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Environmental Regulations and the

Electric Reliability, Wholesale Electricity

Markets and Energy Infrastructure

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Commission Meeting Room
888 First Street, N.E.
Washington, D.C.20426
9:00 a.m.

COMMISSIONERS:

CHERYL A. LaFLEUR, Chairman
PHILIP D, MOELLER, Commissioner
TONY CLARK, Commissioner
NORMAN C. BAY, Commissioner
COLETTE D. HONORABLE, Commissioner

FERC STAFF:

MICHAEL BARDEE, moderator

PRESENTERS

Janet McCabe, Acting Assistant Administrator for the Office of Air and Radiation, Environmental Protection Agency.

PANEL 1:

Elizabeth Fleming, Commissioner of South Carolina Public Service Commission.

Asim Haque, Commissioner, Public Utilities Commission of Ohio.

Michael Kormos, Executive Vice President of Operations PJM. John DiStasio, President Large Public Power Council.

John D. Wilson, Director of Research, Southern Alliance for Clean Energy.

James Frauen, Vice President of Technical Services and Development, Seminole Electric Cooperative.

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Panel 2:

Paul Roberti, Commissioner, Rhode Island Public Utilities Commission.
Betty Ann Kane, Chairman, District of Columbia Public Service Commission and Vice President Eastern Interconnection States Planning Council.
Mary Salmon Walker, Assistant Director and Chief Operating Officer, Georgia Environmental Protection Division.
Steve Rourke, Vice President, Planning, ISO New England.
Jeff Burleson, Vice President Systems and Planning, Southern Company.
Johnny Casana, Regional Manager, Government and Regulatory Affairs, EDP Renewables.
Jonathan Peress, Director National Gas Policy Environmental Defense Fund.
Richard Kruse, Vice President of Regulatory and FERC Chief Compliance Officer, Spectra Energy Transmission. Ross Eisenberg, VP, Energy and Resources to Policy, National Association of Manufacturers.

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Panel 3:

Commissioner Kelly Speakes-Backman, Maryland Public Service Commission and Chair of Regional Greenhouse Gas Initiative Board of Directors.
Lathrop Craig, Vice President ISO Operations, PSEG Energy Resources and Trade.
Seth Schwartz, President/Principal, Energy Ventures Analysis.
David Hoppock, Senior Policy Associate, Climate and Energy Program. Nicholas Institute for Environmental Policy Solutions.
Rana Mukerji, Senior Vice President Market Structures, New York ISO.
Robert Ethier, Vice President, Market Development, ISO New England.
And7 Ott, Executive Vice President, Markets, PJM.
Joseph T. Kelliher, Executive Vice President, Federal Regulatory Affairs, NextEra Energy.
John Trawick, Senior Vice President, Operations and Planning, Southern Company

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P R O C E E D I N G S

MR. BARDEE: Good morning, everyone. Thank you for being here. I am Mike Bardee. I am with the Commission's Office of Electric reliability. I will be the moderator for this morning's part of the day.

Today we have the third of four conferences that the Commission will be holding on the subject of EPA's proposed Clean Power Plan. Commissioner Mr. Moeller will be joining us a little later this morning, but we will start just with some procedural aspects in the housekeeping rules.

First, members of the public are invited to observe which includes attending, listening, and taking notes, but does not include participating in the technical conference or addressing the Commission or staff.

Actions that purposely interfere or attempt to interfere with the commencement or a conduct of the technical conference, or inhibit the audience's ability to observe or listen to the technical conference including attempts by audience members to address the Commission or staff while the meeting is in progress are not permitted.

Any person engaging in such behaviour will be asked to leave the technical conference and anyone who refuses to leave voluntarily will be escorted from the technical conference.

Thank you for your cooperation.

Just a couple housekeeping notes beyond that. Please turn your mobile devices or other devices to silent mode, and for those who will be speaking over the course of the day, please be sure to turn your microphone on when you speak, and speak directly into them so that the audience and those listening to the webcast can hear you.

With that, let me go to the Chairman and Commissioners for any opening remarks they would like to make starting with Chairman LaFleur.

CHAIRMAN LAFLEUR: Thank you very much, Mike, and thank you to all of you for being here.

I was just saying it seems like the sun never sets on these hearings. As we are finishing one we are looking at the witness list for the next, but that is exactly how we set it up to really have an opportunity to hear from the different regions.

I am excited about today because the East is such a diverse region with the three organized markets in the north and large geographic area bilateral market operations in the Southeast presenting each unique issues under the Clean Power Plan.

Also there is a great diversity of resources. The Home of America's only "New Nuclear" as well as a host of other resources that are differently situated under the

plan.

Some of what I hope to get out of today, I am hoping particularly with the first panel we can continue to drill down on whether you call it a "reliability safety valve" or it is John DiStasio's word, the "reliability assurance mechanism," whatever we term any sort of reliability check in the process, when that might be and what the criteria might be so we can begin to put some definition around that.

Secondly, I don't think I have had a conversation about the Clean Power Plan in the last year that the word RGGI has not come up on and now we are in the "Home of RGGI" and I know that Commissioner Speakes-Backman is here to talk about that, and I am hoping we can see what this means for RGGI, and what opportunities there are to use that sort of mechanism. I am really looking forward to that conversation.

With that, I will turn it over to Commission Clark.

COMMISSIONER CLARK: I am not used to speaking so early in the agenda. It is kind of an honor.

Thanks to everyone for being here.

Just a couple of opening comments. First of all, leading to something that Chairman LaFleur mentioned which I think is true in some ways from a logistical standpoint.

This has maybe been our most challenging region to try to organize a conference like this because it is so diverse where you have everything from the most restructured regions of the country and fully operating markets to some very traditional regions of the country that are still vertically integrated and operating a bilateral basis.

We have a lot of work to do today and a lot of groundwork to go through.

Secondly, let me just emphasize how thankful I am for all of you who have taken time to testify at these hearings who will be speaking with us here today.

If you are an electrical engineer who works for a utility or for NERC for one of the ISOs, or a market operations specialist who deals every day with marketing decisions for power that have to be made, or if you are a state public utility commissioner who is responsible for overseeing the delivery of electricity in your state, you are not just another special interest group to be cast aside.

We have to hear from you.

That is why these forums are so valuable for us, so thank you for sticking your head out of the foxhole, as it were, from time to time on these issues continuing to tell us about concerns you have, things that you think may

work and things that you have concerns about.

With that, I will turn it over to Norman Bay.

COMMISSIONER BAY: Thank you. I want to thank staff for putting together this conference and I also want to thank the panelists who are here today. I very much appreciate having the opportunity to hear from you about the challenges related to the Clean Power Plan.

As the Chairman noted, the Eastern Region is quite diverse because it stretches from Maine to Florida and not only does it include three RTOs, but it also has bilateral markets in the Southeast.

In addition, I would say that there is one other very interesting aspect to the Eastern Region in that many of the states in the Northeast and mid-Atlantic have renewable portfolio standards, and of course, a number of the states participate in RGGI.

But when you look at the Southeast Region, while North Carolina has renewable portfolio standards, and South Carolina has renewable portfolio goals, the other states in the Southeast do not.

I am wondering how that impacts the challenge that some states would be facing and whether that makes a difference.

Thank you again for being here today and I look forward to hearing from you.

COMMISSIONER HONORABLE: Good morning, everyone. I am glad to see you here. Thank you for your willingness to participate, particularly those of you who volunteered, and some of you who were drafted, thank you for saying yes.

I would like to thank the Chairman for convening us as well as the staff for your hard work, and I too look forward to hearing about the issues of concern to you in the Eastern Region on what is working well, what you think the impacts of the Clean Power Plan are on reliability, on infrastructure, and on markets and any other items you wish to raise.

I am very much looking forward to getting up close and personal to the issues that are of interest to the Eastern Region.

Thank you.

MR. BARDEE: Our first speaker this morning will be Yukala Pope from our Office of Energy Projects. She will be providing some information about the infrastructure in the Eastern Region.

MS. POPE: Good morning and welcome. I am Yukala Pope of the Office of Energy Projects, and today, I will be giving a snapshot view of the current status of the gas and electric infrastructure in the Eastern Region of the country.

For the purpose of this presentation, the Eastern Region consists of approximately 20 states as shown in this slide.

You should recognize that due to the long-haul nature of some of the interstate pipelines natural gas pipeline infrastructure does not neatly fit into the geographic confines of the region.

However, you will find that this geographic configuration is reasonable for discussing the status of the energy infrastructure under the Commission's jurisdiction.

The next slides will highlight the status of the electric infrastructure in the Eastern Region.

The North American Electric Reliability Corporation is an international regulatory authority whose mission is to assure the reliability of the bulk power system in North America.

NAERC's area of responsibility include the continental United States, Canada, and the northern portion of Baja California and Mexico.

NERC is subject to oversight by the Federal Energy Regulatory Commission and governmental authorities in Canada.

NERC works with eight regional entities to improve the reliability of the bulk power system.

For the purpose of the Eastern infrastructure, the following NERC regions and subregions include the ISO New England, the New York Independent System Operator which makes up the US portion of the Northeast Power Coordinating Council both shown in the upper Northeast, followed by PJM which is included in the Reliability First Corporation shown near Pennsylvania.

Next, the central subregion, formerly the TVA subregion, the Virginia Carolinas Reliability Agreement subregion, and the Southeastern subregion, formerly the Southern subregion which makes up the SERC Reliability Corporation shown in the mid Atlantic and Southeastern Region.

Finally, you have the Florida Reliability Coordinating Council or FRCC as shown in Florida.

This chart shows the current installed generation capacity in megawatts and the total energy produced in 2012 in gigawatt hours for the Eastern Region.

As of February 1, 2015, the total install capacity was approximately 551,000 MW.

Gas-fired generation shown in red dominated with 40% of the total fuel mix.

Coal-fired generation is shown in grey had 30%, and oil shown in yellow, and hydroelectric shown in blue, each had 6% nuclear shown in purple had 28%.

Turning to the actual generation in 2012. The last year for which we have complete totals, you can see that the total was approximately 2 million GW hours where coal-fired generation produced 35% gas-fired generation, again shown in red, produced 31% of the electricity in the region and followed closely by nuclear shown in purple at 28%.

The quantity of electricity generated by oil was .2%.

I would like to note that the Reliability Must Run Units total approximately 400,000 MW of which 45% is coal, 33% is natural gas, and 21% is nuclear.

The takeaway from this slide is that natural gas, coal, and nuclear generation are the primary energy sources for the generation in the Eastern Region.

These pie charts show that there are strong regional differences in installed capacity fuel mix among the subregions.

Natural gas generation as shown in red dominates in New England, New York, BACAR, Southeastern and FRCC subregions.

Coal-fired generation as shown in grey dominates in PJM and the Central Subregion.

I would like to note that the New England Region is very unique because it has the highest oil fire

capacity at 18% and other fuel source at 5%.

This other fuel source is mostly comprised of wood, and wood derived biomass of all types.

New York has the highest hydroelectric capacity of all the Eastern Subregions. Central has the highest coal-fired capacity at 45%.

BACAR has the highest nuclear capacity at 20%, followed by PJM at 18%.

FRCC has the highest natural gas fire capacity at 64%.

These pie charts show that the fuel mix differences in actual electric generation produced within the subregions.

Similar to the installed capacity, natural gas-fired generation as shown in red dominates in New England, New York, Southeastern, and FRCC subregion, while coal-fired generation as shown in grey dominates in the PJM in the Central Subregion.

Although natural gas was dominant in BACAR for the installed capacity, nuclear generation shown in purple is dominant for the actual electricity generated in the BACAR.

Also in each subregion, the actual generation from nuclear generation is larger than the installed capacity.

New York produced the highest hydroelectric

generation in all the Eastern subregions at 17%.

Central produced the highest coal-fired generation with 53% of the fuel mix.

BACAR produced the highest nuclear generation with 41% of the fuel mix and FRCC produced the highest natural gas generation with 68% of the fuel mix.

This slide provides a view on the expected additions to generation capacity in the Eastern Region by 2025.

A conservative production of capacity additions under construction and in advanced development from present to 2025, total 30,160 MW, with 60% in natural gas, 19% in nuclear, and 14% in variable energy resources or VERs. These VERs include 11% wind and 3% solar.

Approximately 85,900 MW of additions currently in early development status may come online by 2025.

Of this total, 24% is estimated to be in variable energy resources. Of these VERs, 20% will be in wind.

The remaining capacity would include 67% in natural gas.

A quick look at the peak summer and winter electricity demand in the Eastern Region shows that generally the peak demand in the summer is greater than the winter peak which can be attributed to the cooling requirements being greater than heating requirements for

the Eastern Region.

This slide shows that in 2012 the Eastern Region was the net importer of electricity. On a subregional level, New England imported a combined net total of 13,700 GW hours from Québec and Maritimes.

PJM nearly 17,700 GW hours from the Midcontinent Independent System Operator or MISO.

The central subregion imported 1,279 GW hours from the Midwest Reliability Organization or MRO.

A fairly balanced exchange of imports and exports occurred between Southwest Power Pool and the Southeastern Region as well as between the Central and the MIOS Region.

New York was the only subregion that exported a combined total of approximately 16,000 GW hours to the Independent Electricity System Operator, or ISO, and the Hydro-Québec Region.

The electric transmission infrastructure in the Eastern Region consists of about 63,000 miles of existing transmission lines operating at 230 kV or greater.

Of this total, 52% of the lines are operating at 230 kV while 17% of the lines are operating at 500 kV or greater.

In the Eastern Region, approximately 7,800 miles of new high-voltage transmission lines representing 173 projects are projected to be built by 2030 at an estimated

cost of $37.1 billion.

Nearly 50% of the additional transmission lines are expected to be 340 kV or greater.

This includes two international projects. The first is the North Pass Project which will bring 1,200 MW from Canada to New England and is estimated to cost $1.4 billion.

The second is the Lake Erie Connector which would be a high voltage direct connect summary in project from Canada to Pennsylvania.

The Lake Erie Connector will be the first bi-directional transmission line between Ontario, Canada electricity markets and the PJM network serving the Eastern United States.

Currently, electricity products can be traded at more than two dozen hubs or delivery points in North America and natural gas products can be traded at over 120 hubs.

The data posted here represents three major electricity trading hubs in the Eastern Region.

Electricity prices in the Eastern Region for 2014 were elevated in the Northeast largely by increase in spot natural gas prices and high energy demand caused by the extreme cold weather in the beginning of the year.

While the summer and shoulder periods had mild

weather the high gas prices caused by the winter conditions raise average prices for the year as a whole.

This size shows the electricity price projection by region. Electrical futures are financial contracts traded against electricity prices and may not be representative of actual prices in the future.

Based on future prices, it appears as if the market participants have expectations for higher prices during the winter months.

Turning to natural gas, the next slides address the status of the natural gas in the Eastern Region.

There are approximately 48 major pipelines that transverse the Eastern Region. The Eastern Region pipeline have the capacity to transport natural gas into and through markets in the Southeast, Midwest, mid-Atlantic, and Northeast Regions.

The Eastern Region also imports gas from Canada. This map shows approximately 64,000 miles of existing interstate natural gas pipelines and approximately $1.4 trillion cubic feet of working gas storage.

$1.2 trillion cubic feet is under FERC's jurisdiction.

Also there are eight import and export points with Canada.

Currently, there are six LNG import terminals

located in the Eastern Region totaling 7.1 BCF per day.

Of these terminals, four are under FERC's jurisdiction.

Also one of the four import terminals under FERC's jurisdiction has been issued a certificate to export LNG.

This line looks at the natural gas consumption in the Eastern Region.

Before I get into gas consumption, I would like to mention the Eastern demand for natural gas in 2013 with 9.49 trillion cubic feet, of this demand electric generation, which is shown in dark blue, made up 4.16 trillion cubic feet, or 44% followed by residential demand which is shown in light blue at 2.1 trillion cubic feet or 22%.

Between 2013 and 2020, total gas demand is projected to increase to 10.5 trillion cubic feet with the largest increase occurring in electric generation for the Eastern Region.

The increase in electric generation totaled 5.1 trillion cubic feet or 48% of the total demand.

From 2020 to 2030, total demand for gas is projected to increase to 13.1 trillion cubic feet with electric generation increasing to 7.49 trillion cubic feet.

Looking at the sources of production in the

Eastern Region we see that historically domestic natural gas production has primarily come from conventional offshore and unconventional sources such as shale.

By 2030, we see a dramatic increase in production of natural gas from shale formations. For the 5.4 trillion cubic feet production in 2013 shale represented 4.1 trillion cubic feet or 76%.

In 2020, the natural gas from shale will be the predominant source of production totaling 9.6 trillion cubic feet or 90%.

In 2030, the total will be 13 trillion cubic feet or 92%, and thus, production from shale formation will continue into the future and will account for the majority of the Eastern Region's total gas production.

The US natural gas production is also dominated by shale, but to a somewhat lesser percent than the Eastern Region.

In 2013, shale made up 47% of the total natural gas production in the US and is projected to increase to 67% in 2020, and 72% in 2030.

Historically this chart shows that the Eastern Region has imported gas from Canada designated as the orange bars. However, in the past years, net imports from Canada had decreased totalling .2 trillion cubic feet in 2013.

In 2016, it is projected that the Eastern Region will become a net exporter of gas to Canada which is projected to continue into 2030.

Also Canadian imports to the US, the green bars, are projected to decrease until 2030.

This slide reflects the current pipeline capacity into and out of the Eastern Region. The numbers in white indicate capacity and the numbers in blue indicate actual flow.

Traditionally, capacity and flows into the Eastern Region originated from the Central Region, Offshore Louisiana, and Canada.

Projections to 2020 show that the Canadian imports will decrease, whereas exports from the Eastern Region to the Central Region and Canada will increase.

Projections to 2030 are similar to the 2020 projections with the exception of increased flows from the Eastern Region to the Central Region.

This chart compares gas facts in the US to the Eastern Region from 2013 to 2030.

As you can see, since 2013, the Eastern Region as a whole used about 37% of the total natural gas consumed in the United States and produced about 22% of the total natural gas in the US.

It is expected that gas production and consumption

will continue to grow in the Eastern Region through 2030.

Production within the Eastern Region is projected to increase with the development of Marcellus shale and Utica Shale basins.

Imports of LNG are projected over the period through 2030 with the majority of the volume through District Gas in Massachusetts and Southern LNG on Elba Island.

The Northeast Region will become an exporter of gas to Canada beginning in 2016.

The data posted here represent six major gas trading hubs. Natural gas prices in the Eastern Region were elevated in early 2014 as the polar vortex brought frigid temperatures across the region.

Hubs in the Northeast, Southeast, and mid-Atlantic Regions traded over $100 per MMBtu for parts of the year causing average prices in the Eastern Region to be 15% to 25% higher in 2013.

This concludes my presentation and a snapshot of the current electric and gas infrastructure in the Eastern Region.

These slides will be posted on our website following the conference. Thank you.

MR. BARDEE: Thank you, Yukala, that was very helpful. Do any of the Commissioners have questions or

comments on the presentation?

Thank you.

Our agenda would have Janet McCabe from EPA speaking next, but I don't believe she's here and we are not certain how much she may be delayed and we assume it is traffic related with the weather.

What I would like to do is to have our first panelists for the morning, and if they are here, we will have you all come up and we will start that part while Ms. McCabe os still in transit.

I will introduce all of our speakers and then we will give each of them a short opportunity to make some opening remarks before we proceed to the next part of the morning conference.

Let me start on my right. We have Commissioner Elizabeth Fleming from the South Carolina Public Service Commission.

Then Commissioner Asim Haque from the Public Utilities Commission of Ohio.

Michael Kormos, Executive Vice President of Operations for PJM.

Paul Newton, president of Duke Energy's North Carolina Operations.

John DiStasio, president of the Large Public Power Council.

John Wilson, director of research for the Southern Alliance for Clean Energy.

And James Frauen, vice president of Technical Services and Development for Seminole Electric Cooperative.

What we would like to do now is give each of you a short opportunity to make some open remarks.

We do have a timer. I don't know if you can all see it from where you are, but it is set for two minutes, so if you could limit your remarks to about that amount of time, we would appreciate it.

Obviously you will have much more opportunities to make additional points in response to questions from the Commissioners.

Thank you.

Commission Fleming.

MS. FLEMING: Thank you. I want to thank you all for the opportunity to speak to you today about the Clean Power Plan as it relates to the reliability of the electric grid.

South Carolina has approached the Clean Power Plan and the abatement of greenhouse gases in a proactive transparent and inclusive manner.

Many of the entities involved in this process have submitted comments including factors that contribute to

the concern for electric reliability.

As the Federal Energy Regulatory Commission reviews the CPP and its implications on electric reliability, I would like to ask that you consider the following actions and the first one is certainly the one that -- no, I think it was the second one that Chairman Lafleur mentioned.

The first one would be to advocate for reconsideration of EPA's proposal to set interim compliance goals and the second is to examine the appropriateness of incorporating a reliability safety valve into the final rule.

The Clean Power Plan sets interim compliance goals for each state. South Carolina's interim reduction goal is 840 pounds of CO2 per megawatt hour to be reached on a 10-year average during the period of 2020 to 2029.

This is approximately a 47% reduction below the 2012 benchmark of 1,587 pounds of CO2 per megawatt hour, and approximately 92% of the final goal of 772 pounds of CO2 per megawatt hour.

Although the EPA talks about a glide path, this is not the case for South Carolina.

Currently approximately 33% of South Carolina's electricity generation is from coal. If existing coal plants are retired to meet the interim goal, any premature

closures negatively impact the reliability of South Carolina's grid.

The interim goal decreases the state's flexibility of measures to meet the final goal leading to higher costs to consumers for electricity.

Removing the interim goal allows states to establish a meaningful glide path to compliance which would provide flexibility to minimize the rate impact to consumers and to more fully develop and adjust the methodology for compliance determinations.

The interim goal provides little benefit, adds stringency and increases the cost of compliance.

A final goal should suffice rather than requiring an interim goal, a report on the status of the state's compliance with the Clean Power Plan in the period of 2020 to 2029 would be more beneficial to all.

Secondly, we would like FERC to examine the appropriateness of incorporating a reliability safety valve into the final rule.

Specifically there should be no fear of penalty for states that fail to meet and or maintain compliance with the final goal because they elect to ensure grid stability as they respond to unforeseen circumstances such as loss of a large generator like a nuclear unit during an extreme load event, unanticipated early retirement of

large generating units, delays in developing additional natural gas infrastructure, or other force majeure events so long as meaningful progress is being made towards greenhouse gas emission reductions.

Thank you very much.

CHAIRMAN LAFLEUR: Thank you very much. We have made the game time decision to proceed with Commissioner Haque and then we will turn back to Secretary McCabe and go forward.

MR. HAQUE: Thank you, Chair LaFleur, Commissioners, and FERC staff. I am grateful for the opportunity today to represent the State of Ohio and specifically to discuss our reliability concerns associated with the Clean Power Plan.

The State of Ohio is a manufacturing heavy state, the nation's sixth largest consumer of electricity per 2012 data, and so naturally, the reliability and cost impacts of the Clean Power Plan are of extraordinary import as we look to sustain Ohio's economy and the 11.5 million residents that our economy supports.

Filed with you in this docket the same comments that my commission filed with the US EPA rather than individual comments and I did that because our commission, our state air regulators, our attorney general and our governor's office have taken a unified approach to the

Clean Power Plan and that approach, first and foremost, involves a legal challenge, but as is evident in the comments submitted to you we want to think critically and be as helpful in shaping the Clean Power Plan as possible assuming arguendo that the Clean Power Plan survives our legal challenge.

With that disclaimer out of the way, I have a few points to make in my opening remarks.

Chair Lafleur, at the first technical conference you laid out sort of the spectrum of reliability mechanisms that have been articulated thus far, and I really look at these mechanisms as being in two buckets, before plan submittal, and then after plan submittal.

As a general policy consideration any reliability check is a good one, but I have my concerns.

Let me address the before plan submittal of potential reliability mechanism.

My concern really relates to authority and specifically whether an entity outside of the states can effectively amend a state plan in the name of reliability and possibly create winners and losers between the states.

This is something that can be worked out with process and I would be happy to further articulate this and get into it in questioning.

As far as the after plan submittal of reliability

check, we see this as the more dynamic reliability check as time passes and a state's plan begins to unfold and we like this.

Like Commissioner Fleming, I am going to articulate a few ideas here that are not foreign to you, but I really want to make sure that they are represented at least from my state and states that are similarly situated.

First, there needs to be eased in a plan modification, especially if you go through the type of process laid out by the ISO RTO Council, to identify and get consensus that a reliability problem exists.

So an easy in plan modification.

The second, there has to be an allowance for mission target adjustments where the reliability mechanism has been a evoked and a state has no feasible mitigation strategy which very well could be the case in restructured states like Ohio and I would be happy to get into that further with you.

Thank you very much, again, for the invitation and I look forward to the Q and A.

MR. BARDEE: Thank you. Let us proceed now to introduce Janet McCabe. She is here now.

She is the acting assistant administrator for EPA's Office of Air and Radiation and has been very

helpful to us in the first panel and we are looking forward to her remarks here today.

Janet.

MS. McCABE: Thank you, Mike, and hello to you FERC Commissioners. I apologize for getting here just in the nick of time.

I am going partly on Washington traffic and partly on just the disbelief that anything would go faster than scheduled!

Usually it's the other way, so I do appreciate that you have not taken me to task yet for being late.

I very much appreciate the opportunity to be here and I want to thank the Commission, all Commissioners, as well as the staff, again, for holding this set of hearings.

I also want to thank the states' utilities, the PUCs, and all the other organizations who are here today and have attended your other sessions and we will attend one in St. Louis as not only are they helpful in these processes, but they have been extremely helpful to us over the last two years as we have worked through the issues related to the Clean Power Plan and many of the people in this room as well as many who are not in this room have provided us with excellent and substantive input on the Clean Power Plan all the way along and in particular in

their comments on the proposal.

We have received as you know more than 3.5 million comments and we are back continuing to think about and review each and every one to make sure that we understand all the good ideas that are coming forward and the issues that are being raised.

These conferences provide an excellent way for stakeholders to engage directly with you at FERC and it is a great opportunity for us and has provided opportunity for us to continue to build on the working relationship that we at EPA and you at FERC have developed over the last couple of years and will continue into the future, so we certainly look forward to continuing to work with the FERC staff as well as the leadership as we finalize the rules and then move into implementation.

Coordination will continue and increase in terms of its importance as the states move into developing their compliance plans.

We firmly believe that this kind of opportunity for conversation and thinking about these issues will put the states in a much better position themselves as well as for us to think about and anticipate any of the possible reliability issues that that might arise and think through now and into the future concrete ways to address them and many of those ideas have already been put on the table.

I also want to thank organizations including NERC, PJM, and the other RTOs and ISOs for all the work they have done.

They have been running analyses, collecting data and providing all of us with information about the potential implications of this work.

All of this is extremely timely for us as we are in the final few months of putting the rule together and all of this will make the rule a much more effective and implementable program.

I don't want to repeat too much of what I said a couple of weeks ago at your national overview session, but there inevitably will be a little bit of repetition.

I also want to touch on some issues that are pertinent to and raised by the Eastern states and utilities and stakeholders and then if there is time to answer your questions.

I will emphasize again as I did last time, and as I do always, focusing on reliability of the electricity system has always been a paramount concern of the EPA in any of its environmental regulations that address the power sector and that has always been one of the highest priorities that we ourselves devote substantial attention to it and make sure that we are working with others who are concerned with those issues, so we are doing it right

on and over the 40 years of the Clean Air Act where many regulations have gone into effect that have improved the environmental record of the power sector which has been tremendous. We have not found that those rules have led to reliability problems or lights going off and we are committed to that here.

