
# Proposed Reliability Mechanisms for the Clean Power Plan

Featuring:

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JASON GRUMET: All right, folks, I think we're going to get this technical design workshop on the road. Good morning, everybody. I'm Jason Grumet with the Bipartisan Policy Center. So happy Mother's Day. Thank you for starting your Mother's Day off focused on reliability mechanisms. I'm sure you would have been doing this anyways, but it's nice to be able to –

SUE TIERNEY: Some mothers would.

MR. GRUMET: – have this conversation together. So this is a little bit different. We've never actually done an event exactly like this at a moment in our regulatory process. And so I thought I would start out by just giving you a little bit of a sense of why we decided about three weeks ago to try to pull this kind of talent together on short notice, a little bit of the aspirations of what we hope to accomplish, a couple of ground rules about what we're hoping not to accomplish. We'll introduce ourselves. Commissioner Honorable will say a few words, and then we'll kind of roll in.

So our goal is a constructive, messy, complicated conversation. I think we all recognize that the federal government is in the late stages of a dynamic rulemaking process that has a myriad of issues involved, and so we have no imagination that this group or this room is going to walk out of here with any kind of consensus. We do hope that we might be able to find some centers of gravity and some kind of shared sense of the issues and challenges. Hopefully, the commissioner to my right will find this a useful opportunity as she is considering to kind of add FERC's voice to the final process. But the whole notion of a safety valve is the question of how smart people can disagree constructively in an uncertain world, right?

The question before us is, is it possible to create a system that both achieves the aspirations of this rulemaking while attending to people's different imaginations of the future? And I can assure you around this horseshoe, there are some very different imaginations of the future. So our goal is not to agree with one another. Our goal is to see if in fact we believe it's possible to recommend a process that allows the natural disorder in the world to unfold in a way that keeps the air clean and the lights on. And so I think that's really where we are hoping to achieve.

We recognize the challenge in trying to talk about one small piece of this rulemaking process. The word "if" is embedded in everything we talk about today. It is obvious that EPA could make a series of decisions that would create much greater concerns and obligations on the power sector, raising the issues that would force a focus on a reliability mechanism. EPA can make a whole (bunch ?) of decisions that would diminish these concerns. We are dedicated to try not to have that conversation. So we have all agreed – I look to my left and right – we are not going to be debating the interim target. We are not going to be debating the legality of the rule. We are not going to be debating the existential question of whether climate change exists. We are all here basically to kind of suspend disbelief.

And I want to be clear, a kind of disclaimer on everybody's behalf. Sitting at this table does not imply that anyone believes there's such a thing as a reliability problem. It also does not imply there's such a thing as climate change. It implies that you recognize that the federal government is in the late stages of an incredibly important effort and hope that we'll be able to provide some channels that would be productive as we move forward.

So I offer that disclaimer in the hopes that each of you don't feel the obligation to make it in front of every one of the statements that you now offer as follows. We, of course, expect there'll be a little bit of that.

In terms of just process, we have tried to design a reasonably logical flow to the conversation. We know it's not going to stay that way. We recognize that these are not issues that you can deal with entirely in your fashion. We're going to do our best to kind of keep some trajectory there. We have created an opportunity for a couple of different moments for questions from you all and suggestions and thoughts. We have some note cards that are going to be circulated. So I hope there'll be some opportunities for you to all engage as well. And we are committed to, you know, getting you all out of here well before lunch.

So I will pause there and maybe ask Commissioner Honorable to offer a few statements and then we'll get going.

COMMISSIONER COLETTE D. HONORABLE: Thank you. Good morning everyone. Let me say first and foremost, you guys are rock stars. You are here. It's not even nine o'clock. (Laughter.) Lord knows what you had to do to get here. You left kids with who knows whom – with whom. And you fought through traffic and metro lines and so on to be here. It makes me excited that you all are as interested as we are to talk about this discrete topic.

I want to thank Jason Grumet and the wonderful folks at the Bipartisan Policy Center, Tracy and Jennifer and others with whom I've worked. I have had some history with the Bipartisan Policy Center and I have served on the Energy Project Board. I see Kathleen Barron in the audience this morning, along with Sue Tierney and others. Lively discussions there, too, but bipartisan. So we can demonstrate the ability to come together around challenging issues and be thoughtful, deliberate, and constructive. So I'm really excited to participate today.

I want to also commend the BPC because this is one of a number of sessions that the BPC has hosted regarding the Clean Power Plan and 111(d). So this is yet another one and the times dictate a time such as this.

I want to thank the panelists who are here. I think it's veritable who's who in the electricity reliability world, as are many of you. So if we had two days and the will and the constitution to talk about it with all of you, we would. And I hope that you will participate during the Q&A period through submitting cards with your questions. And I have quite a few folks in my office and there're quite a few folks from FERC and others here in the room if you want to privately share any thoughts.

I'm particularly pleased that we could come together on such short notice to talk about reliability mechanisms, both in a reactive sense maybe after there's some event or accounts that could or could not impact reliability. But proactively as well as we look toward the processes that would need to be underway, if we need them, in addition to current processes of planning and ensuring reliability, the work that's carried out from day to day in states and regions throughout the country.

At FERC, as you're aware, we've concluded a series of technical conferences focused on reliability with regard to implementation of the Clean Power Plan with the goal providing advice and counsel to the EPA regarding the issue of reliability, how it may or may not be impacted, and the role that FERC could play in carrying that work out.

So I'm really delighted to be here and I'll tell you my role today. It's not to talk. It's to listen. And I want to hear from folks we consider experts. And we could have had a number of you here, I recognize that, but in the interest of time and because we want you to actually get out and enjoy a beautiful Friday in the nation's capital, to hear from the folks seated around the table. They're no shrinking violets, I've said. So we'll have to be careful to watch our time. And we've asked for some Q cards to give us a few minute warning, so everyone can get their last minute comments on each of the questions that will be presented this morning.

But this is a time for me and for all of us to consider the thoughtfulness of others. This is the most important thing that I think we can do, come together, lay aside our politics and partisanship, and really get to the nitty-gritty. So I'm looking forward to the deep dive today.

I have one ask of you and it's something I will certainly do. Keep an open mind. I certainly plan to do that and I think it's through that process if we come here and we commit to be open, commit to be open to hearing the perspectives of others, maybe considering something we haven't really thought about as it relates to reliability. I hope that we will all take something away from this technical design workshop this morning that will aid us in our day-to-day work as we continue to ensure reliability.

So I also want to make another assumption. So Jason has said we'll assume if, and I want to make another assumption that – and again, it has nothing to do with your particular position or the position of your association – I've heard someone describe the plans as such: state plans, regional plans, and federal plans. So if we think about the fact that there will be one of those three plans, as we begin this discussion, I think it will be very helpful.

And then, toward the conclusion, I hope that we will have time to absorb and take in all that we've discussed today and also commit to acknowledging that this work is just beginning. It's a new day and the challenging work truly lies ahead. So again, thank you for being here this morning. I look forward to our discussion. Thank you, Jason.

MR. GRUMET: So the last kind of stretching comments. We are webcasting this, which means you can go home and watch it again. (Laughter.) We are going to try to get going around three basic questions, right? The first is, you know, why are we here, right? What are the reliability issues and questions that cause us to be wanting to have this conversation? We're then

going to talk about I think the, you know, core question of can you address those, add additional processes to the rulemaking in a way that maintains the environmental purpose of the rule. And if we get through those two kind of framing conversations, then my hope is we really kind of focus on some of the nitty-gritty, you know? Who's got the ball, what's the sequence, what are the criteria for these decisions? You know, could we in fact put together some advice and a plan?

And I say that because I spent the bulk of last night reading the comments that just about everybody around this table has offered. And there is a surprising amount of similarity in terms of intent. Not a lot of details, right – a little bit of details, but nothing close to what in fact the federal government would need if it was going to create a reliability safety valve or a reliability insurer's mechanism. And so my hope is we at least can identify, you know, what those key questions are.

None of us – most of us are not going to have any role in making that decision, but I think it would be a real service if we could try to figure out kind of what those key ideas are before we leave here today. Just to introduce the group, and as I mentioned, this group was really picked from the folks who had sharpened their pencils and put thoughts on paper. I'm sure that we've missed a couple of people in this big world, but I think we've got a lot of you. And I think just about everyone here is known to the room and you have bios, so I'm just going to do names quick for the wonders of the 17 people watching us online. (Laughter.)

So the first is Sue Tierney, who's a senior advisor at the Analysis Group. Bill Spence, who is the chairman, president, and CEO of PPL, who's here on behalf of Edison Electric Institute. John Novak executive director on environmental issues at the National Rural Electric Cooperative. John Moore, who is the senior attorney at the Natural Resources Defense Council. And you know, I get my two Johns confused because they're always really lined up on these policy issues, so – (laughter) – forgive me that. Craig Glazer, who's the vice president policy, PJM, on behalf of the ISO. Jim Gardner, who's the vice chair of the Kentucky Public Service Commission on behalf of NARUC. Michael Dowd, who directs the Virginia Department of Environmental Quality. And Gerry Cauley, who's the president and CEO of the North American Electric Reliability Corporation.

Thank you all.

We're going to ask a couple of folks to lead off each conversation with two or three minutes to frame things, and then we're going to try to encourage constructive free for all. So on this first question of why are we here, what are the issues that would motivate anybody to spend their Friday morning having this conversation, I thought we would go over to you, Gerry, and obviously NERC's thought about this a little bit. Frame for us, if you would, what you think the key issues are.

GERRY CAULEY: Sure. Appreciate the invitation to be here. I think everybody knows about NERC's statutory role of doing reliability assessments and oftentimes we get a lot of information from industry about projections of load and resources, and we do our annual

reliability assessment and we can predict where we'll be in three years, in five years, in 10 years down the road.

But once in a while, there's an issue, a set of issues, such as around the Clean Power Plan, where there's a great deal of uncertainty where we'll be. And we still try to do assessments and identify issues, but there's a great deal of uncertainty, so the challenge is really in understanding the assumptions that we're looking at and how do we assess whether we might have reliability issues in the future.

And we purposely don't try to take a worst case scenario or a best case scenario, but try to create study envelopes, like if this happens, then what will be the result, and identify issues. And that's what we've done in our initial report last fall and then a recent one just a couple of weeks ago, identifying some risk areas. We're not saying there will be problems, but just there are concerns and risk areas that pop up.

One thing I'd like to challenge is assertions that because the grid and the utility industry has been resilient in the past and resolved all problems in the past, they will continue to be resolved. We don't work that way. If a power company operates on that presumption, we go get them and find them a million dollars a day because you can't go off into unknown areas and not have a well-planned, well-operated system.

There's an analogy to your own home. If you were going to – you know, you didn't want to upgrade your house, but you wanted to maybe expand your living space and you wanted to add a room addition to your house, one thought would be, well let's just tap into the last outlet over in this other room and run a bunch of wire and we'll create six new outlets in the new room and a ceiling fan and a dimmer light. I don't think you'd do that. I think you'd hire an electrician to come in and plan and look at the line loading, look at the circuits, and prepare –

MR. GRUMET: Not in my house. (Laughter.)

MR. CAULEY: I'm talking about rational, safe people. (Laughter.) So and if you were going to add (a pull ?) equipment, you would have a hired electrician. You'd say, you know, is the circuit breaker big enough to handle this load. will it trip, and so on. It's a very similar thing. You really need to know, electricity is not a mystery. It follows the rules of physics, the laws of physics and they're pretty well understood.

So as we've done this analysis, I put the four risk areas into four categories and I think where concerns might come up. First is in fuel, fuel delivery and storage. I'll come back to these to summarize what they mean. The second is in production or capacity. Do we have enough generation available to produce the electricity needed? The third is in delivery, can we get it to where it's produced to where it's needed. And the fourth is control, do we have a tightly controlled grid that is stable and voltage and frequency are managed?

So fuel really comes down to gas and the shift to gas and whether there is adequate gas pipeline and storage combination needed to hit the peaking periods of load and demand on the gas system. This is not a problem everywhere. It's a regional problem, but where it is a regional

problem, it can be severe. You know, one solution is to build pipelines, but they take time to build. You know, our report is three to five years. If you've not caught up with that timeline, it may be a delay in getting that there.

There's also a challenge of who's going to pay for the pipeline. It's really hard to justify passing through – the cost of a pipeline through to electricity ratepayers for those few hours or few days a year on extreme conditions, when you need it. So the pipeline companies are obviously saying, if we just pay for it and contract it, we'll build it, but it's hard to make the math meet on the dollars to get that there.

The second area is on delivery. When you have a massive shift, large shift of what generators we're producing to which ones are now producing or bringing in renewable sources from remote sites, a number of different scenarios, you look at is the transmission capacity there? Are we going to see congestion in new areas that we didn't see before? Do we need to start transmission projects or accelerate existing projects? The timelines on transmission tend to be even longer. You know, in the seven years – 10 years are good timelines and sometimes they can be longer than that with all the permitting. So the challenge is complete new re-dispatch pattern, do we have the transmission set up to deal with that?

The capacity question really has to do with will there be enough generation there on the peak days. Our latest run on the report that we produced showed a tremendous shift in the – on the energy side to dependence on gas to meet load with the coal units really being idled. A number of retirements, you know, which we've seen in the past, which we continue to expect, but most of the coal in our runs that we simulated really were idled substantially and only used as peakers. The reality is, in the real world, I personally believe that's not likely to be a good scenario because I think the economics will not be there for those coal units to hang around for a few days a year to run as peaking units. So I would expect even more accelerated retirement. So the net capacity, megawatt capacity, do we have it there?

And finally is the control side, as we have traditional central rotating machines that provide a bounce of inertia voltage control through the large rotating exciters and frequency control, just a very stable anchoring type of resources, will that be there? Will it be as controllable? Will it be as visible? To me, that's much more of a policy question because the new technologies, wind and solar, certainly gas are good units that are controllable. The technologies are there, those resources are all controllable. We just need to make sure we get the policymakers at the state and federal level to line up and demand it and expect it that we do need these control services going forward.

So I'd just close by characterizing these four key reliability issues have complex dimensions. First of all, on a timeline, we don't know which will emerge where. So it's going to be, you know, as we get the final rule, as we see the plans emerge, there's going to be sort of hazy but ever increasing visibility onto the issue. So some of the relief mechanisms may be known further out of head, but with some vagueness, but you know what's coming. And some will be very short term and we see them directly and exactly. It's this unit and this problem that need to exactly be solved.

It'll also have a geographic dispersion because all the issues will be different everywhere. There's – not one of the problems I mentioned will be uniformly everywhere. In some places, there won't be any issues. And I think I'm optimistic that the state and federal environmental folks and the utility commissions at FERC and at the states and the power companies will work through a lot of these issues going into this. There needs to be a lot of collaboration and coordination. A lot of these issues can be foreseen and dealt with proactively, but they will not all ever be all addressed. And I think we need to have that mechanism that people who operate and own the grid need to be able to call for relief. And I think that's why we're here today.

So the reliability coordinators, the planning coordinators, transmission operators in the balancing areas need to be able to raise a flag and say, I need relief because I'm going to run into trouble. It might be six months from now. It might be two years from now. It might be five years from now, but I'm either going to have a global area issue or I'm going to have a single unit issue and I need to get some relief, so I'm not out of compliance with NERC rules or the EPA rules and I'm faced with that dilemma.

So thank you. I have a lot more I'd like to offer, but I'll cede back to the chair.

