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BEFORE THE

FEDERAL ENERGY REGULATORY COMMISSION

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In the matter of: :
COMMISSIONER-LED RELIABILITY :
TECHNICAL CONFERENCE : AD14-9-000

Room 2C

Federal Energy Regulatory Commission
888 First Street, Northeast
Washington, D.C. 20426
Tuesday, June 10, 2014

The technical conference in the above-entitled
matter was convened at 8:49 a.m., pursuant to Commission
notice.

- FERC COMMISSIONERS:
- ACTING CHAIRWOMAN LaFLEUR
- COMMISSIONER PHILIP MOELLER
- COMMISSIONER JOHN NORRIS
- COMMISSIONER TONY CLARK

- FERC STAFF:
- MARTIN KIRKWOOD, OGC
- JONATHAN FIRST, OGC

1 FERC STAFF (Continued):
2 MICHAEL McLAUGHLIN, OEMR
3 ANNA COCHRANE, OEMR
4 KATIE DETWEILER, MR
5 JAMIE SIMLER, OEPI
6 MICHAEL BARDEE, ER
7 TED FRANKS, ER
8 LARRY GASTEIGER, OE
9 ROGER MORIE, OE
10 DAVID ANDREJACK, IS
11 JOSEPH McCLELLAND, IS
12 PANEL I: 2014 STATE OF RELIABILITY REPORT
13 AND EMERGING CHALLENGES
14 GERRY W. CAULEY, President and CEO, NERC
15 TOM BURGESS, VP and Director of Reliability
16 Assessment Performance Analysis, NERC
17 WILLIAM O. BALL, Executive VP, Southern Company
18 Services, In., on behalf of Edison Electric Inst.
19 ASIM HAQUE, Commissioner and Vice Chairman,
20 Public Utilities Commission of Ohio, on behalf of
21 the National Association of Regulatory Utility
22 Commissioners
23 PETER FRASER, VP, Industry Operation & Performance
24 Ontario Energy Board
25

1 PANELISTS (Continued)

2 PANEL II: EMERGING ISSUES

3 GERRY CAULEY, President and CEO, NERC

4 TOM BURGESS, VP and Dir. RAPA, NERC

5 PETER BRANDIEN, VP, System Operations, ISO New England

6 ALLEN MOSHER, VP, Policy Analysis, American Public Power
7 Asn.

8 BRADLEY ALBERT, GM of Resource Management, Arizona PS

9 ROBERT HAYES, VP, Natural Gas Trading, Calpine

10

11 PANEL III: ERO INITIATIVES

12 GERRY CAULEY, President and CEO, NERC

13 TOM BURGESS, Dir. REAO, NERC

14 JERRY HEDRICK, Director of Regional Entity Assurance
15 and Oversight, NERC

16 SCOTT HENRY, CEO and President, SERC Reliability Corp.

17 STEVEN T. NAUMANN, VP, Transmission and NERC Policy, Exelon

18 BARRY R. LAWSON, Associate Director, Power Delivery
19 and Reliability, National Rural Electric
20 Cooperative Association

21 SYLVAIN CLERMONT, Manager, Transmission Services,
22 Hydro-Quebec TransEnergie, on behalf of the
23 Canadian Electricity Association

24

25

1 PANELISTS (Continued):

2 PANEL IV: ERO PERFORMANCE

3 SONIA MENDONCA, Associate General Counsel and

4 Director of Enforcement, NERC

5 STEVE NOESS, Associate Director of Standards Development,

6 NERC

7 LANE LANFORD, President & CEO, Texas Reliability Entity

8 BRIAN MURPHY, Manager, NERC Reliability Standards,

9 NextEra Energy

10 JON ERIC THALMAN, Director, Regulatory Strategy and

11 Transmission Asset Management,

12 Pacific Gas & Electric Company

13 CAROL CHINN, Regulatory Compliance Officer,

14 Florida Municipal Power Agency, on behalf of

15 Transmission Access Policy Study Group

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21 Court Reporter: Jane W. Beach, Ace-Federal

22 Reporters, Inc.

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1 P R O C E E D I N G S

2 (8:49 a.m.)

3 ACTING CHAIRWOMAN LaFLEUR: Well good morning,
4 everyone, and welcome to our annual Reliability Conference.
5 This is actually one of my favorite days of the year because
6 we get to dig into the topic that really unites everyone that
7 is involved in the electric grid in any way, shape, or form,
8 and that's reliability and all the many things that go into
9 it.

10 Mike, and Ted, and the team have put together a
11 great list of speakers and topics, so we are looking forward
12 to a productive day.

13 Looking over the materials for the conference
14 that were submitted that I was reading over the weekend, I
15 think really demonstrated to me that we are collectively,
16 and the ERO enterprise, is making progress across all phases
17 of the reliability cycle: setting priorities, developing
18 standards, communicating them, auditing and enforcement, and
19 then learning from what happens.

20 And I particularly want to thank NERC for the
21 2014 State of The Reliability Report. Some of you who
22 follow our scheduling closely may remember we had
23 rescheduled this meeting to this time of year to time it to
24 the issuance of that report, which I think works well, and
25 all the other assessments, some of which are going to come

1 up over the course of the day.

2 My goals for the day are really to understand the
3 going-forward priorities for NERC and the ERO enterprise as
4 informed by the data and the metrics, as well as
5 particularly the next steps on all the initiatives that are
6 ongoing on standards development, risk-based registration,
7 and compliance, and where we go from there so that when
8 we're here next year we'll know whether we made progress.

9 And with that, I let my colleagues open while we
10 still have air conditioning. It will probably last at least
11 through the first couple of sessions. We can be pleasant
12 and jovial.

13 COMMISSIONER MOELLER: Well thank you, Acting
14 Chair LaFleur. I appreciate all the effort of the people
15 who have come for a long way to be here, the staff for
16 setting up an excellent agenda for the day.

17 It is interesting to think back on how this
18 process has evolved over the last seven or eight years.
19 We've had some growing pains. Things seem to be stabilizing
20 and that's good, improving. We don't always put reliability
21 and glamour together, and yet this is arguably possibly the
22 most important thing we do in terms of assuring the
23 reliability of our Nation's Bulk Power System.

24 And we are entering a period I think in the next
25 possibly three to five years where reliability is going to

1 be at the top of the agenda again. We are going through an
2 amazing transformation of our fleet in a very, very short
3 time. As you've heard me say before, I am particularly
4 worried about the summer of 2016 in a couple of areas.

5 So despite I guess maybe a couple of years of
6 relative calm in this general area, we are about to get
7 ramped up. And so it is particularly important that we
8 focus today on moving forward. And as you said, Cheryl,
9 lessons learned and continuing to improve the process,
10 because we are in for a very interesting few years and we
11 are all going to have to be on top of our game.

12 Thank you.

13 ACTING CHAIRWOMAN LaFLEUR: Thank you.

14 Commissioner Norris?

15 COMMISSIONER NORRIS: Thank you. I want to thank
16 everyone, as well, for being here and making the effort on
17 this critically important topic. And I think you are
18 probably right, Phil, this is the most important work we do.

19 In getting in a setting like this and talking
20 about reliability, I just have to remind myself that years
21 ago, albeit the advertisements you saw from the local
22 cooperative still even to this day, or the investor utility
23 back in my home State of Iowa, we're always about
24 reliability. And people don't spend money on advertising
25 unless they think it is the most important thing for them to

1 convey.

2 For the industry, I know it has always been
3 reliability first, and that is the most important function
4 to have. But it has gotten a lot more complicated in the
5 last 10 years than it was 10, 20 years ago when I first
6 remember those advertisements. So it is critically
7 important that we communicate and address those factors that
8 are making this more complicated: cyber security, the
9 changing resource mix, physical security.

10 And so thank you all for being here to be a part
11 of this ongoing communication that is led by NERC as the
12 ERO, but even within every single organization out there--be
13 it a CLUF, or a public power muni, or investor-owned, I know
14 it's part of the corporate culture in this sector. So I
15 have always respected that deference that we are to give the
16 energy expertise, but it truly takes a more coordinated
17 effort to communicate across sectors to make sure that this
18 grid stays reliable as we go through this incredible
19 transition we're going through in this sector.

20 So thanks for all you're doing.

21 ACTING CHAIRWOMAN LaFLEUR: Thank you.

22 Commissioner Clark?

23 COMMISSIONER CLARK: Well thanks for being here.
24 Like I think all of us over the last few weeks, and maybe
25 the next few, I've been attending some of the regional

1 meetings that are held around the country, the regional
2 utility regulatory meetings.

3 I just got back from Mississippi late last night,
4 and last week for the Southeast Commissioners, and last week
5 I was in Indianapolis. I can tell you that probably more
6 than any time in my 14 years of being active in this
7 particular space the issue of reliability is on everyone's
8 minds and in everyone's heart.

9 Reliability is clearly job number one. It is job
10 number one for this Commission. It is job number one for
11 the states who ultimately have responsibility for an end-use
12 consumer that consumes the power. And it is an area of
13 concern unlike any other that I've seen in, like I said, the
14 last 15 years. And it is really because it's coming in so
15 many different forms.

16 As Commissioner Norris indicated, it is
17 everything from cyber security, it's physical security, it's
18 natural disasters, GMD, it's market forces, and shifts that
19 are happening in the supply chain, and it's environmental
20 regulations, all coming together at the same time.

21 And so it is a big issue for all of us whose job
22 it is to try to ensure that the lights stay on here on the
23 government side, but especially all of you in private
24 industry who ultimately run those networks.