We are also, of course, fully committed to EPA's mission which is to protect public health and the environment, and in the case of the Clean Power Plan, our concern there is climate change which is already affecting public health and well-being and economic well-being across the country.

These impacts are already both dramatic and incremental and the science is clear that those will get worse if we do not take action to cut carbon pollution today and the 111(d) proposal is one aspect of the administrations program to do that.

Let me turn to Section 111(d) and particular the issue of reliability.

In crafting the proposal, we sought to provide the flexibility and the kind of timeline that states, tribes, and territories and affected generators would need to make reductions in carbon emissions while maintaining an affordable and reliable electric power system and safeguarding that system for the economic well-being of

everybody who lives in our country.

Our proposal recognizes the interconnected nature of the power sector. It is founded on common strategies that are already in use today and it proposes unique goals as you know and has been much discussed, unique goals for each state that reflect the differences in the mix of resources currently in use to generate electricity in that state and the differences in the potential that each state has to increase the use of lower carbon and zero carbon resources and therefore we have different goals for different states.

We know that there are several aspects about generation in the Northeast and Southeast that are different from those in the Midwest, and in the West, and the input that we have gotten from states, from utilities, and from other stakeholders, have made that point very clear through their comments and all of their input.

As we are thinking through how to finalize this rule we are thinking very hard about the fact that there are different considerations across the country.

We have heard about the ways that the proposed goals affect the coal fleets in Eastern states particularly in West Virginia and Pennsylvania and how that might reflect reliability.

We are looking very closely at this issue because

we agree on and the proposal lays out a future that shows that coal will continue to be part of a diverse energy mix in this country and in fact it predicts 30% production from coal in the future.

We have also heard about how the proposal can change the way states participate in the energy market.

For example, Georgia has noted that its NGCC fleet is not ready to meet the dispatch rates that it feels would be needed to comply with the rule.

We appreciate the comments from states like Florida regarding their transmission concerns and their concern that the increased use of renewable energy may not provide fully disptachable base load power in that state.

These are issues that we are thinking through very very carefully.

We have seen comments from several stakeholders in the East about how the Clean Power Plan could cause stranded assets in their state or affect the ability of their power plants to provide stable and reliable power during extreme weather events and we have all heard a lot about that.

These issues in the grand scheme are not unique to the East, of course, they are being articulated by everybody, but they apply and affect different states differently, of course.

Others we have heard from are worried about how the rule might affect electricity rates for its residents particularly low income families who are most vulnerable to price fluctuations, that is something that is very much on our minds as well.

We have been conducting extensive outreach, and particularly on this issue with communities and community groups both before and after the Clean Power Plan was proposed, we want to continue to have that conversation, and we welcome and are seeking ideas about how to in the rule itself and then in the implementation guidance that we provide, and in the implementation issues that the states are raising, how can we make sure that those issues are very front and center and that states have all the tools that they need in order to be thoughtful about implementing the rule in a way that will not have those unwanted effects.

We have also heard from states and stakeholders in the East that they appreciate the work we have done to make sure that there is lots of flexibility in the rule, and yet, there's enough guidance in there to provide a sense that states have a path forward that they can move on without triggering reliability issues.

As another example, stakeholders in Florida noted that facilities in that state have a track record for

using clean energy technologies to reduce emissions and they have been able to keep rates low and maintain reliability and those are very good examples to look at.

Connecticut has commented on the importance of measurement and verification protocols to ensure grid reliability and I would note also that this is a common issue that there needs to be some attention to that so that everybody is playing by the same rules and there is certainty of expectations of how certain kinds of approaches will be treated so that people can feel comfortable that they will know how that will work.

Stakeholders throughout the East have acknowledged that there is untapped potential for renewable energy sources in the region and they appreciate that this rule provides an opportunity for states to use renewable energy to comply with their goals.

We also agree with comments from many stakeholders including for example the State of Massachusetts that has said that the Clean Power Plan will help reduce carbon dioxide emissions, will be a critical step, as they said it, in driving clean energy and economic development while also providing energy reliability and affordability so an entire range of comments for us to think about.

Let me now talk about time for a minute. Before we even started writing the rule, we understood that the

compliance timeframe here would be critical for achieving our joint goals of reducing emissions and assuring a reliable and affordable power system and so part and parcel of offering states and generators wide latitude in meeting the states' goals was to leave enough time for people to plan to avoid reliability concerns. Those two are inseparable as you know.

The final compliance date of the rule in the proposal is 2030. That was intended to give everybody on a 15-year planning horizon and we have gotten, I would say, generally positive reactions to that time horizon as a planning horizon.

We did include an interim compliance period of 2020 to 2029 that was intended to allow states and affected generators to design their own glide path to that ultimate compliance number in 2030 to suit their own particular needs and plans that may already be in place or being developed for how to get there.

The record that we have gotten reflects many comments on this issue and how the particular interim goals work out for any particular state, and in some states, there is a concern that the interim goals really provide too quick of a reduction expectation, and in fact, don't accomplish what we intended to achieve which was a glide path that would be workable for people and we have

heard these concerns from Northeastern stakeholders in particular.

We have heard in the Northeast that there's a need for more time to develop natural gas pipelines infrastructure and transmission capacity.

In some areas, like Puerto Rico, they have particularly unique challenges to transmission and distribution infrastructure. We understand that.

We are looking very hard at this particular issue about how we can accommodate the joint or the multiple goals of making sure there is some pathway to compliance that provides both accountability, but also flexibility and a recognition that things will change over a period of 15 years.

We recognize that, but we want to make sure that people have some kind of a glide path to follow.

From the perspective of insuring system reliability and achievement of that final compliance date, we do believe that the long time horizon will provide the kind of flexibility in the time for people to do what they do in this system which they are already doing in the system given the changes that are happening in the industry already that have been for many years, the aging of the system, we talked about this when I was here before, those kinds of conversations and exercises are

happening already.

This timeline horizon we believe gives system operators and others the space to look at those things together.

We know that investments take a long time and we know that planning takes a long time. We know that getting approval for things can take a long time and while I have heard very positive sentiments about, "Let's not just accept some of these lengthy processes," that is part of our job too is to work on making those as efficient and streamlined as possible, but we recognize that you do not make those the changes overnight and our program needs to fit within and with those other processes.

We also know that there are other things going on in the environmental regulatory arena for utilities, limitation of the MATS rule in particular.

We have been talking a lot and hearing a lot from the states about regional plans and multistate plans and this has been a very very interesting discussion and we kind of started from a framework of recognizing an organization like RGGI which is formal and structured and hearing a lot from states that are interested in a whole range of opportunities to work with other states very flexibly.

We were at a meeting with states yesterday where

there was discussion of states wanting to know what kinds of things they could put in their plans that would enable them to almost move in and out of relationships with other states when and if that becomes an attractive thing for them depending on how the market works.

We are thinking about how we can both continue to provide as much flexibility as possible, but also provide as much guidance as we can and as is appropriate without constraining flexibility so that states have some expectation of if we include the following things in our plans, those are likely to be workable in a system like this.

We do think that having the opportunity for states to join in regional organizations or in regional relationships and arrangements it is going to be really an important element of insuring that the system can function and remain reliable.

Coming back to training, but focusing now on time for planning.

We have heard from many states that the one-to-three year planning period that we proposed in the rule is not going to be enough for states, that they need more time, that, again, we are were looking very hard at.

Fortunately, we have heard from many states including the Eastern states, certainly, who have offered

some practical suggestions about how we can address these sorts of things in our final plan.

There may be an additional process, steps that we can add or the streamlining of other things that could help.

We have also heard from many including certainly in the East a call for reliability mechanisms, a safety valve, and again, clearly it goes without saying that we are looking at that very hard.

It is my hope and I think you have shared this that coming out of this series of workshops that you are holding will be additional specific ideas.

Chairman Lafleur, you are a font of specific ideas, not that the others of you are not, but that's what everybody's looking for here are very practical things that we can actually do either in the rule itself or in implementation guidance or other mechanisms that people will be able to look at, and say, "Yes, this will make this program workable. This response to this particular concern and that particular concern," and we can take a lesson from how we work together on our Mercury and Toxics Standards Rule to provide a very clear and accessible approach to people if they found themselves it in a real reliability situation.

We intend fully to continue to engage with you on

figuring out how to do that before the final rule building on everything we have talked about so far and the ideas that come up.

I want to thank you very much for the constructive operation. I want to thank each of the Commissioners for the time that you spent with me, and Joe Goffman in the last couple of weeks, to talk one-on-one about these issues and thank again everybody who is participating in this.

This is a really really important thing that were all doing and everybody appreciates that and we all want to get it right and we all want to meet the needs of this country and these sessions are extremely helpful to do that.

Thank you, and if there is time for questions, I am happy to answer them.

MR. BARDEE: Thank you, Janet. Are there any questions from the Chairman or Commissioners?

CHAIRMAN LAFLEUR: Thank you so much for being here. I want to acknowledge Joe Goffman also who is hiding in the back of the room. The attention that you have given to these issues in these conferences is extraordinarily valuable.

I don't know that I am "a font of ideas," but I am trying to stay laser focused on what's going to be the

role of the Commission and what are the mechanisms are processes we need to work out so we are ready just as with MATS long before when anybody came and asked for anything we had done statements and all of what we would look at, and how we would consider them.

I want to pick up on something that Commissioner Haque said about sort of dividing it into segments.

The first segment is between now and when the final rule issues, I would say a great deal of the conversation that we have heard over the two and a piece of a day so far relates to suggestions for the EPA or for FERC to make, things to do in that time, change the glide path, give more credit to this resource, "My state's goals are wrong for this reason."

We are happy to provide a forum for that conversation, be a part of the interagency review, but I am assuming it will shake and bake and by midsummer or whenever, those questions however they are going to be answered something will happen.

That is the first stage.

The second stage is, and I will conflate the states and the regions.

When either the states or the regions they are now working out their plan. They are figuring out what they are going to submit and then they submitted it if I

understand it.

Then the third stage is now it is submitted and the EPA has to review it.

This is the stage where we had the opportunity to do something in MATS. In that review stage we had a consultative role.

Then the fourth stage is after it is already approved by the EPA, and that has gone forward and now our problem comes up.

I am curious, from your perspective where you think we could add value and should we focus the mechanisms as in MATS and kind of review as things come in and working out what might be protocols or standards we use for that?

Is it more of and or after the fact when things come in down the road, do you see potentially a role for FERC and other bodies?

We want to work out something that actually dovetails into your process as it evolves. I do not want to put you on the spot, but I think it has to be iterative so that whatever we figure out actually adds some value rather than just it looks good on "We can type rules," but we want them to actually work. That is what I am having trouble with.

MS. McCABE: Yes, I will not let you put me on the

spot, but I will respond to what I think is a very reasonable way and an organized way to think about this.

We want to do a couple of things. One is we want to make sure that the program is designed and then can be implemented in a way that in fact will allow people to do the things they need to do to avoid reliability issues that would be caused by this program keeping in mind that reliability is an ongoing issue for a variety of reasons including as one of my staff has told me, "Squirrels can cause reliability problems," yes.

CHAIRMAN LAFLEUR: They get into substations all the time.

MS. McCABE: Yes.

CHAIRMAN LAFLEUR: Many think that distribution line people have a "throwdown" squirrel in their truck if there is an outage and they have to "swing it!" I cannot comment on this based on my experience.

MS. McCABE: I am very glad to hear you confirm that squirrels are an issue. We need to keep that in mind and we need to focus on the substance.

There is also value in everybody knowing that we are ready whether we need it or not and I think that that is a significant thing for us to think about as well and for both of those reasons we should really think about your question and where and how it makes sense for FERC to

be engaged in all of those processes, so when we come out with a final rule, I want, and I think the administrator wants people to look at it, and say, "EPA has taken this into account."

Then as we are in the plan development stage, states are going to be making choices and decisions about what they are actually going to implement in their states and they are going to want to be able to do that in the context of knowing out what the options are or what the mechanisms are if they should run into a reliability situation into the future.

That is a time period where certain kinds of assistance support interventions might be helpful.

When EPA is reviewing the plans and you have already identified, that's kind of a natural time for us to be talking and then after that the plans are approved and we are in the implementation stage, that's where we are executing and the actual situations may, or if we plan well it will not come up, so that is maybe not the most helpful answer.

CHAIRMAN LAFLEUR: Just for our thinking, obviously, we are all focused right now on adding whatever value we can to a process that you basically own which is figuring out what you are going to write in the rule because the better it is written up front, but then we

need to think about how we develop whatever we are going to do because, not to belabor a point, but it is more multifaceted than MATS, although we agonize, Mike and I, and now it seems like child's play when we look back at the policy statement, but how we would review these if they came in.

This is much more complex, so then we will have to double down on starting to get ready.

As this evolves that kind of guidance is really helpful. Thank you.

COMMISSIONER MOELLER: Thank you. Administrator McCabe, thank you for being here. I will echo those comments of Chairman LaFleur, you, and particularly Mr. Goffman, have been out and about with us quite a bit and from your comments it is clear that you have been listening to a lot of the concerns and I appreciate you specifically articulating them.

A couple points and then a couple of questions. I cannot help it, but if this is about global warming, we have to keep in mind the fact that with ubiquitous concentrations of CO2, whatever we do can be offset around the globe so we have to continue working with our allies and other nations for more efficient production and consumption of energy, many of those through market mechanisms that have yet to be adopted by other countries,

so I hope you will join in that effort since this is a worldwide issue.

Secondly, with all due respect to how the electric industry has responded over the last 40 years, this is the most comprehensive and profound rule out of the Clean Air Act especially on the heels of MATS, this will be by far the most challenging of all the rules that have come out to try and address what with the Clean Power Plan attempts to do.

I appreciate your particularly emphasizing the need for more pipes and wires particularly in order for Building Block 3 to be implemented and Building Block 2, and your recognition that that that system needs some reform.

Often it is the federal resource agencies and the EPA, particularly at the regional level, that have been seen often on some of these projects as being less than facilitating a quick decision and we certainly have a few examples of that.

It strikes me, and of course, one of the challenges in holding these technical conferences is that the comment period has ended as of December, so what are you going to do with what comes out of here?

And although I haven't spoken specifically with my colleagues on this, it would be nice in my mind if we

could come to a consensus particularly on proposing something to you that is very specific related to a reliability safety valve.

Perhaps there are other areas where we can find agreement as well.

Can you give us any guidance as to maybe what your thinking is in terms of a preferred structure for or a process for the reliability safety valve at this point and how we could be helpful in adding to your thought evolution assuming something like that can show up in a final rule?

MS. McCABE: Sure. I appreciate both the comments and the question and I will wholeheartedly agree on behalf of the EPA for sure that that this is a global challenge.

This is not the only thing that the administration is doing either domestically or internationally. It's a very big issue.

We do feel that we have to practice what we preach here in the US and move forward with but other programs are going to be critical as well as from other countries.

One of the blessings of having 3.5 million comments is that there are many ideas contained within those comments including many suggestions about how to anticipate and handle reliability issues.

The conversations that are happening here are

expanding upon those ideas and it is well within our rulemaking record to be thinking about these issues.

While I do not today have specifics to share with you about a specific approach, I do welcome and anticipate that we will be able to have conversations as the rule moves closer to final on how to handle that both within the rule and importantly there are things that we can do as we look at implementation, expectations, and guidance that can be helpful as well.

If there is some brand new idea that pops up at some point along the way we are not constrained from being able to consider that as roll it out and we work with you and with the RTOs, ISOs, the generators and the states as they move along.

COMMISSIONER MOELLER: Good. Thank you. Again, some type of reliability safety valve needs to be in the final rule.

Chairman LaFleur, as referenced by commissioner Haque, we have entered the five different flavors of it, it also strikes me that we do not have a whole lot of time if we are going to come up with a recommendation to give it to you because summer is coming.

Thank you again for being here.

MS. McCABE: Thank you, Commissioner.

COMMISSIONER CLARK: Ms. McCabe, thank you again for

being here and for all the outreach and collaboration.

I wanted to follow-up on one statement that you made, and hopefully it will not be a surprise because this is something that we talked about a few weeks ago when you and Mr. Goffman visited which is the statement that I have heard officials from EPA make from time to time that there has never been a "reliability problem" in the 40 years of the Clean Air Act.

And I guess under one definition of reliability problem, which is the whole grid, goes down, it's true, that hasn't happened as a result of the Clean Air Act.

I do have the concern that there is a little bit different definition of reliability problem in that there are all sorts of challenges that have come up with regard to the tension between environmental laws and reliability rules that have come up over the last 40 years, the Potero Plan in the San Francisco Bay area, right across the river here, the Potomac Generating Station in Virginia which was the subject of a complaint before this Commission and the Department of Energy.

More recently we have had the Presque-Iles Unit in the upper Peninsula of Michigan which has had to undergo "reliability must run" construct, the Edwards Plant in Illinois, and even one plant, the Dolla Jenna Plant in New England, the Kendall Station in New England which had at

27 MW D rate which is not a large D Rate but had reliability impacts on that region and.

I guess my point is that at any point there is some sort of out of market solution like a "reliability must run" contract, which is the Commission saying, "You have to run," sometimes at extraordinary cost to consumers or where there is a utility that has to take on significantly legal liability as what happened in California with the Potero Plan, that too is a reliability problem and my concern is that those were during times when we were dealing with fairly discrete issues being one off issues that we dealt with plant by plant and sometimes finding very small changes in what would seem to be minor plans had a local reliability impact that we are, as Commissioner Moeller said, "We are moving into a much different type of regulation here where this is much broader, the number of variables are expanded greatly.

I would like for you to give me some assurance that EPA has an appreciation for the era to which we are heading which has much tighter reserve margins and that while something may not bring down the entire grid, very minor actions that might appear to be minor actions can have very specific impacts on local areas that would not necessarily be considered bringing down the bulk electric system, but for the consumer that is affected by that

particular plan is an awfully big deal.

MS. McCABE: Yes, that's a very fair point and a lot of the comments that we have gotten have illustrated that people are focused on the particular units in their states that they operate or in their communities and they are thinking about what does this mean because when it comes right down to it that's what matters is how these programs are implemented at the level of the actual plant that is providing electricity.

If you look back over the history of the Clean Air Act which is a law that Congress adopted because air pollution from a variety of sources was causing significant public health issues across the country.

We have had some of these moments in time before the acid rain program went into effect and there were lots of concerns raised and at that time I dare say, somebody, your predecessor might have said, "This is the biggest thing ever. We have never had this before. It's the most complicated thing and that was probably right at the time and this is probably right at this time too.

All of that is fair observation.

What we have shown is that the systems that this country has in place, if they are done thoughtfully and properly and if there are mechanisms to deal with the unexpected, the unexpected that you can expect to happen

somewhere in the country at some point, that achieving Congress's mandate of addressing air pollution can be achieved in a way that is consistent with continuing to manage our electric system with all of the many things that the people, whether they are on the provider side, the local reliability side, or the national side, can anticipate and accommodate.

I want to reflect back to you, I take your point that we need to have a system that can be responsive to very localized concerns that take into account the many things that people think about as they ar planning for the future of a generation.

COMMISSIONER CLARK: Thank you and thanks for that response. I appreciate your points on the Clean Air Act. It has unequivocally been a good act for this country in cleaning up the environment.

Also at the same time, I don't want to gloss over that there have been times over the past 40 years.

Oftentimes, quite recently, the reasonable reason the lights have not gone off is because you had utilities sometimes taking on some pretty extraordinary legal risk and or consumers taking on that risk, their consumers taking on that risk because they did the right thing which is to keep the unit running which kept the grid on, but exposed them to some on undesirable consequences either in

regard to cost or legal liability.

COMMISSIONER HONORABLE: Administrator McCabe, thank you for being here. I too appreciate and I will echo the comments made by the Chairman and Commissioner Moeller.

It is clear that you are paying attention. I get questions about whether I think the EPA is listening. I absolutely do and I have confidence in that. I am also confident that it is quite complex.

Based upon my experience as a regulator for now more than seven years the key here is certainty and that just what Chairman's question is rooted in, if I might infer that.

This industry works best when there is confidence in the ability to respond to a dynamic sector and that in turn requires a regulatory entity such as ours to be responsive, so I look forward to participating in any way necessary to develop a consensus, if that is what this Commission feels is the best course forward, but also to provide you with the advice and counsel that you need to put this final rule together in a way that allows the time to plan.

That is key as well and the time for industry as well, I am confident that we can rise to the occasion.

As I have said before there are a lot of bright minds here I am constantly learning about. I just had a

visit with a group yesterday about some of the very different and innovative ways that they are looking at approaching and getting prepared for responding to the plan.

I look forward to that.

I also note some of what you heard today, I think commissioner Haque said they have provided in their comments to you, so I hope in some ways what you are hearing is what you have read in the comments that allows you that ability to be responsive, but I am also confident that you will be able to use this forum of dialogue to support your final work on the rule, so thank you.

MR. BARDEE: I would just add that in the many years I have been here, and the many rulemakings I have worked on that we got 100 sets of comments or 200, we felt like we had a lot of work to do.

You are welcome to stay for the rest of the morning, but if you need to get back to the office to deal with 3.5 million comments?

MS. McCABE: I do have a few to read, yes.

MR. BARDEE: We understand.

MS. McCABE: Thank you very much. I would love to stay, really, but I feel lucky that I got here a little bit of the panel this morning.

I don't mean to be rude, but I will excuse myself

and thank you again and I expect that I will see some of you in St. Louis in a couple of weeks.

CHAIRMAN LAFLEUR: Yes, thank you and I do know you have I see EPA folks scattered throughout the room, so they are here.

Thank you very much.

MR. BARDEE: If we could return to the panel speakers starting with Mr. Kormos and we will go down the list and if each of you again could give your opening remarks in about two minutes we would appreciate it. Thank you.

MR. KORMOS: Thank you for having me back again to talk about this.

When I thought about reliability and what we need for reliability I thought about a panel that Commissioner Moeller and I were on. I think it was OPSE a couple of months ago and at the time the thought I had was, what we need is time and transparency, and to be honest with you, that is still what I feel we need.

We have the tools in place and if we don't have the tools we need, then we can develop new ones.

This Commission has absolutely shown a willingness to work with us to develop those tools that we will ultimately need to protect reliability.

The challenge we have right now is we really just

have too many unknowns to really draw any hard conclusions for you as to what the effect of reliability.

We know there will be effect. There is no doubt that there will be effect to reliability particularly as Commissioner Clark said.

I believe it is manageable and I believe the tools are in place to do it, but at this point we just don't know what the final rule is.

We don't understand how the states are going to implement those rules that we don't know how the market is going to respond to those implementations.

That's a lot of unknowns.

That is not to say that we are not trying to do anything and just sitting back.

We have tried to start some pretty extensive studies to look at all the possible outcomes we have. We just recently posted that we did file some comments on what those studies are.

The studies at this point are not necessarily trying to draw reliability conclusions for you.

We will continue to work at that. We will continue to work at that. We will continue to try to modify those as we understand better what the final role is and ultimately how it will be implemented.

Our hope right now is to really just be educating

and we appreciate opportunities like this hopefully and the next part of the panel will have some opportunity to talk about some of the things we are seeing in those studies.

Some of those concerns are being raised and hopefully some of the thoughts we have to handle them. With that I look forward to the questions.

MR. BARDEE: Thank you. Mr. Newton.

MR. NEWTON: Yes, good morning. Thank you very much for the privilege to be here this morning. It is an honor. We do not take that lightly. Thank you so much.

My name is Paul Newton. I am the North Carolina president for Duke Energy.

I read a fascinating blog this weekend in the Notable and Quotable section of the Wall Street Journal. It chronicled the reflections of Dr. Donald Boudreau who predicted in the late 1970s that bottled water would fail.

Had be been a government planner, he wrote, "One with the finest training, the highest integrity, and the most intense desire to serve my fellow citizens well, I would have counselled against directing society's scarce resources into the production and distribution of single-sized bottled still water."

With 20/20 hindsight he now realizes that his reason could not reveal to me the preferences of millions

of other people.

"My reason could not reveal to me the ambitions and the creativity of entrepreneurs. My reason could not reveal to me the details of an open-ended future in which people are free to spend their money as consumers, as producers, and as investors as they wish."

There is a parallel between Dr. Boudreau's reflections and the Clean Power Plan as well intended as the Clear Power Plan may be in the minds of its architects.

In the foresight of many outside the EPA, there are important elements of the plan that need revision in order to ensure future grid reliability and affordability for customers.

I will focus on one.

The interim compliance period that begins in 2020. The interim compliance requirement leaves no room for the innovation, planning, permitting approvals or construction necessary to ensure that targets can be met reliably or efficiently.

For example, the EPA has proposed 2020 emission rate targets for Florida and North Carolina that are 78% and 76% respectively of their 2030 emission rate reduction requirements.

It is foreseeable that the CPP rule will not be

finalized with state implementation plans until 2018.

With such stringent 2020 interim compliance targets, the EPA plan will place coal-fired generating units at risk of premature retirement without adequate time to replace that lost capacity.

Just last month both Carolinas' utilities set new all time records for electricity consumption.

These peaks occurred just past 7:00 a.m. when output from intermittent non-dispatchable energy sources was essentially zero.

Duke Energy kept the lights on by using a diverse mix of generation including many plans that could be prematurely closed under the current EPA plan if changes are not made to the final rule.

State regulators are in a better position to judge whether and how premature retirements will affect customers.

I have highlighted but one weakness we see in the proposed rule of borrowing from the wisdom reflected in Dr. Boudreau's blog, Duke Energy requests this Commission to urge EPA to eliminate the interim compliance period to allow each state to develop a thoughtful state specific glide path to close the gap required by 2030 under the Clean Power Plan and Duke Energy stands ready to assist this Commission and EPA with the important work of shaping

a Clean Power Plan that achieves the end goal in a way that ensures reliability of the grid and affordability for electric customers.

Thank you.

MR. BARDEE: Thank you, Mr. Newton. Mr. DiStasio.

MR. DiSTASIO: Thank you very much. I am John DiStasio. I am the president of the Large Public Power Council.

We are an association of 26 of the largest municipal utilities in the country. We have several in the eastern interconnect including those in organized markets and bilateral markets in New York, Georgia, the Carolinas, and Florida.

Many of these comments I have heard and we certainly are on the same page, but I would like to speak to the "laser focus" that Chairman LaFleur mentioned and that is the issue of timing as people consider safety valves and what the appropriate role for FERC is.

Our core message would be that FERC and NERC must have a central role in evaluating state implementations or any EPA devised federal implementation activity before they are finalized with the EPA so we would suggest that that needs to occur earlier in the process.

I would agree with Mr. Kormos that right now it is very hard to assess specific reliability issues absent

having the state plans completed, but there is an appropriate time early enough in the process that isn't remedial that I think could have a key role for FERC to play.

We do have members that have suggested that some of the things that I know you have already heard and what we will hear later about infrastructure concerns specifically the time to construct both gas and electric transmission facilities, so we want to just make sure that there is an upfront role for NERC and the Commission.

I will say Section 215(g) of the Federal Power Act actually does have a role for NERC to provide periodic reliability assessments and in that regard that would be very useful that those occur at the appropriate time.

We also believe a dynamic safety valve is also important as was mentioned, but when I think about Chairman LaFleur's idea of the four stages there is an appropriate role both from stage two on that should be something that would be deliberate on behalf of NERC and FERC to ensure that we both achieve reliability, specifically, but also affordably as we go forward.