MR. GRUMET: That's why we're here. Thank you, Gerry, it's really a terrific way to kind of frame out one thing we all agree are the broad challenges. Sue, your group has recently released a paper which talks a little bit about kind of the resiliency in the system and I want to see if you can give us a little bit of your frame on the issue to get started.

MS. TIERNEY: Well, let me just start by saying I agree with 99.99 percent of what Gerry said. (Laughter.) It was the use of the word "most" that the industry, the regulators will address most of the problems. I think experience has shown us that this industry, which is so mission oriented and these set of public policy makers, who are so mission oriented, will address the problems. And so that's the starting point of my comments.

I actually want to start with a little bit of a disoriented one, which is do you remember April 16, 2015? Remember what happened? Did anybody see the lights go off? That was the day the MATS rule went into effect. And do you remember the conversation that we had four years ago about MATS? It was this exact conversation. MATS was a very inflexible rule, unlike the Clean Power Plan, and there was great handwringing about whether we would be able to address most of the problems. And business as usual is not assuming that the problems are going to go away, but business as usual in this industry is making sure that reliability is addressed all the time.

Now, of course, in MATS, there was a reliability safety valve as part of the administrative mechanisms and we found that, in fact, because of market responses and because of the – once the rule was actually put into the place, people kicked in the gear and did their normal job and made sure that there was not going to be a reliability problem. And in fact, I didn't notice a big blackout.

Sorry. You shouldn't eat too many carbohydrates before you speak – (laughter) – into a microphone. Sorry, those muffins were really bad. So the reason that I have written with

colleagues to say that I don't think that a reliability safety valve mechanism is needed here is because fundamentally the industry has in place so many aspects of reliability mechanisms that we have those mechanisms in place today. We have reliability must-run contracts. We have ways to address voltage support. We have ways to address inertia. And part of the way is through markets and part of the way is through mechanisms that the grid operators can kick into gear, situations where we will not allow a plan to retire if it's needed for reliability purposes.

So in some ways I think that the fact that we have that strong foundation for addressing every one of the type of absolutely key problems that Gerry mentioned is why I continue to think that we don't need something else here. The other reason I don't think we need something else with the Clean Power Plan is that it is so flexible. It is so flexible within a state, with regard to ways that states can come up with options for addressing a variety of issues, including reliability, which is so much the foundation of what states need to be concerned about and are concerned about. There is flexibility across states and there's flexibility over time. So there's so much averaging as a potential tool that states can use as they design their plans.

So I think that that's a core aspect of this approach that is really important. So the fact that markets can happen. The fact that there are the options to use mass-based approaches, which inherently we have so much experience in, seeing that people can establish trading mechanisms. Trading doesn't need to just happen within the footprint of the units of a generating station or within the units of a single company, but they can certainly be across time and across space.

I picture a place like – I'm going to just call it out – Florida, which does not have a lot of connections to the rest of the world on the United States.

MR. GRUMET: Electricity or just more broadly? (Laughter.)

MS. TIERNEY: I didn't want to say Texas because you would have said those, so I said Florida, but you said those, and so there we go. In theory, I can imagine that there could be some – so there's some problem there with either an operational issue on a short-term basis or a resource adequacy question. I don't see there's anything in the Clean Power Plan that would prevent Florida from buying an offset from some trading hub somewhere that's in Minnesota or some other kind of thing. Those kinds of things are allowed, I think, and anticipated by this rule. So I think there's tremendous flexibility that can help assure that we can have both a reliable system and satisfy the compliance requirements.

Just a couple of more comments in terms of these framing issues. One of the principles we have for reliability is that our system is designed to make sure that we have a robust set of layers of the onion to turn to. If there's one contingency, then you turn to the next resource. It's in spending reserve and you can go to the next one and so forth. That concept of reserves is built into our resource adequacy models and it's built into the operational security issues. Why not build it into our environmental strategy as well? Why not make sure that there is a design to have an over compliance? I'm saying over-compliance meaning reserve is on top of what you need to do to very fine tune a compliance strategy. And that reserve then enables a robust response and enables us to make sure that we don't find ourselves in a situation in the last year,

where there's some unit that needs to operate and it's a highly emitting unit. It's just almost inconceivable to me that we would not have the ability to have some resources in reserve that you can go tap to make sure that we do not violate the air quality and pollution control aspects of this rule.

So let me stop there and thank you very much for your attention.

MR. GRUMET: So we asked Gerry and Sue to kind of establish the boundary conditions for the discussion.

MS. TIERNEY: But it's 99.9 percent.

MR. GRUMET: So let's focus on that 100. (Laughter.)

MS. HONORABLE: Craig is champing at the bit over here, so I want to get his microphone up close.

MR. GRUMET: Craig, jump in and let's try to get some specific examples so that we can put a little texture to the, you know, broader conversation.

CRAIG GLAZER: All right, well thank you and I'll actually speak into that. Before I do that, let me just mention that I am actually here on behalf of the ISO/RTO Council. I see some of my colleagues in the room. That is the group of all the U.S. and Canadian RTOs. So speaking for California and Texas, you might watch me become a rendition of a human pretzel here as I try to speak for all those regions. But actually the good news is we all came together on this – California, Texas, New England, et cetera. So I'm very proud of my colleagues on that and appreciate that. And thank you, Commissioner Honorable and Jason. I think you set the right tone for this discussion.

The question of why we're here, we could talk about it, but let me actually illustrate it with a prop. This is, in fact, a piece of a transmission tower that served Washington, D.C. And no, I did not take this off the Metcalf Substation, so I want to get clearance from that. This was not an act of vandalism. (Laughter.)

MS. HONORABLE: I should say any substation –

MR. GLAZER: Right. But I raise this, I illustrate this because it's an example of just how much work we have to do. My hat's off to Bill Spence and the companies, the transmission owners because this tower was replaced and many are being rebuilt. But I show this as an illustration of just how much work we have to do.

You know, many years ago, I was a Boy Scout and I wasn't a very good Boy Scout, but I remember the motto be prepared. And to me that really is what this is all about. If we do this right, Sue is right, we shouldn't ever need the reliability safety valve, but boy, it is a good thing in our view to have, to have it well thought out, to have it not a license to steal on one hand, to

undo the rule on the other hand, not something where we're just putting all our eggs in one basket.

So I just wanted to illustrate this as an example of why we need some plan. Thank you.

MR. GRUMET: All right, anybody else have props?

MS. TIERNEY: Yeah, that looks like a horn actually. (Laughter.)

MR. GRUMET: Yeah, John.

JOHN NOVAK: I'll jump in. And I'm not a reliability expert, I'll say it upfront. I'm an environmental engineer, worked on environment for a long time in climate change. And I don't know who's right, but I think, you know, our history shows us that we've been able to keep the lights on. But what – this is a new plan. This is a far-reaching plan. What if something happens and, you know, a state is faced with compliance 111(d) and keeping the lights on? Can we put something in place? That may never be used. Sue is right. It may never be used. But just in case you need it, it's there that a state or regulated entity can take advantage of that is in place to make sure they're not faced with that dilemma. And we've got something that I'll talk about later that I think can solve that problem.

JOHN MOORE: Thanks. First, thank everyone for having us here today and calling this discussion together. I think it's really useful and obviously extremely timely considering what's going on in both agencies now.

I think that one of the points I want to stress is to look at the rule itself, look at the differences between the Clean Power Plan proposed rule and the Mercury and Air Toxics Rule. And yes, Sue, I actually brought out the final rule for MATS and went through some of the responses to comments and see a lot of the concerns that were expressed and some of the solutions that were in place for a much more stringent rule in a lot of respects, a rule that affected units, specifically on hourly basis.

So just talking about the reliability safety valve, something which I interpret as a waiver of compliance obligations, not talking about the reliability assurance and sort of the issue spotting of potential reliability issues down the road that I interpret to be something like reliability insurance mechanism. But just talking about a reliability safety valve, you know, the reality is that if a state designs a plan either individually or with other states using any combination of the flexibilities in the plan, the need for a reliability safety valve should be exceedingly low. Which is why we focus really on using the states and EPA review of those draft state plans as ensuring that the states can both meet the standards and achieve reliability.

In fact, you know, if a state proposes a plan that can only come at the expense of a reliability violation, then really that state may not be submitting an achievable plan in that specific case. If a state – the Clean Power Plan, you know, has a two-year rolling average with a 10 percent shoulder of exceedances before the state has to take corrective action, there's – there's

broad flexibility, not just within all the different resources that we already know and talk about, but also within the actual compliance.

So I think those are the points to keep in mind when we think about a reliability safety valve. You've got flexibilities in the system. You've got the opportunities for the trading. You've got the opportunities – the reality, you've got this 10 percent band, even in worst case, you can submit a plan amendment to the agency, which we don't really think is a good strategy because of the time delay, but all of those things should happen before you get to the question of a safety valve that excuses compliance. Because that really just rewards – that has the potential to reward states that are not using the flexibility as the plan and punish the states that are using those flexibilities. So I offer that out.

MR. GRUMET: Please, Bill.

WILLIAM SPENCE: Okay, just speaking on behalf of EEI and I didn't bring a prop, but I'll use this glass of water. (Laughter.) And water is something we all need. Power is something we all need. Reliability is too critical an issue to kind of not be prepared and not have a contingency plan.

So I think what EEI is looking for, and I would echo the same four key areas that Gerry mentioned in terms of the need for a reliability assessment, and EEI – just to kind of define, there's a little bit of a difference in term here, and I think they mean the same thing to a lot of people, but we're really talking about an assessment process, a reliability assessment mechanism versus an insurance mechanism. We believe that having the assessment then will allow you to assure liability by taking actions proactively and making sure that, you know, we appropriately plan the system.

I think the difference here to me and I think to EEI compared to MATS – and this kind of speaks to the RSV – is in the MATS program, we're really talking about something that was fairly limited in scope to a select amount of generation on the grid. What we're talking about here with the Clean Power Plan is very, very broad. So we're talking about bringing in renewables. We're talking about multistate planning. We're talking about state plans, federal plans. It's a very different animal than what we're dealing with the MATS. And the industry, electric power sector, was really in control, I think of how they could comply and how we could step up to the bar and meet the obligation.

And as Sue said, we did step up and nothing happened. The lights didn't go out. And you know, so we have a good experience with that and we actually like the framework. We think it's worked well. And the fact that very few companies have really had to use the reliability safety relief valve is the same thing we would expect here and hope to happen here. With a well thought out plan and one that, in the beginning, assesses a need or an issue before it happens is our best defense. And I think Warner Baxter from Ameren, recently at one of the FERC technical conferences, mentioned that, of course, the interim target is our first defense and making sure that that's a reasonable – at least targets that are probably better paced and better rolled out – is our first line of defense. But the second and third lines of defense are really having a good assessment process and then a safety relief valve.

So I think those are really critical. And I would commend FERC for taking the leadership to look at these issues before we get into even seeing what the state plans and the federal plans may look like. So I appreciate the leadership there. And FERC has a very important role to play, too, in our view on the reliability front, having the responsibility for reliability. And from my view, when I see Gerry and NERC and the RTO/ISO Council and FERC technical conference outcomes that we saw, a lot of people are suggesting this is the right thing to do, have a RSV. And they're the experts. We have our own views at EEI and we agree with the experts that this is the prudent thing to do.

MR. GRUMET: Michael or Jim, do you want to open up?

MICHAEL DOWD: Sure, thank you. Is this on? First of all, I want to say, just so I don't get in trouble, all the views I express are my own and not necessarily those of my governor or my secretary, so that way I don't get in trouble. I just want to push back gently on Sue just on MATS. MATS really was an entirely different animal, in my view. EPA sorted that a lot less than met the eye, the one-year extension process was already in place. And frankly, I think I have the authority to grant the extension, regardless of any EPA post-hoc type of policy.

And in addition, keep in mind, John also, that in MATS, that was a one-year extension of the compliance obligation. I mean, there was no averaging up, there was no chewing up. That was – that's a one-year extension. And when people came to me looking – can you give one, you know, more than a one-year extension, I – you know, EPA said, no, no, you can't do that. The act totally forbids it. You have to go to the present – the company has to go to a present. So there wasn't much in the MATS policy that really changed the existing rule for MACT.

And John, I just want to point, you know, this is a very complicated rule and I just want to push back gently on the thought that if a state plan doesn't encompass or foresee all types of reliability issues, that that's somehow a fault to the state plan. My state imports about 40 percent of its electricity. So there could easily be reliability issues that come to my state through no fault of our own, but through whatever actions other states take. And frankly, the time period that EPA has given us makes it very, very difficult to really do full-blown interstate plans within the timeframe allowed.

So you know, at the moment, I'm, you know, I guess ambivalent or at least open to the idea of – our state's open to the idea of reliability mechanisms. They may be necessary.

MR. GRUMET: I suggest ambivalence as a theme we should all fully embrace.

MS. HONORABLE: And I loved when he said open, I loved that.

MR. GRUMET: John and then Jim, if you want to pop in.

MR. MOORE: Yeah, a couple of things maybe just going back to Bill for a second. It made me wonder whether or not at least we can all agree that if there is going to be a reliability safety valve, again, a waiver of any compliance obligation that we think is unnecessary in most

cases, but we are talking about that worst case, I think, scenario, that there would be a requirement for finding offsetting emissions somewhere else in the system available. So that, in other words, the carbon cap integrity is maintained. We maintain the integrity of the carbon cap. That is sort of a foundational –

MR. GRUMET: We are going to go there and land there, hopefully in a couple of minutes.

MR. MOORE: Okay.

MS. HONORABLE: Hold that thought, John.

MR. MOORE: All right.

MS. TIERNEY: On the point of the first question about, you know, what potential reliability issues do we need to deal with, you know, obviously the simple answer is all of them. And all of them, all of the issues that we've been hearing right now in terms of retirements, the expectation that there will be more reliance on natural gas, imports of power across state lines, integrating renewables, all of those things are happening whether or not the Clean Power Plan is happening. Of course, there are timing issues that are different, but all of the types of problems that people are thinking need to be resolved are in the process of being resolved. These are not surprises to anybody in the industry. And so there's a lot of work underway to address these issues.

MR. MOORE: It reminds me of PJM and the effort PJM has taken over the last five years to process 10-15,000 megawatts of coal plant retirements. It's done the studies, a lot of studies. It's found reliability issues and it's addressed those issues. I don't think we are seeing that anytime we find a reliability issue of the type that PJM, you know, found many, and dealt with many, those aren't the types of issues that should give pause to the Clean Power Plan. The Clean Power Plan will just move forward. Those issues will be dealt with through the reliability authorities.

So I think one of the, you know, major questions really is what exactly – what kind of reliability issue are we talking about that justifies a pause to implementing the Clean Power Plan?

MR. NOVAK: I'll give you an example. Let's talk about Virginia. Virginia has nuclear power in the state. What if for some reason Lake Anna goes down, goes down for several years or like San Onofre in California goes down forever? Are there going to be sufficient offsets to make up for 1,000 megawatts or more of non-emitting generation? How long will it take to get that extra renewable energy or extra offset? I would guess that, you know, the reliability is going to be provided by natural gas or coal plants. And that's going to, you know, force you up against your budget. How long would it take for you to get, you know, to get that relief?