25 So thanks for being here today. I look forward

1 to learning a lot more about an issue that all of us are
2 very concerned about.

3 ACTING CHAIRWOMAN LaFLEUR: Well thank you. We
4 have an all-star panel to start off--actually, all the
5 panels are great.

6 I wanted to say I think you can assume that we
7 have read your written submissions, so we really are going
8 to try to manage the verbal comments here to the time. I
9 think we have a timekeeper so that we can have discussion,
10 questions and discussion from the Commissioners and
11 hopefully from senior staff.

12 We did give Mr. Cauley a little bit more time,
13 given the breadth, and asking him to summarize the whole
14 state of reliability in three minutes seemed a bit of a
15 challenge even for Gerry.

16 So we do have with us Gerry Cauley, who is the
17 President and CEO of NERC; Tom Burgess, who is the Vice
18 President and Director of--I didn't know the term RAPA until
19 I was reading the testimony--but Reliability Assessment and
20 Performance Analysis at NERC; Billy Ball, who runs
21 transmission at the Southern Company; Commissioner Asim
22 Haque, from the Public Utility Commission of Ohio; and
23 joining us from Canada, Peter Fraser of the Ontario Energy
24 Board.

25 We are going to start with Mr. Cauley.

1 MR. CAULEY: Thank you, Chair LaFleur, and
2 Commissioners, and staff, and fellow panelists. It's good
3 to be here this morning.

4 I do want to thank the Commission for holding
5 this conference, it seems annually now, and tied to our
6 State of The Reliability Report.

7 This report is the third one we've produced, and
8 I think it kind of highlights the direction and focus at
9 NERC. We did close to 45 years of what we call long-term
10 assessments, sort of the forward-looking issues, emerging
11 issues, and so on. And one of the questions that we came
12 upon a few years ago is how are we doing?

13 In other words, can we look back and see
14 performance, and measure performance and results, and know
15 how good we're doing, and know what we should do going
16 forward? Not just the long-term issues, but some of the
17 challenges that we're seeing.

18 So this really is the purpose of the State of The
19 Reliability Report, is to take the vast amount of data we
20 get from events, transmission outages, generator outages,
21 and say is there something we're learning here? Is there
22 something we can do better to guide the industry and steer
23 them onto the most important issues?

24 And it seems to be having the effect that we had
25 hoped. If you look at some issues that I think we've got

1 fairly well mitigated as a result of this process,
2 vegetation management, grow-ins of vegetation were the
3 primary cause of the 2003 blackout, and many before that.
4 It is well in hand. We are going quarter after quarter now
5 with reports of no vegetation grow-ins.

6 We have done an excellent job in mitigating the
7 right-of-way maintenance, which I think has value not just
8 with regard to vegetation but during storms and other
9 stressful times, I think having good, clean rights-of-way is
10 a very good help to reliability.

11 Reloadability was an issue that we found during
12 the primary cause of the cascade of 300 transmission lines
13 in the 2003 blackout. We put in a standard and resolved
14 that. And we put in a standard also on frequency response
15 to address a decades-long decline in frequency.

16 Recently in the State of Reliability Report we
17 have identified new emerging issues that are things that we
18 know we can do something about, and that's the whole idea is
19 to be able to identify an issue, scale a problem to
20 something we can do something about, and address it.

21 Two recent examples include equipment failures.
22 We have seen a common theme of failures of a certain vintage
23 of circuit breakers, and then relay misoperations continues
24 to be a priority coming out of the report.

25 So we are looking in this report both at sort of

1 a backward look, and sort of emerging issues, and what kind
2 of priorities can we have.

3 Ultimately, the--as Chair LaFleur suggested, it's
4 a yardstick for us as well. Year-over-year we should be
5 able to identify what we have done, what we have
6 accomplished, and are the trends improving?

7 You know, one of the things we have developed as
8 part of this report is a measure of harm. And we measure
9 the harm in terms of severity of events, of transmission
10 cascades, generator failures if we lose lots of generation
11 in a single event, and load loss.

12 So with this Severity Index that we use, we are
13 able to assess the most severe events and what we can do
14 about those.

15 Now largely the way we deal with the issues that
16 we identified is two-fold. One is through general
17 programmatic focus, through standards of compliance, and the
18 other is through specific targeted projects. And we do both
19 concurrently.

20 Starting with standards, we have seen a lot of
21 change in the standards program in the last couple of years.
22 In fact, I would say two years ago I was as frustrated as
23 anybody in terms of the pace, the ability to get standards
24 done, to drive projects to conclusion.

25 And we went through a tremendous reform with the

1 cooperation and support of industry to reform the process,
2 to make it more flexible and adaptable to urgent issues, and
3 to hold accountability for the standards committee, the
4 drafting teams, and the participants.

5 And we have really I believe gotten the standards
6 process to where we need to have it. And we recently
7 demonstrated that with a timely response to an Order from
8 March 7 in terms of producing the Physical Security
9 Standard. That was a very clear, well written Order, and we
10 were able to respond and adjust the timelines and get that
11 standard done.

12 We've also got I think a world class set of CIP
13 Version 5 standards that are going into effect in a year.
14 We are producing the Part II of the GMD standard. We did
15 submit a frequency response standard for approval, and many
16 others.

17 So I think, you know, one of the ways we achieve
18 our reliability objectives is with focusing the industry on
19 a clear, crisp performance-based set of standards. Another
20 is, where do we focus on compliance and enforcement?

21 I remember the first of these when I was a CEO at
22 NERC. It was February. I remember the date. It was a
23 pretty big event for me, February 8th, 2010 we had the first
24 of these. And it was clear that the sense from industry was
25 an overwhelming burden of compliance, and sort of the

1 rigidity, inflexibility of the compliance program.

2 And it was diverting attention and resources from
3 reliability issues and operations into compliance
4 documentation. And I think we have made great strides
5 there. We have introduced the Find, Fix, and Track, FFT,
6 abbreviated NLPs, the Notice of Penalties, and the vast,
7 vast majority of all compliance issues that are minor are
8 now being handled through a very abbreviated process.

9 I think the real story in compliance
10 effectiveness in the last couple of years is that more than
11 70 percent of all violations are self-reported by the
12 companies. I don't think you find that really in too many
13 industries. And I think we have achieved a lot of risk and
14 reliability risk mitigation through a very aggressive
15 mitigation program associated with compliance.

16 So every issue that is found in the compliance
17 program is tracked to mitigation and closure by NERC and the
18 regions to ensure that we are continuously fixing.

19 We are embarking on a new program, REI, which you
20 will hear a lot about later today. And the intent there is
21 to get even more focused on the most important reliability
22 matters associated with compliance, to shift the burden to
23 entities to self-identify and police their programs with
24 oversight monitoring from NERC and the regions.

25 And we are also looking to streamline further

1 through tuning the registration program in which entities
2 apply to which standards.

3 So the heart of our mission here is a risk-based
4 sort of scientific analytic approach. I mean you put an
5 engineer in this job and I think that's kind of what you
6 expect. We have a transmission database, a generator
7 availability database, relay misoperations database, and now
8 we're collecting information on root cause and solutions for
9 every event that happens on the system.

10 This data that we're collecting on the event
11 analysis side is a voluntary program. And I think it's a
12 tribute to the industry that we are getting 100 percent
13 reporting of events in the various categories 1 through 5
14 type events. And this allows us to see patterns.

15 The circuit breaker, FF6 circuit breaker failure,
16 which was a repeating failure of a certain class of breaker
17 from GE-Atachi, was a pattern that no company really would
18 have identified. But looking at this in a broad swipe at
19 the 30,000-foot level across the industry, we were able to
20 identify that issue.

21 We are also working very hard on relay
22 misoperations. We have worked very closely. In fact, later
23 this week I will be meeting with the leadership of the
24 Transmission Forum to coordinate our programs. We are
25 getting a lot of voluntary support from the Forum in terms

1 of delivering solutions to address these issues.

2 We always remain focused on the infrequent risks
3 from cyber and physical security. We have built a very
4 robust Information Sharing and Analysis Center, and the
5 Electricity Subsector Coordinating Counsel is populated by
6 30 CEOs from industry. And the trade associations, we've
7 been able to develop a very close relationship and dialogue
8 with senior levels of government to ensure that we're
9 operationally ready and we're aware of all the issues
10 regarding cyber and physical threats.

11 So I want to thank the Commission again for
12 running the conference today. It gives us a chance to
13 highlight the State of Reliability Report and identify key
14 priorities going forward. Thank you.

15 ACTING CHAIRWOMAN LaFLEUR: Thank you, Gerry.
16 Mr. Burgess.

17 MR. BURGESS: Thank you, Commissioners and staff
18 and panelists. I appreciate the opportunity to speak to you
19 about our State of Reliability Report.

20 In the world of RAPA, this falls under the
21 Performance Analysis part of our objectives. It is one of
22 the premier reports that marries data, events, analyses, and
23 performance into a whole and allows us to identify trends
24 and insights that we can use to anticipate what the
25 conditions on the Bulk Power System might be, introduce

1 proactive steps that allow us to then adjust and correct as
2 need be.

3 In this year's State of Reliability Report, we
4 identified two real categories of findings. One is that the
5 Bulk Power System has sustained high performance. It
6 equaled the best performance that we have seen over the
7 prior five years.