Thank you.

MR. WILSON: Good morning, I am John D. Wilson with Southern Alliance for Clean Energy and our organization works in the Southeast exclusively where we

primarily have a bilateral market as you are aware.

It is primarily served as you know by large vertically integrated utilities. There are, of course, many smaller utilities some of them have distribution only systems and others are largely self-sufficient like Mr. Frauen's Seminole Cooperative or some of the utilities in South Carolina and they have self-sufficiency in power marketing as really key characteristics of their service mode.

These smaller utilities need support, some kind of credit market, or some other kind of approach that is endorsed by their state regulators, but really, the larger utilities in the main focus of my organization, and we think that they are already in a very good position to comply with the Clean Power Plan, so I guess I am, "The sky is not falling," person here today.

They have plenty of options to cut emissions substantially without really putting reliability at risk. Really there is more risk of utilities overspending for reliability than there is a risk of reliability problems in those regions.

They are really already on track in fact to achieve substantial emission reductions by 2020 and I am really confident as well as some of you have indicated that administrator McCabe and others are going to make

sure that there is not going to be a cliff effect in the final rule.

Looking beyond what the utilities already have in the works for their emission reduction plan, they have plenty of solar and energy efficiency in their territories and wind is also accessible by transmission.

We see utilities and their regulators beginning to drive investments in these resources today because they are so cheap and not because mandates.

There are plenty of tools and policies that the utilities already demonstrate to a greater or to a lesser degree and Mr. Kormos commented on some of those being utilized in his region and those are needed absolutely to ensure that reliability is done in a cost-effective manner.

In conclusion, the studies that we have conducted and reviewed showed that utilities are generally headed towards a generation mix that is much more flexible, not less, and that ensuring reliability really can be and continue to be a business as usual task for the utilities.

Thank you.

MR. BARDEE: Thank you, Mr. Wilson. Mr. Frauen.

MR. FRAUEN: Thank you, I am James Frauen with Seminole Electric Cooperative.

Let me thank the Commission and staff for holding

these technical conferences and for including Seminole in all of these important discussions.

So thank you very much.

I would also like to thank John for his comments because the Clean Power Plan does have a huge effect on Seminole and our members and our consumers.

Seminole is very concerned about reliability and economic impacts associated with the proposed Clean Power Plan.

Seminoles is a not-for-profit generation and transmission cooperative. We provide reliable, affordable wholesale electric power to nine member distribution cooperatives that serve approximately 1.4 million consumers in 42 of Florida's counties.

Under the proposed Clean Power Plan more than 90% of Florida's coal-fired generation capacity, that is about 8700 MW, will be retired prematurely.

This includes a 1300 MW coal-fired facility owned by Seminole which generates more than 50% of the energy that we deliver to our members.

The Clean Power Plan fails to recognize the importance of fuel diversity in Florida.

All natural gas consumed in Florida is produced outside the state in unreserved capacity on pipelines serving the state is severely limited.

As demonstrated by the FERC staff presentation this morning, Florida is already predominantly relying on natural gas removing more than 90% of the coal capacity from the state would have Florida relying on "just in time" gas delivery for nearly all of our fuel supply and we would have to deal with reliability consequences for any disruptions.

Florida is essentially a transmission island with the exception of about 3,000 MW of import capability we rely on existing generating units in the state to produce energy for approximately 50,000 MW of load.

The loss of 8,700 MW of capacity in Florida as early as 2020 to meet the interim goals cannot be accomplished while maintaining reliability.

Shutting down Seminole's plant prematurely which has nearly 30 years of remaining life would leave 1.4 million consumers with a financial burden of paying for a plant while receiving no generation benefit.

Seminole will be forced to build or contract for replacement generation at significant additional cost so most consumers who are predominantly rural and approximately the one third of have household incomes below the poverty level.

Approximately, there are more than 75% have household incomes less than $75,000. Any change in rates

as a result of the Clean Power Plan will impact them substantially and many already can't afford to pay their power bills.

In response to Ms. McCabe's request this morning regarding timing and economic issues, the Seminoles primary requests for the Commission is to provide support for elimination of the 2020 interim goals for reliability purposes and extension of the 2030 goals for economic reasons to allow facilities such as Seminole to continue to operate for the remainder of their useful life.

Thank you.

MR. BARDEE: Thank you, Mr. Frauen, and we will now turn to questions from the Chairman and Commissioners starting with Chairman LaFleur.

CHAIRMAN LAFLEUR: Good morning, everyone. I really appreciate all of your comments and your travelling to be here.

I would like to continue on the theme. I am trying to use Mr. DiStasio's word, the "reliability assurance mechanism."

As a simplified assumption, I will assume that we are attempting to develop a reliability assurance mechanism that we use during the submittal and review of the plan phase and whether it's a state or regional state plan.

What I am trying to struggle with is, and I take also John's comment that NERC should have a primary role which was in your written comments, but whether it's NERC, or FERC, we could with confidence develop a record within our jurisdiction to say to the EPA, and so clearly we are capable of saying, "If you take out this power plan on this timescale given an assumed configuration of whatever else is there, power studies can be run to say whether that is a problem or not."

That's within our technical expertise, so we could get the record and we could rely on the RTOs, NERC, and the states to give us the record.

We could also opine, although perhaps it would be more difficult, it will take X time for a pipeline to be built, rather difficult when we might be sitting on the pipeline how we would say that or we agree that transition or a nuclear plant coming online or whatever that there is a gap in time, a specific question, we could develop a record to answer.

Where I get concerned is if we are asked to say South Carolina needs an extra year. South Carolina doesn't have the tools to do it by this year because I don't see us comfortably looking at, "How good is your rooftop solar program? Have you really maximized? What are you doing on energy efficiency?"

And I'm not sure the state regulators would want us to build a record on all of the tools.

We either need to develop a list of questions that we will answer and stick to those questions and then the EPA will weigh them or work out an approach with others such as the states who have their fingers on other parts of it.

I am really interested with the two state commissioners who are here and others how you think this might work because it is not as simple as just saying, "Go to FERC and they will tell you that there is a problem."

We have to act on a record.

I have talked enough, but I am interested in how we can build this so it works and not just coming up with examples of how complex it is.

There have got to be solutions.

MR. HAQUE: Thank you, Chairman LaFleur. In my opening remarks, I expressed some concern about the pre-plan submittal reliability check and I will give you a state's perspective on this.

Let us assume that a state says, "We are going to try and meet the rate prescribed to us on the Clean Power Plan," and so the state PUC, the state air regulators, and the EGUs all get together and say, "Here's the best that we can do," and that best we can do could require various

proceedings at the Commission.

It could require legislative action but we say, "Here's the best that we can do, and oh, we actually can meet our rate," and that plan is submitted to an outside entity whoever it is whether it be the RTO, whether it be NERC, whether it be FERC.

Let me couch this by saying, any reliability check, as I said, any reliability check is a good idea, is a good thing.

Let us assume that this reliability check occurs. How mandatory then are the conclusions of that reliability check? Now we are getting into sort of the details of how that would work.

In my mind the reliability check is fine, however can this outside entity then say, "State of Ohio, you go change your plan because we are concerned about reliability."

That is when things start to get a little dicey, so in my mind there are a few potential paths that you could take.

Number one, you could say, "We have this reliability concern," and it's almost like a mediation type of process where the outside entity sits with the State of Ohio and the State of Ohio says, let me be frank with you, it will initially have a defensive reaction to

this because we have done what we could do to try and meet our rate and we will say, "Did you go talk to that state? Did you go talk to that state? What has that state done?"

Mind you, there are going to be states that do nothing and potentially we will have a federal implementation plan initiated.

There is an opportunity to say, "We are concerned about what the outside entity is saying, "We are concerned about a reliability problem," and then potentially allowing for the states to try and work it out.

If the states cannot work it out, then in my mind, the rates need to be adjusted. The rates need to be adjusted so that the reliability concern is allayed at the end of the day.

If you start from a baseline assumption that the state PUC, the state air regulator, the EGUs in the state in consultation with the RTO know their state better than the US EPA, or others know the state, then this is a fair path to take.

CHAIRMAN LAFLEUR: I am assuming now in my hypothetical Ohio files, and says, "We can't get to that rate by 2020, we need 2022," or whatever you say.

Now not John, because he is from the South, but some other environmental group in Ohio will intervene and file something with us, and say, "We don't agree with that

because they could have done this or they could have done that," and somebody might come and say, "This plan assumes we accompany. We can do this, but we really don't think we can as that is aggressive."

I am a little concerned with the Commission now being a mediator hearing from all these people and resolving because that almost has to be the EPA with the Commission as one of the peoples.

I would mediate between states, but I'm not sure. You get on thin jurisdictional ice pretty fast.

MR. HAQUE: If you don't act as the mediator, you could see it as a process where you essentially provide where it is it a potential consultation.

CHAIRMAN LAFLEUR: Yes.

MR. HAQUE: Then the states then have to get together and see if they can work it out.

CHAIRMAN LAFLEUR: If we could articulate, while I am thinking on my feet, the things we are comfortable talking about and saying, "If you have one of these arguments come to us and we will validate it, but if you have other arguments that are not "FERC'ish," we might consult, but we will not give you an order because again I just have quite a lot of misgiving with saying whether you could do more or less, and going in saying, "Legislature, why did you not do a little better bill?"

MR. HAQUE: I do not mean to make this a state's right issue. That is not where I am headed with this. It is who has the knowledge base.

CHAIRMAN LAFLEUR: The Clean Air Act is set up. Mr. Kormos?

MR. KORMOS: On the Commission's remarks, I pretty much agree with him.

I don't see the safety valve in the planning stages as much more than a consultation, a reliability review and most importantly that ultimately we all get comfortable that the plan has the ability to handle and has the processes in places, but what happens if this doesn't work out?

We raise a concern that we think it is too aggressive and we raise a concern where we think there may be a conflict.

The most important part in the planning process is we just agree as to what is the process going to be should that in fact happen.

Where are we going to go? Who are we going to talk to? Who are we going to see?

I agree with you. We do not want to be in the business of judging any state's plan. "Did they do enough?" That's absolutely outside of our bailiwick, and to be honest with you, that is more of an EPA issue.

That is a reliability issue and they can negotiate whether they have enough time or not with the EPA.

Once they have laid out a plan, that is where our role is, to be able to look at that plan.

We are in a consultation mediation mode to identify where we think there may be concerns in the plan, where we may think there are concerns with the interactions with other plants.

MMO is important. Just make sure we all understand what will be the process that we will go through if they materialize.

Hopefully maybe the state is open enough to look at and say, I want to change the plan based on that concern, but if not, let us at least just acknowledge what the steps will be.

That is what we ultimately need then for the next version of the safety valve is what if this does happen in real time, what are we going to do?

CHAIRMAN LAFLEUR: Mr. DiStasio?

MR. DiSTASIO: That's probably the most comprehensive and profound change in the supply mix and the power flows that we have seen even notwithstanding prior environmental regulations, so the reason that we had advanced the idea of NERC doing this is because of what you suggested is that how can FERC deal with each of these

and whether there is sufficiency?

NERC may have the appropriate authority and independence to do this that is somewhat detached from the policy just looking at, now that we have state plans, and then when we look at them on a state by state, and we look at them on an interstate basis, do they maintain their reliability of bulk electric system?

But if not, then at least I could trigger consultation with the states and the regions and ultimately if FERC then could opine on that to either agree or not, there would be an opportunity to have a dialogue back and forth to make sure that we get this right in advance of the plans being finalized and we start implementation.

Once that occurs there will be a lot more effort to have a dynamic ongoing view of this regionally through reliability organizations, but the first look to me needs to be pretty comprehensive of how all of this fits together in light of these and then the only other remark I would make is some of the things that contribute to us not knowing exactly what reliability will look like is when EPA even looks at some of the comments submitted from the states how they treat under "construction nuclear" if it's in the baseline or not is going to have a profound difference on what people's plans will be and the same

with areas where they look at whether or not they relax the interim goal because, again, for many of our members, more than 80% of their compliance has to be achieved by 2020 under the initial proposal.

Those are going to have very very significant implications for how the states even develop their plan in the first place.

CHAIRMAN LAFLEUR: If you talk about NERC doing it you mean NERC as an independent entity, nothing with the stakeholder processor companies.

Not to be provocative, but NERC is not a government regulator as there is a mix between an industry stakeholder body and a designated ERO.

MR. KORMOS: That is an important distinction and I was not suggesting that NERC would do this as part of the stakeholder, the standard, any of that, it would be part of their independent ERO capability to do that type of analysis, so yes.

CHAIRMAN LAFLEUR: I am going to recognize Lib, but I was going to ask her the next question anyway which Mr. Distasio teed up, which is, we have a great opportunity here to discuss the treatment of new nuclear because we have the state where it is being built and I believe Sandy Cooper is one of your members.

It is a carbon free resource, so I wanted to give

Lib an opportunity to mention that or anything else she has to say with her card up.

MS. FLEMING: I want to say first a disclaimer. I never had any real interaction with FERC before, so I don't understand a lot of the technical language that's being spoken.

CHAIRMAN LAFLEUR: And all of those NERUC terms that we see all the time.

MS. FLEMING: Yes, so let me speak as I know it, and if it is not relevant, let me know.

We started at the public service commission in 2005 looking at cleaning up our act as far as our utilities go knowing that something could be coming down the pike.

Since 2005 we have lowered our pollution emissions 30% which is amazing. We are now ranked fifth in the country for clean energy use, 58% of our energy comes from nuclear. It is generated from nuclear.

We are tenth in the country for lead buildings, so even though we don't have a renewable portfolio we just passed a bill so that we will be looking at renewable energy resources and that will be coming before the commission.

We are on our way. We are kind of a state that likes to wait and see how things go, but we have been

progressive and proactive in looking at ways to do.

We have had over 1,000 MW of coal plants either retired or converted with 600 MW more to be done in the next few years.

What we were banking on with clean air was the nuclear and we have made an investment that will be in the billions looking long term to the future for our citizens.

It is the uncertainty right now of the Clean Power Act. We do not know what it is going to say.

I didn't hear Ms. McCabe mention nuclear. I may be wrong, but I kept hearing, because I know that there have been meetings and comments that have been filed, but what we are so concerned about, I mean, we feel like we are in good shape if the under construction nuclear does not go into effect, the first new unit should go into effect late 2018 early 2019 and the second one probably about a year later.

What we would like to see is that not be counted until it goes into production.

Also we have over 6,000 MW of existing nuclear in the state and all of those units, the licenses have been reviewed and the earliest one to expire is in 2013, the others go on to 2050, so we feel that the 5.8 adjustment should be totally eliminated from the rule as well as it pertains to us because we know that they are up and

running and doing well.

Our biggest challenge is not knowing what is going to happen with nuclear. If it remains as it is, then we are not concerned about the reliability problem because will it be a decision to abandon those nuclear, if we have to meet that 2020 cliff, or compliance schedule, if we have to meet that, will that be abandoned?

We also are constrained with pipelines. All of those things will first of all impact our payors tremendously, but it is a timing issue too.

That's why we ask about the interim compliance being discounted. We feel like we have been making a good-faith effort since 2005 on this particular issue and we would love to see these things change, but if it doesn't there's an issue, and if not, we feel like we are in a good place to meet the standards by 2030 and also to have reliable energy.

CHAIRMAN LAFLEUR: That had not come out and we haven't really had the conversation about new nuclear anywhere, so I thought it seems to be the day.

Mr. Newton, thank you.

MR. NEWTON: Thank you. Just to follow up on commissioner Fleming's comments a little bit.

Since 2005, Duke Energy has reduced its carbon emissions by 19% and that is with no federal law requiring

that and we have been able to do it at a cost that is effective for customers that keeps the customer rates competitive.

That just means time.

I would urge this Commission if you want to simplify the single most important thing you can do to ensure reliability of the electric grid in the US for the next 15 years is to urge the EPA to eliminate that 2020 interim compliance period.

That gives time to plan thoughtfully, to consider reliability, and to do it in a way that would be cost effective to customers.

Thank you.

CHAIRMAN LAFLEUR: Thank you very much. So you are on Phase 1. First, you do Phase I. Now, I want to turn it over to Commissioner Moeller.

COMMISSIONER MOELLER: Thank you, Chairman LaFleur. This is a great panel and thank you all for being here. I have three very specific questions, the first for commissioner Haque.

You have been very articulate on your concerns from Ohio and I was looking at some maps yesterday and I think that some people might be surprised to know that Ohio is actually a net importer of electricity.

I am curious on your thoughts as to how you are

discussing these issues given the enormous amount of megawatts that are slated to be closed under the Clean Power Plan within Ohio. What have those discussions been like with your neighboring states given that dynamic that could present itself?

MR. HAQUE: Thank you, Commissioner Moeller. Our interaction associated with this issue is really about trying to ensure that the market operates correctly in order to stimulate new generation.

So we have had the coal come off line. We are a state that was 88% coal in 2005, and then 66% in 2012.

We have a lot more coal retiring as a result of MATS. At the same time we have seen some movement in natural gas gen construction. There is an acknowledgement in our state, and we are going to continue to be a net importer, and if we are unable to get that new gen stimulation within the State of Ohio, we are going to really be a net importer as a result especially of 111(d).

That is a scary prospect for a lot of folks in the state and the way that we have really tried to sort of deal with this particular issue is to work with PJM, work on potential market fixes in order to stimulate that new gen.

COMMISSIONER MOELLER: Great. Thank you. Moving to PJM. Mr. Kormos, I am curious. I know you represent PJM and

not the IRC or the RTO Council. I thought the paper the IRC putout was very helpful in trying to move the discussion along talking about a proposed reliability assurance mechanism.

Have thoughts evolved at all from your perspective after that initial proposal was put out?

I am trying to get at details of putting the flush on the bones of whatever we might be able to agree on related to such a mechanism.

MR. KORMOS: I don't think our thoughts have changed much. Craig at the national conference suggested, and one of our concerns is, it is written into the law itself, the rule itself as someone mentioned, the issue we had with the unit across the river, one of the biggest concerns there was the fact that they may face some lawsuits even though we everybody did the right thing, they are still fairly at risk.

Having that process and making sure EPA includes that process so it is very clear what we need to do and how we need to do it.

Ultimately, I do not think that anybody wants a decision, "We are going to turn the lights off simply to comply."

I do not think I have ever heard anybody suggest that. If we can get over that hurdle, we just need then

to just decide how will that decision be made when it needs to be made.

I think our comments are still much in there and we will be happy to continue to flush this out with whoever is interested in doing it.

COMMISSIONER MOELLER: We might be talking to you some more on that. It is great that Commissioner Clark brought up that issue that legislation is being reintroduced at least in the House in trying to address that challenge that generators may face in the near future.

Mr. Frauen, can you elaborate a little bit more on your plant as to what you have looked at in terms of replacement power, cost impacts, when you had been planning to retire that unit anyway outside of the Clean Power Plan?

I am glad we have had co-op representation here because co-ops are often a little bit out of sight out of mind from FERC. Having grown up on co-op lines, I know them very well and the focus on lease cost service often to remote consumers fewer customers per mile of line brings up some significant perspectives that we need to hear in this discussion.

MR. FRAUEN: Correct. We currently plan on our unit running at least through 2042, 2045.

Actually, we have continually upgraded our

facility to stay abreast and in compliance with all the new environmental regulations that have been imposed by EPA, I would say that our coal plant is one of the cleanest in the nation.

We have spent over $530 million on environmental controls and over $260 million of that was within the last five to six years.

So we have substantial debt on our units. We just turned in another capital improvement loan to the RUS this year, so that takes us out 30 more years.

Seminole Generating Station is our primary workhorse. As I said before, it provides 50% of the energy for our members.

We are already seeing cooperatives as has been indicated we already have higher rates due to our density of consumers into the transmission lines and some of the rural nature of those consumers tend to be lower income individuals.

We have looked at different options none of which are really very good. It is going to cost a significant amount of money. Some of the discussions that we heard before on the reliability aspect Seminole lives and works within three balancing areas.

We are used to working with different entities and getting transmission to our consumers. We have load in

different pockets within the state.

It is difficult at times but we do it. The biggest issue is time. We need time to be able to work those issues out. We can get there, but certainly not by 2020 with the current the dates that are in this room.

COMMISSIONER MOELLER: Thank you.

COMMISSIONER CLARK: Thanks to all of you for being here. I will follow up with Mr. Frauen. I had similar questions on the reliability angle of this.

With regard to the gas lines that you had referenced coming into Florida and assuming we are the source of most of that probably is which is Gulf Coast source natural gas, I know from time to time they when they have had hurricanes scrape across the Panhandle or the Gulf Coast it can have a supply effect.

Have you all modeled or had concerns about the nature of the gas pipeline system through no fault of the pipelines themselves, but through events that can disrupt power supply and how reliability could be affected if you lose a plan like the 1,300 MW unit?

MR. FRAUEN: We really have not done any Modelling per se because we don't know exactly what is going to be coming into the state.

But in all fairness, there is a third line proposed and looking at the capacity on that third line,

it is already 93% subscribed in the 2021 time frame.

It really points out the fact that we do need additional gas resources in the state. We are going to continue to have to rely on gas.

Some of the hurricanes in the 2004 to 2006 time frame we had substantial difficulties. Fortunately, we had coal and gas facilities in the state with fuel on the ground that we were able to burn and provide the power to consumers.

COMMISSIONER CLARK: Thank you. A question for commissioner Fleming. Thanks for bringing up the nuclear issue.

My question is, and I am not sure if I heard the answer or not, but I am curious.

Does South Carolina have a Plan B if the nuclear issue is not resolved?

I was curious so I went online and looked at the emissions reductions of each of the 50 states on a map and it looks like South Carolina is in the top three, one of only three states that had visions of more than 50% reduction which would seem to indicate to me to where it is almost an exotential question.

Exotential is not exactly the right word, but it is an extreme threshold question for the state over whether nuclear units that had been started construction

are going to be recognized or not.

If they are not and you have to meet what is in the proposed rule is there a backup plan? How do you do it?

Are those discussions going on or is everything such, "We just have got to try to get this fixed at the EPA at this point?"

MS. FLEMING: I have not been directly involved. The commissioners have not been involved in the process. I said it was an inclusive process, but not for commissioners because we had very strict laws in our state if things are coming before us.

I don't know exactly what Plan B would be. We know in addition to plants that are proposed to be retired we probably have to retire even more than what had originally been planned.

Paul has been involved in those conversations, but the big thing that they are counting on, and working very hard, is that rule will be changed and that's why I said if not having to meet a certain plan by 2020 is really going to cause serious issues.

MR. NEWTON: You are touching on another dislocation of the rule. Whether it is North Carolina, South Carolina, or any other state that has already been doing something we would like to get credit for that. We

would like to soften the blow of the rule.

It only makes in our view common sense to do that and we are not seeing that happen.

If you will fast-forward on nuclear, we have a proposed COL for a nuclear plant in South Carolina, and even though 70% of the electrons would be consumed in North Carolina, North Carolina would not get any benefit under the Clean Power Plan as written if we build that plant in South Carolina.

You're touching on an area that needs a lot of work on the rule.

MR. WILSON: Thank you. One of the things that is important to recognize about the way EPA structured its proposed rule is that nuclear power is a compliance option, but it is also part of the target, so the reason that South Carolina has such a large target is because they are basically expected to build the plant and operate it.

And that's one of the concerns we raise in our comments to EPA was that including in particular under construction nuclear in the compliant, in this rule, creates almost an obligation on the part of the state and the utility to follow through with it and the track record on a lot of nuclear plants has not been particularly great with respect to coming online on time and being there year

in and year out particularly given the fact that it is not EPA or even the state or even this Commission, but it is another commission down the street that has the authority to turn that plant on or off and there's no enforcement authority about their decisions with respect to the Clean Air Act.

Our opinion is that those particular plants are best removed entirely from the scope of the rule and not commenting and that is just the structure of the 111(d) rule and what its legal setup is. It is not commenting on the advantages or the disadvantages of those plants.

COMMISSIONER CLARK: Thank you. That is all I have.

COMMISSIONER BAY: The Chairman raised a very interesting question, a really good question about what it means for FERC to be involved prior to the submission of a state implementation plan because I could take different forms.

On the one hand, FERC could be a resource providing technical assistance or guidance to a state or it could be something much more dramatic where FERC actually has a more formal mandatory role in the process.

For those of you who have advocated for FERC to be involved prior to the submission of a state implementation plan, what do you have in mind?

I am thinking here of course of the famous George Bernard Shaw quote where he said, "There are two great

tragedies of life. One is not getting your heart's content and the other is getting it."

I would like to probe on what you are contemplating because I do think it really matters in terms of what you envision FERC's role to be?

MR. WILSON: I will take a stab at that, Commissioner Bay. We had not gotten to the point where we flushed out all of the details that it might work, but it's clear that there is an appropriate role relative to the review as it impacts the bulk electric system so that ot us would be the natural dividing line where it might be looked at with respect to that.

Because, again, once the state plans are done and then once the interregional activities are looked at certainly there could be a lot of things at the state level that are going to benefit or change the achievement or the ability to achieve a plan, those will be vetted out at the state.

But relative to the bulk electric system and how powerful flows might go and somebody looks at it comprehensively, that is kind of the appropriate place.

Again, we recommended NERC because of their technical skill, but that would be the appropriate place for that to occur and probably the appropriate level for it to occur.

MR. FRAUEN: Thank you. One specific suggestion I would make which is maybe a little bit more granular than some of the broader policy issues is simply in the method for assessing reliability issues.

I am not familiar with what Mr. Kormos's processes are. We do not work in that region so he could speak to that.

But in the Southeast most of the utilities do the project by project assessments, so Mr. Newton's utility right now is doing an assessment on retiring potentially the Ashville Coal Plant and they are looking at the reliability issues around that one plant.

What we do not see is a clear method for assessing a situation where you go from potentially shutting down or reducing dispatch substantially from a number of coal units, building a set of gas units, bringing in renewable energy and perhaps implementing energy efficiency all at the same time.

We have done some powerful Modelling taking a stab at that and when we looked around for models of similar studies we found none.

Now there may be some "out" that we did not do an exhaustive search on, but we tried to test out how you would do that and we found that there were a lot of questions so when we went back to TVA who we were working

with on this study they were not able to answer in terms of how to do it and we had to make a lot of those processes up as we went along.

I don't think Southern Alliance for Clean Energy is the right organization to lead the development of that process by any means.

Maybe FERC is. Maybe NERC is but someone needs to step up and say how to do that analysis so that when that plan is developed there is a clear road map as to the technical steps that you would go through.

COMMISSIONER BAY: Thank you.

MR. FRAUEN: I would like to see FERC given deference by EPA as having the final authority on reliability issues.

Of course, we want to see the local regional entities, the states work on issues together, hopefully those will be resolved before they need to come to you.

To follow along with John's discussion, yes, the regional entities, NERC, should be involved with the local entities as well and then ultimately coming up to FERC if necessary.

COMMISSIONER BAY: Thank you. Mike?

MR. KORMOS: Just to carry this on. I really think the role more is hopefully in identifying what your potential issues are and what your reliability concerns

are and then being satisfied that you understand how they will react.

What is their Plan B if the nuclear unit does not show up and getting comfortable with that.

I don't think anybody should expect you to tell a state what to do, how to do it, and how to change the plan, but more to identify what the issue is, and hopefully through ISO, RTOs, or with NERC and then be comfortable and hopefully have a role in basically saying at least whatever the mitigation plan is the backup plan is, whatever you want to call it, you are comfortable that we all know what it is and can put it into effect, and in that way I think again none of us can I think predict everything that can potentially happen but we can have robust plans that can deal with a lot of it.