And hey, if there's enough offsets out there and, you know, there's, you know, to get and there's a way to stay on track, fine. But it's that unforeseen situation where either, you know,

another mini generator goes out or the market changes and somebody in another state makes a decision to shut something down. And now, you've got to run up your fossil units in order to keep the lights on. I hope it never happens, but that's the situation that we're looking for. And we're not looking for a waiver, we're looking for a modification to the standard, maybe temporary, maybe with a requirement for offsets, and so that it doesn't bust the bank.

MR. CAULEY: I want to kind of come back just to Sue's comment and I know we're building constructive direction here, but I think to suggest that the Clean Power Plan is not going to accelerate change and shifting resources and a drastic shift beyond what we've already – it's not a continuing trajectory. I know almost every company is out there evaluating the impacts and what resources impacts would be whether they retire. So it really becomes a very big economic driver. So I think there will be change.

The issues – I think we're all kind of saying that a lot of them could be worked out and they should be rare and a lot of collaboration will resolve a lot of things. But when they come, they're going to be very real. And typically, they're going to be combinations of things. And we've had an example of extreme cold combined with gas shortages. So you end up – we had to pull a vortex and then we had to pull our vortex, too, this past year. In Texas, we've seen sort of fluctuating shortages in capacity, but if you combine that with drought conditions and a lack of wind – so when the issues come up, they can be very acute and the time to deal with them can be very limited, the tool set can be very constrained. So we need to be able to have these mechanisms for the what ifs and the combination of what ifs because you really can't build – you need the power tomorrow. You don't need it, you know, next year or three years from now. So –

MS. HONORABLE: And if I could jump in here because I think the question is, and maybe this is Jason trying to get us back to this point, the question is what are the types of reliability incidents that could occur as a result of the implementation of the Clean Power Plan that we really need to focus on here? So the examples that I've heard are real ones, a nuclear plant going down, the aging infrastructure – I should have started with that, that was pretty impressive, Craig. But also – what I hear you saying is it could be the sort of reliability issue that we've typically had to deal with. A plant going down or a line tripping, you know, or faulting is not unusual in and of itself. But I think I hear you all saying it's the timeline.

But I want to press a little more to ask you what other sorts of reliability issues could occur that might be unique that we need to be prepared to address.

MR. CAULEY: We can create a whole list of severe conditions that the power companies deal with all the time. And they are drought –

MS. HONORABLE: Absolute.

MR. CAULEY: – extreme heat periods, extreme cold –

MS. HONORABLE: You just mentioned a polar vortex, derecho –

MR. CAULEY: And when there's such – there's such a strained tolerance, if we have to shed load, if we shed 300 megawatts or you know, or just a period of time that we get to that point or somebody's got to call it a shot, it's a very difficult time. People don't want to do that. People don't want to have that happen to them.

But usually, when that happens, it's the worst time. It's in the middle of the heat wave or it's in the middle – you know, it's like zero degrees out and there's no heat. So it's – I put a lot of it around the extreme conditions that we really work hard trying to cope with. We can't ignore those.

MR. GLAZER: Commissioner, if I could, just to comments sort of a little bit go in different directions. I think we have to keep in mind. This is an energy related rule. It's total emissions over a 12-month period. So yes, the polar vortex, those extreme conditions are definitely important. But this is an averaging process over an entire year. And so there is more flexibility in that sense. It's not just the plan goes out on the day I need it and therefore I'm in violation of Clean Power Plan. You do have 364 other days to manage that. So that's just one factor. It doesn't mean there isn't still an issue.

The other point I wanted to raise, I wanted to add a fifth one to Gerry's list. I liked his list a lot, but there's a fifth one which is – I'll call it, for lack of a term, regulatory risk. And I think just –

MS. HONORABLE: I'm interested in this. Go ahead.

MR. GLAZER: Well, and it's not even the regulator, just think about this past week. Just in this past week, we had two decisions from courts that really significantly changed what we were relying upon. The whole question of how we – can we utilize demand-response and energy efficiency for that matter as a resource is now in the hands of eight justices who, you know, this isn't their specialty. But they're now going to decide for the world and we found that out this week. That was on Friday. Maybe that one was on Monday.

On Friday, a week ago, we got another ruling from the court of appeals that said, behind the meter generation that we thought we could utilize in emergency conditions, we can't. So those are the kinds of things that sort of come out of the blue as sort of regulatory judicial risk that is really hard to plan for. We're good engineers, but those are the things that, you know, courts throw at us that really get more difficult.

MR. GRUMET: It's the damn lawyers point, right?

(Cross talk.)

MS. TIERNEY: You're not a good engineer.

MS. HONORABLE: Yes, he is. Well, and I'm glad you mentioned that point, Craig, because I spoke to the Energy Bar Association, talked about really the times that we're in now.

And I embrace that point, regulatory risk, because you don't quite know what decisions will come from the courts or regulators, for that matter, I'll accept that.

But it really is a dynamic time in the evolution of not only policy in the energy sector, but with regard to the law and jurisprudence. And so it's a layering. So we've talked about the sorts of traditional work that we've undertaken. I call it our bread and butter of ensuring reliability, building, fuel diversity and the like – planning, cost allocation, then being prepared to be resilient with regard to keeping the lights on and getting the grid going when there's been a disruption.

And now you have another layer, particularly where the law has tended to be fairly static, from the point of view of the Supreme Court, but we have a tremendous number of decisions even before the courts of appeal, so I'm very pleased that you raised that. It's really such a dynamic time in many respects.

MR. SPENCE: I just wanted to give maybe a little different direction and I might disagree with Craig, not on the regulatory point, because I think that's an excellent point, but on the averaging situation. I don't think the averaging situation is the situation we're most concerned with.

So, for example, if a state plan has certain ratchets down on emissions from unit sources. So let's take a coal plant or a natural gas plant. We envision that the Title 5 permits that they operate under will be modified and there will be new restrictions. And they could be operating hour restrictions. They could mass-based or unit specific, you know, pounds per CO2 limitations on an hourly basis. And if the nuclear plant in John's example goes down and we have to ramp up a coal plant that otherwise was under restriction for some reason, we don't – we need a mechanism that helps anticipate that and then tells us how we're going to deal with that, so that we're not in violation of the law. And so we really need to be specific, I think, on those types of situations.

The other example I would give is a natural gas disruption. We're going to be placing a huge bet, I think, on natural gas to comply with many of these state plans, my guess. If we have a natural gas disruption in a zero degree day that Gerry talked about and we, again, we need to supplement it with other resources, it's sometimes not possible to engage demand-response quick enough or have enough demand-response quick enough, which is one of the tools in the toolkit, of course, but it may not be enough because we're talking about potentially thousands of megawatts that could be interrupted being served off one or two major interstate gas pipelines.

So just a couple of specific examples where I think and I think EEI believes the reliability safety valve was absolutely essential.

MS. HONORABLE: Those are excellent examples, thank you.

MS. TIERNEY: Do we have time for one more on this?

MR. GRUMET: We sure do. In a couple of minutes, we're going to move to this question of if, then what kind of environmental response. But we – (inaudible).

MS. TIERNEY: Commissioner Honorable said that she liked the phrase "be open" and I do, too. And everything that I'm hearing about, which are legitimate, completely important issues to address with regard to the kind of problems that arise, to me there is an answer to one of these, and that is to be open to mechanisms that don't lead to unit specific aspects of state plans. Just about everything that I'm hearing about could be solved with market-based approaches, frankly, that allow so much robust trading and that create a market incentive to address a carbon problem.

So right now the escape valve that people are talking about is we need to run a plant more often that is going to be using – that is going to be emitting carbon. And if that's the case, then if there's – without that escape valve, the market is going to get a signal to provide a reserve of carbon controls or some other kind of thing. And if states are open to allowing that as part of a plan that if there's a – if there're restrictions on particular units, the backstop is go and have a market solution. That addresses almost everything that everybody's been talking about. That allows spatial and temporal adjustment without a release of carbon into the atmosphere.

It seems to be that that is one – one of the things that we're talking about here is that carbon can't just be emitted for free as the last escape valve.

MR. GRUMET: So John, I think, was raising that same question, right? If I can kind of try to frame what is almost I think a somewhat philosophical, we're talking about the Rumsfeldian kind of known unknowns, right? We can imagine what the – and we're mostly talking about the safety valve. And I think we should back up a little while we're talking separate kind of the system wide, kind of regional assurance mechanisms since we're really focused on these incidents.

If we around the table can generally predict what types of occurrences could have – we, of course, don't know when and where – what is the responsibility to try to, I think in Sue's voice, kind of build margin into the system? To what extent can the regulatory structure itself be resilient enough to handle those? Should we be designing, you know, with the expectation of those interruptions? And at what point do they go beyond the pale of the planable and the predictable? And I think that's the moment where at least the suggestion is that there would be something else, something beyond all of the flexibility, brilliance, anticipation, collaboration. Electrons just move faster than we do. We find ourselves in a bind.

I think, John, you're asking the question or I'm imposing the question that you're asking, so okay, let's say that happens. And we all agree there is a problem that the system does not have the resiliency to deal with real time and there has to be some kind of exceptional mechanism. Your position is you could live with that if those emissions were brought back into the – reductions were achieved in the system in a later year. I mean, what would make that okay for you?

MR. MOORE: If you have worked through all the other possibilities, to take the nuclear plant issue for example, where you don't have – I hate to even use the word "offsets," but allowances or credits or whatever else were in the system or if the state doesn't have other

credits or allowances in the system. If a state plan amendment that keeps you on track isn't available, if you aren't, you know, if you're exceeding your 10 percent. Those are all important – I say that pretty seriously because the rule has those provisions in it. This is, again, not MATS.

So you get past that point. It's been very hard for us actually to conceptualize when a true safety valve with the waiver would apply under – I mean, under the Clean Power Plan if it's implemented in a flexible way. If the state plans – the state proposed and EPA are flexible. So at that point, yes, do something, find offsets, the allowances of credits elsewhere in the system to make up for it.

So you need – the goal is really to stay on track toward that 20-30 target. And I think if you do it in a way that the – I think most of the ISO that have done the study so far, good, bad, or otherwise, they all seem to conclude that a regional based compliance system will help mitigate any of these risks. That's good. That's another way to avoid this – what I think is a very last minute or a last chance sort of use of this safety valve. So yes, meet the cap, find the offsets, okay.

MS. HONORABLE: Thank you, John, for that. And I think I'd like to step back a moment because I think in my comments initially, I talked about the fact that I've heard a lot of comments about both a particular event sort of response and then a broader process. So with regard to the particular event response, and I hear John saying and I want to ask John this question, and then I'd like to turn to Commissioner Gardner for his thoughts on this issue. Because I've heard a lot of different things, John, about what this RSV would be or wouldn't be, honestly, I try not to use a particular term because some people don't – I think you clearly don't like the thought of an RSV.

MR. MOORE: We think that the Clean Power Plan has four or five RSVs already built into it.

MS. HONORABLE: Okay, fair enough.

MR. MOORE: So that any more RSVs is a – you know, suggest a relaxation of the –

MS. HONORABLE: Fair enough. And then, there're some who don't like the term reliability assurance mechanism. The CEO of Exelon, I think he used this term as a process, that who's on first? What are the stakeholders doing? What are the RTOs and ISOs doing? What is FERC doing? What is NERC doing? You know, what are the states doing, both air directors and PUC commissioners, what are they doing as a broader process? So in my mind, I'm not necessarily conflating the one event response with you release a cap and the emissions go away and they're never accounted for. Is there an opportunity to do both? Clearly our role here is ensuring reliability. John's job is to write a plan in his state along with the other air directors. And the purpose of the Clean Power Plan is to curb greenhouse gas emissions. So let's just all be frank about that.

So is there a way to create this one event sort of response and also ensure that environmental goals are met? So I wanted to ask John if he has anything further to add there and then I'd go to Commissioner Gardner.

MR. MOORE: I think I've been clear and will exercise discretion knowing, you know, knowing our position generally on staying on track to meet the cap.

MS. HONORABLE: Okay, very good.

JAMES GARDNER: Thank you. I will respond to Commissioner Honorable's question, but first I have to give my caveats as to who I am today. (Laughter.) And they might be longer than some of the others. (Laughter.) First of all, I am not speaking for Kentucky. There are other people out there who are speaking for Kentucky and that's in fact a dispute right now in our gubernatorial election as to who is speaking for Kentucky. (Laughter.) So –

MR. MOORE (?): I can speak for Kentucky if you want. (Laughter.)

MR. GARDNER: I will give some references to Kentucky, but this isn't like one meeting where I put on my Kentucky hat and said I'm speaking for Kentucky. So I'm not speaking for Kentucky. I am speaking for NARUC. And just briefly where NARUC is, since 2011, NARUC has passed four resolutions relating to EPA measures, some initially in response to the so-called train wreck and then some with specificity to the Clean Power Plan. And all of those resolutions emphasize reliability. And that shouldn't be surprising, given the state commission's responsibility with respect to reliability. You know, when somebody asks what, you know, what we do, it's safe, reliable, affordable – and so reliability is part of it. And in fact, I wanted to just read one of the resolve clauses that has some similarity to what Gerry said earlier.

The resolve from the February 11 resolution said that FERC should work with the EPA to develop a process that requires generators – and again, this was in response to, not the Clean Power Plan, so it used the word "generators," one could substitute states for generators – to provide notice to FERC, system operators, and state regulators of expected effects of the forthcoming EPA regulations to allow an opportunity for meaningful assessment and response to reliability issues.

So Gerry added a few others to the list, such as balancing of reliability authorities. And I would like to add, as this resolution does, the states should have a role in this process. And then, as it relates to your specific question, the – I mean, I think there are – I mean there's different time periods. And if you look at the different time periods in the act, that's what determines what the mechanism might be and how the mechanisms might be different.

So the first part is, you know, the planning process, and I'm not saying anything that the RTO/ISO or that NERC hasn't already said, but in the – the first part is the assessment, you know. The question is should reliability be discussed? Should it be a part of the plan? Should that be a component of the plan and people talk about it and NERC and others review that prior or as the plan is being submitted? Should reliability be there in the plan? And I think that it

should be a factor. I don't think that there's any reason why – I mean, this – having it in a plan, talking about reliability, examining reliability should be one of the factors, and that doesn't affect anything. I mean, it's just putting it in the plan, requiring people to think about it.

And then, as we go on, you've got the interim period, up until 2030, and there's no – I mean, the whole goal of that is flexibility, so there doesn't seem like there should be anything there. And I'll talk about the MATS experience in Kentucky. But then, with respect to the reliability safety valve, I mean, I think there should be a reliability safety valve at the time that it's fully implemented. So for those, you know, knowable, unknowable kinds of things are part of that.

MS. HONORABLE: Thank you. Anyone else wants to weigh in?

MR. MOORE: Well, I do – now, since the Honorable Commissioner from NARUC or Kentucky or wherever he's from today, he opened the door on the reliability assessment piece of it. So I did want to say something about that if it's okay because that was part of –

MS. HONORABLE: Of course.

MR. MOORE: – part of this, which is that we absolutely think and agree that an upfront assessment of every state plans for possible reliability issues is valuable and should be done. And clearly the reliability authorities are in a very good position to do that. I mean, we want the states to have the flexibility to design plans to maintain reliability. And of course, I sound like a broken record at some point, but state plans that at least have some element of a market-based solution are likely to be more reliable, as well as more easily to comply.

And here, just, you know, the headline is Order 1000, Order 890, planning review is a f part of this. Order 1000 requires regions to assess public policy requirements. This is a public policy requirement when it's done. So, you know, I pulled out the ISO/RTO Council's comments on this. And they noted the state plans, the state authorities work through their issues with the RTOs and the other reliability authorities on a regular basis, cyclically, annually.