8 Frequency response also remains stable. There's
9 a couple of notes that we have drawn some attention to that
10 we want to continue to understand better and investigate
11 within ERCOT and Eastern Interconnection. And the use of
12 EEA-3s, which are situations where firm load shed is either
13 imminent or in progress, has declined. And partly that is
14 due to infrastructure advances and better operator
15 communication and coordination.

16 There's two specific kinds of recommendations, one
17 dealing with misoperations, and one dealing with substation
18 equipment failures.

19 We have continued to see a continuation of
20 misoperations occurring. We produced a Protection System
21 Misoperations Report that identified a whole series of
22 actions and potential solutions that would help industry
23 registrant entities resolve some of the logic and design
24 aspects of that.

25 There are approximately 2,000 misoperations per

1 year, and a rough percentage of misoperations--that
2 represents approximately 10 percent of all the operations.
3 However, there's a high proportion that's involved in
4 events.

5 We have identified some standards activities.
6 Working with the Forum, we're trying to identify resolution
7 of specific best practices.

8 In the subequipment failure, Gerry mentioned the
9 FF6 breaker, work that we've done. About 1,000 breakers in
10 that group, and we and the Forum are working to address
11 that.

12 We have started a further task force to identify
13 root causes and common trends through analysis of events and
14 failures, and expect that by the end of the year we would
15 have a report with recommendations.

16 And so with that, I would thank the Commission
17 again and thank my panelists and am open for questions as
18 you would like.

19 ACTING CHAIRWOMAN LaFLEUR: Thank you, Tom. And
20 I misspoke when I introduced Billy. He is also here on
21 behalf of the Edison Electric Institute. Mr. Ball.

22 MR. BALL: Thank you. Good morning.

23 I appreciate the opportunity to engage in today's
24 dialogue on the reliability of the Bulk Power System. At
25 Southern Company, my job is to keep the lights on. This is

1 very personal to me, and I know it is to all my peers in the
2 electric utility business--just like you mentioned earlier,
3 Commissioner Norris.

4 It has been almost nine years since the formation
5 of the Electric Reliability organization and mandatory
6 standards. The ERO model has been maturing over this time,
7 and we have made significant progress.

8 Improvements have been made, as Gerry said, in
9 standards development and compliance, as well as the
10 prioritization of issues through the Risk Committee. This
11 latest report that's been discussed indicates, I believe,
12 continued steady improvement in actual reliability results.

13 I think Section 215 has proven itself as a
14 reasonable and durable framework in this, as I like to call
15 it, fairly unique structure, regulatory model, that's
16 actually working.

17 I think the next step in the move toward risk-
18 based management and compliance process is very important.
19 We need to ensure that those items with the greatest impact
20 on reliability are given the highest priority, while those
21 that are more administrative in nature don't consume our
22 valuable resources.

23 At the same time, the NERC processes have been
24 improving. Both Tom and Gerry mentioned the Forum. The
25 voluntary industry efforts focused on excellence have grown.

1 The North American Transmission Forum, as one example, now
2 includes members that provide transmission service to 85
3 percent of the peak demand in the United States and
4 Canada.

5 The NATF and other industry organizations are
6 working hard to strengthen a culture of reliability
7 excellence in North America.

8 Now going forward, we must focus our industry and
9 regulatory resources on core strategic efforts. Several of
10 the Commissioners this morning mentioned there's a lot going
11 on, and that means when there's a lot going on in your space
12 you need to decide what I'm going to focus on. I can't get
13 distracted. I don't need to be texting and driving.

14 We must remain committed to our long-term
15 reliability strategies without allowing our efforts to
16 become singularly focused in response to the headline or the
17 issue of the day.

18 And I want to personally say thank you to this
19 Commission, because I am encouraged by your recent comments
20 and efforts in this regard. Thank you.

21 The electric utility industry takes seriously
22 providing safe, reliable, and affordable electricity.
23 Providing a needed service to customers and communities is
24 why I started this career 30 years ago, and it is why I
25 still show up every day. And I look forward to your

1 questions.

2 ACTING CHAIRWOMAN LaFLEUR: Thank you, Billy.
3 Commissioner Haque.

4 OHIO COMMISSIONER HAQUE: Thank you, Chair
5 LaFleur, Commissioners, and staff. Thank you for inviting
6 me to participate today.

7 My name is Asim Haque. I am the Vice Chair of
8 the Public Utilities Commission of Ohio. I am also a member
9 of the National Association of Regulatory Utility
10 Commissioners, or NARUC, where I serve as one of two state
11 government sector representatives to NERC's Member
12 Representative Committee, which reports to NERC's Board of
13 Trustees.

14 In my remarks today I will be addressing how we
15 can foster a culture of reliability excellence in the Bulk
16 Power System and provide some input on indicators of that
17 culture of excellence.

18 The first thing that I want to do is applaud the
19 diligent work of Gerry, Tom, and their team for developing
20 standards aimed at improving the performance and reliability
21 of our Bulk Power System and addressing threats and
22 vulnerabilities to its security.

23 Measuring and assessing reliability is complex,
24 and NERC does an excellent job of conveying the state of
25 reliability to all of us in its report, and in evaluating

1 that report and the questions posed by this Commission in
2 its Order two key policy considerations are noteworthy from
3 my lens as State Commissioner.

4 First, it is important that in standards
5 development cost is considered all the way through to the
6 consumer.

7 And second, it is important that both the
8 Commission and NERC continue to explore challenges related
9 to the changing resource mix on the Bulk Power System. I
10 want to address both of those policy considerations here
11 very briefly.

12 So first, thinking of costs to the consumer.
13 State Commissions are tasked with the difficult job of
14 ensuring reliable electric service at affordable rates.
15 This means that any money invested to enhance the system
16 must demonstrate a clear benefit to consumers since they are
17 ultimately paying for these enhancements.

18 Now NARUC has worked with NERC to ensure that new
19 and revised NERC standards provide demonstrable benefits to
20 consumers that justify their costs. This work will
21 hopefully continue on. But in thinking about establishing a
22 culture of reliability excellence through the eyes of the
23 states, costs should be a factor in creating and fostering
24 that culture.

25 Thinking costs through the consumer requires that

1 the Commission be cognizant of costs when directing NERC to
2 develop reliability standards, and also requires that NERC
3 focus standards' implementation on, as we have already said,
4 the greatest risks to reliability of the Bulk Power System,
5 and trying to find that line where minimal reliability gains
6 are made at too high a cost to consumers.

7 Finding the balance between reliability and
8 affordability is admittedly not easy, and to the extent that
9 states can be helpful to the Commission and NERC in finding
10 that balance, we want to be.

11 Next, it is so imperative that the Commission and
12 NERC continue to examine the challenges associated with our
13 changing generational resource mix and its impact on the
14 Bulk Power System. A Bulk Power System that is prepared for
15 this change is to the lens of the states an indicator of
16 reliability excellence.

17 I'm going to speak for Ohio now. In Ohio, our
18 generation resource mix has changed drastically over the
19 last decade and will continue to change going forward.
20 Taking into account the already announced coal retirements
21 that will occur in Ohio in 2015, combined with the
22 probability of further coal retirements as a result of
23 environmental regulations, reliability objectives are being
24 placed in a precarious position, not only in my state but
25 in many others.

1 These retiring units are being replaced by
2 natural gas and renewable units and rapid change toward
3 generational resource mix may have a direct impact on
4 reliability in our state and region if these resources
5 cannot be seamlessly integrated into the Bulk Power
6 System.

7 We know that NERC is doing this work. We know
8 that NERC is analyzing reliability impacts of conventional
9 generation retirements, increased reliance on gas and demand
10 resources, as well as the integration of higher levels of
11 variable resources. I encourage this continued analysis.

12 And I ask that the Commission and NERC continue
13 to reach out to state commissions on this issue, because the
14 states are engaged in reliability issues at the very ground
15 level, hearing from state and local economies, and really
16 have a lot to offer. States accumulate data regarding the
17 expectant load, some states even 20 years of forecasting
18 out, states are siting new transmission and generation
19 facilities. We know what is in the queue. We know what's
20 coming.

21 And also, I would be remiss if I didn't say
22 states are going to have to make very tough decisions to
23 comply with the Clean Power plan, and our generation
24 resource mix will likely change drastically as a result of
25 that compliance.

1 Again, a Bulk Power System that is prepared for
2 this change in generation resource mix is to the states an
3 indicator of reliability excellence, and states hope to be a
4 part of the solution in ensuring this excellence. Thank you
5 for the opportunity to speak today, and I look forward to
6 continued dialogue and questions going forward.

7 ACTING CHAIRWOMAN LaFLEUR: Thank you.

8 Mr. Fraser?

9 MR. FRASER: Good morning, Acting Chairman,
10 Commissioners, staff, and fellow panelists:

11 Thank you for inviting me this morning. In
12 preparing these remarks, I have consulted with
13 representatives of Canadian regulators and governments who
14 participate in our Federal Provincial Territorial Working
15 Group on Electric Reliability.

16 It is good to be back. The last time I was here
17 you might have detected a note of criticism in my comments
18 on NERC's efforts on international cooperation. Things are
19 going much better. NERC's board and leadership have
20 enhanced their focus on ensuring that the ERO is functioning
21 effectively as an international body through a host of
22 outreach, educational, and other activities.

23 While there's always room for instilling a
24 greater awareness of NERC's international mission and
25 obligations, I wish to expressly recognize the progress that

1 has been made.

2 In addition, I note that the Trilateral
3 Reliability Working Group made up of Canadian regulators,
4 FERC staff, and a representative of the new Mexican
5 Regulator, is a good venue for exchange of information and
6 views and ongoing communication with NERC. In fact, the
7 draft agreement building on a data sharing principles we've
8 developed is finally nearing completion.