COMMISSIONER BAY: Just one more question. About two thirds of the United States is in an organized market and I have always thought that organized markets could be very helpful in analyzing potential reliability issues.

At least in portions of the United State that are part of an RTO ISO, what should be the role of those organizations as compared to the role of NERC?

MR. KORMOS: I might be the only one on the panel up here! We are more than happy to work with NERC and we will be working with NERC.

I would hope even NERC would acknowledge the tools that we have available to us are different and each of the organizations markets are different, so hopefully there would be some deference to us.

Whether we believe something will or will not become an issue, a lot of it is going to depend on what tools we have available to us, how our particular markets function, how we deal with capacity is different from market to market, how we deal with our contracts may be different, there are a lot of similarities but there are some differences.

At least in those areas, I hope there would be some deference to at least what we are saying as to how it fits in NERC.

I do not foresee any real big conflict there. I think NERC has always recognized that and at the end of the day NERC will have a role in making sure that ours fit together as well.

It is not just, I mean, we can look at our own area, but MISO, PJM, New York, we need to all fit together at the end of the day as well.

COMMISSIONER BAY: Thank you.

COMMISSIONER HONORABLE: Thank you for your thoughtful comments. I was just mentioning to Commissioner Clark, the interesting thing about being the fifth Commissioner

is that other Commissioners have thought of the same things you are thinking about.

But there are a couple of comments I would like to make as well.

One is, I want to applaud you for the work that you have done. It is very clear and it has been clear to us before you sat in these chairs that you are thinking ahead and you are working.

Suddenly commissioner Fleming your work, Duke's work, the RGGI states, the work that you have been carrying on really should be the pride of the East.

The fact, and it is true that no one, you do not need a mandate to do this work, you have been doing it because you are excellent planners and a key part of ensuring reliability is ensuring a diverse fuel portfolio.

I also appreciate the comments regarding affordability. Certainly from the neck of the woods from which I come it has been a key issue that I have been working on along with reliability.

Certainly the coops and a number of entities in the East, a number of very large utilities like FPL, Duke, Southern, and others, have been very close to issues associated with affordability, and in particular how we carry out this work which I think you have also done very well.

This is not new to you ensuring reliability while also ensuring affordability, so this will not be a new construct.

Let me now turn to this topic that Mr. Newton has given a lot of resonance, about the idea of relaxation or elimination of this interim goal.

Commissioner Haque has mentioned a good point that we are diverse which means we all have different ideas about how to comply and quite frankly if we will as states.

If there is a relaxation or an elimination of this interim goal, in our world in the energy sector we operate with a compact that we will do what we will say what we will do.

If there is an elimination of this goal, we know already that there are states that are saying that they will not move forward with. There are a few states I will say that have indicated that they will challenge the rule, that they will not develop plans.

Now we are at this intersection.

Let's say that it is eliminated? How will we ensure both that this is a different intersection of ensuring that we are working toward a plan to lower greenhouse gas emissions as a nation while also ensuring that each state is doing what they commit to do.

How do you envision that in the real world construct? How will we achieve that goal?

I do acknowledge, as we all do, that is not our initial job here at FERC, but the reliability concerns have brought us into the fold.

If there is an elimination of the goal, how will we ensure that we are meeting this plan?

MR. NEWTON: I will just be brief because I know I have touched on this topic.

Really, an amazing thing is happening in the electric utility industry today. Innovation is occurring, creation of new energy resources is occurring, the price of those new innovations is falling rapidly. Utilities are incorporating those into their energy mix, relying on a portfolio for reliability. Without a mandate it is actually all current.

Take CC, for example, they are becoming more and more efficient. At CC we might be forced to build by 2020, this is going to be very different from the CC that would be available in 2025, so we do not want to miss that opportunity, but I would say to you two things.

One, market forces are making it happen anyway. So if we sat here today in 2030 with no federal rule, I can guarantee you emissions would be lower than they are today. I just believe that to be true.

COMMISSIONER HONORABLE: I do too.

MR. NEWTON: But, secondly, if this rule is unlawful, I think we will see another one.

COMMISSIONER HONORABLE: Commissioner Haque?

MR. HAQUE: Thank you, Commissioner Honorable. The state of Ohio has not advocated the elimination of the interim goal, but what I would say is that we are dealing with three different very important policy considerations.

Two of them are typically under the PUC and FERC kind of a bailiwick is the clean air concept, so I think we are balancing cost of power, we are balancing the liability of the grid and we are balancing cleaner air.

All three, depending on where you sit, are the priority at the end of the day. What I would say is, the national policy if the agenda is cleaner air and that sets sort of the on the XY axis, the 00, then you have costs somewhere here and reliability somewhere here the longer time that you give this the more you hope become equilibrium at the end of the day.

I am no market economist, but we can cite a number of examples as Mr. Newton has kind of explained or provide some context of that happening in the marketplace.

COMMISSIONER HONORABLE: Thank you. Commissioner Fleming?

MS. FLEMING: The way we would see envisioning, not necessarily, but I guess it is doing away with the

interim goal at 2020.

What would be a possibility is to present a plan that could hold the state or the entity presenting that plan accountable with benchmarks along the way, but will work with what the state has to work with and within the timeframe that they know that they can achieve it.

So that if someone is really putting forth a good faith effort to the issue, and I do not know if whatever that glide path is if there should be certain penalties if you do not need with what you know is workable for your state.

MR. FRAUEN: Yes, I agree with the comments that the panel has made and yours as well that without the interim goals I believe that utilities will continue to move forward.

Having the 2020 date, it is really an artificial ratchet that causes a lot of difficulty.

There really is not significant time to design, engineer, procure all of the facilities and infrastructure that we need.

Frankly, we do need the time to be able to get those in place. Five years, may seem to be like a long time, but in the utility world that is tomorrow.

Fifteen is even short, but to name that timeframe we can also do it as well, or at least make substantial

strides towards the goals.

COMMISSIONER HONORABLE: Mr. DiStasio.

MR. DiSTASIO: I know that affordability is not the focus of today's conference, but since you have raised it, I would just like to at least speak to the fact that the interim goal as I mentioned many of our members might have to achieve 80 or 90% of the full compliance with Indian from goal which will go right to affordability and that is the challenge is that when administrator McCabe talked about flexibility to me that would be the thing for the states to have the flexibility to achieve it on a glide path that maintains the greatest amount of affordability in this transition, and absent that, there will have to be significant decisions made and investments made without the certainty that you mentioned earlier that are going to necessarily probably drive up the cost of compliance ultimately.

Something else, for some of our members, and everybody is situated differently, many of our members get service on environmental compliance, investments that they have already made will now be stranded by kind of a compound effect of this, so being able to look at life path that may protect some of that investment longer will be beneficial.

COMMISSIONER HONORABLE: Mr. Wilson?

MR. WILSON: One other aspect of affordability is the energy efficiency opportunity here. I will not comment specifically on exactly what EPA should be doing about 2020, but having some pressure to take early action is really important for driving affordability, for making sure that utilities put in place strong energy efficiency programs.

We do have some utilities in the Southeast that have taken either limited or fairly good steps towards energy efficiency, but very few have really gotten to the level of achieving some of the levels that national leaders have achieved.

There is a lot of room for improvement for reaching out and helping a much larger cross-section of the public to cut their energy bills with energy efficiency programs.

There is a live opportunity in the world to drive affordability as well and that is one of the reasons why we don't think that these are mechanisms that are necessarily going to come at a lot of cost depending on how the rule is set up, whether state regulators can put into place mechanisms to ensure that costs are allocated and not just a borne by a few small utilities that have very specific challenges but are really more spread out across a larger cross-section.

COMMISSIONER HONORABLE: Thank you for your comments.

MR. BARDEE: We had a little bit of time left on our schedule, so if any of the Commissioners have additional questions for the panel?

COMMISSIONER CLARK: I did have one. One of the advantages of not having our advisors right behind a set on these uncomfortable benches is they cannot throw things at me or kick me when questions come to the top of my mind. So there's always a danger in that. This is the question I have.

This is kind of one of those "legal weeds" questions that at some point I will probably be following up with Mike.

Let us say that EPA is moving forward with some idea to put a reliability safety valve, whatever that means, into their plan, do they, or do we as a regulatory community, need to be mindful of the jurisdictional division that this commission has with regard to our authority reliability?

We have been talking about reliability as a very generic thing, but we always have to keep in mind that our authority is over interstate transmission in the bulk electric system but there may be a lot of "reliability events" that are not FERC jurisdictional reliability events, they are what we would call local reliability

events including some pretty large cities across the country that are solely within one state that could affect the entire city, major cities, but would not be a FERC jurisdictional activity.

As we think about a safety valve, is there a need to have all of us, including EPA, to think about that jurisdictional line as well that there may be times that someone needs to be looking at reliability, but it is not on interstate or a bulk electric system reliability event, it might be something that is more appropriately addressed by the say a state commission?

MR. FRAUEN: I guess there are two parts to that. Yes, to the state jurisdiction versus the federal jurisdiction.

The other thing that we kind of looked at was what authorities currently exist for FERC in the area of any reliability assessment or intervention, if you will, and we looked at Section 202(c) and 207, and in both cases what we saw provisions of the Federal Power Act related to emergency authority and/or in cases of adequacy issues and so forth but they were very remedial in nature and I do not think they envision this kind of large-scale prospective change in the electric system.

And so I would just offer that there may be something even within that exists today as authority that

may not be adequate in considering the size and the dynamism of this type of a change but there may be also other jurisdictional issues. But again that is something when we look to it we were not sure that the authority right now is adequate to deal with this on an ongoing basis as we see large-scale energy regulatory proposals.

MR. KORMOS: Going back to the previous question for Commissioner Bay, this is what you want to see in the state's implementation plan, this is a great question, you have to have confidence that in their plan they have answered that question.

Who is going to be responsible for making those decisions? What is the process that will have to be followed?

We will have to be clear on the federal level, but in the MATS case, it was good in that the rule itself made it clear, at least for the first year, that we were to go to the state to get the relief we needed and it was clear who we have to ask and we have taken advantage of it.

It is a great question and I would encourage that that is something that FERC should be really pushing to see in the states plans, and if you are not, then to raise that issue as to why is it not in a plan?

Let us be clear.

As you said, I do not think we are all going to

figure out what the possible problems are but let us just make sure that it is clear as to what the process will be and who is responsible and where is that line being drawn?

MS. FLEMING: Speaking as a state regulator, I do think on a state-by-state basis reliability assurance is well met through NERC and the states, and I do think that we will know that the state implementation plans are finalized.

But I do have confidence that the states, I do know in South Carolina, we feel very good job is being done there and that the utilities are very comfortable coming to us.

MR. HAQUE: Let me add a layer of complexity to that from a restructured state standpoint and what we are talking about the jurisdiction for reliability, think about a state like ours and there are a number of restructured states out there, we are not alone, but a state like ours where there is a reliability hitch, whatever it is, and our coal plants are called upon to run and to run more we fall out of potential compliance, we are not getting at our rate, but we need those plants to run for liability purposes and we cannot order up new gen, obviously, it is out of our jurisdiction for transmission, what is the solution based upon the building blocks go up your renewables and the EUO that is our legislature and we

will see you in three years.

I do not have the answers for you but from a state restructured standpoint it is even cloudier.

COMMISSIONER CLARK: It is a nagging concern that if we do not somehow address it up front, if there is some sort of reliability valve it is really up to EPA to craft that, it is too focused towards only looking toward FERC at leveraging that safety valve and it does not include enough in there about leveraging and depending on the advice of states and state commissions that we may be creating a gap between the bulk electric system and local reliability events, really do not fall within the expertise of this agency.

MR. BARDEE: Any other questions?

CHAIRMAN LAFLEUR: I would like to make a comment picking up on Commissioner Clark's question.

Although much straightforward what we saw in MATS is a little bit illustrative where EPA put something out that was much more general and then we took forward with a drop policy statement and said, "Here is what we will look at."

I do realize for all the reasons everyone has said, this is more complicated.

This has been a great discussion, but if people have specific ideas, I am starting to keep a list of the

things that we could look at on jurisdiction and things that we could not, we might need a state commission, a state environmental regulator filing a plan, but let the state utility commission do it.

As people have ideas as this goes forward, I would encourage them to send them in because a lot is going to happen in the next several months.

COMMISSIONER HONORABLE: I as well tend to be more of a thinker about process. What will this look like and Commissioner Bay maybe has the eloquent quote about sometimes you get what you ask for and my former governor at home who says, "Well, now that you have the copped the car, what are you going to do with it?"

I like to think about how will this occur in real life and I like that Commissioner Haque mentioned again the diversity of how the utility sector is structured throughout the country particularly in the East which is very diverse.

But that then does not foreclose, thinking to suggest to foreclose how this process will evolve.

It might mean that it would be a particular thing. With transmission, it might be within the RTO that you are involved in.

RTO or ISO structure, it might mean some other construct, so in my mind, I am thinking about this

flowchart which is becoming more and more complex.

I'm glad we are having a discussion, but thinking realistically about what those steps might look like, we might all agree that it would not be as compact as a MATS FERC involvement, but what would that look like? I appreciate this discussion.

MR. BARDEE: Any questions from staff? No? We are still a little ahead of schedule. Let me thank all of the speakers who helped us this morning with your insights on these topics.

They are really appreciated.

If the Commissioners are available we can start at 1;15 instead of 1:30? Fine. We will end this session and we will see you back here at 1:15.

(AFTERNOON SESSION)

PANEL 2

MS. JAMIE: Good afternoon, everyone thank you for joining us so today for this conference, and thank you for the panelists.

The focus of this panel is going to be on potential infrastructure needs that may arise from state or regional compliance approaches and how those needs can be met in a timely manner.

Before I get started on the housekeeping matters Commissioner Moeller would like to have a minute.

COMMISSIONER MOELLER: Thank you, Jamie. I know that we have talked a lot about increasing the cooperation and the communication between the federal agencies as it relates to the Clean Power Plan.

We noted that, obviously, EPA, the Department of Energy, and perhaps when appropriate at the resource agencies, but I want to single out and thank the DOE's National Technology Lab, particularly Tom Tarka who helped us out by holding a meeting here yesterday going over some of the work that they have been doing on the reliability of locations of the Clean Power Plan.

It's a good sign and hopefully will continue the interagency cooperation in discussing the ramifications of the plant. Thank you.

MS. JAMIE: Now, the housekeeping. We are going to use the same approach for this panel that was used in this morning's panel.

The panelists will be given one to two minutes. There is a clock there so you can moderate yourselves to highlight the most important issues you want to make concerning infrastructure needs.

We are then going to turn the questions over to our Chairman and Commissioners and we are going to start with Commissioner Honorable first.

Before I introduce the panelists, I want to remind

folks to please silence your personal devices. For the panelists, you can put your tent cards on end if you want to be recognized by the Chairman of the Commission and for the Commissioners to respond to those questions so just push your switch forward to turn on your microphone.

With that, we will now make the introductions. First is Paul Roberti from the Rhode Island Public Utilities Commission.

Chairman Betty Ann Kane from the District of Colombia Public Service Commission and vice president of the Eastern Interconnect States Planning Council.

Mary Walker, assistant director chief operating officer of the Georgia Environmental Protection Division.

Steve Rourke, vice president of Planning with ISO New England.

Mr. Jeff Burleson, vice president of system planning Southern Company.

Mr. Johnny Casana, regional manager of Government and Regulator Affairs EDP Renewables.

Jonathan Peress, director of Natural Gas Policy Environmental Defence Fund.

Mr. Richard Kruse, vice president of Regulatory and FERC Chief Compliance Officer Spectra Energy Transmission.

And Mr. Ross Eisenberg, vice president of Energy &

Resources Policy National Association of Manufacturers.

Thank you again and welcome.

MR. ROBERTI: Thank you for the opportunity to express Rhode Island's perspectives on infrastructure challenges associated with the Northeast Region's transition to a lower carbon energy future.

Rhode Island and the RGGI states have demonstrated the success of cost-effective market-based emission reduction programs and the benefits of regional cooperation.

We intend to use RGGI as our compliance strategy for the Clean Power Plan.

We have a number of hours in the quiver many of which are underway that mirror the sum of the building blocks in the Clean Power Plan, a distributed generation, aggressive energy efficiency, long-term renewable energy contracts, regional procurement as reflected as you may have seen in the recent announcement just a few days ago about Connecticut, Massachusetts, and Rhode Island, conducting a joint RFP to advance large scale low carbon procurement of energy and transmission solutions.

Along with regional cooperation, and this is both within the New England Region, the need pool stakeholder process, and both within the RGGI footprint, even extending to the Eastern Interconnecct States Planning

Collaborative, all of these regional efforts and the tools we have leave the RGGI states, particularly Rhode Island, in a strong position to meet or exceed compliance with the Clean Power Plan, but there are still some significant challenges, market challenges related to what is happening in New England in terms of retirements.

ISO forecasts nearly 8,300 MW of baseload generation that are likely to retire by 2020, and at the same time, there is a projection of 6,300 MW of new or repowered resources that will need to become available by 2020.

It is important to note that these figures implicitly assume the addition of over 1,000 MW of forecasted energy efficiency resources.

This means that FERC regulated transmission will continue to be what I call a "critical interstitial component of power system reliability."

From the infrastructure perspective there are two required components both of which are under FERC's jurisdiction.

First, there is a there gas transmission challenge that this Commission knows very well.

We need to continue advanced solutions to address this challenge and it's probably a good thing that this issue reared its head in the last few years so that we can

work on advancing better coordination between the gas and the electric industries along with continued refinements in the capacity market mechanisms and those are in the process of being achieved.

But the expected wave of retirements will indeed create another layer of challenges and likely require electric transmission upgrades in addition to new generation.

The coordination of these upgrades will need to take into account the broader requirements for changes to the transmission system that are outside the normal course for the RGGI states.

What should FERC be prepared to do as the RGGI states continue on their already established course?

First, continue its strong record of being vigilant on core reliability matters and continue its proven track record of fostering infrastructure investment.

Second, continue efforts to increase coordination between the gas and electric industries to ensure maximum efficient use of all energy resources.

Third, continue its ongoing effort to monitor and refine capacity market mechanisms in the three Northeastern RTOs since restructured regions are depending on the market to maintain resource adequacy during the CPP

implementation time period.

Fourth, I would call on demand response, continue the efforts to incorporate demand response into the capacity markets most importantly even though there is some uncertainty in the federal courts, but in capacity markets demand response means reliability and security and I think it is in a different bucket than energy.

Fifth, FERC should continue to advance its Order 1000 objectives for two primary reasons. Increase transmission is critical to unleashing large-scale procurement of low-cost clean energy resources particularly where states are pursuing joint regional procurement strategies.

And second, elimination of seams between RTOs will enhance the efficiency of the RGGI program by ensuring that states have broader geographic access to trade the attributes of those low carbon resources.

Finally, FERC should explore legitimate proposals put forth under the CPP addressing the question of reliability safety mechanisms.

And this last point deserves special emphasis. If recent times are any indication of future events, then we must be prepared for the unexpected and be ready to respond to legitimate consequences that could threaten reliability.

I look forward any questions that the question may have.

MS. KANE: Thank you, and good afternoon. Betty Ann Kane, chairman of the District of Columbia Public Service Commission.

I am also here in my capacity as vice chairman of the Eastern Interconnection States Planning Council which commissioner Roberti mentioned which I will henceforth call EISPC because it's a lot easier to say.

You might wonder why the District of Columbia is here. We are one of the two states in the country that are not affected - that are not required I will say - to file a 111(d) Proposal Plan because we have no generation, that is, we have no fossil-based generation in the District.

Our last two coal-fired and oil-fired plants were decommissioned in 2012.

Actually, one of them decommissioned itself. It was falling apart. So we are totally dependent on transmission and generation from other states to power the nation's capital and the nation's capital residents.

That said, we are also not in RGGI, but I am particularly pleased to be here to address this because our concern is a microcosm of what the concerns other states have and that is we are all affected by what other

states do, mostly not to the same extent as the District of Columbia, but every state will be affected by something else.

One of the concerns about the Clear Power Plan is that, unlike Order 1000, for example, which says that state policy needs to be part of a regional consideration where there is regional planning, it is really a flip, it is state by state.

And while regional considerations and regional organizations like RGGI are encouraged, they are not required.

One of the things we have asked EPA, that is, the District of Columbia, is they add to the rule a requirement that the impact of the plan of one state upon the reliability and affordability of energy and electricity in another state be taken into consideration as they review the plans and consider that.

We think that some of the directions of FERC has gone in looking at regional planning and taking state policies into consideration, regional planning, etc., are a better model.

But I am also here primarily as vice president, vice-chairman of the Eastern Interconnection Planning and that is the interconnection. It's the same thing. We are interconnected and you cannot do infrastructure planning

in isolation.

EISPC was founded in 2009. It was funded by DOE with a $14 million grant.

EISPC includes 39 states, the District of Columbia, and the city of New Orleans which has its own public utility regulatory commission and it was formed to look at infrastructure, particularly on transmission planning, in all the Eastern part of the United States that stretches as far as Montana.

When it was put together many of us thought, "How could 39 states and the two other entities ever get together on anything?"

But a decision was made to focus on studies, to focus on tools that could be available to states. This was pre-111(d), but I really want to bring to your attention that one of your questions was what tools and what things are available to states.

EISPC, and I have given you some background information has done a number of studies that are very relevant and are very useful to states and others looking at this state-by-state, demand-side resources, current and future direction of the coal industry, the current and future direction of the nuclear industry, electric and natural gas interdependencies particularly looking at both infrastructure interdependencies and policy

interdependencies, transmission planning, probalitstic risk assessment, state-by-state public policy, inventory, which is the first time it has been put together, not only the renewable portfolio standards that the states have, but all of the other incentives and taxes and everything else that is there in terms of renewal energy in each state and then I would say load forecasting studies.

And most important, I would like to bring to your attention is a tool. We have developed an energy zone mapping tool.

This was done with the very strong cooperation and the assistance of the National Labs through the Department of Energy and that tool is available. It is online.

It is a mapping system where every existing transmission line over a certain size is available, every interstate gas pipeline is available, every clean energy which includes gas and includes nuclear is mapped as well as existing and potential.

But in addition to that, there are 240 layers in this mapping tool which includes endangered species, it includes airports, it includes parklands, it includes everything to be a tool.

EISPC does not take a position on issues. It provides information.

In addition, our latest project has been to

develop three templates that can be useful to states in preparing their plans.

One is a template for interagency cooperation within a state. It is the Clean Air Agency that is required to file the 111(d) Plan, but it is the Energy Office, it is the Public Service Commission and there are a lot of other entities.

In some states they have not been used to working together or they have not needed to work together in the same way.

We also have a tool for a state to look at its existing statutes to see what might need to be changed, a checklist of things that might be in their statute that could enhance or could be barriers to filing a plan.

And finally a template for interstate cooperation. Those are tools that we are developing.

EISPC, for our federal grant for the previous work is running out at the end of June, we will be continuing and expect throughout this 111(d) process there will be a lot of need and usefulness for this kind of information that can help states work together and evaluate their plans.

Thank you.

MS. WALKER: Good afternoon. I am Mary Walker with the Georgia Environmental Protection Division.

I appreciate the chance to come and talk to you all today. We are members of ECOS, the Environmental Council of States and since I am here to provide I believe the state environmental agency's perspective.

Some of these questions, honestly, I am probably not the person to ask, but most of my comments given that all 50 states are very very different and how this rule affects us is very different.

Most of my comments will really reflect the Georgia perspective and how this rule affects us.

As I am sure you have heard in your various forms, the CPP is really a very different sort of environmental regulation, it is very different and air regulation than we have historically seen both in its scope and in its impact on states.

In the rule as proposed, in Georgia's case, our target is 834 pounds of carbon emissions for every megawatt hour of power generated which is a 46% reduction over our 2005 emissions.

This is the largest reduction of any state in our Southeastern EPA region and has generated some real concerns on our part with respect to our competitiveness with other states and costs to citizens in the state.

As with many states, we have had a lot of questions about the choice of 2012 as a baseline for the

goal calculation.

Our fleet as it existed in 2012 really reflected a number of major improvements that had made substantial gains in carbon emissions.

So between 2005 and 2012 we had reduced carbon emissions by 33%.

Many of those steps that were taken actually in the way that the goal is calculated, that best system reductions sort of worked against us, and using 2012 as the baseline we do see some penalties for early action and that concerns us.

Georgia's single biggest concern with the rule that is proposed is the treatment of under construction nuclear.

We are one of three states in the country that have an active construction project for a nuclear plant.

The other two are being South Carolina and Tennessee. This is a $14 billion investment on the part of our ratepayers and a zero emissions technology a significant investment.

The rule as proposed sort of accepts that has a sum cost and rolls that zero emission generation into our baseline and then on top of that it layers the four that steps, the four building blocks, in the target calculation.

What this effectively does in the way the goal is computed for Georgia is eliminate any flexibility that we might see in the plan and puts us in a position where if have delays, and we have experienced delays in the construction of the first nuclear plants in 30 years, or we see that the performance is not making exactly as expected we will really be in a difficult time in terms of meeting our goal.

Broadly speaking, as we have approached 111(d) we recognize that as environmental regulators, this is sort of outside the box of how we have historically operated and what we have historically looked at.

We know to make an effective rule and to analyze this rule even, we have to work in partnership with utilities and with energy regulators in our state, so we work very closely with RPSC, with our state energy office, and with utilities to work to understand the rule, and I think moving forward we anticipate as we develop a plan we will work together in the same manner.

Thank you.

MR. ROURKE: Thank you very much for the chance to be here. My name is Steve Rourke. I serve as the vice president of system planning for ISO New England.

I would like to give you just a quick snapshot of the sort of state of where things are in the region right

now and just a few of the challenges which I am sure we will talk about later.

For many years the New England states have been at the forefront of environmental reforms.

Passed establishing the rules and the statutes that they have put in place our states are actively making substantial investments in energy efficiency plans, solar portable tax, new wind farms and other technologies.

As a region we have a long history of importing large amounts of hydropower from Canada and I will say the dialogue that is going on which continues to go on between our states and the provinces just shows that that will continue to grow in the future.

You have already heard that three of our states have an RFP out on the street right now to look for perhaps those solutions going forward which could include new transmission getting built to access more hydropower or wind in our three northern states.

In very many ways, we as a region in New England we are sort of far down the road towards meeting the requirements of the Clean Power Plan, but when you look forward, there may be a few speed bumps in the road which we just want to be mindful of those.

We do have a large number of aging oil and coal units left to retire. We have seen the first of those

leave, but when the rest of them do go we will likely need more infrastructure for gas both pipeline and storage.

The recent retirement of Vermont Yankee leaves some question marks of the nuclear fleet that remains.

We have four nuclear power plants left operating in the region. Those four generators produce a little bit more than 25% of our energy.

For out of 350 power plants, really a large chunk, and that is a big question mark for us going forward.

If wind power is to be a large part of this solution going forward, we are going to need really a significant build out of the transmission grid to reach up to far Northern Maine to make that happen in a real way.

At this point as ISO we certainly stand ready to work with all of our states on these issues with the Commission and with the EPA as these challenges go forward.

Thank you very much and I look forward to your questions.

MR. BURLESON: Good afternoon Commissioners, and FERC staff leadership, my name is Jeff Burleson, and I am vice president of system planning at Southern Company.

I have two main points.

First, as the Commission has heard from numerous stakeholders more time is needed at every step of the

process to allow for infrastructure development.

