on this subject, also.

MR. KENNEY: A question related to the discussion that Maureen and Jay were just having actually and a comment on what Dale just said as well.

MISO study, I think, makes certain assumptions, but it's based on, I think they would admit, incomplete information, and that's why they've sent out surveys to all of the folks in their footprint to gather this information.

And, Maureen, you're saying that it's difficult or virtually impossible to provide specific timing of when particular plants are going to be shut down or when they will be outaged for retrofit, et cetera, and that the IRP process handles some of that.

As you know, in Missouri we opened a special docket specifically to look at these types of issues precisely for these reliability reasons. So, would it be helpful, and I'd welcome anybody's response to this, is it helpful for the states to open those kinds of

dockets to sort of force that type of analysis to take place, recognizing that you still have a MISO rule to comply with. But at some point somebody's got to go first, and somebody's got to answer these questions so that we don't have the reliability problems.

I mean, MISO can grant permission with respect to the timing of a particular outage, but then you run the risk of potentially forcing somebody to run afoul of an EPA rule. So, to the extent that we can force that type of analysis, is that helpful?

MS. BORKOWSKI: Well, I guess what I'm saying is that it's certainly appropriate in vertically integrated states for the regulators to do that investigation and have that kind of analysis. But you wouldn't want to be in a position where just from a timing standpoint you forced your utility to commit to a path when they still didn't have the full information on what the rules were. I mean, you could do that, but you're taking a risk then that you're forcing them into a path that isn't in the best interest of the customers just to, you know, so, that's really the issue, is at what point in time do you have enough information to be able to do an analysis that you feel comfortable with, and then, you know, certainly then you want to make

that information known. But you know, again, this whole issue of let's pick a date certain where everybody has to say what their plans are. Well, that may or may not be the most cost-effective solution for any individual utility if you force someone to make a decision before all the information is available.

And then, of course, exactly like Dale was saying, then you have all of these impacts about well, you may have a plan, and then there's actually the implementation part, and that issue was certainly brought up before FERC with regard to the implementation issues of everyone trying to comply in a very compressed time frame. I mean, actually the fellow from Entergy I think was the most well spoken in terms of practicality where he said you know, look, this is what I've done in the past and I can tell you what it take to do things, and, I take it back, it wasn't Entergy, it was Southern, I'm sorry, misspoke, he basically said I can tell you exactly how long it takes to do these things, and what you've given us isn't, well, not you, but what the EPA has given us isn't enough time.

MS. McCALIB: I might suggest in response to your question that opening a docket or a discussion may

be viewed as helpful by the policymakers, but there would be a lot of hand-wringing by the utilities in trying to respond to questions that, as Maureen says, there just aren't answers to.

But secondly, many of these issues are across state borders. I mean, we have coal coming in from North Dakota that serves our Minnesota customers. There's wind coming in from South Dakota and Iowa. So, it isn't a single-state issue, in my view, and opening it up for consideration to try to force utilities to be clear about their plans and they're able to be as just going to lead I think to a procrastinated process with little result.

MR. KENNEY: But what if we all got together and coordinated as a group of states?

MS. BORKOWSKI: Yeah, I really do think that what MISO's doing and obviously the OMS is engaged and aware of what they're doing. That's the best that you can do at this point, is to have the RTOs do this in conjunction, get the best available information. The same thing's going on with American, the regional entity. So, I mean, I really do think that's the process. You just can't kid yourself that you have the right answer at a particular point in time when there

are still so many unknowns out there.

MR. CASPARY: I think it's a great question and appreciate your helping us force the issue. And it's not just RTOs. You know, we have to coordinate with MISO, because they have, we're going to be trading the same allowances, right, within the states, so, as you're well aware.

Thanks.

MS. SILVERSTEIN: I'm Alison Silverstein. I have a couple of questions, both specific and general, for Doug Powell of Entergy.

You put up a slide that said you have 16,402 megawatts of new generation. But from your comments about that and in the bullets it wasn't clear whether all of that has been in the queue for several years and is still in the queue or how much of that is actually new build on the ground today.