9 With respect to the State of Reliability Report
10 itself, its analysis of trends, of problems' implications,
11 and its prioritization methods are very positive. Turning
12 the very complex data into information and using that to
13 provide the insight on the most cost-effective projects to
14 pursue is a most appropriate regulatory approach.

15 And as an official regulator, that unlike FERC
16 does not have a large complement of highly capable power
17 system engineers, I appreciate the effort NERC has made to
18 make the findings more accessible to the nonexpert.

19 This in turn increases the confidence on the part
20 of a regulator, certainly across Canada, that the priority
21 issues are being identified.

22 Finally, as I noted last year, Ontario is facing
23 a challenge of a changing resource mix--specifically, the
24 integration of high levels of variable resources, while
25 having closed all of our coal plants.

1 We in Ontario appreciate NERC's Key Finding No. 2
2 that frequency response remains stable in the Eastern
3 Interconnection, but it is worth watching as more
4 jurisdictions such as the previous speaker just alluded to,
5 retire older generation and with it the inertia it provides
6 to the system.

7 This is an instance where the insight provided by
8 the data NERC is tracking will indicate whether further
9 action is required.

10 I thank the Commission for this opportunity and
11 look forward to any questions you might have.

12 ACTING CHAIRWOMAN LaFLEUR: Well thank you all
13 very much. That was a terrific way to start the day.

14 I want to ask a couple of very general questions
15 to frame the day, and I will ask them together, because I am
16 going to ask you each to answer, so that I want to leave
17 time for others.

18 Billy reminded us that next year we'll be ten
19 years into this grand exercise of the Energy Policy Act and
20 the ERO, and I am interested in, if you put yourself forward
21 and think of what we are trying to get done in the next
22 year, what are the two or three things you think we should
23 really focus on so that when we're here at this time next
24 year we say: Okay, did we get those done?

25 And it can be one of the efforts, the initiatives

1 such as RAI or other things, or a response to a particular
2 emerging challenge. But what are the things we are going to
3 hold ourselves to that are the most important things?

4 And my second question is: If you have any
5 thoughts, what can this Commission do to support those
6 efforts to make them more likely to happen?

7 And having just laid that on you, I think I am
8 going to start with Mr. Fraser so I can have Gerry bat
9 clean-up, since he is ultimately accountable for these
10 things. Thank you.

11 MR. FRASER: Well thank you for giving me the
12 easy questions.

13 (Laughter.)

14 ACTING CHAIRWOMAN LaFLEUR: And five seconds--

15 MR. FRASER: And five seconds to think about it.

16 (Laughter.)

17 MR. FRASER: Certainly, as I said on the
18 international side, it is going quite well and I expect that
19 to continue to evolve.

20 I think on the state of reliability, while I
21 signal I think it is pretty positive the way the reports are
22 going, I think there is a need to take that analysis one
23 step further in terms of making it more accessible to
24 regulators.

25 I still--you know, you read the preface and you

1 get through the 13 acronyms, and then you go to page one and
2 there are 6 more, and it's a lot better than it used to be,
3 and I don't mean to be facetious, there are color charts and
4 things like that which help people understand what the
5 trends really are, but it really does need to be translated
6 in a way that's really going to help us figure out where to
7 take action.

8 So that is an area I hope to see continue in
9 improvement.

10 ACTING CHAIRWOMAN LaFLEUR: Thank you,
11 Commissioner Haque.

12 OHIO COMMISSIONER HAQUE: Thank you, Chair
13 LaFleur. So I will address the cost component first. I
14 think the first thing that I want to say about cost is, I
15 would never suggest that reliability be sacrificed at the
16 expense of cost--no pun intended.

17 But when we're talking about fostering a culture
18 of reliability, I think cost needs to be a part of that
19 culture. And so how can that happen? Either FERC, and
20 perhaps either this Commission and perhaps it's not standard
21 practice, could perform that cost analysis, or request that
22 NERC perform that cost analysis. And in the event that
23 NERC, because the standards being developed, or whatever the
24 issue is, because it is so sort of immediate and it has to
25 be done with some expediency, in the event that that is the

1 case then an explanation of why there's no cost analysis
2 done I think would be appreciated by the states.

3 The other kind of facet of the cost element is
4 sort of establishing a culture where a utility and our
5 owners are good risk managers. So creating a culture where
6 good processes, sound processes, lead to prudent
7 expenditures I think is another element, another way to
8 instill that cost is part of the culture of reliability
9 excellence.

10 With respect to the generation resource mix
11 component, you know, I don't mean to steal Mr. Burgess's
12 thunder for Panel II, but they have hit the nails on the
13 head with respect to what the issues are. You will hear
14 about conventional generation retirements, increased
15 dependency on gas, integrating renewables, and you'll hear
16 all of these things. And the only ask with respect to that
17 is, since states are so in tune with what's going on with
18 reliability and especially with EPA regulations recently
19 introduced, each one of us has to submit our own plan. Each
20 one of us will be different in all of this. And so just
21 making sure that states have a seat at the table with
22 respect to reliability. But I think NERC has completely
23 identified the issues and is doing a fantastic job.

24 ACTING CHAIRWOMAN LaFLEUR: Thank you. Mr. Ball?

25 MR. BALL: Yes. I've got three: RAI, RAI--

1 ACTING CHAIRWOMAN LaFLEUR: You've had more time
2 to think than the others.

3 (Laughter.)

4 MR. BALL: --and RAI. They're all the same. It
5 kind of goes back to my texting and driving analogy.

6 I think the initiative that is laid out is very
7 important, to focus on the big things and to find a way to
8 really lay off a lot of administrative burden on some small
9 things.

10 So I think the plan is good. It's not--it's not
11 a small effort, and it is going to require a lot of focus.
12 And I think everything we can do in the whole industry and
13 the NERC community and all of us to move that ahead as
14 aggressively as possible is going to be very important,
15 especially with--I mean, we've just dealt, or we are still
16 in the middle of dealing with one set of pretty significant
17 changes to the generation fleet around the country. It
18 looks like we've got maybe another one coming. And if we
19 can get the RAI process done and being executed well and
20 consistently across North America, I believe that will be
21 very helpful.

22 And especially in the context of getting that
23 done in a timeframe where it will be helpful during the CIP-
24 5 implementation. So I really, that would be my three
25 things.

1 ACTING CHAIRWOMAN LaFLEUR: Any thoughts for the
2 Commission? Do you think we'll get a chance to look at RAI?

3 MR. BALL: Well maybe I should leave that to Tom
4 and Gerry.

5 (Laughter.)

6 MR. BALL: You can look at whatever you'd like
7 to.

8 (Laughter.)

9 ACTING CHAIRWOMAN LaFLEUR: Mr. Burgess.

10 MR. BURGESS: Thank you very much.

11 If I was to think about where would I like to be
12 in approximately a year or so hence, I think that the one
13 thing that's top-of-mind that we've begun work on and even
14 provided some initial development on that has to do with the
15 essential reliability services framework, making sure that
16 we've got that clearly defined and we have a good roadmap
17 ahead for how we want to evaluate and think about the
18 assessments and the implications in several areas with the
19 changing resource mix as that affects reliability in various
20 spots of North America.

21 The second thing is, I would like to think that
22 we would have detectable improvement in the misoperations
23 performance by that time; that the measures that we're
24 putting into place, the work that we're trying to do will be
25 resulting in less variability among the entities, as well as

1 a lower overall rate of misoperations performance.

2 And then finally, a year from this point I would
3 like to think that we have a good foundation for the
4 modeling part of our job, which is sort of fundamental to
5 understanding the performance of the grid and how it
6 behaves. Because I think that is so important as the
7 changing resource mix, the different behaviors that we're
8 beginning to see across North America unfold, we will need
9 to adapt and modify those modeling tools.

10 So those would be my top-of-mind wishes.

11 ACTING CHAIRWOMAN LaFLEUR: Thank you. Gerry,
12 we're working on quite a worklist for you already.

13 (Laughter.)

14 MR. CAULEY: Thank you. And I have my own
15 worklist as well.

16 I think the one thing that worries me the most,
17 and I think we have to focus on for the coming year, is the
18 transition for the CIP-5 cyber security standards and the
19 physical security standard. There's a lot about these
20 standards that are different than anything we've dealt with
21 before. It's a very complex system we don't yet, having
22 worked out the details on the monitoring and enforcement of
23 the physical security standards. So I think having success
24 there, not creating confusion, diverting people's attention
25 into a mountain of minor violations and getting focused on

1 the real outcomes I think is really important.

2 My second priority for success for the coming
3 year, I'll concur with Billy, is getting the RAI initiative
4 right, and the associated registration criteria adjustments
5 that will be needed.

6 The third area is, I think we have to provide
7 some fixes of real technical things. And so I will put
8 getting closure on the circuit breaker failures and better
9 definition on the relay misoperations. It's a critical
10 area, but it's so vast that we've really not got to the
11 point of exactly which are the three specific things we will
12 fix. And so we have to get that identified and work with
13 the Forum and get those fixed.

14 And finally, I'd say the resource mix issues I
15 think we've got to get greater clarity on the reliability
16 challenges of increased dependency on gas, and on the
17 operational impacts of depending on a large amounts of
18 renewables to provide frequency response and voltage
19 response and those kinds of things.