While many have focused on concerns about the interim deadline, and Southern certainly agrees with those concerns, I do not think this Commission has heard enough about the issues with the proposed it 2030 compliance deadline.

The proposed to 2030 final compliance timeframe eliminates the largest single source of carbon-free generation from being considered as a compliance option based on the 15-year lead time for currently unplanned nuclear generation.

If we do not allow for continued diverse expansion of generation we will transition primarily to a gas and renewables generation mix and that will have reliability implications of its own down the road.

Second, EPA's proposal will jeopardize both reliability and the existing bilateral markets.

This proposal is unlike any past environmental requirements where individual plants either had to control or be retired.

Instead with this proposal EPA intends to overhaul the entire electric system without any expertise or authority over reliability.

NERC's initial reliability review and the numerous reliability safety valve discussions really highlight the

importance of reliability and the real reliability risks in the proposal that are evident to so many stakeholders.

The three temporal dimensions of the reliability risks our real-time, short-term several years out, and even into perpetuity beyond 2030.

Unfortunately there is no reliability safety valve that could effectively remedy all of these reliability risks.

The primary way is that FERC would be able to help are, number one, acknowledge unanimously the very real reliability concerns created by the EPA proposal and the inability to craft an effective reliability safety valve.

Number two, to act on these concerns by advocating that the final rule will not interfere with historical state reliability oversight.

Number three, to advocate for more time before the start of both the final and interim compliance requirements to allow for adequate infrastructure development.

Thank you for the opportunity to participate in this important technical conference.

MR. CASANA: I also thank you very much for having me here today. My name is Johnny Casana. I am representing EDP Renewables.

It is an honor to be here.

EDP Renewables is one of the largest wind energy companies globally. We have got 9 gigawatts of installed capacity and about half of that is here in the U.S. and we have about 1,200 MW of wind either operating or under construction in the East.

I am another, "sky is not falling," necessarily voice. We heard one this morning in a couple of echoes to my left.

It is our perspective that the Clean Power Plan objectives can be achieved cost-effectively while maintaining full reliability and we believe that a diverse portfolio strategies including low-cost wind generation will contribute to that success.

I particularly would like to talk about some innovative approaches to reliability that come out of a low carbon grid study that I am on the steering committee for that is being performed by Enro and GE.

It is underway right now with both private and public funding including EIA.

The focus is on when but the principles are relevant nationwide particularly about reliability.

One of the key findings that we are coming up with is non-intuitive and somewhat of a surprise and it backs away from an historical narrative that we have heard that you need gas to balance wind and solar and that presents a

reliability problem.

Gas will absolutely be an important part of the modernized grid, but we have many more choices than just a fossil fuel for achieving full reliability and our historical dependence on fossil for those grid services is in and of itself potentially one of the biggest barriers to low-cost carbon reduction systemwide.

While there is no silver bullet that can replace a gas plant providing reliability there are a suite of alternatives which in aggregate can provide reliability while backing the system off of that fossil dependence, and in addition to the many good services that can be provided by wind and solar generation, but often times they are not requested.

We also have non-generation solutions including, and you have heard all of this before, but energy efficiency against demand response, regional coordination, bulk storage such as pumped hydro, strategic transmission upgrades, and overall better to medication between systems.

These are the sort of suite of strategies that could be employed at relatively low cost to achieve reliability and back off of that fossil dependence.

And that is an important idea to this concept. We have talked about some with reliability safety valve

because if you are able to achieve reliability on your system with a suite of low carbon strategies that contribute to the overall carbon goal you may not need to pull that safety valve even if it is built into the plan.

That framework that I have discussed also creates a lot of room on the system for renewable generation and that is a positive from a cost perspective.

We just had a PJM report that came out last week projecting that states have fulfilled their RPS requirements will have saved their customers a tremendous amount to the tune of billions.

There are periods last year during the polar vortex in which wind was operating when gas plants were not able to and that saved customers over $1 billion according to some reports.

Those issues on the source of reliability where we turn to in a modernized grid based on the premise of abundant clean energy are some of the issues that are very relevant to these conversations.

FERC's leadership particularly on the strategic transmission upgrades will be critical, so I am very optimistic and I'm looking forward to the conversation.

MR. PERESS: Thank you, Chairman Lafleur, Commissioners, and staff for inviting the Environmental Defense Fund to express our views.

EDF believes that refinements, the wholesale natural gas market, are needed for it to operate efficiently and to serve its critical new customer, flexible electric generation load.

We suggest that the Commission should go beyond the current pending gas electric, NOPR, to ensure that the wholesale gas and the electric markets are economically and operationally coordinated so that products and services in each market generate effective and actionable price signals so that appropriate right-sized investments are called forth in a timely manner with or without the Clean Power Plan, the imperative for the existing pipelines to more efficiently serve power plants and their more variable fuel supply needs has become paramount to reliability and as well to retail customer economic interests.

Used efficiently, there is ample pipeline infrastructure in place to move forward with EPA's rule.

This includes substantial unused pipeline capacity that can and will accommodate increased power generation by the natural gas powered fleet.

In New England more natural gas was delivered this past winter than last winter while avoiding the extreme scarcity pricing we saw during the winter of 2013 and 2014.

New England demonstrates that when markets are designed to provide flexibility, price formation will be more efficient, and market participants will make investment decisions to determine the most cost-effective means to comply and to maintain reliability.

EPA has designed the rule to provide states and power plant owners with a broad range of flexible compliance options in addition to long lead times and flexible deadlines.

The Clean Power Plan is not the impetus for new infrastructure, significant fundamental energy trans-compel adjustments to the operational planning and planning practices as well as market refinements.

This is where the Environmental Defense Fund will continue to urge the Commission to act.

There is no justifiable reason for pipelines to provide anything less than 14 nomination cycles her day.

Pipelines should be required to schedule non-rateable flows to the extent of available capacity and physical capability, and yes, the pipeline should be compensated for providing these services.

EDF's written comments submitted in this docket provide additional recommendations and analysis.

In sum, there is ample infrastructure to support compliance with the Clean Power Plan and market

participants can and will deploy new infrastructure in response to targeted yet flexible market signals which the Clean Power Plan provides.

With or without the rule, the Commission needs to refine the markets to maximize the efficient use of existing infrastructure, to enhance coordination between the electric and gas markets and to clarify the market derived price signals for new investments.

And I should say that that includes the electric side, but I have really focused on the gas side in these remarks.

EDF once again thanks you for the opportunity to be here.

MR. KRUSE: Good afternoon, my name is Richard Kruse and I am here on behalf of Spectra Energy. Spectra Energy Pipeline serves electric generators from New England to Florida to the Gulf Coast in both organized and bilateral markets.

We have significant experience in meeting their needs. From our perspective there is no doubt that we can if asked serve the needs of the electric industry.

The question is whether we will be asked. That is especially true in the restructured markets.

On average, generators have only contracted for somewhere between 15% and 30% of their peak generation

load capability, meaning, that LNP getting them to try to run they are using 75% of some form of interruptible service. It may be a secondary firm, it may be IT, but it is some form interruptible service.

The key question is, are the generators going to get a price signal sufficient for them to ask for firm service for the infrastructure that we need to build?

Everybody assumes we are going to build infrastructure but it takes contracts.

Then, the second question is.when will we be asked?

You have heard a lot about the 2020 deadline. If it takes three to four years from the time you start talking to a generator to the time you put a new plant in service we need to sign contracts early next year and that is probably before the rules are finalized.

So there is a question about 2020.

What can FERC do? In looking down towards the process, quite frankly, what FERC can do from a pipeline perspective is to focus on the certificate process.

We need to maintain and increase the staff levels for the project review.

The pipelines depend on experienced staff managing that certificate process in the timelines.

I am sure the Commissioners get constant phone

calls from top line executives wanting to know when their certificate is and we get very antsy when it is a month late.

This is how tight our construction schedules are, so one thing you can do is to make sure that in three years or four years does not slip as we go forward.

We see permitting delays across the board in other agencies. They are getting longer. That is the challenge.

One other solution and this is mentally a little bit outside the norm, but look at your blanket certificate program.

With respect to existing right-of-way construction, why do we have to go through as detailed an environmental review for existing right-of-way as we do for Greenfield?

Your blanket certificate program allows us to replace facilities within certain price limits. Under Section 311 we can build brand-new pipelines as long as we can find on LDC or intrastate to serve.

Why not merge those concepts, broaden the availability of the blanket certificate to encourage pipelines to build within existing right-of-ways and minimize the disturbance of Greenfield construction.

I look forward to your comments and questions and

thank you for the opportunity to be here.

MR. EISENBERG: Good afternoon, my name is Ross Eisenberg, I am vice president of Energy and Resources Policy for the National Association of Manufacturers.

The NAM is the nation's largest industrial trade association. We represent about 14,000 manufacturers of all sizes. The vast majority of them are small and medium-size manufacturers, although we also represent the large manufacturers as well.

We collectively represent both the producers and the users of all of the fuels and the technologies that are subject to the Clean Power Plan.

We are also users of about a third of the nations energy and so our competitiveness depends on a secure portable supply of that energy and we fear as you probably know that the Clean Power Plan and its massive redesign of our energy portfolio could disrupt the energy supply that we have and could threaten manufacturers overall competitiveness, so that is why we have asked the EPA to go back to the drawing board on this rule.

Our most immediate and relevant concern for today's conference is the risk that there will simply not be enough time to build the infrastructure necessary to comply with this rule.

The transmission system upgrades, the new natural

gas pipelines, the new natural gas combined cycle generating units, and all that other infrastructure that is going to be necessary to meet the interim targets, and it is not even really clear that if eliminating the interim targets will make much of a difference.

I do not need to tell you how hard it is to build something in this country, particularly on an energy infrastructure project, such as the Path Project, the New York Regional Interconnect, Cape Wind, Keystone Pipeline, if you want to go there, they make the case for me.

It is hard.

While FERC is generally one of the best performers across the government in carrying out these environmental reviews, the average GIS still takes about 3.5 years to complete. Compounding the problem are the other major regulations in the pipeline right now that could often work in conflict with some of the priorities in the Clean Power Plan.

Two of those really at the top of the list are the new ozone and national air quality standards and CEQ's greenhouse gas guidance that is currently pending for NEPA.

Ozone in particular is the one that I do want to focus on. It raises real challenges.

First off, it certainly places a lot more

generation at risk additive to what is at risk in the Clean Power Plan and the reason is because they go after two different type of generation.

One is efficiency and the other one is high NOx emissions.

The other side of it is when states have to comply they will be trying to figure a way to comply and submit their SIPS and their designations in the 2018 and 2019 period which is exactly when they should be trying to figure out how to meet the interim target, so there is a real conflict there and it could create major challenges in constructing any new generation facilities and associated infrastructure and it could be particularly acute given the non-attainment MATS that we are seeing now in the Eastern Region.

So infrastructure and reliability are inextricably intertwined. Reliability and affordability impact manufacturers directly not only on our ability to compete, but our ability to make new investments and to attract new investments into the country.

When the power supply is disrupted, when it is interrupted, we the energy users ultimately will bear the costs of compliance for rates of electricity and natural gas.

We will suffer the consequences of any degradation

and good reliability as being an unintended outcome of the Clean Power Plan.

Ultimately we have heard we hope that the FERC will get even more engaged with EPA than it already has and will promote solutions to the issues that I have raised it today, that all of the other witnesses have raised today at these hearings and technical conferences.

Thank you.

MS. JAMIE: Thank you to all the panelists. We are going to turn over the questioning and we start with Commissioner Honorable.

COMMISSIONER HONORABLE: Thank you, and thank you for allowing me to take the first crack at it. Thank you for being here and for sharing your perspectives.

In recognition of the fact that you are diverse, I have heard a lot of different things about what you think you do need or do not need with regard to infrastructure which I must admit I came to this panel expecting to hear from all of you that you needed more infrastructure, so to hear, and thank you for your perspectives, the fact that you think particularly with regard to gas infrastructure there are ample pipes is a new perspective that I have not heard, so thank you for sharing that.

But I do want to ask the others of you who do believe that we need more infrastructure, whether it is

pipelines or transmission lines, and honestly, putting aside why you need it, whether it is because you are in the East and Northeast and you typically have had this challenge for some time, what if it is to meet the Clean Power Plan, have you in your planning processes or evaluation determined what it is you think you need?

I hear a lot of general discussion I must say about the fact that you need more. Got it. But exactly what is it that you contemplate needing?

I heard commissioner Roberti. I know he does not mind being put on the spot about this and anyone else why would like to add your perspective have you thought about the types of pipe, the types of transmission you need, or your planning construct, is what I would like to have your answer.

MR. ROBERTI: The question you ask really requires a temporal analysis of the situation.

My good friend Jonathan Peress from EDF talked about how we did get through this winter and there were a combination of reasons for that, better coordination, prices went up, and resources came, so implications on what the global oil and LNG prices were that helped us, but the resources did come, what I was talking about, so if you take a snapshot of this past winter that we survived where I think we did a good job, that is going to

be a very different situation than what is forecasted by ISO New England in a couple of years leading up to 2020.

My comments really focus on where we are working hard right now, but what happens when we have 8300 MW leave the system and we need 6300 MW of resources to come back in?

That is the big challenge.

While states like Rhode Island are making systematic investments in clean energy we spend $100 million a year on energy efficiency in the gas and electric sector, and it matters, and it is making a difference, and ISO New England's forecast show how much we have alleviated the needed for transmission and capacity.

But the reality is what we have is what I would call an elephant looming in the room here where the bottom falls out where we can comply with the Clean Power Plan, but when you have 83 MW fall out of base load generation, then we could have a major problem from a reliability perspective as we gear up towards 2020.

COMMISSIONER HONORABLE: I see lots of tent cards. I want to go next to Mr. Rourke because you referenced that you all needed significant build outs.

I wanted to invite you and then Mr. Burleson and then I will start back down the line. Thank you.

MR. ROURKE: I think what you need is a bid tied to who you are, so as the ISO it is not our call of who sort of steps forward to interconnect the system or who wants to be next.

But who we are right now as I said earlier past the announced retirement of Braden Point Station which happens in about two years from now we still have about another 6300 total megawatts of oil and coal units.

The youngest one of those was built in 1978, the oldest one maybe like 1952, so that we are in the 40, 50, 65-year-old plants that are out there that before the Clean Power Plan was even on their radar screen they were struggling in new markets and they were starting to shut down and we have looked at that for a while.

We have accounted for all of the investments that are being done by our states in EE. They are substantial. We have a forecast of that out through the year 2024, and now we just updated that.

We have done the same thing with growth in solar and we have taken credit for all of that. So all of the good things are sort of already baked into our plans.

Who is next? If you look at the generators that are in our queue that want to interconnected to our network, and there is a little over 11,000 total megawatts, now, 60% of it roughly burns natural gas, 40%

of is wet.

So when we look at it that is who we are. That is what we are going to turn into. As we have seen especially the last two years on those coldest days during the winter we actually need those oil and coal units running, and certainly on our highest peak times during the summer we need them running as well.

But if they are not there, so sort of those that are next in line to take their place are natural gas which were already at times sort of very short of, that sort of drives the need for infrastructure on that side.

Now not all of, but most of our wind is in far northern New England, much of it in the state of Maine.

Some of our wind farms are 100 miles away from the network, so just to come find us that is a brand-new 100 mile long line.

That does not get it out of Maine. That just gets it to Maine. Think of it that way.

This is going to vary by region but at least what we see right now in terms of who we are, and what we are going to be turning into looks like a lot more natural gas and a lot of wind in our future so we will either need pipes or transmission lines.

COMMISSIONER HONORABLE: Thank you. Mr. Burleson.

MR. BURLESON: Yes, thank you, Commissioner.

Southern plans our system on the basis of firm transmission delivery service and firm gas transportation for our gas-fired generation resources.

So we believe that to serve our customers reliably we need to have both of those elements and the firmness of both is critical to serving customers on those coldest winter days and on the hottest summer days when loads reach their maximums.

If we do not have firm transmission delivery service, or if we do not have firm gas transportation, we will not be able to rely on those resources.

What we have seen is that both of those situations, both for electric transmission, as well as for natural gas pipelines, it is very location specific.

It is not just a matter of saying within a region there is adequate infrastructure. You really have to look down at each one of those individual plants, where they are located on the transmission system, where they are located on the gas pipeline and assess is there adequate capacity at that location?

That is true for every single location for every generator that you are going to rely on.

We look at for EPA's own analysis of the Clean Power Plan and how they predict that Southern would comply, and in their prediction in their own model, they

predict that we would retire more than 9000 MW of existing coal fired capacity over and above the 3000 MW that are being retired for MATS. For the MATS retirements alone it required us to spend about four years and hundreds of millions of dollars of transmission investment to accommodate the retirement of just the 3000.

It is a foregone conclusion that based on EPA's analysis, if 9000 MW were to be retired, yes, additional electric transmission would indeed be needed, and a significant amount of it would be needed given the magnitude of the megawatts.

When we think about the gas infrastructure we are in the process of converting a number of our existing coal units to natural gas to comply with MATS.

In order to do that basically the pipelines in our area are fully subscribed and so we are having to rely on expansions of those existing interstate pipelines in order to supply firm gas transportation to those resources that we are converting to gas.

That 9000 MW of retirement that EPA predicts would necessitate over 5000 MW of new combined cycle generation for Southern's load only by 2020, and if the gas pipes are already fully subscribed, they are already being expanded to serve these new loads, but they are only being expanded enough to serve those near loads there is absolutely going

to be a need for gas pipeline infrastructure expansion as well.

COMMISSIONER HONORABLE: Chairman Kane.

MS. KANE: Thank you. What I was going to add was that because of the diversity of all of each individual situation one of the things that EISPC as you know we looked at different scenarios where the planning horizon went all the way out to 2030, and this all started before 111(d), but it was the "what ifs," what if the net price of natural gas goes up?

What if there is more energy efficiency? What if there is a national carbon rule, etc?

And you could have a different answer on I think at each place.

The purpose was to look at transmission. What are the alternatives to transmission? Where are there clean energy resources existing or potential which, of course, you could use 111(d) compliance as well, what would be the transmission implications of that?

I cannot answer the question of what is needed, but again, some of the tools and some of the information is there to look at each specific situation and look at all the scenarios and most of the studies have nine or ten different scenarios to help with the planning, to help with answering the question in each individual situation.

COMMISSIONER HONORABLE: I do remember quite a few of those EIPSC meetings. Thank you for your work.

MS. KANE: I also wanted to recognize Commissioner Fleming from South Carolina who is, of course, the president of EISPC.

MS. WALKER: I will just echo what we heard from Rhode Island and the Southern Company which is that as the plan requires for increased dispatch of our natural gas cycle facilities, we will need additional infrastructure as that moves from sort of a peak shaving operation to a base load operation.

We especially are concerned about what we would see in the wintertime when there is increased demand.

So all of that would speak to the necessity for additional time for planning and to get to the permanent to process so that capacity can be put in place.

MR. KRUSE: I agree with the comments that it is very location specific. It is location specific. It is customer choice specific in terms of where they want to source their gas in the first place.

One reason in New England that there are more gas deliveries this year than last year is because imports came this year.

The prices were high enough to bring LNG in, and in terms of customer choices, that is a question of, do

they want to pay those high prices to do that and use the available of what I would call East to West capacity or do they want to expand the pipelines West to East and tap into some of the cheaper domestic gas?

Those are choices that customers and stakeholders needed to make and that drives the locational decisions that pipelines have to make about infrastructure.

COMMISSIONER HONORABLE: Indeed, and would you say that you are observing much more dynamic effort and flow in the pipelines these days as well?

MR. KRUSE: The flows on Spectra Pipelines have changed dramatically over the last five years.

We are now flowing gas south from Ohio. The first time in my career. I mean the Texas was built to move gas and oil from Texas to Pennsylvania and it is a radical change.

The producers are looking for markets and they are driving expansions to get their gas to markets.

The challenge in terms of New England is that the producers are not building in into New England and the generators are not building to the producers so we are struggling with a contracting model that would pay for the infrastructure.

Spectra Energy is working with several of the local electric distribution companies to come up with

hopefully a new model.

It is our Access Northeast Project that we are in open seasons right now that would provide a financing vehicle. It will be an innovative approach and if it works it should provide a model for the future, but is a lot of work to be done.

MR. EISENBERG: Thank you. As manufacturers we obviously power down from the grid, but we also use natural gas as feedstock in our own operations and we will be demanding significant additional natural gas over the next few decades as a result of that.

The American Chemistry Council is at about 225 new chemical sector projects that are coming to the United States specifically because of natural gas and the opportunities that it provides.

To answer your question which was, "What do you need?" I have some big picture numbers that some of the groups in town have that I have looked at that can provide a backdrop to this in terms of natural gas capacity.

The Itesera, the global research firm in September 2013 said that to connect new natural gas supplies to the existing pipeline grid that delivers gas to the growing consumer markets over 10,000 miles of new pipelines will need to be constructed.

INGA, the trade association representing the

natural gas pipeline industry in March 2014 said that approximately 43 BCF a day of incremental natural gas mainline capacity and 3.6 million barrels per day of new natural gas liquids capacity will be needed from 2014 to 2035.

In the Northeastern that is the capacity additions that are driven by the Marcellus and the Utica Plays which we would expect.

Southwestern capacity additions from the Equaford and the Haynesville Plays and in the Southeast it is a lot of the coal plant retirements of fuel switching.

What we can note from this is that these forecasts were all made before the Clean Power Plan came out. So with or without this there are going to be significant infrastructure needs which is why the CCP is something that may compound on top of that.

MR. CASANA: I would just add to the conversation as we are talking about potential cross regional gas pipeline expansion.

On the same scale and for many of the same reasons what would be beneficial to the Eastern Region is cross regional DC lines for wind rich areas in central to bring in lots of low cost high capacity wind generation.

That planning process and cost allocation process has been very challenging.

In the past there is not a good mechanism in place for cost allocations and cross-regional planning.

We believe that that is one of the areas where FERC could take more of a leadership role.

FERC Order 1000 has considered the policy as one of the transmission planning objectives, but moving beyond considered to validating perhaps with more vigor would enable that sort of transmission that opens up low carbon generation on the system.

COMMISSIONER BAY: My question follows up on a Commissioner Honorable's question. She had asked about what kind of infrastructure would be needed.

My question is really kind of triggered by remarks that Mr. Kruse and commissioner Roberti made, and that is whether or not the channels in regions or markets that are largely comprised of states that have restructured are more difficult than maybe terms of maybe build out of infrastructure might in other parts of the country that have traditionally integrated utilities.

MR. KRUSE: From our experience, it is easier to get a contract in a traditional vertical integrated environment than it is in a disaggregated restructured market.

We have been going on for ten years plus since the Boston cold snap of 2004 knowing that there are more

generation gas-fired generators in New England than they have firm capacity.

During that time our experience has been actually that people have given contracts back rather than sign, but it is a challenge for the generators so the processing model on the electric side makes it very challenging for the generators to justify economically from their perspective investing in what would be a long-term contract with the pipeline.

MR. PERESS: Thank you, Commissioner Bay. There is no doubt that there is a different commercial impetus in areas where there is rate based cost recovery for shippers on the retail power plant side as compared to areas where you need merchant power plants to be signing up as a shippers.

One of the questions that was asked coming into this panel was our perspective on some of the grid remodeling that has been done looking to what this grid needs to look like or what will look like in the future.

The grid is undergoing a massive redesign not by virtue of the Clean Power Plan, but by virtue of very powerful innovative and technologically driven impetus.

By 2030 this grid is going to look a lot different than it does today. It is going to be our kids' grid. It is not going to be our parents' grid.

What some of those studies suggest is that the heyday of natural gas used for power generation is going to be sometime in the 2020 to 2030 area and that simply due to the economics and the cost curves for new technologies, and by the way, I have seen fossil companies provide confidential presentations on this that show that many of those renewable and distributed generation and demand response and more interactive technologies will be more cost effective than fossil fuel in this timeframe.

One of the challenges that you have when you look at merchant generators versus costs of vertically integrated retail generators is, is it in their economical interest for them to make it buy of twenty-year pipeline capacity where they are paying every day for something that all of the protections are suggesting they are not going to need and it is not going to be economical, not only for many days in the current, but for many days in the future.

I respectfully suggest that many of the cost of service utilities that are signing up for shippers, in effect, in the Southeast you are saying many of them actually through affiliate transactions be developers and shippers that those contracts are going to be out of money before half of the term of those delivery agreements and the present agreements are up.

It might be a little more fundamental than the simple question of organized markets versus fully regulated markets.

As Mr. Kruse suggested, there might be time just to look in a little bit closer and we are finding the Commission's certification process in the first instance.

MR. ROBERTI: Commissioner Bay, you asked a very good question and something we always struggle.

Rhode Island was the first state in the nation to deregulate its electric industry and the policymakers are not turning back.

That is why we rely on FERC. We rely on refining these capacity markets.

Indeed, if you took two examples in the Southeast and the Northeast over gas transmission, Florida Power & Light when they saw that they needed more gas transmission to serve their power plants that were either under construction or existing, they built the pipeline and those pipelines are in service today.

That certainly brings security and a quicker response to that issue.

In the Northeast certainly there is more anxiety. We definitely have more challenges as we work the markets. But here is something that has happened and you have probably seen the results in the latest four capacity

markets auction results.

It is hoped that the markets are going to deliver over the long-term more efficient investments in infrastructure.

In the most recent four capacity market instead of just going out and having a vertically integrated approach where you just build a pipeline we instead are having use of dual fuel generators which over the lifecycle of those facilities should be cheaper and produce more benefits to consumers.

It is all iterative. The most important thing we can do is to continue refining capacity markets and there is this transition period before we get those markets right to deliver the proper signals, but ultimately it is hoped that they will bring most efficient investments over the long-term.

MR. BURLESON: Thank you, Commissioner. I cannot speak directly to whether it is more challenging to develop infrastructure in RTO markets, but I thought that I would just very quickly give you a frame of reference for what it takes in traditional vertically integrated markets.

We will typically contract for gas firm transportation in advance and we identify a capacity need and identify a resource to meet that need, if we need gas

delivered there, we will go ahead and contract for it and in our planning processes we assume we need to have executed that contract about four years or so ahead of time.

If we are an easier market to develop infrastructure that ought to set one of the book ends.

Secondly, from the electric transmission standpoint, typically, we view that it is going to take us somewhere between four and seven years for electric transmission infrastructure development.

What drives that difference in timeframe, primarily, are we really talking about small 115 kV or 230 kV lines? Are we talking about using existing rights-of-way or are we having to acquire new right-of-way and are we looking at a 500 kV line?

That is kind of what sets the book ends for electric transmission.

If it is easier, that ought to be the short end of the book end from what does it take in terms of timing to get that infrastructure in place?

MR. ROURKE: Let me be quick on this. We are out in front on this issue with all of the gas we have, and as you have heard, very little of our gas plants with firm service.

We certainly have tried to put out many signals

through the markets typically to incentivize more security in the availability of fuel.

Our market signals though are fuel agnostic. It really does not matter to us necessarily or to the market if it is natural gas being burned or oil being burned or anything else.

What appears to be the economic choice for most of the merchant generators in our region that had just been just natural gas plants is to move to dual fuel.

The question is in the Clean Power Plan we will let burning of the backup fuel as oil get you to the target and that is a very good question.

We have not figured that one out for sure. I am not sure that anybody has yet, but it is one thing that we are being mindful of.

COMMISSIONER CLARK: Thank you for all being here. I just have one question. It is for Ms. Walker.