So that sort of ongoing review that's going to happen over time, regardless of any special reliability assessment we do here, that's going to happen and that's going to provide, I think a lot of that valuable issue spotting that will give states and the regions time to respond, as they do now, whenever there's a reliability issue.

MS. HONORABLE: I'm really pleased, John, that you referenced the Order 1000 work, both as it relates to regional planning and interregional planning. So I think it recognizes, honestly, the prominence of the role of Craig and his colleagues and the reality of the work that's ongoing.

MR. MOORE: I mean, they're going to want to know if a state plan, you know, state plan A is going to affect reliability issues in state plan B.

MS. HONORABLE: Absolutely.

MR. MOORE: In state B. And we want to be able to deal with that, so it makes sense.

MR. CAULEY: I'd like to support the idea of reliability assessments being sort of on the front end of this and maybe the primary mechanism that we depend on. First of all, it's a function that's statutorily recognized. The ISO/RTOs do their assessments, NERC does. We have regional entities that perform that, and I think that's within FERC's jurisdiction as well to do assessments of reliability. So I think really a lot of issues can be identified on a continuum, on an ongoing basis and addressed and raised in a timely fashion through assessments. So we need to figure out, you know, how do we establish that.

I think in the end we're going to need to have the relief mechanism and whatever we call it that makes people feel good about that safety valve or whatever. But I think we just have to be ready to have that available if something comes out of those assessments that says, we're entering a risk area that is above what we want to accept.

I agree with Sue's suggestion earlier that to some extent markets can deal with a lot of the issues. I think we have to distinguish between electricity markets and carbon markets when we say that. Electricity markets are really resilient in terms of swapping out resources, generating capacity, monitoring reliability, but they're not infallible because they are limited by gas supply or by resources, you know, generators that do get retired and maybe some areas are tight. So they're not – they're strong and they can bend and help, but they're not going to be unlimited resources.

On the carbon side, which I think the suggestion is part of the solution, to me that's a huge question mark for me because, you know, do I want to bet the future of grid reliability five years from now or 10 years from now on robust carbon markets? I don't think we've seen that yet. And I don't know that there's any assurance that that will materialize and how it will work and how it will look. So the concept of moving obligations and temporarily moving them, you know, is difficult to put all my eggs in that basket.

And the final point, I think a couple of the panelists made it clear that if there was relief, it would have to be made up, paid back if you will. I find it a little bit difficult that that would necessarily be the public position. It certainly wouldn't – I'd have a hard time getting there. That the singular importance of having electricity to every business and residence seems like, you know, the ultimate thing that we want to assure is that there is reliable electricity. Whether that would have to be – environmental impact we'd have to pay back, I think that's a policy question for others, but I don't feel like it's a necessary prerequisite because I think everyone would want reliability sustained either way.

(BREAK)

MR. GRUMET: So here we are. We got here. Everyone's leaning in. Let me just note that, in about five minutes, we're going to come around and start to bring some questions in.

So here's where we've got to start with an "if." And I want to pose the scenario of, let's assume everyone does a good job, not a perfect job, right? We're not perfect people.

MS. TIERNEY: This is a hypothetical answer.

MR. GRUMET: But let's say everyone works hard. The rules are finalized in a way that is, you know, achievable, and there's reliability assessments and something that is big happens – nobody's fault, no one's irresponsible, no one – should the environmental integrity of the rule be modified to account for that unknown? Should the rate payers, whoever and whatever, you know, type of market we exist in ultimately be expected to have the investments to make up for that difference? Whose job is it, right? I mean, ultimately, at the end of the day, that is where this comes down.

I think, you know, we've heard from Gerry and John so let me – before we let you continue that, where are the rest of you all? I mean, state regulator, you know, whose job is it?

MICHAEL DOWD: That's a great question. I'll tell you what keeps me up at night are thoughts like John Novak. Believe me – we have an earthquake in Virginia not that long ago. North Anna was offline for a long time. There are limits – I love markets. Our state is predisposed to markets, I think, but there are limits in so far as it's going to take a while to get a national trading program together, if we ever do. '

So if you start out with a state trading program, for instance, what – you know, what we consider in our state is, well, were dominated by one utility that would dominate any type of allowance trading market. So what do you do with the single-asset facilities? How do you assure they get – you know, they're able to run when they must?

And I know that they've come to us, some of our single-asset units and saying, you know, we're a must-run unit because during the polar vortex, everything was running and we would have blackouts if we weren't running, et cetera, et cetera. You know, how do you assure that a plant like that is able to keep running in the event of extreme conditions? And that's apart from John's catastrophic example, where I suspect something that big, all bets would be off and we'd be back to the drawing board if it's that big a deal.

But these are, you know, the things I have to consider, you know, at a grassroots level, as we develop a plan, how do we make sure plants get the allowances necessary to run, how do we do the actual mechanism so that there's not market dominance so that one – you know, you can – one utility can't extract monopoly prices from other facilities in the state. I mean, there are some real issues as we go forward.

MS. HONORABLE: I want someone to just acknowledge that REGI exists, you know, the Regional Greenhouse Gas Initiative. Okay. But other than that, I'll stop there.

MR. GRUMET: John had a question and I think that Sue had a –

JOHN MOORE: See, you opened the door again.

MS. HONORABLE: I'm sorry. I can't help myself.

MR. MOORE: Right. REGI exists, California AB 32 exists. When I saw New England looked at REGI, they saw no problems with that. I mean, there's a little context here, not only in that there are carbon markets available but that are – what we're really talking about are relatively modest emissions reductions overtime. I mean, it's – we've already got nearly 15 percent from the 2005 levels. We got – even assuming, you know, more growth, it's – we're talking under 20 percent between now and 2030.

So I think there's some context there. I was going to ask – and REGI actually has an exception for this major – it's a pretty – you know, something really big is going to have to happen. Like you say really big, it's like really big, like, you know, act of war, national insurrection, you know, Texas leaves the union or something. I don't know. But there is that – there is that big exception in REGI.

MS. HONORABLE: Well, I think Michael's point though is we don't have a national – and that's true. We don't have a national framework.

MR. MOORE: Right. So my question to Michael was actually, if there was – forget national. If there was some market-based mechanism, you know, Virginia being able to go to find allowances off the shelf, would that ameliorate your challenge?

MR. DOWD: When I give my presentation, we have some ideas on that and I think they're along the lines of what you and Sue were thinking of. You know, there are a lot of things we're considering. Everything's on the table. REGI, of course, is on the table for us as well. At the end of the day, it may or may not be a good fit.

But, yeah. You know, we'd have to – we want to find a way to be able to make the plans that must run run when they must. That's very difficult. We'll have – you know, as we go forward, we'll have to be talking to our friends at PJM obviously, you know, how do you assure that you're not over – you know, creating a pool that's too big or too small. And, at the end of the day, you know, have a system that works.

MR. GRUMET: Dr. Tierney and then John.

MS. TIERNEY: So I'm thinking about a number of lessons that we can take away from the electric industry, and how we've set things up, and think about their implications for a carbon market and providing that kind of robust reliability safety valve as part of a market-based approach for carbon.

So two things – one of them is we all have decided I think in every part of the country that we have – one of the reasons why we have built-in planning reserve requirements is the expectation that without that administrative decision by public policymakers and as – you know, carried out by every grid operator, by NERC, by the utilities, is because we need to make sure

that that piece is there because the market wasn't providing it necessarily. So that happened there.

One of the reasons why my personal view is that a number of RTOs have adopted capacity markets is because we don't trust that when energy market prices spike we won't cut them off.

Now, if we knew that when energy markets price spike, there wouldn't be a regulatory action to curb it, the markets would come forth based on some kind of expectation that there's value created by that spike in price and somebody's going to come in and provide that function. We don't believe that that's going to be stable. My personal view is we can't rely on our political institutions to not intervene at that point. Okay.

So fast-forward over here to carbon markets. The biggest thing that will be an impediment to the development of carbon markets will be a safety valve that creates the ability to leak carbon into the atmosphere.

If you want both – if you're concerned about carbon in the atmosphere, you don't want to have an off – you know, an escape valve here, but also, if you care about the development of markets for carbon, you don't want to allow an escape valve because that would mean that people who are willing to place a money bet on being able to supply carbon – offsets, not carbon. Sorry. Carbon offsets – they need to know that there's going to be truly a market for that valuable aspect.

So I think if we think about it that way, there's a good reason why you would not design a thing that has environmental degradation because you care about market – not chilling the market as well.

WILLIAM SPENCE: A couple of thoughts. One is just if you look at the past and where EEI has come down on markets, I think they've had a long history of supporting markets. And if you think back to Waxman-Markey and some of the discussions that some of us had at that time, it's a tool. It's a solution that could work. I think Gerry made a good point about the unknown here is how might it work. You know, REGI doesn't today impact reliability. It doesn't – it doesn't really – that was not the goal, right? The goal was not to help save reliability or, you know, solve a problem that we had at the time.

MS. TIERNEY: Au contraire. I remember those discussions. The RTOs evaluated it, very concerned about reliability. Sorry.

MR. SPENCE: That's okay. I was really speaking more nationally but –

MS. TIERNEY: Okay. Yeah, yeah, yeah. In those regions. Sorry.

MR. SPENCE: They're region by region. But when I think about where we are today, we have in many regions declining reserve margins. We have nuclear plants and coal plants that are economically challenged. We have this clean power plant which is really blazing a new trail.

There is no blueprint for this. There is no, you know, thing that we can point to to say, well, we know that's worked over here so it's definitely going to work here.

And I think there's a little bit of a disconnect when the industry's asking for flexibility, particularly as it results to a relief valve, we're not asking for a free pass. We're just saying, if we get ourselves into a situation where we need to do something – and I think that, you know, that's a reasonable like ask, you know. And, again, we think it's going to be under very limited circumstances, unforeseen events. And I think, you know, there will be nothing that will derail the clean power plant quicker than having a reliability event.

So I would suggest that people that really want to see the end goal pushed across the finish line, we ought to have all the tools that we possibly can have so that we don't get ourselves into a situation where we totally derail what we're all potentially trying to achieve at the end of the day.

MS. TIERNEY: I agree.

MR. GRUMET: Craig and Jim, what to jump in? And we're about to start to get into this – first of all, if you have any questions, and then the specifics of how we then navigate I think the space that you described very nicely.

CRAIG GLAZER: Okay. Well, I'm going to get myself in trouble with at least half the room because I'm going to quote that great philosopher, Donald Rumsfeld, who was mentioned before, who said, you go to war with the Army you have, not the Army you wish you had. Remember that quote?

Well, the reality is we are not going into this with a mandatory market, nationwide market. This is not Waxman-Markey. We've got a state specific 1.11D program that you may – underline – may be able to build a market on it, but the actual rule itself is very state-specific and each state has to meet this standard. So it's not the market we wish we had, or we wish we had as the one we're dealing with today. So I think we have to be prepared with that and come up with mechanism around what we have to deal with today.

This whole question of, you know, how do you prevent this from the exceptions swallowing the rule, the license to steal, whatever, we spent a lot of time on this as the RTO council, and I totally agree. If somebody can just run into the governor's office and get a five-year, 10-year extension, this is – this is going to be a farce. And that's not going to work and that should not be the reliability safety valve.

What we came up with, and it's right in attachment C to our comments to EPA – we had very specific language – is specific, very tight criteria, a high burden of proof, what you have to do to get it. And it's very time limited, okay? And I'll just be real quick but –

MR. GRUMET: Take your time. Let's drill in now. Let's start with this question.

MR. GLAZER: Okay. We write in attachment C, we said, if you're seeking this relief, you have to do describe the problem, you have to have independent verification that there really is a reliability problem, okay, from the RTO, the person with – the entity with planning responsibility or whoever the planning authority is so you can't just hire some consulting firm to say it's a reliability problem. Sorry, Sue. (Laughter.)

MS. TIERNEY: I'm shocked.

MR. GLAZER: All right. Or say it isn't a reliability problem for that matter either. You also have to show why it cannot be addressed through offsets or some other modification to the state plan. So we've captured the concept, John, of if you can do it through offsets, you'd better make the case why you can't before you get the relief. We added that to the burden of proof.

And then we said, finally, you can ask for a limitation or an exception or an extension but that is time limited only to what it will take to mitigate the problem, to get this thing fixed, to get the transmission line in, whatever it takes.

So we put in a high burden of proof, a whole bunch of check points to exactly not make it an open-ended license to steal, if you will. And I think that helps to balance the competing concerns, in our view, on this issue.

JOHN NOVAK: This is EPA's rule. And EPA is under the gun to get emissions reduction. So this is a proposal and we're giving them ideas on how to make sure that we can get reductions, compliance with 1.11D and keep the lights on. At the end of the day, EPA's not going to put anything in this rule that will allow for waivers or allow for loss of reductions. They're just not going to agree to it. So whatever we do and whatever they do is likely not to allow these kinds of loopholes that we're seeing.

We asked the question earlier, should there be required offsets? In our proposal, we don't require offsets, but EPA's in charge of this rule. There's got to be a give and take to determine whether or not there's the ability to offset the – you know, the problem that occurred, like you say, a nuclear – is there the ability to offset that – (inaudible) – generator in the time period? And I'm sure EPA would require that. If it's not, well, then – you know, then they can decide that.

But this is EPA's rule. The ball is in EPA's court. I don't see them putting anything in here or agree to anything that's going to allow, you know, greenhouse gas reductions to – you know, to go away.

MR. GRUMET: Jim and then come back to Bill?

JAMES GARDNER: Thank you. First, Sue, it seems as if I hear you arguing more for markets as the answer to it. I mean, it seems as if you're saying that the markets will answer, will solve all these problems. And I'm not sure I agree with that.

It seems as if, if one looks at the MATS experience, and, granted, it's different, at least in Kentucky, there were more than a few extensions granted but the extensions were supported by things like statements from PJM or MISO or some of the other balancing authorities that, you know, it made sense and that reliability was at stake. So I agree that there doesn't seem as if there could be any problem requiring proof.

And the other thing, as it relates to the integrity of the rule itself, it seems as if there were exceptions. There was a reliability safety valve in MATS. Those safety valve exceptions occurred, and I don't hear anyone saying that that impinged upon the integrity of the MATS rule because there were some exceptions and according to the law. So, in fact, the opposite I think is true. I think that the integrity of the clean power plan will be hurt if there's not a provision for a reliability safety valve so I think I would just flip that question around.

MS. HONORABLE: So you're saying a built-in suspenders approach here.

MR. GARDNER: Yeah. Absolutely.

MS. HONORABLE: Okay.

MR. GRUMET: You want to give us a little bit of the details about how you see some of the operational aspects of this working?

MR. DOWD: Well, I was going to get into some of that in my presentation.

MR. GRUMET: But I think now is the time.

MR. DOWD: Now is the time?

MR. GRUMET: Jump right in because we're there.

MR. DOWN: I won't have much to say later, but one of the things we are thinking about for this – and everything is still on the table – one of the things we're thinking about is if we go to a mass-based program is some type of reliability set aside. I think it's something very similar to what John and Sue were talking about, and how it would work is, you know, it's relatively simple.

We convert our rate to a mass number, we get a state budget. And then, before we allocate the state budget in some manner, whether we allocate it pro rata or auction it off, we reserve a certain amount of that budget for units that have to – that have to run due to reliability reasons that cannot get allowances otherwise through the market system.