MR. POWELL: Yeah, that's all new build. That's all on the ground. It's generating, the transmission service that's been sold out of that is being sold mostly to the load-serving entities within Entergy. There are about 5,000 megawatts of that that play with the ATC analyzers and sells at different times of the year. Those are the kinds of megawatts

that would be hitting the MISO market in the future and stuff, as well as some of the bilateral contracts that may drop off and stuff, so, but when we went into our peak demands of interconnections, just like, you know, the Dakotas are seeing, you know, we've seen it in the Entergy area. We've seen 160 new interconnections being requested, and I think it's something in the order of about 30 or so actually came on to the system, and around 16,000 megawatts is there. But a lot more long-term contracts are out there now, and it's because I think the load-serving entities were looking at their fleets and starting to retire units, starting to see those resources to be able to use those as part of their fleet.

We're seeing some of our load-serving entities actually have a lot more generation under contract as network service than their actual loads. They haven't retired, they haven't displaced the old units. It's just how the dispatches in the models now, they're dispatching the new generation, the PPAs or the new purchases, as their most economical.

MS. SILVERSTEIN: Thank you. Question for Dale Osborn. On your slide 5, the graphic of congestion, you referred to "bound congestion." That's

the stuff in yellow. What does that mean please?

MR. OSBORN: Well, when you have a congested flowgate, there's the flowgate there is limiting the whole transfer of additional powers, the bound element, and it's just a term we use to say that, you know, this is the list of them. If you took them away, you'd have another list behind them, and another list behind that.

MS. SILVERSTEIN: No, I just don't understand what bound congestion, I mean, you had yellow congestion, you had blue congestion, and maybe if you can tell us what the terms for each of those are and what they meant.

MR. OSBORN: Which ones?

MS. SILVERSTEIN: Your graphic showed yellow congestion and blue congestion, and the yellow was bound and the blue was, what, market?

MR. OSBORN: Oh, that was, one is, the yellow we used re-dispatch.

MS. SILVERSTEIN: Uh,huh, okay.

MR. OSBORN: Okay, and that's your bound congestion. And then there's, TLR is when you get to the bottom and you can't re-dispatch anymore. Then there is a list of generation reductions that based on their contribution to that condition it may not be

economical anymore. The yellows are economical. You go down and take the most economical and work your way down until you find the solution. When you hit the bottom of the economical solution, then you have to go to forced TLR.

MS. SILVERSTEIN: Okay, so the blue is TLR stuff and the yellow is the stuff that is sort of market-based re-dispatched.

MR. OSBORN: The market takes care of that automatically.

MS. SILVERSTEIN: Oh, this is perfect.

MR. OSBORN: And the blue is TLR and the dashed is both.

MS. SILVERSTEIN: Great.

MR. OSBORN: You're trying to get a mixture.

MS. SILVERSTEIN: Thank you, because that was a little murky. Appreciate that clarification.

David Till, how does TVA define congestion please?

MR. TILL: We define it as we don't have any. (Laughter).

MS. SILVERSTEIN: Perfect.

MR. TILL: And the reason that we define it that way is because we plan our system to be able to

deliver designated network resources to our loads. And so we make available any transmission that we have above the need to do that to anyone else. But we don't have congestion by virtue of how we do our planning process. However, we do recognize that there are, that there's market power that would like to move through us. We try to accommodate that. We're in the process of enhancing the methods that we use to do that, and I just don't want to confuse the issue and say we see congestion here for our mandated service territory where, no, we are planning to meet the needs of our stakeholders who are customers, who are LSEs. But we're looking also to the needs of the markets and to the need to move power across us. But we don't see people stepping up with wallets on the table saying okay, we have a need that means that we would be willing to participate in a cost allocation for the solution. So, that's the distinction I draw there.

MS. SILVERSTEIN: Thank you. And for all of you briefly, except Maureen, you kind of already answered this, granularity. Should DOE, when it looks at and tries to define congestion area, blobs or points or both? Big blobs, small points?

MR. MEYER: Or shades. One thing we've

thought about is if we're talking about a larger area, have successive shadings, kind of like the LMP charts that you're all familiar with. We can show gradations if we got the data for it. So, we're just trying to get a sense of.

MS. SILVERSTEIN: All of the above? None of the above?

MR. MEYER: What's going to be useful?

MR. TILL: It helps to look at it from a point standpoint for understanding of the grid. It helps to look beyond the first point and get that out of the way and see what is behind it, similar to how we treat ratings for our reliability criteria where we say well, this line of writing is based on this particular factor but if that particular factor were out of the way here's the one standing in the wings behind it.