It occurs to me that you may be out of the panels that we had so far up to this point and maybe into the future. I'm not sure that I have seen the central one yet, but you are one of the few people we have had or who is actually going to be responsible for putting together the actual implementation plans that all of this seems to be riding on.

There is an awful lot invested in what these plans

look like which is a little bit why to a degree we have been searching through the dark and we do not know what the actual implementation plans will be.

I am curious about asking about your experience so far with regard to just of the technical logistics of piecing together a plan from your own state's perspective.

The reason I ask that is, I had mentioned at the Western conference, and it has been a little bit of a prediction of mine for a few weeks now.

I see states shaking out into about three different buckets. Some are states that already have some sort of cap and trade plan in place something like the RGGI states or California and that is going to be there compliance plan.

Then there is the second bucket of states who just kind of got lucky in terms of how the formula works out. It is just sort of the nature of the math and how the building blocks all come together.

They may sense that they can comply fairly easily without putting a whole lot into the plan that cedes a lot of authority to EPA.

Then you are going to have this third bucket of states which are the states that when you look at, that sort of fall below the line, and have the hardest emissions standards to meet, have the largest target

reductions to meet and everybody else can figure out what they are doing whether it is RGGI or AB-32 or just submit a state compliance plan because they think it is fairly easy and then they are going to be the ones looking around for a dance partner in trying to figure out how this all works together.

Are there states that will pair with them and are there states that will not pair with them, or are they in the middle of a donut hole and states are all around them are able to comply and they cannot?

It occurs to me Georgia might be one of those states. It is certainly towards the top in terms of emission reductions that you have within a region you are expected to be talking to your regional peers, but you have got states that have different emissions targets.

I am just curious how it is all coming together?

MS. WALKER: Just to speak really to where we are. We recognize we do have a really stringent target.

We spent a great deal of time and effort really analyzing our target and hoping to provide comments to EPA in the hopes that our target will be in some manner assisted because our target is really quite challenging.

Additionally, we are not part of a regional plan, and just the timeline of putting together a plan of this scope, this is a very different sort of plan than we would

have put together before and it takes us out of the domain of just environmental regulation and into energy policy which is not what we have historically done.

We recognized from the start that we have to work with our partners. We have to work with our PSCs. We have to work together so that we can put together a plan that provides the flexibility because we recognize that there should be economic dispatch of the fleet.

Not just environmental dispatch.

We will be looking very carefully in all of our comments and we hope we see in EPA's final rule. We hope there is the ability to provide some flexibility in our plan.

We would like to have rather than a fixed 2020 compliance deadline, the interim goal, that we can have a glide path so we can provide for some time to transition into the plan.

We hope that there is a relief valve for disruptions in the market.

We will be making very basic decisions like do we want a rate based goal or a MATS based goal which is most effective, which is based on how the calculation is done which is the most favorable for our state because with the challenging target we are going to have to pick whichever one those is the most favorable.

The way the conversion methodology works right now the MATS based sort of severely disadvantages of us.

Our general impression is that if we were able to go with the MATS based goal we can provide more flexibility to utilities who are going to need that flexibility to come up with some substantial changes in a relatively short period of time.

Generally speaking we are going to have to work really fast. We are going to have to work with our partners.

We are hoping that there is more flexibility in the final rule than there seems to be in the proposed rule.

We appreciate the support from all of our from the PSCs. Thank you.

COMMISSIONER CLARK: Is it fair to say that it is mostly fairly internal at this point.

You are looking at Georgia's numbers. You're working through the comment period of EPA, but it just has not progressed to the point where anyone can really start meaningfully talking about working across the region.

MS. WALKER: Thank you for asking that because that was the one point that I was forgetting that I wanted to make.

Given the timeline it is probably not feasible for

us to do more than a state plan. It will be incredibly difficult to get a state plan done in the time horizon we are looking at.

We recognize that we probably should consider other options but in this timeline it is probably not feasible.

What we are hoping is that there is flexibility and hopefully maybe some sort of common element, some approach where longer-term states are able to come together in regional plans that there is nothing that is set out and set in stone with these first state plans that will preclude us from partnerships later on down the road that may be they are economically viable.

We sort of need some common accounting mechanism so we do not inadvertently put up roadblocks to partnerships that we may find advantageous later on.

MR. BURLESON: Yes, I just wanted to touch on a couple of things related to your question.

It is a great question because the state implementation or regional plans are absolutely critical in terms of how we go about compliance and they have significant ramifications then for infrastructure development.

I just wanted to tie those concepts together. It appears to us as Ms. Walker mentioned, it is going to be

extremely challenging to do regional plans, and part of the challenge there is all the parties that would have to come together.

Just within Southern's footprint we have the privilege of serving customers in four states, so there would be four environmental agencies, four public service commissions, four state energy offices, potentially four legislatures, four governors, a number of utilities and load serving entities in those four states, and trying to do all of that in a very short period of time is just almost impossible to get that done in such a short period of time.

In the proposal, EPA has allowed additional time until 2018 to submit regional plans, but if you go that route you still have to in 2016 file a lot of details about what you plan to do from a regional plan.

Even if you are going to go all the way to 2018 before you file it you still have got to give EPA a lot of information about the development of the regional plan and where that is headed.

Then after you file it in 2018, EPA has up until another full year to approve or disapprove of the regional plan.

You are now into 2019 and even if you go the regional route you do not get any additional time before

the start of compliance.

Now you could find yourself with six months or less from the time EPA approved a regional plan before compliance would start.

We think it is very likely that at least in our region we are going to see a number of state-by-state individual plans and today, we have the ability to operate as a single integrated power system across our four states.

If we have four individual state implementation plans that will just exacerbate the need for infrastructure development because there may not be as much free flow of power across those state boundaries depending on the outcome of those individual statement limitations plans.

We have to think about that from an infrastructure standpoint as well and the ramifications of those state plans and the possibility of regional plans. It is a very challenging thing to try to deal with.

MS. KANE: I was just going to pick up on what Mary Walker had said about environmental agencies working with your energy regulators in energy because not only the complications of doing it intrastate, but even within a little jurisdiction like the District of Columbia where you have an apartment environment, and you have a public

service commission, in July, our Department of Environment filed the comments with EPA saying, "This is wonderful. There is going to be clean air," all of which we support and this is terrific.

I looked at that. I had to go meet with the head of our department who is no longer the current head -- well, that has nothing to do with it -- seriously, I am sorry.

In all seriousness it was all honest. It was their view. I said, "But what about reliability? What about affordability? What about the impact of what other states do?"

If you look at the December 1st comments of the District of Columbia, they were joint comments between me as chairman of our commission and the head of our Department of the Environment.

Just in a little state like this trying to work together, when you look at as one of the reasons why EISPC we have started bringing in the air regulators in part of our meetings and start working together and going forward we will be bringing in more of those other entities within our other individuals within the state we would agree that the challenges of doing it regionally are even greater.

COMMISSIONER CLARK: It is appropriate to even make those comments considering our discussion earlier today that it

is actually the District of Columbia Public Service Commission that brought the complaint in 2005 with FERC which was opposed by the Virginia Department of Environmental Quality related to reliability concerns in the DC Metro area.

Thank you.

MR. CASANA: May I quickly add? the comments that Jeff raised about the difficulty of doing a regional plan are very important because as states look beyond their borders and partner with each other that allows utilities for the free flow of energy and more flexibility and more flexibility often translates where the customer is getting a better deal, so I echo that that is a very important issue to be run.

COMMISSIONER MOELLER: Another good panel. Thank you all very much. All have focused beginning on our state colleagues.

We had two excellent commissioners on the earlier panel. We have two more coming up on the next. We have two outstanding ones here.

Chairman Kane, you have been a real leader, not just with EISPC, but a good thoughtful perspective on the electric industry.

Commissioner Roberti, you have been a real leader on gas issues and I admire all the work you have done and

kept that set of issues particularly important in New England on everyone's plate.

I want to talk about something briefly that is related, but is somewhat tangential and that is the role of DR going forward.

We are not of a unanimous mind as to what this agency should do depending on if the Supreme Court takes the case and whether we get jurisdiction back or not.

Regardless, it is worthy of a discussion at the state level to find out perhaps what best practices can occur.

I know Commissioner Clark brought this issue up, I think, in the November meetings, a Sunday collaborative back at the annual NERUC meeting, but it is ripe for a discussion whether or not FERC retains jurisdiction as to how states can tackle this.

Perhaps we can do it maybe here unless we are not allowed to talk about, it or maybe the NERUC forum is better.

I was working with one attorney there, Holly Rachel Smith, who subsequently left NERUC, I would just like your reactions on whether a focus on what states can do on DR outside of FERC involvement assuming we lose, we do not restore jurisdiction over the issue.

CHAIRMAN LAFLEUR: I do not think that is an ex

parte problem to talk about state DR programs.

I know we have experts with us.

If we start speculating on what we would do, that was not noticed as part of the meeting, or anything, of what we at FERC would do.

MR. ROBERTI: As you know, I raised in my comments. It is obviously a great resource whether it happens at the federal level or the state level.

We are on a holding pattern right now to see how this shakes out and the economics of DR, there are two components to that in different markets.

You really want to have both markets delivering that economic value for the sake of it.

While that is happening there are things that we probably do need to do at the state level. The states are being hit with so many issues right now. Compliance with the Clean Power Plan and all sorts of challenges day to day and certainly the infrastructure challenge that we face in New England where the states are working together.

We had issued to join RFP but that really is the next frontier that could provide highly deliverables to the states and the customers in New England where we start to figure out how to incentivize DR on a state level working either through NEPUC or working through NESCO, working through RGGI because in a form DR, and I do not

want to say it is the ultimate RSV but it certainly it is akin to something like an RSV.

It is important tool that ought be included. It just delivers efficiency, reliability and also the environmental attributes.

That is something that I will take back and really push to get our thinking caps on and see what we can do on the state level as we deal with the uncertainty on the federal level.

MS. KANE: I would agree with commissioner Roberti that because of the uncertainty of the court cases, etc., that the economics of DR are on hold.

At least in the restructured states depended on the wholesale market and the whole system there to provide the economics for DR.

But whatever happens there, there are ways the states can look at it, but you can be energy efficiency, distributed resources.

In the District of Columbia, and thank you for the solar panels on top of the FERC building, in the District of Columbia over the last four years we have seen an increase in residents, 1000 net new residents a month.

We have seen as you look out through the window or any place, the cranes, new buildings going up, new construction going up, new jobs being created.

And yet over that same period we have experienced a 7% cumulative reduction in electricity use in the District.

A lot of it is very strong energy efficiency programs that are a result of three things. Number one, our Green Building Act and the green benchmarking where every building in the District that is 20,000 ft.^{2} or more has to post now publicly and report its energy consumption and it has created a lot of competition in some ways with a change in the building code which is a very important thing that states can do outside of utilities regulation or anything else.

And sustainable energy utility which we have which spends $20 million a year of ratepayer money helping with targeting the largest users with everything from lighting, to change out, to retrofits, to weatherization, etc.

So there are things that states can do outside of the economics of the current DR market that is in flux or on hold that can reduce the energy use and thereby also, obviously.

In some ways it reduces the need for infrastructure. In other ways it puts particularly for distributor resources that bigger infrastructure need are your distribution system and your local distribution system upgrades on technology there and it is a

significant investment which is not cheap.

MR. PERESS: Thank you, Commissioner Moeller. From an economic basis, demand response is an alternative to both peak service for gas and peak generation.

One of the reasons that we have been calling for more precise price formation and price signals on the short-term gas supply and delivery market is because demand response is an alternative to peak supply for gas and in fact the California low carbon grid study found exactly that to be the case.

The more we can hone those price signals for short duration peak services the better position demand response will be in this market.

MR. BURLESON: Yes, thank you. I just wanted to mention a couple of things on DR.

One is Southern within its operating companies already has a significant amount of demand response.

Basically it has enough demand response to reduce peak demand on the other of 10%.

COMMISSIONER MOELLER: Those are state programs.

MR. BURLESON: Yes, these are state programs, individual state programs within each of our four states and I have aggregated those together to give you that 10%.

We rely on that demand response to serve the peak loads. It is already baked into our planning processes.

It does not really help us in terms of compliance with the Clean Power Plan if you are thinking about emissions because it is really more a peak resource and it helps us reduce peak.

Many of these demand response programs are limited typically to 50 or 100 or not more than a few hundred hours per year and so we can only use those only on a limited basis, but it does help to supply that total peak.

COMMISSIONER MOELLER: I was thinking of it more as a reliability issue as opposed to necessarily a compliance issue although it could perhaps be part of a compliance plan.

MR. BURLESON: And from a reliability standpoint, their part of the challenge is with the kinds of penetrations we have got the cost effectiveness of trying to get additional demand response even in a vertically integrated market like ours gets challenging once you get above about 10% of your load.

At least that is the case for us.

We can sign certain customers up pretty regularly, but then other customers it becomes less effective to and so there is an economic and an achievability question that really comes into play.

COMMISSIONER MOELLER: I have heard from my friends at the NRDC that particularly Georgia Power has a very good

energy efficiency program that they trumpet, but of course, that will make Ms. Walker's harder because you will not get credit for what you have already done there, but that discussion will continue.

Moving on to pipelines in New England. Mr. Kruse, you have been very helpful over the last couple of years just keeping the issue alive, gas electric coordination, you have always done it with a smile even though sometimes things I say make you probably a little bit anxious.

This is also to Mr. Peress to comment on New England, and of course, if Mr. Rourke wants to chime in as well.

As I have been saying for a while in public speeches, the conundrum is the new set of customers for the pipelines is intermittent users of generally speaking power plants and the financing model traditionally has been long-term LDC or industrial customers, and you alluded to trying to come up with some creative approaches on your latest proposal.

I was chastised by one of the financial analysts, and I mentioned this a couple of weeks ago, who said, "There is plenty of money out there to build new pipe," but the problem is the permitting in getting the certificate.

The focus was a little bit more so on the states

in the FERC role on this, but I would like to get your reaction.

I certainly welcome people who challenge my assumptions, but I am curious to your reaction to that statement. Both of you and perhaps Mr. Rourke.

MR. KRUSE: Permitting is a challenge. Timelines are difficult. The roadblock to get to permitting challenges is finding customers willing to pay you a revenue stream to justify the investment.

There is money to invest, but it is not money that you are willing just to invest for subpar returns and poor financial performance.

Just like any other business, the pipeline is making an investment decision as to whether to invest money in this project or in others.

We have done over the lasts five years approximately 60 projects and have invested $10 billion.

Most of that, not most of it, but all of it has been with either local distribution companies are producers.

We have very little end contracts in the South where we are contracting with Vertical. But in New England it is the producer or an LDC driven market. It is not an electric driven investment model yet.

We prior services. We market services. We hold

open seasons and then we tailor the project back for typically what the LDCs are willing to sign up for are for the producers.

The producers are signed to get the gas to a market so in some regions that translates into power plants because that is where they are taking it at least on a secondary basis.

The challenge in New England is, it is almost an island in the sense that the producers are finding markets at locations other than New England that are cheaper to get to, so how do you build that last 100 miles of pipeline expansion?

In connection with this new project we just announced, we have released a study that ICF did. As a region on the electric market prices we forecast that the electric prices would drop $2 billion net of the cost of paying for the pipeline, but that is a regional basis and any one generator is going to be challenged to step forward, so it is a huge example of how do you deal with the free rider problem?

MR. PERESS: Thank you, Commissioner Moeller. Clearly, there is a basis differential problem in New England and under economic theory as well as well this Commission's precedent that should be the basis for customers signing up to demonstrate a market need new

pipes and that is not happening.

There are two primary reasons why that is not happening.

The first one deals with the accuracy of price signals and we know that price formation and price discipline has been a big problem and we have seen that during the polar vortex episodes and in fact we know we had excess capacity in PJM East, pipeline capacity when prices were exceeding $100 a decatherm.

Price formation has been a problem. There has been a lot of progress in that area and more progress needs to be made in that area.

Secondly, nobody is suggesting that the merchant generators are acting in a commercially or economically unreasonable manner by not signing up for this capacity because it is simply not in their interests to sign up for his capacity and a lot of that has to deal with the nature of the services that are offered the physical capabilities and financial structure of the pipelines.

As well as the signal that they are getting from the ISO in order to move them towards contracting and a lot of progress is being made that regard.

ISO has now moved forward with its performance incentives. It is basically making people that clear the capacity auction performed which means they have to be

able to perform.

They provide hedging mechanisms by hourly reoffers to the generators which are allowing the generators to address risk more effectively.

Companies like Spectra are creating more creative service offerings including node to node service, pack and pull of park and loan service, variable flows using existing storage combining with LDCs.

We are making a lot of progress in this regard and I really give a lot of credit to both ISO New England and Spectra for their attempts to resolve this gap.

That is what needs to happen as well as this Commission looking a little closer at its certificate policies as it relates to pipeline infrastructure.

COMMISSIONER MOELLER: You have both been helpful on the price formation discussions, so thank you. Mr. Rourke, do you have any final comments? No? Thank you.

CHAIRMAN LAFLEUR: Thank you all. This has been a great panel because of the diversity of backgrounds and views among the people.

I find myself in the position that Commissioner Honorable complained about that Commissioner Clark had asked my question of Director Walker.

I had said to her right before, "How does it feel to be the only person who is actually doing this on this

panel?"

But I really do want to thank people for the specificity of their ideas.

Paul, your six point list of what we should do was like a college essay on what FERC does, but I thank you for mentioning the work we have tried to do on transmission planning which is trying to give regions tools to solve this as well as all of the discussion on changing the capacity market and new financing models for pipelines both of which are directly pertinent to New England.

And, thank you, Mr. Kruse, for your idea on the blanket certificate changes which I do not believe I have heard before, so that is one to learn more about or think more about.

I have a couple specific questions and I want to start with Mr. Burleson.

You had said something that I do not think we have a lot of, that not only is the 2020 date a problem, but the 2030 date is a problem.

Was that premised on your argument that the 2030 date would not allow new nuclear to be a solution because if new nuclear is too far out, and I understand that, or do you actually believe that any of the four states that you do business and are going to have trouble meeting the

2030 goals?

Because that is something that is a little different that we have heard in most of these. If you could explain a little more.

MR. BURLESON: Yes, I think there are three key things to think about in terms of 2030.

One of those is articulated in my summary and that is with the lead time for new currently on planned nuclear on the order of 15 years, if you do not have to submit a state implementation plan you really are not going to be able to until sometime in 2016 most likely.

EPA takes a year so it is now 2017 before you know whether they have approved it or not.

There is not enough time to allow nuclear to come into play even if they eliminated the interim compliance period and allow currently unplanned nuclear to serve to comply with Clean Power Plan proposal in 2030.

That is one point.

My second point is really around the reliability concerns on into perpetuity and so compliance does not stop in 2030.

There is an ongoing compliance requirement and the challenge there is the fact that there are a lot of things that can go wrong, and as an example, there may be a state plan that really maps out a very good pathway.

Forget the interim compliance period. A very good halfway to get to 2030, you meet the plan, you meet the target, and then in 2031 or 2032 for whatever reason there is the loss of a large nuclear unit for an extended period of time.

That is one example.

What does that do to upset reliability in the region? It is not just a generation capacity, but now it is compliance with the Clean Power Plan.

What does the state do now because now you are stuck in that dilemma of do I comply with the Clean Power Plan, or do I ensure that there is really a reliable system or not?

Those are probably the two most pressing issues around 2030.

CHAIRMAN LAFLEUR: Do you think those issues would require a changing of the date, an omnibus change in the date, or perhaps a mechanism by which somebody, if they were filing for a type of resource that took longer to develop such as new nuclear, they could put that in a plan and then file interim plans, and for the second point, an ongoing reliability mechanism because even if the date were 2040, in 2041 you could have a problem, you still need some sort of mechanism.

I am curious if you are arguing to actually move

the 2030 date or for flexibility built around it in certain circumstances?

MR. BURLESON: Yes, and I am actually arguing for both.

One is, I am arguing --

CHAIRMAN LAFLEUR: Unshakable in your position.

MR. BURLESON: Absolutely. Push out the 2030 compliance timeline so that new currently unplanned nuclear could be considered as a part of compliance.

That is important to ensure we have a diverse generation mix going forward. We heard on one of the earlier panels that we have got nuclear units that could start reaching end-of-life as early as 2030 and that is the licensed life.

Within Southern we have got some nuclear units in 2034 that would reach the end of their currently licensed lifetime.

Not only do we need to replace those to stay in compliance, but we also to get in compliance need to think about nuclear as one of the options.

The second issue is really around reliability, and what I would advocate is is that this Commission acknowledge and advocate to EPA that in their final rulemaking that they would acknowledge that they do not have authority over reliability, that that is a state and

FERC responsibility.

It has historically been primarily the states with oversight from FERC and NERC in setting standards for planning, standards for operations, they should acknowledge that in the final rulemaking and they should acknowledge that reliability trumps compliance when there is some sort of unplanned or unexpected outcome.

That would be the best possible outcome it would be for EPA in their final rulemaking to acknowledge those things because they do not have any reliability authority today.

CHAIRMAN LAFLEUR: Short of a jurisdictional kind of acknowledgment in the rule it seems like any sort of reliability mechanism might need to be enduring in the sense of as circumstances change, and on that, we have heard from several people.

MR. BURLESON: Yes, that is absolutely right and EPA ought to acknowledge that that is primarily a state role and the way that could be crafted is that the states then could look to the local reliability coordinators within those states or to the RTOs and ISOs depending on the market and those entities could then work in conjunction with FERC and NERC in order to assess reliability outcomes and that EPA and the rulemaking would acknowledge this lack of authority that they have got and

make it very clear that a state has the right to declare a waiver to compliance to ensure reliability under any of those kinds of unplanned outcomes that might occur and that is an ongoing concern not just to get us to interim compliance.

CHAIRMAN LAFLEUR: I believe you just listed off all of the entities that are named in the reliability mechanism in MATS which was the states reliability coordinators, the ISOs and RTOs, NERC and FERC, I believe, so it seems that that is a good list.

I would like to now turn to chairman Kane. We have not given you a chance to talk that much about EISPC. Are there deliverables? There are intrusive tools that we might look at.

I realize and I do take very seriously Director Walker's comments and it is quite clear that everyone has to start by looking in their state, but as we look across the interconnection, particularly in the bilateral market regions, or in the seams in between the organized markets, are there deliverables that you think EISPC might be coming out with that would help people do that further planning?

MS. KANE: I think two things. There are deliverables that we have already come out with.

CHAIRMAN LAFLEUR: If there is, but thank you.

MS. KANE: That's okay. Something in the middle. It has been ongoing.

CHAIRMAN LAFLEUR: They are not in my inbox, but in the meantime we will hear about them.

MS. KANE: It just came out. But there were former studies, for example, on the assessment or demand side resources within the Eastern interconnection, an assessment of nuclear power industry.

More recently studies that have come out on the electric and natural gas infrastructure requirements.

That just came out.

There was a new load forecasting study that was just released last week and the clean energy zone, the public policy database is there.

The mapping tool is going to continue to be maintained by the National Lab by Argon, the National Lab at DOE.

The Illinois Institute of Technology did a couple of theoretical case studies of the application of the energy zone mapping tool that could be useful to states.

Then, as I said, we are just developing, but they are not finalized yet, these three templates for interagency cooperation in developing a 111(d) plan within a state.

The checklist for state legislation that can help

or hinder implementation of a plan or development of a plan.

Then as a template for interstate cooperation. Everybody does not have a RGGI, and it might not be the right model for other places and the District of Columbia was not allowed to be in RGGI.

They said so when it was formed. We wanted to. So there are tools and that will be ongoing as there are plans for the future that include looking at involving not only the current structure which is usually the chairman of the public utility commission and someone from the executive branch in each state, usually the governor's energy advisor, or head of the energy department of the state, but also bring in and working more closely with air regulators, with environmental regulators, and with other state actors and so it would be an ongoing 111(d_ and other uses.

CHAIRMAN LAFLEUR: Thank you very much. I was aware of the gas pipeline study and the transmission but not some of the others. They sound like very useful tools.

MS. KANE: Yes, and for anybody they can go there. It is www.NERUC.R.org, that is national association for regulatory utility/eispc because it is housed within NERUC.

CHAIRMAN LAFLEUR: Thank you very much for all of you for being here. Go ahead Jamie, I'm sorry.

MS. JAMIE: If the Commissioners have any other questions? No? Is there anything from staff?

Then we can adjourn this panel with great thanks to everyone who participated.

Do you all want to come back at 3:15 or 3:20? So it is 3:15? Great, if we could ask for the third panel to be ready to go at 3;15. No? Sorry. Make that 3:20. Correct that. Thank you.

PANEL 3

MS. IGNASSA: Good afternoon. Thank you for everyone being here. We appreciate everyone's time sticking around for the full day of discussion.

Our third panel is on potential implications for wholesale markets and bilateral trading.

This panel we are hoping to cover and discuss the compliance approaches to the proposed Clean Power Plan that could have an impact on commission jurisdictional electric and natural gas markets.

This session will consider how potential compliance approaches may interact with these markets.

Panelists will be asked to discuss what aspects, if any, of the wholesale and interstate markets would facilitate implementation of state and regional compliance

plans.

In addition, panelists will be asked what tools are available to address market issues as they arise and what opportunities are available to coordinate compliance approaches with commission jurisdictional markets to meet the requirements of the proposed Clean Power Plan.

I will start by introducing the panelists. Just a couple of reminders for those of you who have not been here all day.

Please put up your tent card if you would like to speak. If you have cell phones pleases silence them as well as that will be very helpful.

To speak, please make sure you turn on your microphone. Thank you very much.

We will start by introducing Commissioner Kelly Speakes-Backman, Maryland Public Service Commission and chair of the Regional Greenhouse Gas Initiative Board of Directors.

Chair Audrey Zibelman, New York State Public Service Commission.

Lathrop Craig, vice president ISO operations, PSEG Energy Resources and Trade.

Seth Schwartz, president, principal of Energy Ventures Analysis.

David Hoppock, senior policy associate climate and

energy program, Nicholas Institute for Environmental Policy Solutions.

Rena Mukerji, senior vice president, market structures, New York ISO.

Bobby Ethier, vice president, market development, ISO New England.

Andy Ott, executive vice president markets PJM.

Chairman Joseph T. Kelliher, executive vice president Federal Regulatory Affairs, NextEra Energy.

And John Trawick, senior vice president operations and planning, Southern Company.

Thank you.

The chairman will be a few minutes late, but she has asked us to go ahead and start.

We will start like we did with the earlier two panels. If each panelist could present the one or two most important points that they would like to make today.

Please keep your statements to two minutes. Jeff is operating the clock over there so appreciate your all abiding by that so we can get into the interesting questions.

Thank you, Commissioner?

MS. SPEAKES-BACKMANN: Thank you, and good afternoon. First of all, thank you so much for the opportunity to speak with you today on Clean Power Plan

from the perspectives of Maryland and RGGI.

As you are all aware Maryland is one of the nine participating states in REGGI including two of my colleagues who have been here to speak with you today.

Audrey Zibelman from New York and Paul Roberti of Rhode Island. Here the RGGI states, just to give a really quick overview.

We cap emissions by first determining the regional budget of carbon allowances distributing a majority of those allowances through regional auctions and then capture the allowance value for reinvestment in strategic energy programs and finally reducing that cap annually by 2.5% per year.

That is the basic gist of who we are and what we are doing with respect to RGGI. I tried to find a way to summarize my remarks in 2 minutes or less and I could not, so instead, I will just tell you generally a really quick summary is that carbon reductions and economic growth are simultaneously possible and actually happening in the regional markets of RGGI.