What's intriguing about it is it's relatively simple for us to operate. We have done trading programs in the past. We've had new units set aside for NOX in the past. We have familiarity with it provided we get over two hurdles upfront.

And one of them is – the first question is how does one – how does a unit tap into a reliability set aside. And the second is, and I think a bigger challenge is, how do you set the pool, what's the proper size of a reliability set-aside pool.

The first question I think is relatively simple. I don't do reliability so maybe I'm oversimplifying it. But what I would see is that a facility would certify to us and get some certification from folks, say, at PJM, Craig, that there is a reliability issue and that they can't get allowances elsewhere, something very similar to what you have, and that, based on that, they could tap into the reserve.

The second question is far more difficult because you want to have a pool that's the right size. You don't want to have a pool that's too big because then you're taking a lot of allowances out of the system, where John and Sue may really like that because it would be over compliance. A lot of other folks in my state would not. So you want the pool the right size. And if the pool isn't the right – if it's too small, then you're not really addressing the problem.

And if this is something we do go forward with, obviously – you know, or think about, obviously we'd need help from folks at, you know, say PJM or others as to, you know, how do you model the right size of the pool for our state. And I'm oversimplifying it obviously because, you know, each state has its own, you know, unique aspects to it.

But it's been pointed out – this is going to be a state-by-state plan process. We would probably really like to engage in discussions over time to get a regional program together. We're very open, at least at the staff level, very open to the common core approach, common elements approach that people have discussed.

MR. GRUMET: Don't call it common core.

MR. DOWD: Okay. Okay. Oh, that's okay.

MS. HONORABLE: Then we'll have to go all day.

MR. DOWD: I think I'm mixing my media here and issues. But we're very open to that type of – to that type of process, but that's going to take a while.

So that's sort of – you know, we're thinking about that that – you know, what's – that way people pay – you know, the reliability reserve comes out of everybody's hide, so to speak, and it's allocated over time.

You know, there are certain issues to it. You know, for instance, it's not at all clear you'll be able to trade forward, that EPA will allow that. And, in fact, in Virginia, our interim limits are so stringent, we basically comply with 85 percent or 90 percent of our whole thing right upfront in 2020. So there is sort of a big cliff for us at that point. If you could trade forward –

MS. TIERNEY: We said we weren't going to say cliffs.

MR. DOWD: I know. I know. But we face a big – a steep hill in 2020. But that's the type of stuff we're thinking of. We think that – you know, there are obviously fairness aspects to it that work and things like that, but we have a long way to go.

MS. HONORABLE: Michael, you know that we're paying attention to you for jumping in at certain points, so you really have a captive audience here. And you really are a very important part. We couldn't have this discussion without you. I was saying earlier John was writing the plan. I meant Michael and your colleagues, because – and a couple of us have mentioned this – some of you think it's warm and fuzzy. It's really not.

Collaboration, cooperation, coordination – this is the foundation for this, really. And I think Michael has really teed up nicely this next question of how should a – and I'd like to start with a – the broader process, how would the broader process of reliability mechanism or reliability assessment be developed. And then, if we want to have some discussion about the valve and the steps there, this is really the heart of our discussion, in my opinion, thinking through together who's on first and who's doing what.

MR. GRUMET: I can say that we've now gotten a bunch of questions from the audience, which really want us to kind of bear down on the details, shockingly. And so I think on the question – and why don't we do it in the order that Colette suggests, the two questions from the audience on the kind of regional – or the RAM is, so what else is needed? What people heard us say was, you know, violent agreement that there has to be this kind of planning, that there are mechanisms and a lot of you – I will not say us – have obligations to be part of that process. What is being suggested on top of the existing mechanisms and how would it sequence into the process?

MS. HONORABLE: Can we start with Craig?

MR. GLAZER: Yeah. I'll give you one that we wrestled with. And it's a difficult one. Yes, there's no question there needs to be collaboration, us working with the states, with NERC, et cetera. But what needs to go in the rule? I'm hearing about specifics. I'll give you one.

The ability of the administrator to be able to remand, to send a plan back if it's reliable for state A but has an impact on state B so that – and this is not clear in 1.11D that she has that authority. I would argue, and be briefed why we think she does have that authority within the statute, but it's to the point that Mike raised in Virginia.

This is an interconnected grid – something that happens in one state can affect another state, but think about it. She's getting individual state plans and having to approve them state by state. If her focus is limited by statute to only looking within that state, it could be reliable in state A but have a real impact in state B.

So we've actually said – and we think 1.11D authorizes this – that it be made clear in the rule that one ground to send the plan back, if you will, would be it's reliable in state A but the planning authority or FERC or someone is indicating it has a significant impact on a neighboring

state or region. That's what order 1000 was about, so we would tie those pieces together. That needs to be stated in the rule itself, otherwise, states don't know what constitutes an acceptable plan and what the authority of the administrator is. So that's one I'll throw out there.

MR. SPENCE: Okay. I would just add, and it's kind of in the same vein as what Craig was just talking about, that this interoperability between the gas infrastructure and the power infrastructure is another key thing that needs to be kind of specifically recognized and addressed because it does have the same multi-regional, multi-state issues that Craig talked about just on the power sector when you – when you add in the natural gas sector.

I would say also what we'd like to see is a specific acknowledgement that FERC has the duty, if you will, or the responsibility for not only an initial assessment but also an ongoing regular assessment to continually look at, you know, how are the plans going, how they're being implemented, are there any potential issues that are arising that need some correction? And so those are just two additional things that I think EEI would love to see in the final rule.

MS. HONORABLE: And could I ask you, Bill, when you say initial assessment, maybe EEI has thought some about this or maybe you have specifically what about that initial effort, what would it look like?

MR. SPENCE: Ideally, I think it would be that before a state even files the plan with EPA, that it gets some level of review. That would be the ideal. I'm worried though that the timing is such that we may not have that luxury. So certainly, as the plans are being filed with EPA at a minimum, they would need to be reviewed by FERC and NERC and all the stakeholders that I think have a part to play in assessing a pretty broad plan.

MS. HONORABLE: You've read my mind. I was going to ask, what could others participate in like an RTO or ISO?

MR. DOWD: There will be substantial opportunities for public input both on the initial state plan that we file and then on the final plan that we'll file two years from the final promulgation. We would hope that – as a state would hope that, you know, folks at EEI and PJM would avail themselves of that opportunity to comment on state plans. Perhaps at that point, that might be the opportunity that you're looking for is in that – is in that process to comment on reliability, the sort of two cracks at the – sort of two cracks at the apple. But you're right, otherwise the timeframes are pretty tight.

MR. MOORE: And I absolutely agree that the initial review can occur at the state – at the draft state plan process. You're doing the public hearing. You're taking public comment. The RTOs can comment publicly on it. That to me all makes sense. And I think that ultimately results in a better plan for the state as well as improving the reliability piece of it.

I think our ongoing review, you know, the RTOs that do the – literally, the monthly planning meetings will – I think if it's anything like what we've seen so far in MISO, PJM, SPP and perhaps others, they will be taking a closer look at these plans on an ongoing basis, not only between draft and but, you know, after final.

MR. DOWD: And I just want to add that we've been in ongoing discussions with folks at PJM and I can't imagine us coming up with an initial plan that we wouldn't want to chat with you guys about as we go forward. I mean, that would just make sense, as well as our SCC.

MR. MOORE: I think the main – the main point is that it needs to be transparent, open to the public and that all parties can be able to see really what's happening here.

MS. HONORABLE: I was going to ask the commissioner to jump in here. And I really – I'm more comfortable now that I'm hearing layers of work so it sort of rolls up, if you will. I mean, realistically speaking, we'll need that. And, honestly, you're the experts and so we'll need you to help do that.

MR. GARDNER: I was just going to say, shouldn't the plan be required to address reliability?

MS. TIERNEY: Could I – could I comment on that? It seems to me that there are two roads that are operating in parallel here under two statutory pieces. Remember, I'm not a lawyer so let's try this.

MS. HONORABLE: You're not, Sue?

MR. MOORE: We'll figure out a way to (screw ?) that.

MS. TIERNEY: So the EPA doesn't have reliability really in its underlying statute. And it would surprise me to see EPA issuing a rule in which they're going to opine about reliability.

EPA could put in the rule information about wanting to hear about your reserve analysis, you know, what demonstration have you come up with that gives comfort to the rule that you've done the equivalent of a loss of load probability that is used for designing how big a reserve we have for planning margins on the resource adequacy side.

You could in fact do some kind of probability analysis of these kinds of events occurring. The loss of load probability analyses are very complex, very well established in the field, and they come up with very robust analyses of how much megawatts you have to have on top of your expectation of load.

In theory, you could do that same kind of thing for the expectation that you would hit against a reliability problem that would bust the – you know, bust through the carbon target, so how much you have hold in reserve really as a system for that kind of thing? I mean, I think that is something that could happen. EPA might be interested in its rule to understand how much robustness these state air agencies are building into their model for that.

MR. DOWD (?): But EPA is not the one to tell us how to do that.

MS. TIERNEY: So hold on, the next road, say the non-lawyer, under the Federal Power Act, the FERC could on its own initiative say, we want to see these kinds of assessments done periodically. We want to see them at the point of your proposed plan, we want to see that they are out in the world, not that they necessarily are signing off of them to interject themselves into the Clean Air Act process but on their own initiative to get that information out into the world.

And then, as Colette just said, having some rolling pieces of information that allow that – those kinds of assessments to go forward, that happens now. We know that that happens now. NERC is always availing itself appropriately of those kinds of processes.

And it seems to me that the kinds of fuel assurance filings that you – that FERC has asked for recently in addition to the Order 1000 processes are ones where FERC on its own legs, statutory legs could be asking for things to get out into the public domain.

MS. HONORABLE: And I wanted to also mention – thank you, Sue. Thank you, Bill, too for mentioning gas-electric coordination. We've heard so many elements here that will be useful tools, including the markets, including the traditional work we're doing with transmission, cost allocation – or, excuse me, planning and cost allocation, pipeline build out and other ways in which we're working.

I'm pleased, Sue, that you referenced who's on first with regard to the agencies. So yes, FERC's role is to oversee reliability of the bulk power system. And the EPA has asked FERC to provide advice and counsel, and that was the purpose of our technical conference effort. Honestly, that's my personal mission here today to be informed so that I can help carry the load at FERC.

But I'm pleased to hear you all recognizing a number of tools and ways in which FERC can support the work of the stakeholders, whether it's regions or states or multi-state efforts going forward.

GERRY CAULEY: I'd like to weigh in on a couple of specific ideas on the mechanism or approach itself. A lot of what we've done today on this panel is talk about all the mitigating things that can happen with markets and collaboration and so on, but, you know, at the end of the day, the fact I don't think a lot of people realize is it's a challenge to run the grid every day.

MS. TIERNEY: Every minute.

MR. CAULEY: Even today. And we are going to go through a lot of change. So some things – you know, we have to foresee the possibility of different things. So it is a challenge, you know, because we know it's a challenge already. It's just going to be more challenges.

I liked Commissioner Honorable's suggestion of layers. And I think the layers that I see or distinguished between assessment and evaluation and collaboration on one side and a real appeal of an issue that might come up that seems insolvable and needs some firmer kind of process or mechanism.

So I'm a believer that every one – the state environmental folks, the state commissioners, the utility companies, the regional operators – are going to work really hard to try to identify and resolve all the issues. And I think that's the frontline of this is the companies that have to implement will be running their studies and doing their simulations and identifying the shortages and identifying the transmission construction timelines and raising the issues, and a lot can be worked out there. And I think it could worked out in layers even there, at the state level, at the regional level, you know, at the regional planning level, and a lot can be dealt with there.

Now, we say, well, what if there's a problem where the wishes and desires of the federal environment regulator and the state environmental folks and the state commissioners, the end, we just believe it's not feasible, we're still going to run into a problem? I think there needs to be an appeal mechanism as a last resort.

I go back to my original point about it being the reliability entities who are on the hook. And I don't put that on the generators particularly because they might fight to defend themselves staying on and off or having economic justification.

But the reliability coordinator, the transmission operator, the balancing coordinator and the planning coordinator, there are 400 operating requirements and there are six planning standards that those four entities have to meet and it's to make sure that tomorrow and a year from now and three years from now there's going to be a reliable grid and we have the resources. And if they can't see that target being met, they have to have some recourse and they should be able to how it through their analytics. And I think Craig's points about the burden of proof being on those entities, showing no other options, you know, they've exhausted the options that they could think of, not just trying to escape the reductions.

But if they can create an appeal, I think then it comes to NERC and FERC and I don't know how that exactly works out, but I think, ultimately, the commission has the authority as the congressionally designated reliability agency. That does not exist at the EPA. Somebody might have to make a hard decision at some point that the risks are there, they seem above a tolerance level, we have to make a decision. And I think that rests with the commission, with the support of NERC, and they're doing the technical analysis, supportive of the regional entities doing the analysis.

And I'm not a lawyer so what weight does that carry? I think the commission can make an ultimate decision whether reliability could be harmed or not. I think that has to be then carried over and coordinated with the EPA to say, we have choices to make; we need to sit down to make them together.

MR. GRUMET: There's a lot of nostalgia for the last Bush administration because we're not talking about who the decider is, right? And so I think I'd like to just – to press on this a little bit because what I've heard is a cascade of good process. States are going to keep the lights on, right? You're going to write smart plans, you're going to be having these interactions, both regional and the RTOs, and the idea of EPA making a clear rule, show us what you're thinking, the suggestion that there be some kind of – it's going to happen anyway so we might as well acknowledge some kind of, you know, obligatory expectation of consultation with FERC? All

that leads up to still EPA having the hands on the wheel. And you are now raising I think critical questions.

MR. CAULEY: And I would like to just add one more thought before we turn over to others. It's not going to be all the cases and all other issues because I think there's going to be a filtering of a lot of issues getting resolved that don't require that power. But at some point, there's got to be a safety net of some power.

I'm thinking that the PJMs of the world and individual state plans, that dialogue is going to solve a lot of it. So we can be in an assessment mode for the vast majority of cases, but if something falls through, there needs to be a safety net and there needs to be an authority, I prefer that the final authority on reliability not be the EPA, from my personal view.

MS. HONORABLE: Well, clearly it is FERC and we embrace that. But the issue is how we engage with the EPA so I will not have the ability to tell an entity what you can and can't comply with with regard to your state plan. I want to be clear about this. Our role is to provide advice and counsel to the EPA, whose role is to enforce this regulation. So I think this process will help us understand the point that Gerry made. Prayerfully, most of the time we're assessing and so on, and then what do we do in those instances, where we have that need for relief and what happens.

MR. GLAZER: I think, Commissioner, you put your finger on it, and, Gerry, you put your finger on it. It's a "who decides" question at the end of the day. And, you know, again, we go to war with the statute we've got and not the one we wish we had.

Frankly, we've struggled with this, but at the end of the day, the one who can grant relief under the statute is the EPA administrator, not FERC, because it's an air program. It's a compliance program. It's a program that's a creation of the administration and EPA.

I think perhaps through some kind of MOU between FERC and EPA there could be that process where it's understood and the world knows how that issue gets resolved and what the process is. I think that would be a way to get at it. But we struggled with it. I think at the end of the day, the signature that has to go on that relief document is the administrator.