As far as solutions go, then, blobs are necessary. You're not going to be able to have a meaningful solution that doesn't violate Tom's earlier comment to only planning for the excess jail lodgers that we have today. You're not going to produce a solution that has any time worth to it if you don't blob.

MR. POWELL: This is Doug Powell again. I

guess, you know, we would see the pinpoint is where the planners have to start. Planners have to understand that. You know, as we hope to move into the RTO markets and the Transcos, then I think the blobs become more important.

Those are the things that we're looking at across seams, across regional-type issues. You know, our focus, you know, today is you get a plant that's delisting or retiring. Well, something's turning on. Those pinpoint types of congestions can be associated to that unit turning on and that other unit turning off. The loads haven't changed. It's how it's being dispatched. So, you have to kind of look at both, and I think that's where the study in 2009 kind of looked at both. But you need to make sure that you understand what they are. Is it local? It is something that's being generated because new dispatches are out there?

You know, we had an area across our Atchafalaya Basin, where it’s an environmental issue to try to bring another line, as was noted in the 2009 study. Well, today the flows have reversed because of all of the new resources that have been added into the West. So, you've got to look far enough in advance. The generation was there, but it didn't have long-term

service yet. It has long-term service, so we've added 3,000 megawatts in that area to a line that had 1,200 megawatts on it, and most of the flows were going across that line. So, it's actually reversing. So, kind of have to look at those pinpoints and what are the issues? What's causing them? And is it a regional, is a local, is it something associated with just turning on a new resource and turning off resources?

MS. SILVERSTEIN: Dale.

MR. OSBORN: Well, it's like I brought it out before, a lot of the points of congestion aren't necessarily the reason.

MS. SILVERSTEIN: Yes.

MR. OSBORN: It's just where it squeaks, hit metal.

(Laughter)

MR. POWELL: Mm,hmm.

MR. OSBORN: Sometimes the solution, if you looked at it on a broader scale, you could find a much easier solution than solving all the points. You may need one line to solve 10 congested flowgates, but we don't have mechanisms to do that on a national scale at this time. We tried. We had some answers. The JCSP

and the EWITS studies addressed it on that scale and it wasn't acceptable to people. We have come up with a method for that. I think EIPC eventually could evolve to come up with a process to handle that, but I don't think they'll do it by 2012. It'll take a longer period of time.

MS. SILVERSTEIN: So, are --

MR. OSBORN: But the question is do you want them solved locally or do you want them solved regionally, like the one around the Great Lakes? That is definitely a national problem, or at least Northeast.

MS. SILVERSTEIN: There'll be an international problem. (Laughter)

MR. OSBORN: International, yeah, but it doesn't affect Entergy, it doesn't affect Southern, but affects the people in that area. Now, if there were a method to pay for that and agree on the criteria for design of a solution, you probably could solve that problem fairly straightforward. But without that, it's impossible. So, the way that we solve it is cheap as possible for us. We have phase shifters on that, or DTE has phase shifters. And they work most of the time. But it's not the solution that you would want to

say I solved that problem.

MS. SILVERSTEIN: Right. Thank you. Anyone at the lower table want to take a shot at this? All right, essentially what I'm hearing from you guys is smaller blobs. Don't go to points, right?

MR. OSBORN: Yes.

MS. SILVERSTEIN: Okay, thanks. Thank you, Dale.

MR. MEYER: Right. All right, I think we should take our industry panelists off the hook and thank them very much for their comments. (Laughter)

So, at this point in the workshop, this is the stage where we invite others who are in attendance if they want to provide input please step up to the microphone and identify yourself and we'll be happy to, yeah, to take your views.

Well, seeing none, then we will declare the meeting adjourned, and thank you all.

(Whereupon, at 12:39 p.m., the PROCEEDINGS were adjourned.)

* * * * *

CERTIFICATE OF NOTARY PUBLIC

COMMONWEALTH OF VIRGINIA

I, Carleton J. Anderson, III, notary public in and for the Commonwealth of Virginia, do hereby certify that the forgoing PROCEEDING was duly recorded and thereafter reduced to print under my direction; that said transcript is a true record of the testimony given by witnesses; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this proceeding was called; and, furthermore, that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

(Signature and Seal on File)

Notary Public, in and for the Commonwealth of Virginia

My Commission Expires: November 30, 2012

Notary Public Number 351998