We have reduced our CO2 from the power sector by 40% and we have increased our regional economies by 8% in 2013 numbers.

For those of you who have heard this spiel before, I have said 7% and it is 8% going up to 2013.

It can and should be done within the current market constructs relying on NERC for bulk reliability issues the ISOs for dispatch of least cost generation. The utilities for that distribution reliability that is so important to us as state regulators and with FERC to design the markets. That is a basic summary of my position.

I want to step forward into a question that I was just so excited to see and it was the third question of our panel.

We have a couple of lessons that we think may be helpful in working through this, five specifically.

First, it is not either RGGI or go it alone. There are a lot of constructs that are coming up in conversations. I think you will hear some from this last panelist today, but it is not one or the other.

There are a lot of options that are out there and I am hearing more and more and I am personally learning a lot about how we might look at this, look at our own RGGI construct in the next program review period.

Secondly, this is some of the benefits that we have seen. Pooling staff resources and state budgets can allow you to accomplish a lot more for a lot less money.

We have been able to complete regional electric city sector modeling in a very timely fashion with

built-in peer review.

That is really helpful. We have been able to do intrastate and interstate agency coordination that has spilled over into other areas including that of being able to permit distributed resources and coordinating that along with regulations.

We have had many compliance entities across state boundaries and because of this regional compliance coordination that we have done they have appreciated our efforts to work together and they have been active stakeholders in this so we have been able to construct something that is agreeable to most parties.

And last we have been able to schedule a built-in program review upfront so we are able to work forward on the planning.

The biggest lesson of all for us in working through this mass regional compliance effort was that it provides us the most flexibility we possibly can.

The regional emissions cap is the only enforceable mechanism with respect to this Clean Power Plan.

We can do whatever we want with energy efficiency. We can do whatever we want with renewable energy, with DR, and other complementary measures and state policies and that is not subject to the jurisdiction of EPA and that is one of the biggest lessons that we have learned in this

context of understanding the Clean Power Plan. So thank you.

MS. ZIBELMAN: Thank you, and I am also very appreciative of the opportunity to be here and certainly for the FERC for hosting this meeting.

With respect to New York, the state itself is very much a long-term commitment to a cleaner and more sustainable electric industry.

Since 2005 we have already reduced our CO2 emissions by 40% which is even a greater target than the 30% that the EPA expects to do and we are doing so without any real material effect on reliability.

As my colleague get Kelly Speakes-Backman has said, one of the things that has really been critical to our success is our participation in the RGGI and we are very appreciative of the fact that the EPA allows for this flexibility within the Clean Power Act and from New York what this participation has meant, as just with the other states, is an extremely cost effective way that we have been able to do to achieve our CO2 reduction goals.

In point of fact, for the analysis group which did the study for us, found that the costs of the funds that we got from RGGI which was $327 million in the first three years we are able to reduce energy bills by $200 million

and we were able to add $326 million to the state economy and that allowed us to create 4,620 jobs.

We projected that per RGGI regional wide benefits that are attributable to the 2014 cap reduction of 7,100,000 jobs by year 2040.

To echo commissioner Backman's comments, this is an "and and solution."

We are able to achieve reliability. We are able to achieve our CO2 reduction goals and we are doing it in a cost effective way that it actually adds value back to the economy.

What I want to talk about today in addition to the fact that we are very appreciative of the way the EPA is going and is very supportive of their efforts is to talk a little bit about our REV program and I know that there are some questions about this and how this works with the Clean Power Plan.

So we issued an order a couple of weeks ago and really when you think about REV at the core, what we are trying to do is to say what we want to get to is make sure that the regulatory structure, the state perspective enables and supports a dynamic load management, not demand response, and we can spend a lot of time like two minutes talking about it, but you can ask me about the difference.

It basically says that what we want to do is to

move towards using distributed energy resources, use the distribution utility as an integrator of those resources, so that we drive system efficiency, the better use of clean energy, the ability to drive affordability and effectively what we are doing is developing retail markets where we value the ability of people to be responsive to price which by making it a more dynamic distribution system we believe will be much more complementary to a system that has much more variable energy because now rather than thinking of demand as simply a passive resource and having to have generation meet demand, you can move in a direction using the role of the distribution utility as that platform provides an integrator so that now demand can start following generation and coupled with generation to create a much more reliable grid.

It is truly a two-way system.

I have a number of things that I think are going to be very important as we move forward and is the advantage of moving in this direction.

From our perspective, one, is making sure that we are looking at integrated planning, not only for the bulk power system and the gas system as we are doing with EISPC, but also distribution planning, so part of the REV order requires the distribution utility to actually develop plans on how they can integrate and best

accommodate distributed energy resources of all type.

When we talk about them we talk about it in terms of generation, storage, load control, anything that allows demand to be more controllable and dynamic and efficient.

We also are looking at how do you change the retail markets? How do you price out the value of distributed energy resources so that you have retail markets that take a look at the LNP that is set by the wholesale market and then identifies the economic value to consumers of reducing and changing demand both against the LNP, but also, and this is really important, for distribution reliability.

You may have periods of time that you want loads to be shed for local reliability issues or you may need it to be in combination with distributed energy variable energy, but effectively allowing it to become part of the resource in the resource mix as we talk about it as a primary rather than as an ancillary resource to how we manage the grid.

Lastly, we also have programs in place, because I do not want to forget this, it is very important that we continue to look at what we call the high side of the meter, the bulk power market as well as to look at how we can fasttrack transmission so that when in fact we are doing things about to incenting technology as well as

looking at transmission in existing corridors so that we can get the system built.

As this Commission knows building in New York is no easy feat. It is a big part of what we are looking at.

In terms of what I think could be helpful in the wholesale markets, one is, is the continuing on with what the Commission has already started on of starting to look at not only of rewarding, not only performance, but also speed and flexibility.

As we move to variable generation one of the things that we have to think about is really real-time dispatch, and while we say, "You cannot predict what is solar and wind may be in the next hour," you can predict what is going to be in the next five minutes or the next ten minutes, and we have increased forecasting techniques to get us there.

If you combine increased tools around forecasting and real real-time dispatch and you have demand that can help make up the variability and you combine that with traditional generation you can maintain reliability.

It is just a question of really rethinking what your problem is and what your solutions may be.

We see this as a huge advantage of moving forward. Thinking about it in terms of how you change the markets to accommodate these resources which is what we have

always done as opposed to just thinking of them as a problem will be of the real value from the Commission's perspective.

In terms of the capacity market itself, we should start thinking about portfolio bids so rather than thinking about like what we have traditionally done with the individual generator has to bid in as a capacity resource, why not have combination bids?

Why not look at wind and storage in combination as a resource? Why not look at wind and loads together as a resource so that we do not overprocure in the market and we take a look at all the things that we have available and make sure that the market actually starts reflecting what the supply mix and what the resource mix actually can be.

I am very optimistic. One thing we know for sure is the technology is both here, but it is also vastly improving.

The real question before all of us who are in the regulatory world is how do we make sure that the regulation and markets support the technological changes rather than function as barriers.

Thank you very much and I do look forward to your questions.

MR. CRAIG: I will also start by thanking the

Commission for this opportunity to address you on this very important topic and in particular on its impacts or potential impacts on competitive markets.

PSEG has been a long time supporter of Clean Air policies and we are also very supportive of EPA's goals that we think they are trying to express through the Clean Power Plan of reducing carbon dioxide.

We have been vocal in stating that we would prefer to see that achieved through some form of comprehensive federal legislation but we understand that that is not probably a likely event anytime soon.

We understand that the Clean Power program does probably represent the best efforts to achieve that important policy goal with the tools that are available at the EPA's disposal at the moment.

With that as background, I will go on to say that we look at the program as a proposed we do have concerns about at least the potential for negative impacts on efficient economic dispatch in competitive markets and in price formation in those markets.

And I would be happy to talk to you some more about that in questions later if we want to delve into it.

I did collect together my thoughts on what I thought was the central question which is what do we think that the FERC should be doing vis-a-vis the EPA's proposal

and with other stakeholders to get ready for this.

Coming here to address these and similar topics I am not sure I can tell you anything particularly new, but this my list having collected thoughts from listening into a lot of these previous discussions.

Every time I try to go through this, it comes up as a little bit preaching, but the asked was, "Is what should the FERC do?"

Now here is my list of what I think they should do or what you should do.

First and foremost, FERC should really be the champion and defender of markets and market-based mechanisms as this program works its way through implementation.

You need to, in particular, make sure that any efforts to implement the EPA's target emission rates or emission masses which do not use a price on carbon are implemented in a way that does not harm price formation in the energy and the capacity and other jurisdictional markets.

In particular it would probably make sense to engage with the states particularly those states that have expressed very clearly that they have no intention of using a price on carbon as a mechanism to achieve these goals to find out what mechanisms they may be intending to

use and then consider how those may have impacts on the energy markets.

That is a particularly interesting one because at least from what I have seen and I don't pretend to have reviewed absolutely everything that is out there, but like the Modelling work that I have seen done so far seems to by and large use the understandable simplifying assumption that the goals will be achieved by some form of carbon price.

Carbon price always seems to be an input to the models and I can understand why that happens which is the easiest way to achieve that dispatch, but it sidesteps the central question which is for those states that choose not to do that what will the impact be? How will we get there and how will they impact markets?

Both definitions of those non-price mechanisms needs to be worked out and then additional Modelling work needs to be done to determine those impacts.

The FERC can also probably take a lead role in advocating for the positive benefits which we just heard many of from the previous two panelists of a regional price-based approach.

There is a lot of both evidence and analyses that leads us to that as a very functional way to achieve these goals and while not trying to head off states

flexibilities or options to choose other paths, the FERC again as the sort of defender and champion of markets can offer that as a tried-and-true available and easy mechanism for states to use to achieve the goals.

I will cut it off there as I have gone over my time but I will get my points in during the questions.

MR. SCHWARTZ: Thank you for inviting me today. Let me briefly tell you what we do. I am the president of Energy Ventures Analysis. Just so you know where we are coming in terms of what I have to say.

We are market analysts. We do market analysis, Modelling, and forecasting of North American energy markets. We are agnostic who are clients are. We work for everybody.

So we work for NERC, we work for utilities, we work for states.

I am not here to tell FERC what to do. Our job is to analyse what people want to do and tell them what the impacts are.

I would like to give you though very briefly a couple of high points of the analyses that we have been doing on the Clean Power Plan since it was proposed in June which is, at this point, feels like years ago because we have been working nonstop on this since then.

The most important thing you should keep in mind

is that the vast majority of the emission reductions are going to come from increased generation from natural gas replacing coal. Period.

When you are thinking about how you are designing the markets, that is the major impact and it is not just going to be from existing gas generation plants.

It is also going be for construction of new plants.

This has several important issues with regard to how you design the markets.

One is by running coal plants less you are basically putting coal-fired power plants in the position which they are not economically designed to operate.

They do not turn down well. They do not turn on quickly, so if you want to have them available during the day you have to run them at night at minimum loads which frequently is 50% of their maximum.

That is not how the Clean Power Plan is structured. What is going to happen in terms of the markets?

What you are going to see is a higher level of retirement of coal-fired plants and most people than maybe EPA anticipated and especially you are going to see seasonal operation of coal-fired plants.

They are not going to be operating in the spring

and the fall if you're going to meet the emission targets.

The question then is: How do you put in effect market structures and rate designs where you provide the proper economic incentives that the coal plants are still operating in the winter and in the summer when they are needed so that there is a sufficient capacity payment to pay for the fixed costs, and the capacity markets are designed you can bring new resources in because we are going to need new construction principally of gas, but you are also going to hear construction of renewables in order to meet the loads and serve them reliably.

I will try and stay within my time and stop here and pass it to the next person.

MR. HOPPOCK: I will also begin by thanking FERC for the invitation to participate in the panel.

For anyone who is not familiar with the Nicholas Institute we are a nonpartisan policy institute at Duke University.

We are working with Southeastern states on understanding their compliance options and potential options for different types of regional coordination.

I would like to begin in part by talking a bit with what Mr. Schwartz mentioned that signals to covered units depend on the compliance mechanism chosen by states.

So under a rate-based compliance mechanism the

state operating above the regulated emissions rate would incur a cost because it would need to either purchase credits or average with lower emitting units to meet the regulated rate.

Units operating below the regulated emissions rate have an incentive to operate because they can potentially generate emission credits. They can sell or they can average with other units.

Conversely, under a MATS-based compliance system, all emissions creates costs for covered units so long as the cap is binding.

This means that under a rate-based compliance mechanism you might have a natural gas unit that has an incentive to operate, whereas the same natural gas unit under a MATS-based compliance system would have a carbon cost that it would presumably include in any bid into a wholesale market.

This can obviously create differences in market outcomes and dispatch. So the Nicholas Institute has modeled the proposed rule under both rate and MATS in the Southeast and results from the MATS-based approach had significantly more coal generation than the rate based approach.

Additionally, MATS-based compliance can encourage more new natural gas combined cycle generation than

rate-based compliance because if you are substituting existing fossil generation with new natural gas generation which is outside the cap you are directly complying because you are directly reducing emissions, whereas that may or may not be the case under rate base.

Obviously this potential divergence in market signals, especially the gas units they are often setting prices is likely to impact wholesale markets especially if they are different across states within existing markets.

Second to bring up is what has been hinted at earlier this idea of a way to trade with other states without entering into a multistate compliance plan.

We are coming out with basically a thought paper on something we are calling common elements whereby a state could trade an emissions credit with another state so long as it has a common definition and either a linked or common tracking system and through this mechanism you would not obviously need to enter into a multistate agreement.

So we think there is administrative potential benefits there, but additionally, you would have to decide ahead of time who you are going to trade with and that could kind of develop as the market and needs development.

Thank you.

MR. MUKERJI: Good afternoon. Thank you for

participating in this panel. In New York foreign markets we look at two guiding principles to help us comply with the Clean Power Plan.

The first one is that we have to give appropriate block prices. The appropriate prices should include the costs of environmental compliance.

The second one is that the market should reinforce and help us maintain the high level of reliability in our system.

Programs such as RGGI helps us immensely in meeting the market objective because RGGI helps us to price the cost of compliance so when the RGGI costs of compliances are added to the bid stack cleaner and renewable energy goes further up in the stack, though we can still use the relative leader emitting units when we need them for reliability.

State programs such as energy efficiency and the new program that chairman Zibelman talked about REV, reforming energy vision, will also help energy efficiency, that is already helping immensely because energy efficiency takes out baseload, so it reduces the need for base loaded plants.

The REV is what chairman Ziblelman called dynamic load control and in economics terms it is load elasticity. Load elasticity will reduce the need for peaking plants

which again will help us comply.

Something else that we have worked with in New York is to build better integration with our neighboring markets through a broader regional markets initiative which helps us support larger concentrations of renewable energy which will help us to meet our Clean Power Plan.

We are integrated with Hydro-Québec as well. Canadian imports are not recognized in the EPA plan and we have submitted comments to EPA to that effect that they should help us also, that the Canadian imports should also help us comply with the Plan.

In New York, I believe our markets are well structured to help us comply with the Clean Power Plan. We have concerns though regarding the rate which has been assigned to New York, and the concern is both on market efficiency and reliability and the reliability concern centers around downstate, particularly in New York City.

New York City depends on dual fuel steam and gas-fired units to keep the lights on.

If I might cite some numbers?

The rate for New York is 549 pounds per megawatt hour, whereas the rate for Pennsylvania is 1,052 pounds per megawatt hour, and the rate for a brand new combined cycle is 1,000 pounds per megawatt hour.

In the Clean Power Plan the Building Block 2

envisions a dual fuel power plant in New York City runs three times a year.

In 2012 we depended on dual fuel unit, a dual fuel steam unit in New York for 347 hours.

Essentially, we have an issue with the rate which has been assigned to New York.

In terms of overall compliance with the markets that we have and with the RGGI and the state initiatives we have as chairman Zibelman said, we have already reduced our emissions by 40%, and 53% of our generation of megawatts generated, megawatt hours generated in a year is from nonemitting sources.

We have already gone from 2005 a long way towards clean-air objectives, but given a more realistic emissions rate, our markets are well structured to help us comply.

We have the mechanisms like RGGI to give us accurate price signals. The building pay for performance incentives both in our energy and capacity markets together with our neighboring ISOs which will help us meet reliability objectives while also running efficient markets.

I look forward to participate on the panel.

MR. ETHIER: Good afternoon and thanks for the opportunity to be here. I am afraid some of my comments are going to echo both what you hear from Rana from Andy

because the Northeast markets are all in some ways very similarly situated.

New England, for example, has the three elements that we need to comply efficiently with the Clean Power Plan.

First, we have RGGI.

Second, we have accurate LNP markets, and third, we have what is an excellent capacity market and those three elements working together will allow us to meet the goals of the Clean Power Plan and do so efficiently.

First, there is RGGI.

RGGI seems like exactly the right mechanism to resolve this issue. Something that has not been emphasized quite enough today is the fact that RGGI is a broad region and that is hugely important for efficiently achieving the goals of the EPA.

Something that has been lost a little bit in the discussion is that seams could create reliability problems, but probably more likely to create efficiency problems where you have more expensive and less efficient generators operating in a region that has a different compliance plan than in another region.

If there is one piece of unsolicited advice I could provide it would be to encourage broader compliance plans rather than narrower because that will work best in

the long run as well as for efficiency.

Next, we have our energy market which works well to reveal the cost of producing and to the extent the carbon is priced into our market which it already is through RGGI and I expect will continue to be it will send the right signals to consumers.

You combine that with hourly offers that we recently instituted with shortage pricing and with peaker pricing that we are working on and you are going to have what will be very good price signals going out.

So all of those folks who were putting their smart meters in can receive the correct price and react appropriately when the prices are highly volatile.

Third, there is the forward capacity market which our most recent auction has done a good job of demonstrating that it can solicit new resources when it is necessary and I feel confident that the pay-for-performance mechanism that we have is going to give the right retirement signals to resources that may be for CPP reasons are not really economically viable anymore and it is going to incent them to go away and bring forward the new resources that we need.

Finally, the only caveat is that there is some need for flexibility. We have already seen in New England that big infrastructure projects are subject to delays and

often outside the control of any individual entity and the ability to deal with those bumps in the road is going to be essential. Thanks.

MR. OTT: Good afternoon and thanks for the opportunity to talk in front of you about the Clean Power Plan from the market aspect.

I anticipate a little bit of repetition, so I will come at this from a different view.

There are a couple ways to effectuate in regional dispatch and regional markets reduction in emissions.

One is through a price. The other is through basically a physical limitation on resources and we have both of those today in our markets.

Every day we see that whether it be a local limit, a state limit, whatever, we see those things effectuated.

The price can come either as a one-single price for everybody or each individual generator could say, "I have a certain limit that I need to effectuate, I will bid it in that way."

It doesn't have to come as a top-down price. It would come from the actual resource.

The other, the physical limitations and for example I can only run 60 hours. I can only run at certain times of day. I can only run with a certain amount of output.

Those are put in our market too.

One common thing though that people who I have talked to say, "If I put in a physical limit, it does not affect price."

Absolutely wrong.

If you put in a physical limit it will affect price because it affects the efficiency of dispatch.

If a state decided to go it alone and put physical limits on resources they are going to see impacts on their power pricing.

When they are buying and selling from other states, when they are buying and selling from within the state, it is going to affect their pricing.

Whether they do the emissions control through some type of price or through some type of physical limit it is going to affect their power pricing either way. The question is, is what is more efficient?

Really with the CPP we are not seeing anything different. The difference is the volume. You are going to see a lot more of it.

You are going to see a lot more limitations. You are going to see a lot more impact on price. So from our perspective what could go wrong?

If we had a situation where a lot of different types of approaches were taken we could actually have

discontinuities in the regional market.

What we could have is, for example, if a lot of folks or a lot of states decided to put in physical limitations it could actually create a situation where more often than not, we can't solve it economically anymore, so we go into emergency operations, and that would be the point where we would start to get concerned to say we actually have so many limits on the runtime of units that we can't manage economically that we actually have to effectuate that through emergency dispatch, emergency operation, then that starts to spill into operational reliability.

That would be where it would become a concern if we get that kind of volume.

Obviously, as my colleagues have said, the most efficient way to do this is through price and the broader the better, but it's not the only way to do it.

What we would watch for though is to make sure that if we do have situations where it's not priced and folks are doing their own saying that somehow that that be managed without creating an operational reliability issue.

I appreciate the opportunity to talk to you and look forward to your questions. Thanks.

MR. KELLIHER: Thanks for the opportunity to offer the views of NextEra Energy on the implications of the

Clean Power Plan on wholesale markets, both the bilateral markets as well as to offer some comments on the RTO ISO markets.

There are challenges in addressing market impacts of the Clean Power Plan in part because it is a proposal rule and not a final rule and it could change and that is a point that has been raised earlier today.

But also there is significant uncertainty about how the states will implement the Clean Power Plan.

Multistate regional approaches may develop, but it is entirely possible that regional approaches outside part RGGI do not develop and that states adopt their own plans.

States may take very different approaches and the flexibility afforded by states in the Clean Power Plan is a positive aspect, but it does open up the possibility, the door, to non-market approaches that could harm ISO and RTO markets.

With respect to bilateral markets from NextEra's point of view, regardless of the manner in which states in bilateral markets choose to implement the Clean Power Plan we don't see that there will be significant impacts on wholesale power markets.

To be sure Clean Power Plan can increase the costs of generation for resources that have met high levels of carbon.

That would affect the relative competitive position of some generators, but that's no different than any the other Clean Air Act rule that raises the generation costs of higher polluting generators.

In short, in bilateral markets, we think that the Clean Power Plan may hurt some competitors, but not hurt competition itself.

There was other some discussion at the Western Technical Conference about the merits of statewide or regionwide economic dispatch to mitigate the cost of Clean Power Plan implementation.

We think this idea has merit and should be explored by the states as they develop their Clean Power Plan and implementation approaches.

Turning to the RTO ISO markets, Clean Power Plan implementation as others have said has potential to be more complicated depending on how states choose to comply with the rule.

It states to put a price on carbon or rely on trading to achieve emissions reductions.

There should be no significant market impact, but there can be market harm as states choose to rely on non-market approaches.

As Andy just said, run limits on individual units can have modest impacts on energy markets. Perhaps more

than modest impacts.

NextEra is very concerned about capacity markets and the prospect of price suppression through added market support for uneconomic nuclear plants, some existing resources such as nuclear plants as well as for new state sponsored renewable projects.

FERC has a legal duty to assure just and reasonable rates and we think that FERC does have the right tools to prevent price suppression through its buyer market power rules.

I just want to urge the Commission to apply its buyer market power rules to existing generation.

Up to this point the Commission has only applied buyer market power rules to new resources, not existing resources, but the price effects can be just as bad from retaining uneconomic existing resources as subsidizing new resources.

We also think buyer market power rules should apply to new state sponsored renewables and there should not be an exemption from the rules.

With that, I want to thank you for inviting me to participate in the conference today.

MR. TRAWICK: Good afternoon. My name is John Trawick and I am senior vice president of commercial operations and planning for Southern Company.

By way of background, Southern Company has operated a coordinated power pool since the 1940s on behalf of our operating subsidiaries.

This power pool has provided clean, safe, reliable and affordable energy to our customers. We also operate in a robust wholesale bilateral market and Southern Company has bought and sold power spanning the entire eastern interconnect from Canada to Florida.

As requested, my comments today are regarding the challenges provided to the pool and our wholesale bilateral market by the Clean Power Plan.

Specifically, the CPP will create increased short-term and long-term costs in consumers with a change from a security constrained economic base dispatch model to a carbon-based dispatch.

Regional approaches to the CPP will be extremely challenging to stand up or maintain due to the varying state compliance targets and multi-utility participants.

Just in Mississippi alone there are three multistate dispatch centres in place today.

MISO, TVA, and the Southern Pool.

Governance of existing bilateral contracts within and across states and or regions will be uncertain.

For example, if a state is depending on wind generation on a local wind farm to meet CPP compliance,

but the buy allow counter price of this wind farm is a load serving entity in another state and wants to curtail that wind generation due to incremental transmission or generation cost who is going to make that decision regarding the curtailment?

Conversely, can a state restrict the output from a fossil generator as part of a state compliance plan that that fossil generator has a bilateral contract with a load serving entity in another state or region.

My comments are not unique to the Southeast. As commissioner Haque of Ohio provided in his comments for today's conference, the fact that each state may establish its own dispatch priorities and policies to the detriment of RTOs in neighboring states the CPP does not consider that the corresponding rate change is a result of the redispatch may become unjust and unreasonable.

In our view, FERC can help this process by serving as a credible unbiased voice regarding the potential harm to wholesale markets, the impact on justness and reasonableness of rates and resulting costs and reliability impacts to customers as a result of the Clean Power Plan. I look forward to the opportunity to answer your questions.

MS. IGNASSA: Thank you very much for those opening presentations. I would like to turn it over to

the Chairman and Commissioners to ask questions.

Madame Chairman, you are first.

CHAIRMAN LAFLEUR: Thank you very much, Ignasa. I apologize very much for missing the beginning of this session. I had to take care of something at the break that ended up being more involved than I thought. Imagine that.

Something was more complicated than I thought, so especially to my esteemed colleagues, commission Speakes-Backman, and chair Zibelman.

I will bear the embarrassment if I ask a question that you already answered.

I have read your written, but if you have already answered, I apologize. But I do want to start by focusing in on RGGI.

It is the nation's only multistate carbon trading platform. Well, that is not true, they are platforms, but it is a multistate compact for carbon trading. I would like to say I was around when it was formed.

I wasn't a lead negotiator by any stretch, but I do remember the difficulty of bringing all the states together and some of the things that facilitated it such as the initial allocation of allowances and the state flexibility in what to do with the allowance proceeds.

I am wondering if you could comment, if you see

opportunities for other states to join RGGI, if there have been approaches that you can share and if RGGI is, and it can be you or chair Zibelman or anyone else who might be familiar, but I know your are RGGI witness, if RGGI is planning anything in terms of making it easier for other states to come on to an existing process because it does seem like quite an opportunity.

MS. SPEAKES-BACKMANN: Thank you for the question. Actually, I have to say that I have not heard RGGI mentioned so many times in one meeting.

CHAIRMAN LAFLEUR: The day has come. Even in Denver people said, "Can't you do it like RGGI?" It is natural now.

MS. SPEAKES-BACKMANN: I thank you for the question very much. I will start off by saying the RGGI states are a lot more diverse than many people will think.

It spans three RTOs, the New York, the PJM, and the New England ISO.

It has states like Massachusetts and states like Maryland and Delaware where Maryland started off in 2005 with a 56% coal generation of all of our generation.

We have gotten that down to about 44%. Not only due to RGGI, but due to the complementary programs that we have put in place and policies that we put in place.

I did go through a little bit on some of our

lessons learned and I think one of the things that I skipped over was this diversity of the states that have joined RGGI doesn't work to its detriment.

In fact, because we have different state policies they can be complementary to each other.

As the markets are changing and shifting, then you can choose the least cost compliance mechanism among those states and all of our allowances are traded.

In addition, one of the great things about it is that we reinvest. I have heard it called "a virtuous cycle."

So you reinvest and 85% in Maryland 85% of our proceeds go to offsetting costs for ratepayers and for energy efficiency.

Other states have different strategies that they use. Audrey can probably speak to strategies that New York uses, but yes.

CHAIRMAN LAFLEUR: Do you see other states potentially the ones that might border RGGI because the platform is there potentially joining?