MR. CAULEY: I think I can live with that. I think what I was looking for would be for the commission to make a reliability determination. And that determination could stand and it could be supported and it may go nowhere, and it may be given great consideration and it may sway the EPA, but I think the commission has the authority to make a determination of reliability issue or a risk that they're uncomfortable with and we're uncomfortable with.

MS. HONORABLE: And I apologize. I have to jump back in and say, Gerry, when you say that I think about the MATS effort and how we provide what is essentially comments or – so it's getting at the same function, if you will. But it is a determination of who makes that request. You know, what all happens before that request is made, what happens with that, with what we provide.

And I appreciate Craig's comments because my comments are not in any way to shy away from our day-to-day work. We recognize the challenges that you will face because we will face them as well. And we embrace the opportunity to work with all stakeholders to ensure that we get it right. So I'm really pleased about the level of dialogue here that will aid FERC in carrying out the work we have to do.

MR. GRUMET: Sue and then Mike.

MS. TIERNEY: So although you guys probably don't believe it, I am not categorically opposed personally to a reliability safety valve mechanism. I've said I don't think it's needed. But if it were to do it, let me tell you why I am really worried about the proposal of the IRC RTO Council. Did I say it right? The IRC proposal. It sound to me like a prudency review in advance of making sure that every single rock has been turned over before getting the relief.

So think hypothetically of – let's assume there's an MOU between FERC and the EPA. EPA wants to hear from FERC. FERC now has its own administrative proceedings, its hearings process or whatever process you're going to have. Maybe it's a workshop. But the proposal is that the applicant, a state let's say or if the default then goes to the grid operator to make the petition, you have to say you have tried everything.

Have you, for example, done what the ISO New England did when there was a reliability problem on the horizon in southwestern Connecticut and you couldn't build a transmission line fast enough? So are you going to say, well, did you do an RFP for demand response, because what's they did and that's what they got and that's how they solved the problem. Or did you go to buy offsets from someone else? Did you do X, Y, and Z? It's almost an exhaustive list to imagine the number of rocks that you will have to show prudently that you have tried everything and now you need this valve. I just think it's an administrative nightmare for FERC in that – in that process.

MR. GALZER (?): But does that argue then, don't do it? I agree, it's hard. But what does that argue? Don't do it at all? Don't have the process at all?

MS. TIERNEY: I would have a – I would have something that if it's all about judgment at the end, that that's transparent, that that's what's coming down to or the list of tools are quite transparent that you want to see all of these things go through because otherwise, it's just prudency hell, prudency proceeding hell in advance.

MR. DOWD: Yeah. I was just going to add, I bear the scars from it. Section 202(c) of the Federal Power Act vests in the Department of Energy the right to issue emergency orders.

MS. TIERNEY: Yes. Oh, yes.

MR. DOWD: Now, we – I went through one of those with a power plant across the river, in Alexandria, back about 10 years ago. I can tell you that at the end of the day, the question of who, whether reliability trumps environment has not been established. Now, DOE and FERC

claim to have that authority. EPA has been far less aggressive or assertive in its authority, but the courts have not decided that.

And what happened in the case that I was involved in with the Potomac River power plant is that, basically, everyone sat down and worked it out, and it was extremely messy and extremely case by case.

So that's really the ultimate safety valve that exists here but it can – it would be very interesting to see if it actually progress – you know, how things have progressed down those lines if that ever came up because I'll tell you: if we had an issue that West Virginia, say, was causing reliability issues in Virginia, the first thing our folks would think about would be a 202 order petition with the Department of Energy. If EPA – you know, if the proper relief wasn't coming. So that's the whole new – that's sort of the elephant in the room.

MR. NOVAK: Jason, we seem to have moved a little bit from the reliability assessment mechanism, the upfront assessment, which we agree with. We haven't figured out how it gets done and how it gets implemented by EPA, FERC, NERC and others, and now we're drifting towards reliability safety valve. And we've come up with a concept that I wanted to talk about.

Again, it's EPA's rule so our thought would be, if there's an unforeseen or unavoidable circumstance, kind of like the ones we talked about already, a state or a regulated entity could submit a petition to EPA. And I'm talking about not upfront, not in preparing the state plans. I'm talking maybe five years or so down during the compliance period.

And when things are going along just fine, something happens that – so you are faced with the issue of, can I get the reductions I need to be in compliance and keep the lights on? And if you can't, you petition EPA – it could be the state, it could be the regulated entity.

The petition has to include a lot of information, description of the circumstances – why are you coming forward with the petition – the amount of the CO2 emissions that, you know, you're dealing with here; description of actions that could be undertaken to remedy or mitigate the exceedance while ensuring adequate and reliable electric service or an explanation of why there's no actions available. There's more schedule for completion of the selected action, and a request for temporary or permanent adjustment in the state, region or entities emissions budget target or milestone as the case may require.

So this is a petition to EPA with this information that the EPA can then review and say, okay, if they agree with it, they could say, yes. We will allow you to change, you know, modify your state goal for a period of time. Or they may come back and say, we think you can do more to mitigate the situation, and there would be some give and take here, to allow the state to keep going forward.

We would – in our proposal, we say if EPA would just deny the petition, they would first have to have consulted with FERC to ensure that they're – by denying this petition there would be no impact on reliability.

So – and this would be, you know, part of all due process, this petition would be – relief would be challengeable in court and it would go through the normal regulatory procedure.

It may be that we never need to use this mechanism. You know, if people are correct, if we've got the system in place, if there are inexpensive or affordable reduction options offsets out there, fine, and then, you know, you can stay on track even if something happens.

But just in case, you know, you can't meet both requirements. We think this kind of petition, you know, would solve the problem.

MR. GRUMET: I want to turn to Jim. I want to acknowledge something you've all probably figured out, which is our agenda has now just kind of blended into conversation. I have a bunch of questions up here, which is what we anticipated which we're going to start to now I think ask as we spend the next, you know, 45 minutes or so kind of trying to summarize where we are.

But, Jim, if you can respond, and then we're going to try to keep the upfront systematic questions and the episodic safety valve, we're going to try to kind of peel those apart and see if we can get as discrete as we can.

MR. GARDNER: Sue, I'll admit, I'm a lawyer. So let me read a couple of sentences from the decision in the D.C. Circuit last week or earlier this week that Craig referred to.

And it says this: nor did EPA properly consult the Federal Energy Regulatory Commission or the North American Electric Reliability Corporation bodies charged with oversight of grid reliability on the effects of its rule on the grid. An undercurrent coursing through this case has been that while EPA justified the 2013 rule on the basis of supporting system reliability, grid reliability is not a subject of the Clean Air Act and it's not the province of EPA. There is no indication that either FERC, nor NERC was involved in this rule making, nor submitted its views to EPA.

So what I suggest based on this is that FERC needs to have a process to evaluate the reliability of the plans. Okay. But, at the top, you know, the hope would be that there would be some communication because that doesn't really state in this what the communication – whether it's an MOU or a – you know, between FERC and – but it seems as if that FERC will be relying on NERC, and the RTOs, the different balancing reliability coordinator balancing authorities would have input in that process; state regulators would have input into that process, who are responsible. But there should be a process for FERC to evaluate at each step of the way, you know, during –

MR. GRUMET: You get the last word before the break.

MR. CAULEY: Okay. Thank you. We're done.

MS. TIERNEY: They'll hate you now. (Laughter.)

MR. GRUMET: So make an inspiring, clear –

MR. CAULEY: Well, I think we're struggling. I think we have to come back and resolve this question, is the safety valve appeal going up from the states, which I think are going to be primarily driven by the state environmental regulator who's trying to comply with the CPP (ph) to the EPA or is it because of jurisdictional questions going up through the reliability chain from the operating entities to the NERC and FIRC chain? I think we have to make that distinction.

My preference is that the reliability issues are handled through the reliability chain because, in theory, you've exhausted all your pleading, all your negotiating, all your – you know, if you could have gotten what you needed for reliability, you would have gotten it that way from your state – you know, from that process.

I think the mechanism that you're looking for is really very, very simple, is that one of the entities has to file a claim or an appeal to the commission. They've got to cite which standards they're not going to be able to meet. And then they're going to have to show documentation. They're going to have to show that they worked with their regional operator. They're going to have to show all the things that they did.

Probably I'm not as – a fan of as an exhaustive list as we might have heard from Sue and Craig, but due diligence – the power companies are only going to have so many levers they can pull, and did it regionally pull the ones that it could have? Then there will be other parties file counterclaims and then that's what the commission does best. It decides equities and reasonableness and public interest.

And I think the words in the filing might be messy and complicated, but I think the process is pretty straightforward. You get filings, you get interveners, you understand it all, you have a hearing if you need to, but then I think the decision is in the best interest of the public.

MS. HONORABLE: If I might say, that's – that really tees up nicely the discussion we'll have when we'll return.

MR. GRUMET: Cliff hanger.

MS. HONORABLE: That's right. So you'll have to come back for that.

MR. GRUMET: All right. So let's take 15 minutes and we'll spend some time to try to see where we agree.

(BREAK.)

MR. GRUMET: So we have about an hour to make crystal sense of all of the dynamic thoughts and ideas that we've shared for the last hour and a half or so.

And we've got a bunch of good questions that I'm going to try to work into the conversation. The bulks of the questions are focused really right where we are right now, which is, okay, let's talk sequence, who gets to decide and where are some specific interests in the question of offsets and what would in fact happen to ensure that the environmental integrity was maintained if these mechanisms were put into place.

We then have some broader questions, if we have a chance to get into them, about whether moving towards a rate base is going to affect these options and the processes versus a mass base. We have questions that look at some of the broader, more complex market design issues that I doubt we're going to get into, but you never know. We may be back.

I wanted to try to follow in, which is to put a little more in that organization down the last hour and to start where Gerry left us, focusing on the kind of the particulars of the safety valve and the question of what is the process by which somebody would raise a concern, what would be the expected sequence of response, and then, ultimately, again, on the question of how those decisions get made, try to spend about 20 minutes or so really focused right there, then do the same on the broader regional – kind of RAM mechanism, some questions also offered about once those concerns get raised, who ultimately then arbitrates outcome? And we have not talked about the question of if there was a decision upfront that there was a problem, what would be the environmental implications of how that decision would be addressed.

So I want to see if we can touch that. We'll then have some closing statements and get on with our weekend.

MR. MOORE: Can I ask a clarifying question to Gerry? I'm not going to throw you off track. I'm really not. Gerry, were you describing sort of an end of the road process at the conclusion of an RSV type event or were you describing something else, because I know that under – going through the statute here, under Section I of 215, Section 215(i) of the Federal Power Act, that gives FERC in limited circumstances the authority to step in if a state's going to take an action that's inconsistent or would threaten a specific NERC reliability standard. So is that the kind of process you imagine that might occur here?

MR. CAULEY: I think it is, generally, yes. There's – I think on the assessment side, there's going to be a lot of that take place naturally. And I think to say every state plan is going to be reviewed by somebody and blessed by somebody is probably not a realistic expectation. I think there's going to be a lot of collaboration and work and resolution of issues, and it would be extremely burdensome on FERC or NERC or anyone today we're going to review every single plan because, frankly, a lot of the plans are not going to have issues that rise to that level of concern.

But if it does turn out that reasonable people can't sit around the table and resolve the differences at the state level, environment versus reliability, and meet the intent of the rule, I think there has to be an off-ramp that an appeal can be created. And I said in my very beginning remarks, they may be longer term, like somebody could claim early on, as they're preparing the plan, the state plan or as they've just prepared the state plan, and say, in six years, that's going to

put me in an untenable position and I can't get the transmission built to support that, or it may be more immediate issues.

So I think we have to realize there's going to be a lot of variation on the time, the regionality (sp) and scope of the issues.

But I think – I'm an engineer. I'm focused on reliability. I put the greatest weight on the operating entity that's responsible and the planning entity that's responsible to meet the standards. If they have a problem, then I think it deserves the review. If they don't have a problem, I have a little bit of a hard time understanding why anybody else would appeal the safety valve.

In other words, it just makes assumptions about efficiency or demand side management, but the utility says, we believe we can meet our reliability obligations, we don't need an appeal, I have a hard time understanding why anybody else would need to file an appeal. So it's sort of my thought – I don't know if I answered your question or –

MR. MOORE: Well, yeah. I mean, the main focus of the question is, do we have an existing process right now that deals with that situation which sounds like a big FERC filing type process? Two fifteen did give you –

MR. CAULEY: I don't know if we have exactly that process. I think we have familiar regulatory processes at FERC that could handle this. I don't think it's creating a whole – I think the commission is technically resourced and is used to addressing complicated filings of equities and reliability issues where you have combatants on all sides. I think they have those capabilities.

I think the piece that's missing is, at the end, if they decide there isn't – they make a determination there is in fact a reliability issue and a conflict that within reasonable bounds of effort cannot allow the meeting of the EPA rules, what does that decision mean? You know, I'm agreeing we don't – you're not deciding in the end that they can get the waiver they violated but what does that mean if the commission made a determination that there's reliability issue here that cannot be resolved by reasonable people with reasonable resources and something has to be done?

MR. MOORE: Two questions for me are: what exactly is the reliability issue? And why can't it be resolved through a regular, you know, regional planning process? And then, second, what is the compliance issue, because that should be an element of it too. Is the utility risking a violation of the standard?

MR. CAULEY: Just a simple example. If the economics drive even modest amounts of coal plant retirements and we're planning down the road to replace it with renewables and gas, and they're going to be in locations A, B, and C but the transmission isn't there yet and it's going to take, you know, six more years to get the transmission in place, that's something that's foreseeable in a long-term view but you can't wait until the May before to do something about it

because, at that point, you have – your last resort of shedding load and you have no other options.

So at some point in the horizon, you can see these issues emerging. You can do to do the analytics and say, is this a real problem or not, and provide evidence of that, even well before it's happened?

MS. TIERNEY: This reminds me of a situation – again, I'm going to harken back to New England. When Millstone wanted – out four, three years – and, you know, the load was growing, problems were on the horizon, push come to shove, at that instance, emergency generators were brought into New London Harbor, connected to the grid; the grid between Massachusetts and Connecticut was rewired – there were no new transmission lines – but people got the job done in order to get things accomplished and keep the lights on.

Now, we have a new dimension of it now, which is the carbon implications of doing that. Of course that's really important to be brought into the process.

My second question – question or comment – no, I'm not done with that one, John. Sorry. I think we have to be really clear amongst ourselves about whether or not we're asking FERC to use its reliability authorities or it's just in reasonable rate authorities? Those are really different issues. And I think it's reliability issues and it's not, therefore, a question of the cost test to do. And I hear a lot of the cost discussion around the table. So I'm suggesting we might want to – burnish that particular issue as well.

MS. HONORABLE: Thank you, Sue, for saying that.

MR. MOORE: Can I ask her a question? And I agree with that.

MS. HONORABLE: John, did you say you weren't going down some other trail, but go right ahead.

MR. MOORE: Well, the question was, to your first point, are you then implying with Millstone that that turned out really – I mean, it's more of an EPA issue at that point and the reliability issues were solved so –

MS. TIERNEY: Oh, the reliability issues were solved. Yes.

MR. MOORE: So there's – that's all. I just want to be clear you're saying.

MS. TIERNEY: Yes. Yes.

MR. GRUMET: So I had had Craig come back from the break to give us as precise a recommendation as he could about the process that he would like to see.