20 In terms of what the Commission can do to help,
21 the first one is going to maybe sound a little self-serving,
22 but I feel like we're an Olympic diver off the 30-meter
23 board and we're about to attempt the most complex dive with
24 14 twists and turns and flips, and we've got to nail it and
25 we're being asked to add one or two more flips and twists.

1 One thing we can is just sort of have some
2 deference to get the things done that we have on our plate.
3 It's a huge amount of stuff. I think we feel overwhelmed.
4 I think the industry is overwhelmed. If you look at the
5 cyber effort, the changing resource mix, you know, the new
6 standards, GMD, it's just a tremendous amount to get done.
7 And I fear, you know, the quality and effectiveness of the
8 results as we keep piling on more things to do. So one is
9 sort of deference to we probably just need a year of getting
10 some stuff done that's on our plate.

11 The Commission I think can also--we do intend to
12 share as much as we can on RAI and the registration.
13 There's staff participating in the registration process now,
14 but I think the only way for that to be successful is if the
15 Commission staff really leans in and participates sort of
16 objectively and willingly, wanting to learn what it is.

17 I think these are essential alignments to get
18 efficiency and focus on the most important issues, and we
19 need the support of the staff as we initiate filings, and we
20 start changing the process, to be accepting of that. But
21 you've got to be in early to understand how it works.

22 I think the Commission can help in the area of
23 gas dependency. There's a lot--you know, it's outside our
24 purview, so we can say, you know, there's outages being
25 caused by shortages, but it's hard for us to do anything

1 because it's outside our jurisdiction.

2 And the final thing I think the Commission can do
3 is, to help, is we're beginning to tell a story about the
4 essential operating characteristics of generation and how--
5 with technology, renewables can provide those essential
6 services, but we need open-minded commissions at the federal
7 and state level to realize when a utility comes in and says
8 I cannot make my frequency control requirements, my voltage
9 stability requirements, and my ramping and dispatch
10 requirements, what we need, what NERC needs from the state
11 and federal commissions is an open ear and an objective
12 assessment of the analysis that's submitted because it's
13 becoming real.

14 Thank you.

15 ACTING CHAIRWOMAN LaFLEUR: Thank you very much,
16 especially for your thoughtful comments on what we can do.
17 I observed at one of our recent meetings when I think we
18 were talking--I think we were talking about frequency
19 regulation, that I think it is just natural, we have a
20 tendency, we vote it out and say, oh, good, final rule.
21 We're done with that one. That's so good. What can we do
22 next?

23 But that's just sometimes the beginning of the
24 work that you're all doing.

25 MR. CAULEY: Exactly.

1 ACTING CHAIRWOMAN LaFLEUR: So that's a very good
2 admonition.

3 Commissioner Moeller?

4 COMMISSIONER MOELLER: Thank you, Acting Chair
5 LaFleur. A few observations and then two or three
6 questions.

7 First, Mr. Fraser, thanks for coming again. Our
8 relationship with Canada is so critical, maybe with the
9 exception of Alberta, our ties to the Provinces are only
10 increasing and we're mutually, maybe not dependent, but--
11 well, actually probably dependent on each other for this.
12 So we appreciate the effort and are cognizant of our friends
13 in Quebec and the challenges that they have in translation
14 of the standards. You know, it just complicates it a little
15 bit more. But if we keep these relationships open and the
16 dialogue going, I think we can only improve the situation.

17 I would always ask Joe McClelland prior to our
18 annual conferences in years past, in his different role:
19 Joe, what are the challenges we're dealing with? And I
20 remember five or six years ago it was tools, training, and
21 trees. And I think the fact that to the extent that we're
22 talking about those issues, they are largely under control
23 now. And again, a good point in terms of the progress that
24 we've made that we've moved on to different sets of issues.

25 And the final observation is that I hope you will

1 always keep your independence. We have a tight, somewhat
2 complicated relationship with you, but we want you to tell
3 it like it is. And I think back to your projections on what
4 the Bulk Power System, what would happen with the MATS rule,
5 and you took public criticism from the Chairman of this
6 Commission and the Administrator of EPA for essentially
7 predicting exactly what would happen. I think it was 67
8 gigawatts. You were right. You did the right thing. You
9 took heat for it, and going forward we are going to need
10 that kind of honesty and objective analysis because, again,
11 we are in a very challenging period of transition.

12 Questions. Mr. Haque, thanks for being here. I
13 am curious. On the ground in Ohio, it's always been for the
14 last couple of years very concerned about northern Ohio and
15 what's going on, again a big transition in a short amount of
16 time. What's your--if you can take off the NARUC hat and
17 put on your Public Utility Commission of Ohio hat, give us
18 the outlook. Are you going to make it through?

19 OHIO COMMISSIONER HAQUE: Sure. So the honest
20 answer is: I don't know. We are hopeful that we make it
21 through. We are just in the--prior to the release of the
22 Clean Power Plan, you know we have an understanding that gas
23 is going to play a bigger role in our generation resource
24 mix going forward. And I think that understanding is more
25 cemented post the release of the Clean Power Plan.

1 And so the work that this Commission is doing on
2 trying to match gas/electric dependency type issues is
3 really valuable work, and we really appreciate that work.

4 So I think, to be determined. But I think
5 conceptually the increased dependency on gas will continue
6 in the State of Ohio, and let's hope that we can make it.

7 COMMISSIONER MOELLER: The transmission upgrades
8 are going apparently better than many of us expected.

9 OHIO COMMISSIONER HAQUE: That is my
10 understanding, as well.

11 COMMISSIONER MOELLER: Good, good. Well, we're
12 in it together--

13 OHIO COMMISSIONER HAQUE: Thank you. Thank you,
14 very much.

15 COMMISSIONER MOELLER: --so again we'll keep the
16 communication channels going.

17 Particularly for NERC, but Mr. Ball as well, so
18 we had this meeting with the NRC last week. We had an open
19 meeting and we had a closed meeting, and we had a tour. And
20 it was really interesting because they are very dedicated
21 public servants, but they are solely focused on safety.

22 I think it is fair to say they were a little bit
23 baffled by our economic analysis because we're largely
24 economic regulators. And I was impressed by just their sole
25 focus on that, when compared to how we look at safety--I

1 think they kind of thought of us as amateurs, that's my
2 observation--but it goes to the point of the culture.

3 Now that we've established the ERO for a fair
4 amount of time and it's growing up, you referenced it but
5 how do you really promote that culture of reliability both
6 within the organization but more importantly I think out in
7 the field? I mean, I know the words are important, but how
8 can we take it to another level?

9 In the back of my mind is the San Diego outage,
10 but that aside concrete steps to really improve the culture
11 of reliability in the field.

12 MR. BALL: I think it's interesting you brought
13 this up in the context of your visit with the NRC. I do
14 think there are some very relevant things to be gained from
15 our nuclear friends.

16 And I would tell you, I believe, as someone who
17 has employees reporting to me responsible for these very
18 things, that--and I think you all know this--you can't
19 regulate a culture. That's not going to get you where you
20 want to go. Good regulations are important, but they're not
21 going to get you where I think you're talking about,
22 Commissioner Moeller.

23 And I believe really this culture of reliability
24 excellence that we're all striving for is based on
25 communications, employees down to the lowest level. You are

1 actually speaking to Gerry and Tom about their willingness
2 to take a stand to have what I call a questioning attitude,
3 you'll hear that a lot in the nuclear business, and I know
4 at our company and many of our peer companies--and this is
5 actually a lot of conversation on this very topic inside the
6 Transmission Forum and inside NERC really getting at
7 employees having the freedom to have a questioning attitude
8 about everything.

9 And that means--and also, being free to report
10 near misses. Because really what you want to get to is
11 where you're--and this was actually in I think some of
12 Gerry's comments that he filed--where you're really thinking
13 about what could happen next? And then, what can I do?
14 What, you know, what barriers can I put in place to keep
15 that from happening? Because we're all humans, and as
16 humans we're all capable of making mistakes. So we need to
17 think about ourselves, just like the nuclear organization
18 does, in that context.

19 And we have to be careful, I know I do, with the
20 team that works there at Southern. It's easy any time
21 something goes wrong to want to find somebody to punish.
22 But if it's an unintentional error, that needs to be a
23 learning experience, not a punishment opportunity, right?
24 And I'm not saying there's not a place for discipline
25 through standards or other things. And this is really, you

1 know, and we talk about this in the context of human
2 performance concepts and strategies, and how we run our
3 business.

4 And I really think that once you get kind of a
5 good fence around the playground--and I think actually the
6 reliability standards we have now are a good fence. I think
7 we're in a good place. And I would totally agree with what
8 Gerry said earlier about let's be about getting better
9 inside the fence we have. I think we've got the building
10 blocks we need from a regulatory perspective.

11 And I really do think it's all about people
12 feeling like they can ask questions, no matter what, and if
13 it was an unintended error, it wasn't something purposeful,
14 and they rarely are, that we're going to treat it, me as a
15 leader in the organization, the folks at NERC, we're going
16 to treat these as learning opportunities. And there's huge
17 value there.

18 MR. CAULEY: Commissioner, I think it's a great
19 observation and it's something that I think we're working
20 toward and actually having more success than we're perhaps
21 giving ourselves credit for.

22 I worked as a nuclear engineer as my first job
23 out of the military service, teaching people why the Three
24 Mile Island accident happened. And it was a lot of small
25 things. It was a lot of just human misunderstandings, not

1 accepting data--it was very small things that led to that
2 enormous accident.