MS. SPEAKES-BACKMANN: Certainly we have had a lot of questions posed to us about what that would mean and we have developed a set of principles by which we would have discussions about another state joining.

I will also say that RGGI is not the only option.

There are other options that are very interesting and they have come up in the context of the Clean Power Plan linking different regions.

For example, and I am not saying that California and REGGI states are having conversations about this, but the idea that the California market could link with the RGGI market as long as the allowances are transparent and transferable.

There are options not just in states joining RGGI, but also to link these various regions.

CHAIRMAN LAFLEUR: Thank you very much for that and that was what I had hoped to hear that you had been working on outreach.

My next question is to Mr. Hoppock on bilateral allowance sharing or trading which you had mentioned there might be bilateral opportunities to share compliance strategies to meet goals.

What sort of independent platform or exchange might there need to be, if any, to do that or would people use EIS?

Have you given much thought as to how that would actually potentially work?

MR. HOPPOCK: Yes. You need either linked tracking platforms because EPA is very explicit. We do not want any double counting or you would need a common

platform and so these already exist.

They also exist for other non-carbon products such as REX, so I think the models are out there and it is basically getting informal agreements between states on actually which to pick and how to link and so forth.

CHAIRMAN LAFLEUR: It sounds like the bigger barrier, I am surmising, might not be the mechanics, but the immaturity of the states planning because they don't know the final rules yet and now they have to work out what they want to do, so the thought of all of a sudden with link carbon trading might not be the first thing a state turns to in this complicated situation.

I am asking. Let me raise a question. What do you think are the barriers or the challenges that we might need to look at to bilateral trading?

MR. HOPPOCK: We think a big part of the appeal of the common elements approach basically is its simplicity. You have to have three things.

You have to have this common definition such that a credit in one state has the same definition as a credit in another state just as you have now with REX where North Carolina is buying REX from other states, at no point did North Carolina enact legislation saying, "We are partnering with Texas," or whomever else they are buying REX for.

They just have this common definition. You need that tracking system and then you need to let EGUs that are covered by the rule use the markets.

If you don't let them trade, they can't trade, but it is relatively simple and the other thing about it is that it is not a commitment to doing interstate trading and bilateral agreements, it's as opportunities arise, but you certainly have to educate people on the benefits of those potential opportunities in the future.

CHAIRMAN LAFLEUR: Thank you. For my final question, I want to turn to the three, as there are so many questions I could ask of everyone, but the next thing I will say is, the three ISOs, each of you have spoken about the situation in your region with two of you being entirely RGGI and PJM partly RGGI partly not.

I will start with Andy.

You talked about the different ways this could work in terms of hours, limitations, monetizing costs into the bids.

But what challenges do you think that we should be aware of, any of you, either your energy markets and particularly if you have some states with a carbon trading and others not, or for your capacity markets which have been pointed to as important resource allocators as we work through this, what should the Commission be focusing

on in those areas as the Clean Power Plan starts to go forward?

MR. OTT: Thank you, Chairman. The most efficient way to accomplish, and the easiest way is through a price in the regional market, but obviously, that is not the only way to do it and there are others.

If some states want to go a different way, that's certainly okay, but we have to have a way to make sure that it doesn't create a discontinuity within the regional market.

I mean it doesn't create a situation where that would put sometimes a year or whatever operational reliability in jeopardy where we are in emergency operations in order to effectuate it which takes me to the other point.

If we happen to get to a point where we are saying, "We have got to have some relief here." It is similar to what my colleague Mr. Kormos was talking about on a long-term basis.

On a short-term basis, if we are in a situation where we have gone through a price, and we have to somehow get a certain unit to run for an operational problem we have to figure out a way to make that happen and how do we again get relief for that unit because they are out of compliance now, so we have to have some mechanism to do.

Certainly with capacity markets, and obviously, very high level talking of capacity markets --

CHAIRMAN LAFLEUR: Everything is all the time. All pending all the time. That is how they work.

MR. OTT: But for us the capacity market, again, the performance as my colleague, Bob Ethier, in defining very clearly what it means to be capacity defined very clearly what it means what the flexibility requirements are for resources as we look forward we see that being more critical and that is something that is important to us and I will just leave it at that.

The last thing from an intraregional perspective, again, each region, obviously, the states within PJM will do their compliance and the states within MISO will do their compliance.

We are going to have to figure out a way as we do our coordination to make sure that if we see something coming that would create a greater challenge that is yet another coordination opportunity for the RTOs.

CHAIRMAN LAFLEUR: Thank you. That's really helpful. Do you worry at all if you have one state that is in good shape, maybe an RGGI state, or just a state that has a strong compliance path because of the way their goal was, and then the state next door has to limit the hours of its plants and bid them in that way, but they are

in PJM, so it will all play out that you will have wealth distribution between the states?

I do not want to make up a "parade of horribles," but this seems to be a lot in the literature out there.

MR. OTT: Obviously wealth distribution will not be something we would worry about because the economics will flow and as I said the concept of a state thinking it would have put runtime limits or physical limits on resources and not see a price increase, that is a fallacy, it will see a price increase because it is going to be buying or selling power with another state or within the state.

The key though, is, and it is very similar both long-term and short-term, the actions of one state create a reliability challenge in another state.

CHAIRMAN LAFLEUR: Wealth distribution was probably the wrong word. But somehow the one that is in better shape will come in worse shape because it is next to the one that is in worse shape.

MR. OTT: Yes, the challenge we would see them is we would be watching for, and this is why we have joined on with all the other members of the REX Council to say that we need some form of reliability backstop.

If we see either operationally or on a forward basis, a plan from one state creates a reliability

challenge either within that state or in an adjacent state we need a way to reconcile that.

There has to be some mechanism, some methodology, if you will, both short-term and long-term to deal with that.

That is the key.

CHAIRMAN LAFLEUR: ISO colleagues, everything copacetic, they are good, no problems?

MR. ETHIER: There are a few things to be aware of in New England. One is the forward nature of our capacity market.

It works great for a lot of things, but there's a lag whenever you want to make big changes to the market.

It's going to be really important that we see a signal what is going to happen because it is tough to expect market participants to react a year in advance when they made a commitment in the forward capacity market two and a half years ago.

That is one.

Two, international trade is something that we just need to sort out. That's a big part of our markets. That's a big portion of energy we consume and a lot of it is carbon free, so the question is, "How do we sort that out?"

Third, New England is ahead on a lot of things and

one of the things that it is ahead on is citizen action you could say.

Sighting is clearly an issue for everything in New England. Yes, I am sure you all are well aware.

Honestly, that is one of the things that gives me pause because I like to think the market is going to solve the problems and they will given the freedom to do that.

One of the things that we are clearly counting on in the region is dual fuel capability.

If the states won't let dual fuel capability happen for other environmental reasons, and that's done in a timeframe that doesn't allow other infrastructure be built, that's when we get into the reliability backstop world.

In some ways the New England states and their environmental commitments is something that we need to keep an eye on so that they don't put us in a box that maybe others regions don't end up in.

Those would be my three concerns.

MR. MUKERJI: For New York, we have a lot of dual fuel units. There is about 19,000 MW of dual fuel units primarily downstate which is where they are needed.

When we do pay for performance you already have dual fuel so what we have to do is to pay for them to fill the tanks so we don't have them do as in New England and

PJM, they do not have as much of or as proportional dual fuel as we have.

Our issue is the rate that has been assigned to us where you go from, according to the rate, we would be able to run a dual fuel unit in New York City, a steam unit which is needed at certain times to secure the system only three times a year where we have been historically running at 300 times a year.

That would just putting a price on it and putting dual fuel on it just doesn't get us there. The way you could do it is building all of the renewables in upstate and build the transmission to get it.

This is a tough problem for us. It is an intractable problem. That is why we have made our opinion to EPA saying that we need to fund the rate.

CHAIRMAN LAFLEUR: Thank you. This is really helpful. I think I have absorbed all the challenges I can handle for now, so I will turn it over to Commissioner Clark to solve the problems.

COMMISSIONER CLARK: Thank you and thanks to Commissioner Moeller for letting me jump ahead in the line here as I have to leave here in a few moments.

I do have one quick question which is for Mr. Ott from PJM. To me PJM is such an interesting case study because, well, some of the other Eastern ISOs, if you look

at the states that are most supportive of the nuclear power plant and are already under a cap and trade regime that primarily reside in those ISOs, it is a different set of problems, PJM has perhaps the most diverse stakeholders of any ISO in the country.

You have got everything from some of the states that are most supportive of the Clean Power Plan and most supportive of RGGI cap and trade to those who are probably like over our dead bodies when it comes to both Clean Power Plan and cap and trade.

You have to deal with sort of that and everything in between.

My question is this. For those states that may be looking to something other than RGGI-type compliance and are looking towards runtime limitations and then things like that that you have talked about, has PJM given any forethought to implications of that and how from a market monitoring standpoint it may look at how you monitor markets when, and this would probably apply to FERC and some of the work we are doing as well, if you have entities bidding into markets on an non-economic basis in the sense where they may be making an economic choice for them, but they will be following traditional bidding patterns because they may need to withhold hours in the year under the assumption that they are going to have to

run those at some other time near. They can be more profitable in some other times. It just seems like it is a very interesting market monitoring market power manipulation question.

MR. OTT: Thank you for the question. We do have today in our market certain resources that for whatever reason don't give but they have some type of environmental limit whether it be the ozone higher energy demand day limits in New Jersey, so we do have those units today that will give us basically the way they offer into the market instead of putting a price on it, they will just say, "Don't run me unless it is an absolute emergency," and then at certain times a year they will come in and say, "I have enough run hours left. I will offer economic with a price."

We actually do have that happening today and the way that we evaluate, because they all have must offer requirements in our market, of course, under the current rules.

The way we evaluate that is if the unit can actually select a schedule that says, "I am available if you are an emergency."

They actually give us that which allows us then to control the issue from a market power perspective because then it is not physical withholding. It is actually an

articulation of their runtime limit and of course then we have all the information available to verify their runtime limit, et cetera.

There are ways to make it happen. Operationally, it is much more of a challenge though if, again, today we can handle it well because there are not many.

If we would get --

COMMISSIONER CLARK: Early discreet numbers.

MR. OTT: If we would get 30% of our fleet, 40% of our fleet that has those types of limits, and I don't know that we will get there, but if it would happen, then it would become from our perspective a bit more problematic because then now you are getting a very substantial discontinuity in the economic dispatch.

I am not sure we would get to that point and I am saying don't take what I'm saying here is a concern that we will be there, but one of the reasons we are here is to articulate what could happen, right?

I expect most folks will have the ability to articulate their limits in a way that is not disruptive, but should we get into a situation where we have high lows in a lot of physical limits then we have an issue.

It do not think it is market power as much as making sure we look far enough ahead in scheduling an operation to see those potential discontinuities coming.

COMMISSIONER CLARK: Thank you.

MR. CRAIG: I would like to follow up a little bit on that concept, and actually, as an owner of some of those kind of units that have limitations, we have given some thought to that.

We are just a little less optimistic maybe than PJM is that that will all sort of work out as we go into a world where those kind of limits may be on many more resources than we see now and we will also potentially be putting runtime limitations on resources that otherwise would tend to be economically dispatched more often.

I know in our own case that the units that we have, that tend to have those kind of runtime limitations are older peaking plants that do not run a lot anyway.

The implication of bidding them in an emergency status, making them available, making then available only in an emergency has much less of a economic impact on us and is also less of an impact in the market.

If we move those kind of limitations down to units that right now are dispatching a lot and that the Clean Power program is trying to get to dispatch less, we are going to have a lot more problems.

While I would agree, depending on how those limits are set, it may be easier or harder for the ISO operators to figure out how to work with them.

If they are set very prescriptively and it is very clear what you can do, it is probably fairly easy, but if you do something like you can run for 100 ours a year we somewhere between the owners and the ISOs have to figure out which 100 hours it makes sense to run.

Then we get into a lot of questions about when we make those available and we start talking about things like withholding and that's when I get lots of lawyers my office.

That is not as easy of a problem as it maybe stated, so I would be careful about that concept as we move into a world where it may apply to a lot more resources and particularly those resources that would otherwise run a lot.

The other side of that coin is that in addition to states having to put limits on the resources that they don't want to run as much because they are above their targets, the flipside is they actually have to replace that with something that's cleaner in their state.

The other part that I worry about when we get away from just using price as the signal for how to redispatch the system is what mechanism does the state use to ensure that there is replacement generation that's cleaner in their state that is running when the third generation is not because they put a limit on it and that is where you

open up a lot of concerns about exactly what you referenced.

There may be lots of incentives to try to force that into the market in a way that is not economic.

COMMISSIONER CLARK: Thank you. Something that I was hoping for in these panels, and we have met it is occasionally having some new ideas or new perspectives, and Mr. Schwartz, your point being that we could actually see more retirements based on the physical nature of coal plants and some are expecting is a good concept that we should be thinking about.

I am curious here. First of all, I am a little surprised that Chairman LaFleur did not point out that you are both graduates of Princeton.

Nevertheless --

CHAIRMAN LAFLEUR: I am only wearing orange and black. But obviously.

MR. SCHWARTZ: I fell down on the job.

CHAIRMAN LAFLEUR: Coincidentally.

COMMISSIONER CLARK: I am curious on your thoughts about the natural gas pipeline infrastructure, your thoughts about it being deployed, somewhat in context of Mr. Peress's comments earlier that perhaps better pricing signals would not require as much infrastructure, but generally your views on that entire topic in terms of

replacement fuel.

MR. SCHWARTZ: I will try and keep it brief. But as a general rule, the systems are going to become much more heavily dependent on natural gas.

Both the supply from a production standpoint, as well as the transmission of pipelines especially into certain areas that may have limitations, so that it is not just the robust interstate system, is also even the delivery system.

As a generality the good news is the gas system is more or less up to the job. We have been blessed with a tremendous economic revolution in hydraulic fracturing that is creating much more gas supply much closer to the demand centres which has reduced some of the need for pipeline construction that otherwise might have expected.

However we look at the timing of the need to actually have that in place by 2020 to accomplish most of the emission reductions of that date as problematic.

I know a number of people have commented about the speed of timing of compliance.

From an analysis standpoint we see that right now looming as a problem. Given the system a little bit more time to work, being in the forecasting business we have learned to be humble and the future is uncertain.

Things could change about natural gas supply, so I

will tell you in 2008 we did not predict the fracking revolution was going to happen.

Things can change and when we add new LNG exports the volatility of gas prices linking those to world markets may change some of those economics, but based on our Modelling right now we think that the supply is there in the pipeline capacity will be there, but it will be a stretch to say that it will be there by 2020.

COMMISSIONER MOELLER: We will have more to talk about that, so thank you. Chairman Zibelman, thank you for hosting us in New York the first week of November, so welcome.

I am curious about reactions to something chairman Zibelman said, and Mr. Mukerji, you may want to take a pass on this one, but the idea of lumping products together in the capacity market, wind with gas, something along that line, Mr. Ethier, Mr. Ott, former chairman Kelliher perhaps, you have some thoughts on that?

Initial reactions?

MR. ETHIER: I understand where the thought comes from and I guess in my view if people feel that that is necessary to make it work well, then we are missing some other component of our markets.

If we design our markets well a wind resource should not have to go find a battery resource to pair up

with. We should make the markets flexible enough to recognize the value in each and to allow themselves to pair themselves up through the market without them having to explicitly do it.

I have got no problem with the physical connection. I understand the logic there, but one of the nice things that markets do is to pair folks up and maybe not even know they are being paired up.

MR. OTT: I just want to know if you want me to talk about this because it is in front of you?

COMMISSIONER MOELLER: Yes, right, so let's pass.

MR. OTT: I think I better pass unless you want me to.

COMMISSIONER MOELLER: I saw the nervousness of staff! With that I will say thank you.

COMMISSIONER BAY: Mr. Hoppock, I am wondering whether you could tell me just a little bit more about your regional, well, I guess it is a state-based emissions credit program, but it could become regional if one state wants to trade with another. Could you tell me a little bit more about that idea?

MR. HOPPOCK: The idea is that you are just creating the option in the future and we envision this as the ability to do so is the state's decision on whether it includes kind of the common elements in its initial plan

or maybe through modifications in the future, but once the plan is up and running and states can see how expensive they are relative to other states, we really envision this because it is a market-based mechanism inherently as an EGU and State A deciding, "We should do this," and an EGU and some other partner in another state concurrently deciding it such that it is kind of similar to other markets, organic and how it develops.

It is not something a state is saying, "We know we are going to get X amount of emissions credits or X amount of emissions credits to or from these different states."

It is more letting the people who have the compliance obligation use the option either to generate revenue or reduce their compliance costs.

COMMISSIONER BAY: Does that proposal involve putting a price on carbon? Does the state have to do that or instead, because you used the term emission credit which starts to sound like renewable energy credit or is it more like a tax or is it more like a credit where you are giving some sort of state support for certain kinds of energy production?

MR. HOPPOCK: It is more like a credit in that it has to be a fungible commodity across state lines, right, you cannot trade my tax for your tax, I would presume.

You would need, this goes back to what the common

element is and it is pretty straightforward in terms of mass. It's the ton of emissions out the stack.

When you start looking at rates, there are a few more questions because the proposal mentions kind of the desire to include REX. REX in one state, I believe, do not have the same emissions implications of REX in another state unless states have the same emissions rate goals.

So EPA would need to do some clarification if you were getting outside of say treating some form of tons.

So tradable emission standards, i.e., rate-based trading traditionally in the past based on my understanding you have actually been treating in some unit of mass, right, you have been trading in tons, what have you, because you are just doing the differential between that source and what the regulated emission rate multiplying by the generation, that is how you are creating these credits.

That would not be all that difficult to envision and to define through common element. It gets more difficult if you are trying to trade as I said REX through this kind of process across state lines, energy efficiency credits of some kind across state lines, and also for energy efficiency you would want similar protocols such that what one state says is a megawatt hour of savings is a megawatt hour of savings in that other state based on

how they have set up their EM and D program.

MS. SPEAKES-BACKMANN: Just to add to that on the energy efficiency side and there's also maybe some things we can talk about on the REX side.

But on the energy efficiency side, you asked the question of is it tax or is it a market-based pricing system, and if you have it as a market-based pricing system then all you need is to have transparency in that measurement.

For example through NEEP, the Northeast's Energy Efficiency Partnership we have not necessarily each state has the same assignment of megawatt hours saved for an energy efficiency measure, but they do have transparency.

So that when there is a bilateral trade you know what you're dealing with and you can see, "Your megawatt hour is worth a little bit less than mine, so I am going to pay you less for that REX," or e-REX or whatever you want to call it.

In terms of REX, there is just a little bit to be careful with because between states each state has a different set of technologies that are available on their RPS systems, so you are comparing two different systems.

One being the carbon system and the other being a technology and there is some care that needs to be taken, but as long as you have that transparency so, for example,

in PJM, we have the GAP system, that is extremely transparent and that is what we use in RGGI in order to account for our carbon reduction.

MR. OTT: If I could help to clarify. The way to do it was dissimilar products across the state, we and others will certify, so wind resource for New Jersey we certify that this actually qualifies and then when it is consumed we retire it so that there is some tracking and measurement and validation.

That's how it actually gets effectuated, so we do it through the certificate tracking system that PJM runs on behalf of none of our states.

That is one way to make the mechanism work so that it can be dissimilar but you have an entity who makes sure that it is all consistent.

MS. SPEAKES-BACKMANN: Honest broker.

MR. OTT: Right. There we go.

COMMISSIONER BAY: This is our third technical conference and a number of panelists have told us that in their view the most efficient way for states to proceed would be to create a regional approach that is market-based and usually in the discussions there has been a suggestion that there would be some sort of price put on carbon and then that could be used by a market operator in figuring out what the dispatch ought to be.

But then we have heard other panelists say that given where they are from, politically it would be impossible for that price ever to be basically imposed by their state legislature.

I wondered whether one possible way of trying to finesse that issue would be to create credits as opposed to some sort of price and the credits being something that is created through the production of certain forms of energy so that nuclear that that could get such a credit.

Wind could get such a credit.

Hydro, and so on and so forth.

MR. HOPPOCK: Yes, basically I agree with you and that is that the states just need to allow people to use a tradable instrument across states so a state, for example, could say, "We are just going to give a mass emissions cap to these," for example, different coal units.

"If you are below your cap, you are going to create a credit. We are not going to set up a market to define what that the value of that is, but it is going to have a value because it's presumably tradable and then that credit is what you go and trade and through your bilateral negotiation you come to a price without the state having to say, "We aer going to cap and trade and we are going to auction emission allowances," because in certain places, you are right, people don't want to do

that for whatever reason.

MS. SPEAKES-BACKMANN: Absolutely you can do that. It depends on what your secondary goal is aside from the compliance with the Clean Power Plan.

If your secondary goal is to minimize cost consumer impact you may want to create that revenue stream through allowances.

But if it is politically infeasible, then you may want to give that away because you are trying to limit the impact on the generators themselves.

It really depends on what you set your variable constant at that. That is it.

COMMISSIONER BAY: Thank you.

COMMISSIONER HONORABLE: A quick question regarding coordination and I want to ask Mr. Ott and maybe the gentleman from Southern.

Earlier you were referencing, and I think PJM has to master this more than anyone coordinating in mind a different animal of all types. Neighbors! You are much more politically correct than I am.

And what they bring to the table, the requirements they bring.

In your comments and maybe in Southern's comments you referenced the potential that the various state compliance plans could impact market flows.

It is true that coordination will be key but I also wonder if there is there some effort that needs to get underway here at FERC.

Is there anything we can do to help? It maybe too soon to answer that question, and again, I certainly recognize that you are accustomed to managing and coordinating among the various requirements of the different players.

But I wanted to ask you to in particular and any others that would want to jump in.

MR. OTT: Thank you, Commissioner Honorable. Obviously we will need to coordinate mostly again in our case with the neighbors. We have probably to the West and South because the neighbors to the North they think that obviously we will have a bit more commonality I think.

I think the key, and this is why I say this is where we share states. In other words, PJM and MISO both have presence in Indiana. We both have presence in Michigan.

Whatever the state is doing we are both going to have to coordinate with it. Certainly we are going to have to be proactive and we may in fact need some help from the Commission, but it is premature because we do not know enough yet other than to know that we are going to coordinate.

The mechanisms under which the states are going to achieve compliance, so say Michigan goes in with other states and MISO, then we are going to need to work with MISO to figure out what our part of Michigan is going to do and that might be the runtime limit or they get some kind of tradable certification.

But at this point, it is premature for us to do anything other than to know if we have to coordinate.

MR. TRAWICK: When you go back to the last panel we had the Georgia EPD representative who said basically from a timing perspective they did not see how they would be able to get to a place where they could work regionally in the timeframes that we are talking about, just getting the state done would be a challenge for them.

It is because you have got so many different parties involved within the state. We have got states with multiple utilities that are not in the same dispatch center.

How that is going to ultimately get coordinated back up and in recognizing, y ou may end up with state pools almost, each state may feel as though they need to just do their own because they got their own compliance plans to conform with and that breaks down some of the basic market benefits that we have of the pool that we have had historically where we are able to move power

across interstate lines.

From a FERC perspectives you all may want to think about the same kinds of concepts that we talked about on reliability with almost a market safety valve concept.

Is there a situation where we could hit an emergency that really is critical.

MR. OTT: Let me just jump right back in because, although converting a mass limit, a physical limit into a price is something that can be done so the point is the way the coordination could be effectuated is one of the areas where we will do a price and the other will convert it.

The concept of making sure that has consistency is what we need to worry about, but is not impossible.

The challenge with any of the runtime limit approaches is there is, and obviously it is going to be efficient especially if states are doing them individually and that's where if each state does it alone, it is going to create some operational challenges that we will have to deal with.

What is the variable, what level they are, none of us are sure. That is really where we are at.

COMMISSIONER HONORABLE: I do appreciate that. It is another level of complexity and honestly from my view I am seeing states that are considering going at it alone for a

different number of reasons.

They think they are great and they do not need anybody. Some think that nobody will want them.

It is a hodgepodge.

MS. ZIBELMAN: If I may? That is a good question. We have been fighting the seams issues for a long time and it just strikes me in listening to the conversation that if we have different approaches from either looking at a credit mechanism for states looking at with in different forms of running dispatch you are going to end up with really a lot of sub-optimization in the markets.

I am wondering if one thing just throwing it out as an idea that FERC could do and add to the conversation where people are actually struggling for cost-effective way of how to implement this is looking at different models and seeing which one might be the most efficient so you don't have situations where you are creating market to market seams for suboptimizing what is available and what is in the market because you different regimes.

Having even FERC play that role of asking the question as the economic regulator, what would be the most effective way, could be very helpful.

COMMISSIONER HONORABLE: Thank you.

MS. IGNASSA: Thank you very much. I wanted to check with other staff to see if they had any questions?

No? I'm going to ask one question to chairman Kelliher because I twisted his arm to come here.

Thank you. Appreciate your participation. You mentioned that you participate both in bilateral markets and in the organized markets.

You told us a little bit about the strategies or similarities, certain strategies that your company might have used to help you decide that it is not going to be that much of a problem to comply with Clean Power Plan.

MR. KELLIHER: It starts off that we are very low-emitting company. Both. I mean our competitive company we have mostly nuclear plants, wind and solar plants, and our Florida Power & Light has modernized its fleet and move away from oil to natural gas and we have modernized StarFleet's.

We have one of the lowest emitting generation fleets. We have a very large fleet. We have 42,000 MW so we aer one of the largest generators and we aer sort of unique among the large generators in that we have a very clean fleet.

That means that we are just naturally positioned so that it is relatively easier for us to comply, but we don't see that it is a big challenge for the utility.

We think it is doable for both the utility and the competitive company, but it is mostly the starting point

of our clean generation portfolio.

MS. IGNASSA: Thank you. With that we are going to see if the Chairman and Commissioners have some closing remarks.

CHAIRMAN LAFLEUR: I know that Commissioner Moeller does, but I am asking any if any of my colleagues?

COMMISSIONER HONORABLE: Let me take this opportunity to thank you. The depth of the diversity of this region is very daunting in fact and I want to thank you for giving us so much to think about as we consider our role in being supportive in advising and providing counsel with regard to reliability but also with regard to infrastructure and markets and being responsive to what you will need to comply.

I want to thank you for your participation and more broadly thank you for what you do each and every day.

COMMISSIONER BAY: Thank you for sharing your views with us today. I found them very interesting and informative. Thank you.

COMMISSIONER MOELLER: One of the themes that has come up throughout the day in various ways and is certainly one that I endorse completely is that more competitive wholesale markets, whether they are the organized markets or the bilateral markets of the Southeast, or the emerging energy imbalanced market in the West, they deliver renewal

of environmental benefits whether it is more efficient use of power dispatch, access for renewables to the grid, and they have been a remarkable success story in this country in terms of us greatly cleaning up the air.

This is not meant to say that we should not do anything, but whatever we do, we want to be very cognizant that it does not create problems in the markets as opposed facilitate the continuing market success of cleaning up the fleet.

That will be a major motivating factor for me. Thank you all for attending and a great conference, thank you, again, for deciding to hold it, Chairman LaFleur.

CHAIRMAN LAFLEUR: I too want to thank the panelists really from all three panels. It has been a rich discussion.

We hear some common themes each time we do this, but also new ideas and new insights as reported of maybe more stones in the mosaic.

I also want to thank staff for the continuing grind of setting these up and putting together such diverse and strong panels on the questions and everything you are doing.

We will continue our magical mystery tour in the Great State of Missouri in a couple weeks. Thank you.