MR. GLAZER: Yeah. Thank you, Jason. And it really is a process question here. So let's talk about process because I think Gerry raised a good point.

So let me lay out five steps of how this process would work, so, again, throwing this out for discussion but then, frankly, there's a hidden catch 22 in the rule itself, which I want to flag because we're in the process of – EPA is in the process of writing the rule. There's a sentence in there that, if it stays in, could really entangle this. But let me go through. Put your seatbelt on. Let me go through the process.

And just to set the stage, we're now in the safety valve. The plan has been approved. We're moving along on the plan. And a problem has been identified. So I just want to be clear. We're post-all the stuff that's happened before – consultation, development, et cetera. We're now in year seven, year eight, and there's a problem, okay?

Okay. Problem identified. Okay? It may be identified by the unit owner. It may be identified by the state but the planning authority, to Gerry's point, is agreeing there's a reliability problem. Let's put aside for the moment what it is, okay? There's a problem.

Okay. If there's no impact in terms of the state compliance plan, then fine. Then nothing really happens because the state compliance plan is really impacted if there's a delay that will cause the state to not meet the target. So as long as a state can meet the target, the self-correcting sort of happens within the plan, end of story, EPA is not involved, federal EPA is not involved, great.

Okay. Now though, let's posit a different scenario, which is the reliability problem is causing the state to not meet, let's say, the 2030 target, okay? So that's where we're at. What happens under that situation?

What we have posed as the RTO Council is the state in the first instance or in a situation where we knock on the door of the state, of the state – we knock on the door of the state, say, we've got a problem, state agrees, we collectively go to U.S. EPA and say, we need a modification of the administrator's prior approved plan. But if the state doesn't agree, it shouldn't be – and there, in fact, then either the unit owner, the regulated entity, which is the unit owner in that situation, or the planning authority then also can go without the state – obviously not ideal but it's another option – and say – knock on the door of federal EPA and say, we have a problem. We need relief.

So bear with me. So that's where we're at. And then I'll get to sort of the two catches on this.

It goes to EPA. We suggested the burden of proof and the mitigation, all those steps we talked about earlier. To our view, there ought to be a consultation between EPA and FERC at that point. I think an MOU might be a good way to do that.

One request to the commissioner her is if FERC uses its traditional litigation processes, this isn't going to work. And I lived through the Potomac River situation. And, frankly, because of the ex-parte rules, FERC took itself out. I couldn't call Joe McClelland, who was reliability

coordinator. We couldn't have him at meetings. FERC became irrelevant to the process because of its own processes.

So I implore you to find creative ways to not do the traditional, we open a docket, ex-parte applies, we have an ALJ, it just isn't going to work in that type of process.

MS. HONORABLE: Noted. Thank you.

MR. GLAZER: But there would be some MOU between – consultation between FERC and EPA. And then, at the end of the day, again, we're stuck with the statute we have. I think the administrator, based on the findings we talked about, has to sign her name on approving the modification. And if she doesn't, it can go to the court of appeals.

That's sort of the process, the five steps, but let me just raise two catches. One was the ex-parte problem, the FERC processes, but there's another one.

In the rule, if we're reading it correctly – and I'll defer to EPA – but PJM, we put this in our comments. There's a little sentence in there that says, in reviewing modifications of plans, we will not approve any backsliding from compliance with the standard, no backsliding.

Well, what is backsliding mean when you have a reliability problem? By definition, you have to relax the standard. By definition, one could argue that's backsliding. If that sentence stays in unmodified, that becomes a legal challenge to being able to modify the plan. It actually sort of handcuffs EPA and handcuffs all of us because someone can say, no, 2030 date, here's the standard. Anything short of that is backsliding; you can't do it.

MR. CAULEY: There's no backsliding on the reliability standards. I can assure you.

MR. GLAZER: Right. But my point is in the EPA rule itself, they have handcuffed themselves.

MR. CAULEY: But I'm supporting what you're saying because I think there needs to be sort of a (baluster ?).

MR. GLAZER: Right. Exactly. But that word, backsliding, will become its own set of litigations. So I just wanted to – that's the catch 22 that, as EPA's writing the rule, we think there has to be some relaxation of that or clarification of that term.

MS. HONORABLE: I'm – (inaudible) – and I understand full what backsliding means. But think you can just get back into good graces, so let's see what you guys think.

MR. NOVAK: The process that Craig just talked about, that's the kind of process we envision. We call for a petition, a process to petition states or the regulated entity to petition EPA, and, again, the burden of proof is all there. And we've sort of articulated how it would work with FERC, whether it's an MOU but somehow some consultation with FERC. But that's the approach that we've supported.

MR. GRUMET: At least this moment in time, which will of course dissipate, there seems to be a pretty strong center of gravity around a formal predictable process where people can raise a question, a recognition that EPA ultimately is the decider and an expectation that there has to be some predictable and formal role for FERC before that decision get made that has a public component to it.

MS. HONORABLE: But not in litigation. Right.

MR. GRUMET: Not in litigation.

MR. GRUMET: And I wanted to focus on the question – because we've raised the MATS example a bunch and I think Craig just mentioned an MOU. Does this need to be in the rule? Should this conversation be in the rule or, as in MATS, is this better to be an agreement among reliable friends?

MR. CAULEY: My sense is it needs to be in the rule – probably not a surprise – because if we did go that route, where the chain of appeals on reliability were to the state environmental agency and the federal environmental agency, there doesn't seem to be sufficient certainty of the diligence of the review on the reliability side unless there's something in there, there's some obligations in there to give the reliability its due weight in that process. So I can almost get my head around it going up the environmental chain because, ultimately, that's where the decision is going to be made.

But I – you know, we don't want to leave it to the views and decisions of individuals. I think it's helpful to have it coded into the rule so that there's some expectation and what is that threshold for review and what is that threshold for input and support from the reliability side, that would give me much more comfort.

MR. MOORE: Yeah. I can actually say that the MATS process has worked well. I can imagine a statement in the preamble that introduces the concept. I can imagine the MATS type process. Again, for these last-minute – you know, with offsets. I mean, for our purposes, that's a caveat, where you've got a memorandum of understanding that, frankly, links – creates some of the additional connective tissue that is already out there in the ongoing review processes that the regions do.

I mean, our view is that, in this rule – for this rule, which not a rate – you know, it's not at all the same type of standard as MATS, ongoing compliance, the MOU would be something that creates the connective tissue among the different authorities to make it happen at the end of the day.

MR. NOVAK: We think it has to be in the rule. We don't agree that the new MATS approach works. The administrative approach works on a unit-by-unit basis. This type of situation could affect multiple states, multiple units, and some of the things that could happen. And it's just the new MATS approach, it's EPA saying they're not going to sue you for non-

compliance but you're still non-compliance and you're subject to third-party lawsuits. So that's what we're trying to avoid here.

MR. GRUMET: I want to press the question on mitigation. So if, if, if, if, and we get to the point where there's a determination that an unpredicted event makes compliance within the existing framework implausible, impossible, unreasonable.

There was a general sense, whether it was a sense of propriety or just acceptance, that there was going to be mitigation. I think the way I thought you, John, put it was very realpolitik, not saying on behalf of (NRECA's ?) greatest aspirations, but hey, it's EPA's rule, they're going to try to maintain the overall integrity of the cap. Does anybody have specific suggestions about how that should be done?

And I just want to note one question which said, would it be smart to have an alternative compliance payment or a credit price ceiling or some kind of national last resort piggybank if there were not tons otherwise available? Does anyone have a suggestion about whether this is significant enough of a challenge that we should have some kind of federal –

MR. GLAZER: I think you're into the question of what – how the standards were set themselves, how the targets were set and whether they have that cushion within them. I think that's where that soft underbelly is that you're looking for. The targets weren't set that way. That would almost require going back and resetting the targets, which, frankly, may not be a bad idea but they weren't set that way.

So I'm not sure that latitude is there. But, to me, that's where you would set it because it's individual state-by-state targets, and either you meet them or you're out of compliance. And so I think that's the area where there might be that latitude.

MR. GRUMET: Does EPA need to do anything in anticipation of this small possibility or does the system, as presently designed, with every state doing its best in a slightly different approach, provide enough capacity? I think, John, you don't mind for mitigation to occur. Does someone have to predictably create a mitigation pool or do you think the system can work itself out if people have to show that there are – all best efforts have been made?

MR. MOORE: Well, a couple of things. First, I think a federal implementation plan that's going to come out contemporaneously with the final rule will have something around market-based mechanisms. I don't know that it's going to create something but I think it's going to accelerate the development of that.

I really like at least elements of the Duke Nicholas School proposal on common elements, to use the right term, that creates a little bit of a grocery market for allowances and credits to be available, assuming they meet all the measurement, all those other requirements we know that have to be met for defensible mechanisms. And something like that does not take years to set up. I mean, we've got mature carbon markets in two regions of the country now so I think those are the kinds of elements that would help.

MS. TIERNEY: Thank you. It seems to me that in addition to the elements that have been described, there could be this idea of making sure that states do talk about a reserve, in part just to, again, make it robust that, at the end of the day, things will be met.

Another thing that could happen is, to deal with the backsliding issue, let's just say that everything that Craig said hypothetically occurs. Let's imagine that EPA might say, okay, so you can defer something but when you do, then you have to make it up with two X or something X in order to deal with the fact that, in fact, greenhouse gases matter in terms of their cumulative effect in the atmosphere, right? And so if you're getting – if you're backing things up, that was one more or two or three years in which there were more emissions going on. So you could do those kind of compensatory things in terms of the tradeoff of reserves and other things.

MR. SPENCE: Could I just add just a couple of points? On the reserve question, I think the question there might be, what is the economics of the reserve, you know, how much extra do you need, what's the incremental cost, and is it really worth is for the limited circumstances, depending on which situation you're talking about? So that would be point one.

I think secondly, you know, creating a federal pool seems like it may take federal legislation and it seems like we've been down that path before and I don't think it's probably going to happen. So as much as we might like the merits of it and think it's a good idea, I think just the dynamics of states against states – in a way, you're going to have states that probably have easier compliance plans than – or goals and targets than other states that have very challenging ones, and trying to get the states to agree on what's a fair kind of tradeoff or mechanism seems like a really tall task in light of all the other things that the states are going to need to do to put their plans together to begin with.

I mean, I would love to see after the final plan is codified that, you know, the industry and other stakeholders get together and start talking about market mechanisms that could be helpful to meeting the compliance rules and then be prepared, as prepared as we can be, with all the tools that we can have so we can get to where we ultimately want to be.

And the final thing is, you know, I can say with confidence that there's no EEI member that wants themselves to be placed in a situation where we are asking for, you know, agreement to violate a rule. You know, we don't want to be in that situation. We really don't.

And it's really not ourselves that likely would be asking for it. It's more like Gerry, or one of his organizations, calling us, one of the utility companies saying, hey, we need you to do this. You have to do this. If you don't, the lights are going to go out.

So it's not the individual utility typically making that decision that I want to – I want a contingency; I want a waiver; I want a relief valve. It's really we're anticipating that we're going to be asked potentially to do something, and we just want to have the rules of the road kind of defined before we start driving and – least we have a car wreck.

MR. CAULEY: I'm a bit out of my element talking about the environmental side of the equation as opposed to the reliability side but it seems to me we're not mature enough in this

process to understand the economics and create the incentives to create an intentional reserve of carbon, but it does seem to me, if you have a lot of states and companies intending to meet the target, there's going to be some inherent reserve because everyone trying to be compliant, there's going to be some potential for excess.

So it seems like while the idea of a market is immature and sort of formulating – if we could at least think of a way to do the tradeoffs of the inherent reserve that comes about from people overachieving, from states and companies overachieving in the early stages, to me, it would be helpful to reliability because if you put the weakest link under the situation of reliability or not, they have no way to acquire some credits from somebody who has some extra in their pocket. It seems like it would be very helpful to reliability if we could do that. I'm not quite seeing the robust market or creating a large national incentive for reserves yet but we might have a bit of reserve just by the nature of the rule.

MR. GRUMET: And tying these both together – I think that was really to the point you were making earlier which is, as long as there is confidence that there will not be kind of cost free extensions, whether they're plus one or just one to one, the market likelihood would provide that cushion somewhere in the 50 dates.

MR. GLAZER: And the tool that would reveal that would be the regional dispatch actually would reveal, by definition, that spare capacity that might be there.

MR. NOVAK: And to Bill's point, we're only talking about the safety valve. It would only be used in a very limited – maybe never circumstance so we're really looking forward – you know, all these reserves is something we might never need them.

MR. GRUMET: So I turn this – one last thoughts from – of course, from the commissioner but on the safety valve and spend a little time – we had some good question on the kind of deliberate process of the RAM that I'd like to raise.

MS. HONORABLE: I love that we are all just so eager to – it's almost noon and we're energy nerds. That's what we are. Embrace it. You're still here after the break, you are too.

So with regard to the catch 22 issue, the backsliding issue that Craig has raised, the only think I would offer as food for thought is in what you said, Craig, and the language that it states, in reviewing modifications, the EPA will not approve backsliding, it could be that it means carte blanche, just – what was the word – a license to steal. So maybe it's simply that the EPA will not just let you off the hook forever more but that there's some accountability or some – the word John doesn't like – "offset" that is factored in. So I just want to throw that out there. Maybe it's not a catch 22.

MR. GLAZER: Verification. Right. May not be.

MS. HONORABLE: Right. Right.

MR. GRUMET: So there are a number of questions on the reliability assurance mechanism and they all have the word "time" in the first five syllables. I think the question is, can we game out a little bit how one imagines that kind of proactive process? And I think, you know, Craig, you made I think a really thoughtful, specific suggestion that EPA have some space in the approval process to think about the interrelation between the individual plans. Have you played out the timeline at all? I mean, do you feel like the existing expectations on plan submission and approval provide enough room for that?

MR. GLAZER: I actually will – that one I may defer to the people who actually have to write the plans, which is the state EPA administrators. We didn't focus on it as much as is there time but that it has to be put into the process. Whether it's doable in this time period is a real question. But I defer to Mike Dowd for that.

MR. DOWD: Yeah. I mean, I think that would be difficult, Jason. You know, if we could work together on a common approach – but that's going to be very difficult within the three, two-year timeframe EPA has given. So each state is doing its own thing. EPA is under very short timeframes to approve it. I would be surprised if EPA had the time and wherewithal or the ability to actually assess how all each individual plans interacted with each other. I don't even know whether that would be possible statistically given you have 50 different plans and all going – you know, the computer modeling would be just incredible.

MR. GLAZER: But we would be – the way it would work is we would be presenting it.

MS. HONORABLE: Now you're bringing Craig back into the equation.

MR. GLAZER: We would be presenting that information that it doesn't work and then asking EPA to send the plan back. They don't have to do an initial analysis themselves.

MR. DOWD: So your plan would be, you would just – you'd look at them. I mean, that was sort of what you were discussion for when you look at the state plans.

MR. GLAZER: Yes, exactly. Exactly. We'd look at them and present them.

MR. DOWD: Now, how would you deal with, say, the seams between different regions and different RTOs and things like that, which has been a big topic of discussion when states together?

MR. CAULEY: Believe it or not, we do that every day. So those are the things that we're good at so we have continuous seasonal ongoing –

MS. HONORABLE: Now you're bringing me into it.