3 So the philosophy that we're taking at NERC with
4 industry is exactly the nuclear philosophy, which is:
5 measure performance. Catch the small things. Identify the
6 things. Be self-correcting continuously. And that is
7 really the basis of our program.

8 The challenge that we have is we'll never be able
9 to become nuclear grade. In other words, they are doing a
10 very important job of protecting the Nation's nuclear
11 assets. It is a huge safety issue. So they will always
12 look like the pro, you know, the big leagues.

13 But we are emulating that approach I think both
14 at NERC and the Forum to continuously learn, assess risk,
15 challenge each other peer to peer, and I think it is
16 starting to show the results.

17 COMMISSIONER MOELLER: Well it's an opportunity
18 to again congratulate the Forum. We were working hard to
19 encourage its creation. You worked hard. We spent some
20 time with them, again somewhat modeled after INPO, and we
21 want it to keep going because it sounds like it's been a
22 complete success, but it needs to continue.

23 A final observation. Like Commissioner Clark and
24 Commissioner LaFleur, maybe John too, I was out at the
25 Western NARUC event last week. It happened to be the day

1 after the 1.11(d) rule was announced, and there were some
2 West Coast states who seemed to be pretty good with it, but
3 the internal Western States, the regulators from there,
4 asked some very penetrating questions of Mr. Kaufmann who
5 was gracious enough to speak, but this whole issue of remote
6 coal plants, not only the stranded investment of the
7 generation and transmission but that whole inertia issue, it
8 just seems like it's going to be there as one of those
9 emerging issues that we've got to be very, very cognizant
10 of. If you have any reactions? You've alluded to it
11 already, but...

12 MR. BURGESS: Well, really that change in the
13 resource mix--and when we think about that, it's not only
14 the different fuels that are supplying the various forms of
15 generation, and so you think about a rotation from coal
16 maybe to gas, the addition of variable energy resources,
17 it's also a change in the characteristics of base, mid-
18 merit, peaking assets, and that's where you begin to
19 introduce changes in the inertial response and the ability
20 of the system to be able to withstand disturbances.

21 So that's at the heart of this essential
22 reliability services work that we're trying to do, and we
23 have already made some decent progress with respect to that.
24 But the resource mixes that we're seeing emerge are
25 different in different locales.

1 Some of them have a large hydro component, which
2 is different. Others have a heavy solar dimension to them.
3 And so all of those play into understanding the reliability
4 behavior of those locales. So it is very important. We are
5 chasing away after it as fast as we can.

6 COMMISSIONER MOELLER: Thank you.

7 ACTING CHAIRWOMAN LaFLEUR: Thank you.

8 Commissioner Norris?

9 COMMISSIONER NORRIS: Thank you. First, I should
10 offer an invitation, Mr. Cauley. The last 4th of July at my
11 neighborhood pool I won the belly flop contest.

12 (Laughter.)

13 COMMISSIONER NORRIS: Your diving would be much
14 more creative than mine, it sounds like.

15 (Laughter.)

16 COMMISSIONER NORRIS: But you're invited to
17 compete this 4th of July if you happen to be in town. A
18 question for you and Mr. Burgess.

19 In evaluating your year-to-year evaluations of
20 achievement at NERC, can you dive a little deeper into what
21 metrics you use? And are there any metrics you think the
22 FERC should be utilizing in tracking this with you?

23 MR. CAULEY: We have recently in the last couple
24 of years adopted a performance-based metrics for the
25 organization. We used to have--my first year we had 60-some

1 metrics. It was like every key report we had to deliver,
2 every key thing we had to do, it was very internally focused
3 on all the things we had to do. And over time, we have
4 matured and said ultimately our effectiveness is are we
5 improving reliability or not?

6 And I've had a lot of pushback from every
7 quarter, and I won't name names, but we can't really measure
8 ourselves on reliability improving because we don't operate
9 the grid, and we don't buy the assets, and we don't control
10 things. But my philosophy is, if we're not having an effect
11 on reliability, then why are we here?

12 So we have selected metric number one as: Is
13 grid reliability within our span of control improving? So
14 we say no Category 4 and 5 events. Those are the CNN
15 events. If we have one, it is not a good year.

16 And then we take the Category 1 through 3, which
17 are the ones we might expect dozens, maybe 50, 60 a year,
18 and we apply the Severity Index: the amount of load lost,
19 the amount of transmission and generation lost. We measure
20 each one, give it a score, and we say that that number is
21 trending downward. And I am pleased to say that in the last
22 two years we have had success on those metrics.

23 The second set of metrics that we use is: Are
24 the programs effective? And we kind of twist this around a
25 little bit and say if there's a Category 3 or above event,

1 so mid-scale to large event, was there a gap in compliance?
2 Was there a gap in the standards? So we can point directly
3 to something we should have and could have done as the ERO
4 to prevent this because it was a gap in standards or a gap
5 in compliance.

6 Then the third area, and I mentioned this in my
7 opening remarks, is a list of six specific risk control
8 projects that we're working on. Because not everything can
9 be generalized. We want to focus on certain specific
10 projects. So we put sort of customized individual metrics
11 around completing those six projects.

12 And then the rest of our metrics are sort of
13 below the tear line of importance, but there's a few metrics
14 on the performance of our programs: the timeliness of
15 compliance actions, and those kinds of things.

16 But I think, just to summarize that long
17 response, we're making a good attempt I think at measuring
18 actual outcomes on the grid in performance trends.

19 COMMISSIONER NORRIS: Is that generally pretty
20 transparent with your members, too? They know--

21 MR. CAULEY: Well we're presenting it now
22 quarterly at our board and MRC meetings, and we're probably
23 the most public company in terms of budgeting and
24 performance management; we're the most transparent
25 organization I've ever known. And so we do go through all

1 our performance results and metrics at the end of the year,
2 and then progress reports through the year.

3 COMMISSIONER NORRIS: All right, thanks.

4 Mr. Fraser, is there anything we should look for
5 going forward? You mentioned the cooperation or integration
6 of Canadian representation at NERC has improved. I'm
7 certainly assuming, having the NERC board chair now from
8 Canada doesn't hurt, but is there anything we should look at
9 going forward to keep an eye on to make sure we maintain
10 that cooperative spirit?

11 MR. FRASER: Well in terms of the international
12 cooperation, I see it as again going to be increased
13 interest, and I think not least because of this proposed
14 carbon emissions rule. I think Canadian jurisdictions are
15 going to see increased opportunity and will want to
16 encourage closer cooperation going forward. So I do see
17 that as certainly I'd say a greater effort, a great effort I
18 would suspect on our side of the border as well in making
19 sure that that cooperation is effective going forward.

20 There's been lots of good developments. I know
21 there's a representative from--a representative from
22 Hydro-Quebec who is going to speak later today on that from
23 the industry perspective. From our perspective, a
24 regulator's perspective, it is really, yes, there's a mutual
25 interest here that I think is growing. The experience

1 Ontario is going through, as I alluded to in my remarks, is
2 something that you are going to go through, or are going
3 through, as well. And it is something that I think we have
4 a deep or shared interest.

5 So I just see the need for cooperation growing
6 over the next few years.

7 COMMISSIONER NORRIS: Okay. Good. Well I
8 totally agree, and I am glad to hear that we are making some
9 improvements in that.

10 Mr. Haque, you touched on a topic that is near
11 and dear to me, and that is putting costs in the analysis of
12 reliability. If you don't discuss it, it isn't part of the
13 analysis, and it is reliability at all costs, and it is not
14 unlimited, all we can spend on reliability.

15 But more importantly, it is about how you make
16 judgments about prioritizing expenditures. But do you see
17 anything in the FERC or NERC reliability programs that you
18 would say we are not striking the right balance about
19 cost/benefit or evaluation of cost/benefits?

20 OHIO COMMISSIONER HAQUE: No. I wouldn't say
21 that. You know, again my comments today are mostly
22 tailored, and you already alluded to it, of just building
23 conceptually that into the culture.

24 You know, as far as a particular methodology, I
25 think that is a subject for discussion as well. I know that

1 at one point NERC was utilizing a pilot program, a cost-
2 effective analysis process program, to actually evaluate
3 costs. And, you know, I'm new to the MRC so I'm not sure if
4 that was a process that collectively everyone derived value
5 from, but I think, you know, whether it's that or another
6 methodology again it's establishing the culture that it be
7 included in an analysis.

8 And I think as far as what particular methodology
9 is utilized, and when it is utilized, I think that's subject
10 to discussion and we'd be happy to be a part of that
11 discussion.

12 And, you know, I think I made sure to say, and I
13 firmly believe this, reliability can't be sacrificed to slow
14 the universe down in order to perform a cost analysis. I
15 completely understand that. And if that is the case, if it
16 is the case that the reliability need is so great that we
17 can't perform a cost analysis, well that's--and I guess what
18 I'm saying is, that is acceptable with some sort of here's
19 why we can't do it.

20 And I just think, if we're talking about culture,
21 and if we're talking about ensuring that cost is a part of
22 that culture, even that explanation yields that it's part of
23 the culture.

24 COMMISSIONER NORRIS: Thanks. Mr. Ball, I want
25 to come back to you and ask you about how Southern as a

1 company takes this into the equation, but what is that--I
2 forgot the name of the program that NERC has that you've--
3 it's not really a pilot program any more, is it?

4 MR. CAULEY: There was a pilot program to assess
5 the costs of proposed standards, and it was--

6 MR. BURGESS: Cost-Effectiveness Evaluation or
7 Analysis Program.

8 MR. CAULEY: Analysis Program, exactly. So we
9 piloted it on a couple of standards. It was developed out
10 of the NPCC region.