MR. CAULEY: Ongoing planning processes so we are pulling the studies and looking at across seams and – we're good at this. So just kind of an early, early point I made is I think the originators of the challenge, like Craig just said, has to be the people who plan or who will be operating the system because they're going to know if the conflicts have been created and

whether it might have been okay within one state but then you look at a multi-state set of plans. And there is conflict.

MR. DOWD: Then that begs the question: will there be enough time under the timeframes that EPA has given us? That's – you know, we get our – we have to have it in by, say, July – we have to have an interim plan in by, say, July of 2016, August 21 – you know, within a year, and then a final plan, that's if EPA grants us the extra year, which it may not, but I just hope they will. You know, and then we have to have the final plan in by '17. So you don't – you know, you have a few months.

And then I guess EPA has under – is under absolutely no timeframe in which to proof state plans. Maybe it comes after that, except at that point, we're already implementing the plan and you get too far down the road, you won't have a chance to change it if that review process is after we've already submitted final plans.

MS. HONORABLE: Michael, this is so rich, this very moment, because we are all in the presence of our friends having this discussion about who's on first and thinking through the actual steps, how's it going to happen in real life.

But also it's important for us to contemplate the usefulness of our work now. And something that I noticed at our technical conference efforts through FERC's focus on 1.11D and reliability, a number of people and came and sat at the table, very thoughtful, bright leaders that hadn't really engaged with one another. So, in your real life, who are you talking with right now? So it's just a special moment I couldn't let pass to say it's important for us to really start this work now.

MR. MOORE: On the time piece, I think there are regions of states that are recognizing the time pressure they're under. So, you know, I'm familiar with groups of states in four different regions of the country that are trying to figure out common approaches that will help develop common plans, and they can go to the EPA as – you know, they each have to do their own plan nominally but they can sign onto multi-state plans or even multi-state elements of plans, like they might do their own – most of their own thing but then sign up for a common element of a – you know, a residual market allowance system. So I think we are seeing a lot of good work on that.

And I think that once EPA issues that final rule, I have no doubt that some regions, some RTOs – WAC (ph) and who else – will actually just start doing some of the modeling. Again, that helps tell those regions, you know, the kinds of compliance approaches they can take that also will help meet reliability needs.

MR. CAULEY: I don't think we try to seek a tidy solution to the timing issue because it's probably not ever going to be tidy. There should be a lot of study and analysis going on in the formative stage of creating the state plans. And so I know every operating planning entity will be – feel obligated to be at the table and analyzing proposals.

Even once the state plan is finalized and submitted, then I think you open the door then to the challenge. Before there's a proposal, you're just talking but you're still doing the analysis. And then, if there's a proposal and it's filed, now you're talking more seriously, and you may file something with EPA to try to intervene.

Then there's a final decision, and the plan is moved to final, and as it's being implemented, and the compliance obligations and timing obligations are there. There's going to be a continuum of study and challenges all through that whole process.

I think once the plan is in place and it's fixed, then I think really this safety mechanism we've been talking about has to be available because it might be the day after the final is finalized and approved but you see a problem one year out or three years out or five years out, we need to start acting on that problem at that point in time. But I don't think there's going to be like a gun that goes off and say, okay, everybody start today doing your analysis. I think analysis should be going on already.

MR. GRUMET: And we know this.

MS. TIERNEY: And can I amplify on a point that Gerry's just made? It's almost impossible for me to imagine that states are going to put in a plan that is all knowable for a 10-year period, and they're going to know about all the changes of the economy and all the – really? I mean, that's crazy. That's no problem. I was Massachusetts. It would have been crazy for us.

But I wasn't – in spite of the fact that I seem like an energy nerd, I was environmental secretary in Massachusetts at the time we did our state implementation plan for ozone, a different animal, to be sure, but we had to show how we were going to satisfy that. And we had moving parts in the transportation system, in industries, in the utility side. And we had to start at some point with the plan without knowing what things were going to be like 10 years from now and how we were going to stay in compliance.

So I think we need to think about this as a process over time, for sure. So part of that is that I am assuming that states are thinking about the layers of the onion. If you do this and it's something's happening in the system, this is where you go next so that you can see in advance what those pieces are. You can't model 10 years out – well, you can.

MR. CAULEY (?): We try.

MS. TIERNEY: We try. But, in fact, the market's going to respond. Everything is going to change – consumer behavior is going to be different, all of those things are going to be different.

So I think we have to really think about this as a process over time, in which people come and say, look, we actually need to adjust our plan, and this is how we're going to do it, or here at the automatic adjustment pieces in it in order to comply on all of the effects.

MR. DOWD: If I could just follow up on that, I think that's a great point. I mean, there are lots of unknowns going forward. For instance, when we did the acid rain program many years ago, no one suspected that the cost of allowances would basically bottom out. It's been far more successful than anyone had imagined. And that people didn't understand – you know, know that at the time.

So we think as we go forward with 1.11D plans, you know, there's a vast unknown territory here as we try to comply. And I just about all states will try to meet EPA's number in the most cost effective manner possible. And whether that's mass-based trading systems, which seems to be the easiest approach, or, you know, just like acid rain, I suspect there will be a lot of those. You know, it will be a struggle or it will be a challenge to meet the numbers. And over time, who knows what technology will come into place? Who knows what will happen?

But I think the one thing is for certain: these plans will have to be modified over time. Reliability issues will come. It won't be – you know, there will be catastrophic events or not, hopefully not, that we'll have to be flexible about as we move forward and, you know, modify these things and, you know, make the program work.

So, yeah. It is sort of an ongoing project. Of course, you know, trying to see the forest through the trees. The trees right now say we've got to get a plan in, and an interim plan in next year and then a final plan in the year after that, but there is a forest through the trees.

MS. TIERNEY: I remember what that felt like with the ozone layer.

MR. GRUMET: I embrace the humility of professional planners. I think that that was – so here's what I would like to try to do for our last twenty minutes or so, and ask the panel, if you had the ability, and you do, to make a specific recommendation to a FERC commissioner based on what we heard over the last 15 or 20 minutes.

MR. MOORE (?): It's never going to just be one recommendation.

MR. GRUMET: It will never be one but I want to – you know, democratize this conversation a little bit. Let's take time now to kind of – at least give everyone a chance to kind of leave, you know, Colette and the room with not the most important thought but an important thought so that we have some nuggets. And then, if we have some time left, we will debate those, and I would certainly anyone to raise their hand or we'll just defer down the line.

MR. CAULEY: Mine is simple. I sort of said before, which is for the commission to explore the full extent of its authority within the law to weigh in on reliability matters that might arise through the process.

I think Craig's point is valid is to try to sequence it that would keep it an open dialogue and keep it very good problem solving type of dialogue but to not shy away from exercising authority to say if not no, at least we strongly recommend in the interest of reliability know that this is a serious issue. And I'm hopeful that the commission can figure out a way to do that.

MR. DOWD: Okay. Well, first of all, thank you for having me today. I'm afraid I probably learned a lot more than I contributed. I am the only environmental regulator here. And that means a couple of things.

First of all, my job is to protect the environment and health of the citizens of the Commonwealth of Virginia. It's not to protect reliability. That's not within my wheelhouse.

Having said that, I still don't think I'm a bad person because I don't want the lights to go out either. You know, I don't want the lights to go out either. My goal is to – is to help draft a plan for my state that achieves EPA's numbers in the most cost effective manner, prudent manner possible, while keeping the lights on. So the stuff I'm hearing today is absolutely essential to how I and my colleagues will frame those issues going forward in my state. So thank you.

MR. GARDNER: Likewise, I would like to thank the organizers for including me. I appreciate that. My advice to Commissioner Honorable is what was said before me. I think that FERC needs to figure out how they can be involved in each step of the way in a meaningful way. And then, personally, to you, Collette, don't forget your roots as a state regulator when you're setting up this process.

MR. GRUMET: This is the, we have your cell phone number.

MS. HONORABLE: That's right. And he really does. Duly noted, Jim.

MR. GLAZER: That's a hard one to top. And thank you for just the focus on this. And, frankly, having it in a – this has sort of been one of the most collegial discussions of this issue that I've had anywhere. So it's been great, not just be throwing paper back and forth but actually trying to problem solve. And I heard a lot of good ideas in this discussion.

My one plea would be, don't let it be fuzzy in the final rule. This is – there is an inter-agency process. I don't fully understand every aspect of it but I think this would be a key component. If the rule comes out the door and this is sort of not clear, it's not going to be good for anyone I think in that process. It doesn't mean it can't be changed but have a process, an MOU, whatever, I think that would help to provide that level of certainty, and, frankly, not make this one more flash point in all the debate we're otherwise going to have. Thank you.

MS. HONORABLE: Thank you, Craig.

MR. MOORE: Okay.

MS. HONORABLE: I think he said one.

MR. GRUMET: John can have two.

MR. MOORE: We have fifteen minutes to cover three people.

MS. HONORABLE: We do. We do. Help yourself, John.

MR. MOORE: All right. One and a half, one and a half. You know, beyond the need to preserve the cap, right? I think maximize the existing authorities we've got. Really, Order 1000 is only a few years old now and it certainly isn't vibrant in all regions of the country. And that planning, bringing the states in, it's really brilliant in a way to think about the states – and you know this from your work in Arkansas and in the MISO and SPP realms, bringing the states into the regional planning process, that serves resource adequacy; it serves reliability. So really make that as vibrant as possible.

And then, something else we're working on, we feel pretty strongly that as the regions look at this, they – on an ongoing basis, we think there needs to be more work done on minimal modeling standards to make sure that – you know, forgetting about what the inputs are that go into it, into modeling, because it seems like modeling is the basis for a lot of what's happening here. We think modeling standards that have minimum requirements for things like scenario planning, sensitivities, transparent cost accounting and the like will help – especially will help states that are in two different RTOs to make sure that they're getting consistent information from both regions and it all just more generally gives states the kind of information they need to help make sound decisions. So use existing authorities, improve modeling standards.

MR. NOVAK: Well, again, I'd like to thank everyone for the opportunity to be here today on behalf of the nation's electric cooperatives. And my one thing, my one ask of FERC would be to call on EPA to include language in the final rule that has provisions to, you know, allow states not have to choose between keeping the lights on and comply with 1.11D.

MR. SPENCE: Okay. On behalf of EEI, I would also like to say thanks for the opportunity and the invite. I would agree with, you know, all the other speakers in terms of these are great ideas.

I would just add one, which is really to plan for an ongoing review process so I don't think that, you know, it's going to be once and done. I don't even think it's going to be three times and done. I think it's going to be how many years? Ten years, 10 years and done maybe. So it's going to be an ongoing process. So I think if you could plan for that and get – you know, be transparent about what the rules of the road are going to be, I think that would be extremely helpful. Thank you.

MS. HONORABLE: Thank you.

MS. TIERNEY: Well, everybody else has thanked you on behalf of their organization. So I thank you on behalf of the loud blab mouths because that's the role – a couple of things.

One of them – these are all related to FERC and not to the EPA. I would encourage FERC to issue guidance on these questions of assessments near term and then a process over time that you would expect in conjunction with the EPA's process. And I would encourage FERC as part of that to stand on its reliability authorities and not on its rate making authorities.

MR. GRUMET: That was a lightening round. Whenever you ask people to be quick, they never will, give them all the time in the world.

So maintaining this kind of hypothetical, Commissioner Honorable, if you had three to five minutes to summarize your thoughts in response to these ideas, the floor is yours.

MS. HONORABLE: Well, thank you, Jason. My goodness. The time has flown so quickly. And I don't know what it says about all of us that we're so excited about this topic.

MR. GRUMET: It means we can go two more hours.

MS. HONORABLE: Is that – is that what that means? I'll see if you guys agree by a show of hands. I really am so grateful that we were able to pull together some of the best of the best very quickly, and, as Jason said, in three weeks' notice and for you to join us today. It really heightens of the importance of what we do each and every day, but, more importantly, the work that we will have to do going forward.

And I've really, truly been enlightened. And I hope you have too. I think Michael's point was a good. I hope we all have learned something here today. And, Michael, while I'm here, I want to say, we're here for you. We're here for you so you're not a lone wolf out there. Your work is important certainly.

MR. DOWD: States need a lot of help.

MS. HONORABLE: Yes, indeed, they do. So I say that embracing what Jim has said too. Don't forget where you come from. But this day that we've shared together, taking a look at – first of all, at a very foundational level, what are the – why are we having this discussion? Why is this important? What are the reliability implications that we anticipate or that could occur or might occur or, from some of us, may never occur that would warrant a focus on reliability mechanisms?

Also, can we do this in a way that really honors both the very important goals of reliability and environmental responsibility in meeting the goals of the clean power plan. And certainly, last but not least, and I think where it really just sparks so much energy from the panelists today, what are the processes that we need to contemplate in the short term, in the long term, and in response to a particular event?

So that proactive work we've talked about – John, thank you for mentioning the work that's going on you've talked about throughout the country. We also have groups of regulators that have been very focused on thinking about what this will look like in real life. But also, the processes that we will have to implement, including FERC, including the RTOs, including NERC, including in the first instance air regulators and public service commissioners and so many others to do our fair share. And that includes all of us and our roles.

So I hope that as we were talking, you got a sense of your role in this too because we – there's an old saying, many hands make light work. So we all have a role to play. And this,

today, was very enlightening to appreciate what tools we have in the toolkit already, very pleased about your recognition, collectively, about the tools that FERC has in its toolkit.

I take to heart certainly your need for certainty, for transparency – I heard Bill reference – and for clarity – I heard Craig say – about what FERC's role will be. Trust that I've certainly been very focused on this, certainly considering an MOU along with my colleagues and other tools, what will FERC's role be?

So this has been very, very helpful. It's very timely because we haven't yet provided that advice and counsel to the EPA. And we were hopeful – and thanks to Jason, again, and team and my team as well for galvanizing this effort so quickly so that we could really brainstorm here together in a very meaningful, constructive collegial way about our roles going forward.

I would end by saying this work is just beginning. I hope Jason may kick me under the table that we can get back together once the rule is issued, when we have more information to talk about a number of the very important things that we've talked about today – processes, modeling. John mentioned that. Are we really using the proper first elements in conducting modeling in a way that's meaningful? And also, more meat on the bones, if you will, about who will be on first when we actually begin to implement the plan for those of you who aren't there yet, if we implement the plans. And also, what we can do to support the work in the industry ongoing?

So I'm very pleased about our dialogue today, very pleased about the areas where there was – I shouldn't use the term consensus but –

MR. GRUMET: Centers of gravity.

MS. HONORABLE: Yes, centers of gravity. Thank you, Jason. And several of them – and it's encouraging, honestly. So I will take also your – one take way for FERC, I will take those to heart. Thank you for offering them. And I look forward to our collective work going forward.

MR. GRUMET: So I'll just add 60 seconds on behalf of the Bipartisan Policy Center. You know, we believe that the resilience of not only our electric grid, but our democracy are these informal personal networks, right? I mean, this is in fact part of the reliability system that's going to make these rules ultimately play out and work.

And so, of course, we'd be delighted to try to find, you know, efficient moments to check back in. And I do think that, ultimately, we've certainly heard the same message you have, which is people want some kind of predictive trunk for the process, but I think we all recognize that if we try to imagine it's all going to get solved within that lane, we don't really remember what democracy's about.

So, you know, we will try to see if we can summarize at least some of these conversations in a way that is – I don't believe in objectivity but at least rigorous. And we wish you the best of luck, commissioner.

MS. HONORABLE:  Thank you.

MR. GRUMET:  Thank you all for coming.

(END)