11 The board is still interested and pressing us to
12 sort of demonstrate some approaches to doing cost analysis.
13 We do a lot of nontraditional assessment of cost impacts
14 for, first of all, we have the ANSI process which is one of
15 the world's most democratic centers for development
16 processes. So we do get a lot of feedback and pressure
17 almost immediately if something is out of whack,
18 impractical, overly--the cost is not worth the reliability
19 benefit. We get that feedback almost immediately through
20 the standards' process.

21 We also do a number of pilots. For example, the
22 control area performance, you know, the balancing of
23 generation load. We've run under a pilot for a couple of
24 years and given entities, balancing areas, a chance to test
25 the methodology and try it out. So we do a lot of pilots

1 and testing. If something is so complex and technically,
2 you know, it's hard to understand the cost of it until you
3 do it, we do allow for those pilots.

4 COMMISSIONER NORRIS: Well I know, back to your
5 earlier points, Mr. Haque, I feel the pressure here when I
6 question a reliability standard, or taking a certain
7 initiative or measure for reliability, you're vulnerable to
8 being accused of don't care that much about reliability. Or
9 if something goes wrong, of course it will be one of us, or
10 all four of us, who are dragged to the Hill and it will be
11 our fault that there was an outage because we didn't do
12 enough on reliability, especially if we chose, made a
13 decision that maybe something cost more than it was probably
14 worth.

15 That is why I think it is particularly important
16 that there be an open record and a discussion about it that
17 we can point to: Well here's why that decision was made.
18 And make a good, rational decision about cost/benefit.

19 How do you approach that at Southern Company in
20 terms of evaluating costs? And do you feel there is an
21 openness to bringing those cost considerations to the NERC
22 process?

23 MR. BALL: Yes, I don't feel constrained at
24 all--

25 COMMISSIONER NORRIS: I guess I've never known

1 you to feel constrained.

2 (Laughter.)

3 MR. BALL: --to bring things up in the NERC
4 process. But I would--I would say cost is not only the
5 dollars and cents that might be associated with adding a new
6 piece of equipment or something like that.

7 Just like in any business, you've got to think
8 about what's your leadership? What's your management? What
9 are your employees focused on? And a cost can also be, you
10 know, what do I want? What is the most important thing for
11 our whole team to be focused on?

12 And if I--you know, it's been--I think I've read
13 some of you have said, you know, if you're trying to focus
14 on everything, you're really not focusing on anything,
15 right? And that's very basic common sense truth, and I
16 think we have to be careful there.

17 And sometimes things will come to us, ideas, and
18 they kind of come in individual silos. And while it's
19 difficult, especially in the heat of the moment, I think we
20 have to think about each item that comes before us in the
21 context of the greater goal here. And that certainly has a
22 dollars-and-cents component, but it also has a kind of
23 leadership and individual folks out there doing the
24 business, you know, how many things can they focus on at
25 once?

1 So I actually think this whole cost conversation
2 is very important, but it's actually a little broader than
3 that. It's both cost and how many things can I focus on at
4 once?

5 But I realize, you know, the scenario you
6 described, Commissioner Norris, is very true. It's not only
7 true I'm sure at the Commission and with the NERC
8 leadership, they feel that pressure, we feel it obviously in
9 our company and in the industry, you know. You're always
10 concerned about what if this particular thing, or that
11 particular thing happens? And that really drives us to
12 really talking about overall resilience, and how can I
13 design and plan for a system that is going to be as
14 resilient as possible?

15 I might not eliminate all threats, but those that
16 I can eliminate, how can I respond to them? And so I think
17 staying at that high level is very important, although it is
18 really difficult when the fire is burning around you, I'll
19 tell you.

20 COMMISSIONER NORRIS: Just one follow-up,
21 Mr. Haque. I'm curious whether the Ohio, or in talking to
22 your colleagues at NARUC, in response to the recent
23 conversation and action around physical security, I've noted
24 that a number of utilities or entities have taken, been
25 aggressive about going after protecting critical loads as a

1 response to the physical security threat discussion.

2 Whereas our focus, and NERC's focus, is on
3 protecting the Bulk Power System. And are states now
4 talking to your utilities that are taking action and
5 expending resources that will go into your regulatory-
6 approved rate base that are in response to that conversation
7 but are about critical load, not about the Bulk Power
8 System? Because in my mind that should be a discussion that
9 should be taking place between the utilities and the state
10 regulators, and what critical load is being protected by new
11 measures, and who pays for that.

12 Are you guys looking at that?

13 OHIO COMMISSIONER HAQUE: Yeah, actually,
14 Commissioner Norris, typically we have not had those
15 conversations. We have an understanding that protection
16 ends up I think bleeding into every facet of a utility's
17 universe. Of course it's recovered via transmission rates
18 that end up going to our RTO, and then eventually approved
19 here. But there's also protection aspects associated with
20 generation units and distribution units, as well, not
21 necessarily in compliance with NERC standards.

22 We have conversations with our utilities about
23 the protections that they are undertaking. We have
24 regulations on the books with respect to our distribution
25 facilities.

1 Specifically with respect to our physical
2 standards, I think similar to conversations that you've had,
3 Commissioner, with some of the utilities that have visited
4 you, we've had conversations similarly with our utilities
5 that have expressed concern about cost.

6 But I think that primarily my understanding is,
7 within the states cost recovery through state commissions
8 for compliance with NERC standards is rare. We have a
9 pending case right now for cost recovery for NERC standards,
10 and it is pending so that's all I can really say about it,
11 but there is a potential that this concept of cost recovery
12 through state commissions will permeate throughout the
13 states. It all depends on precedent and success, and I
14 think we will just have to see as it develops. But we have
15 undoubtedly heard concerns from our utilities about
16 compliance and cost.

17 COMMISSIONER NORRIS: And I would just encourage
18 you to have those conversations. I wasn't necessarily
19 referring to costs incurred as a result of complying with
20 NERC and FERC standards, but costs incurred for taking,
21 going beyond that in terms of physical security measures
22 that protect critical load that are not in response to a
23 NERC standard but are responsive to the conversation that is
24 taking place.

25 OHIO COMMISSIONER HAQUE: Yes.

1 COMMISSIONER NORRIS: And I just think it is a
2 good way for state regulators to look out for your
3 ratepayers for who shares--who should bear that burden for
4 additional physical security measures to protect critical
5 load--

6 OHIO COMMISSIONER HAQUE: Right.

7 COMMISSIONER NORRIS: --that's not a part of a
8 NERC standard. But we can have that conversation at a NARUC
9 meeting. Thank you, very much.

10 ACTING CHAIRWOMAN LaFLEUR: Thank you.
11 Commissioner Clark?

12 COMMISSIONER CLARK: Thank you, Chairman LaFleur.
13 I've been taking notes as the morning has unfolded, and it
14 seems like there are a couple of themes that are starting to
15 emerge. And one of them relates to the issue of
16 independence; the other is the issue of open communications.

17 And when I say "independence," I don't mean
18 independence of standards and things like that which are
19 clearly very important. But independence of the regulator,
20 independence within each company to feel free to speak up,
21 independence of NERC's communication to us.

22 I would echo Commissioner Moeller's comment and
23 appreciate the openness with which NERC has communicated to
24 us in an independent way, and others, on the state of
25 reliability. You should be applauded for that. And to the

1 degree that that sort of open communication continues to
2 happen, I will certainly have your back and I know there's
3 others that will as well.

4 But also, honest assessments like we received
5 earlier this morning from you, Gerry, saying sometimes we
6 just have too much on our plate and we need to work through
7 some things. That is very helpful for us to hear that sort
8 of thing.

9 And to Billy, your comments about open
10 communications within companies, I think that is just so
11 tremendously important. So thanks for that word to the wise
12 within your own company, but hopefully that is filtering out
13 throughout the electric industry.

14 And then of course independence of the regulatory
15 agencies is also key. We have to be able to make an
16 independent assessment of the job that we are doing as well,
17 and be free from interference when we do that.

18 Moving on to just a couple of questions, I am
19 intrigued by the issue of VERS and frequency regulation and
20 where we go from here. And maybe, you know, Tom, or Gerry,
21 if any of you want to jump in that would be great. Are we
22 heading towards a sort of standoff in relation to how the
23 amount of VERS gets integrated into the grid that is very
24 difficult to get our arms around as regulators?

25 And the reason I ask is this: We have so many

1 cooks in the kitchen when it comes to VERS that it is hard
2 for me to know exactly who is in charge at the end of the
3 day. So you have got NERC or FERC, which has this general
4 authority over bulk power reliability. We have NERC which
5 has the technical expertise in setting standards with regard
6 to, or is developing the standards that FERC ultimately
7 adopts in regard to frequency regulation. That is all very
8 well and good.

9 But it is all independent of what happens in the
10 actual resource selection process, which doesn't happen here
11 at FERC; it doesn't happen at NERC; it happens within each
12 individual utility, and specifically at the states as much
13 as anything driven by either what's happening at a state
14 utility commission, or even if you want to get a level
15 removed from that, it's oftentimes driven by legislative
16 mandates that come down from a state legislature which are
17 really divorced from the technical regulation of the system
18 itself.

19 How do we bridge that gap that we may be heading
20 towards this regulatory regime where on the one hand there's
21 more and more VERS being put into the system, but it may not
22 match up with the technical needs of the system itself?

23 MR. CAULEY: Well I think kind of if I look back
24 at history, we kind of did this before once when in the mid-
25 to late '90s we were looking at deregulation and

1 disaggregation of companies, and the big issue is how do we
2 know that all the generation and everyone who wants to
3 connect to the grid can be--it can be done safely and
4 reliably? And we worked hard on some interconnection
5 requirements, and study requirements, and sort of had dealt
6 with the issue at the time.

7 What's happened, though, I think over the last
8 15-plus years, is we've sort of in the new world let down
9 that guard, because there's other policies driving the
10 addition of these resources and we're forgetting in the
11 process that you need to study the electrical impact of
12 resources connected to the grid.

13 How do they perform? How do they interact? Do
14 they add to the voltage problem? Or do they help the
15 voltage problem?

16 And I think we need to get back to that
17 discipline. So the equation seems to be about how many
18 megawatts can we add? How many megawatts will be green?
19 How many megawatts can't be green? And look at the total.
20 But it's losing sight of that this is a massive physics
21 problem. It is understood by electrical equations.

22 There's no resource you can connect that is not
23 solvable and modeled as an electrical equation. And the
24 question is: Does it worsen the situation, or make it
25 better? So I think--and to me, I'll go out on a limb and

1 say there's not really limits on how much of different kinds
2 of resources that can be electrically connected, but they
3 have to have the right controls on them.

4 You can put digital controls on solar and wind
5 resources that provide frequency response, fast-acting
6 voltage response. Those are all technologies that are
7 available. But I think we are sort of ignoring in the
8 process, all this diverse arenas where all these decisions
9 are being made, this is not being brought to the front:
10 What studies have been done? Will this create sort of a
11 voltage-weak reactive power-weak area? Or will it help
12 reinforce the strength of the grid in this area?

13 So that's the kind of discipline that we need to
14 get back to in terms of letting the electrical engineers
15 have a say in terms of what has to be done to make this a
16 safe connection.

17 COMMISSIONER CLARK: Does it ultimately become an
18 issue of cost? I mean, you said that technically lots of
19 things can be--

20 MR. CAULEY: It is cost, and it's a cost that's
21 being ignored now and that's the problem. So in the rush to
22 change out the fleet, we're sort of undermining the real
23 cost of reliability. A reliable grid is not just the wires
24 and the substations connecting it. It's the rotating
25 machinery. It's those giant rotors that spin that keeps the

1 system really robust and stiff and well connected.

2 So if you have resources coming in that are not
3 providing those services, the ride-through capability,
4 inertia, voltage control, frequency response, ramping,
5 regulation, all those things, then basically there's a cost
6 avoided. There's a cost ignored.

7 And the challenge is figuring out how much of
8 that's needed, and making sure that it's provided. Because
9 it's a real cost. And you can only go so far, which is why
10 I have pressed the planning committee and Tom and his team,
11 to get more communication out on this.

12 You can only go so far down that route before the
13 sort of residual, underlying base fleet can cover you, and
14 then after that you start to get into trouble. So my fear
15 is, if we don't deal with this now, in several years we will
16 have--it won't show up every day. It may not even be during
17 a peak period, but it will be in some period where there's a
18 lot of equipment out for maintenance, some disturbance
19 happens that normally we could have survived, and we won't
20 survive it.

21 COMMISSIONER CLARK: Others care to jump in?
22 Billy?

23 MR. BALL: I would totally agree with Gerry's
24 conversation here. I know making sure we understand all the
25 impacts with any new resource, that's important. In my

1 mind, this isn't something that singles out a particular
2 type of resource. I mean, you need to do--we all need to
3 do, whether it's something coming onto our system, or
4 anybody else's system, you need to have the ability to do a
5 thorough analysis of the benefits and the burdens of that
6 resource becoming a part of what you've got to operate with
7 no matter what the type is.

8 So it is not about picking on any one thing or
9 any one resource. This is just what you've got to do to
10 make sure, you know, the lights are going to stay on for the
11 long term because in my mind once again, once you establish
12 kind of the fence around the playground, it's how can we all
13 work together in that structure.

14 And I think we have a good structure. But in
15 order for things to work well for everyone, we've just got
16 to be able to get in there and have that type of technical
17 conversation. It's not about excluding anyone; it's just
18 about how we are all going to work together so that we all
19 can participate, and we all can meet our objectives. And I
20 would just echo everything Gerry said.

21 COMMISSIONER CLARK: Thanks. Commissioner
22 Haque, I'm wondering if you maybe have any thoughts on this,
23 being that we're talking about that sort of tension between
24 the state space and the federal space in some ways, and
25 maybe Ohio is somewhat uniquely positioned in this regard

1 and that you're one of the states that's actually right now
2 going through that transition from some of the more
3 regulated aspects of how a state might handle things to more
4 of a market-based construct where you probably have less
5 state tools available from a command and control standpoint
6 over some of your sort of formerly monopoly vertically
7 integrated utilities.

8 OHIO COMMISSIONER HAQUE: I'm sorry?
9 Specifically what's the--

10 COMMISSIONER CLARK: Well the question would be,
11 how do we avoid the standoff where you have state policies
12 that are driving one particular thing to happen, but you
13 have this federal space whose relationship is with NERC and
14 standard setting, and the Bulk Power Supply, and that there
15 could be a gap there where you've got both sides sort of
16 pointing at each other if something bad happens, and how do
17 we avoid that situation?

18 OHIO COMMISSIONER HAQUE: Yeah. As far as the
19 generation component of our industry in Ohio, we're really
20 subject to the whims of the marketplace. And there's very
21 little we can do about that other than advocacy.

22 And so when we're talking about the federal and
23 state sort of integration there, or the federal and state
24 partnership, i mean I think that is really all that we can
25 do, is be advocates for certain fixes that need to occur

1 within the state.

2 Other than that, I think I would really echo what
3 the gentleman to my right said. But that's really the--

4 COMMISSIONER CLARK: Thanks. I guess the last
5 will be to Billy, and then we'll go from there. On this
6 issue of the change in culture to an REA type, RAI type
7 regime where it's less of a, you know, check the box paper
8 compliance type of proceeding, and more I guess what I would
9 term sort of higher level thought that requires a degree of
10 independence and thought about really assessing risk
11 themselves, I'm curious if you have any sense from either
12 your own company or other members of EEI or other folks
13 throughout the utility industry about how the transition is
14 being adopted at the front line.

15 I mean, the engineers and the folks who audit
16 these things and really look at them, how is that being
17 adopted? I mean, it seems to me it's an enormous challenge
18 from an industry that for years and years, and decades has
19 really focused in on one type of compliance, and it's now
20 changing. I mean, it's like a barge that's trying to change
21 direction midstream where you are now focusing on something
22 a little bit different.

23 I am wondering if you are seeing any challenges
24 in that regard? If it is being well adopted and accepted?

25 MR. BALL: Well, I think the hope, in my mind, of

1 the whole RAI effort is that--and again, I think one of the
2 later panels is probably situated to go more indepth on
3 this--you know, the way it's planned to be set up, in order
4 for an entity to I guess, for lack of a better term, receive
5 a little more discretion, they've got to meet certain
6 thresholds, right? It's not that every entity may be at the
7 same place.

8 As far as the people who are doing the work day
9 to day, they're very excited about this because, remember,
10 we've only had mandatory standards now for, what, about nine
11 years. So a lot of these folks remember when we didn't,
12 okay? And so it's just a natural thing in my mind, you
13 know, you kind of swing one way, and then you say, hmmm, I
14 may have moved a little too far on a lot of check-the-box
15 things. And so my hope is what we're going to see here is
16 that pendulum will move a little bit back, because I do hear
17 from our in-the-field kind of technical staff that there are
18 a lot of days they feel like they're spending a lot of time
19 making sure this box is checked, or they've made the proper
20 notation here, or it's clear.

21 And, you know, we're not trying to get away from
22 being thorough. That is not the point. But again, it goes
23 back to you want your employees to feel like if there's a,
24 they make a minor mistake, they're not going to have a six
25 month process of having to speak to it and all those things.

1 You know, let's address those. Let's coach on those.

2 Because you want them to be focused on the big things.

3 Because what we have to be careful of is if our
4 mindset becomes totally on compliance, then we just get
5 folks who are committed to compliance but they're fearful of
6 really kind of picking their head up and looking around.
7 And so we are very excited about it. I think there's a lot
8 of details to work out. It is not going to be easy, and it
9 is going to take a lot of time and focus.

10 COMMISSIONER CLARK: Gerry?

11 MR. CAULEY: Yeah, it's a good question,
12 Commissioner. I don't think we've quite made the transition
13 far enough that the culture shift has happened at the
14 individual companies and individuals. The awareness is
15 building and heading in that direction.

16 So what most companies have done through these
17 years of the compliance program is develop good controls and
18 compliance procedures in-house. And I think those will be a
19 strong foundation. So it won't be a shock going to RAI
20 because they have the procedures and controls.

21 The part that's really--the culture shift that's
22 not changed yet is, I would rather have them use those
23 controls, instead of focusing on I've got all my documents
24 lined up and they're all in the right folders and I can
25 present them to the auditor perfectly, I would like the

1 culture shift to be we're actually monitoring the
2 effectiveness of all those procedures, and we're catching
3 the minor indiscretions and things that are happening, and
4 we're fixing those and transparently getting them out there
5 and dealing with those. And that phase is, you know, we're
6 just getting ready to turn that corner. But then we will
7 know that is successful when the individual sort of
8 grassroots employee knows that it's important that "I caught
9 an issue," and it was really minor, but it's really
10 important to tighten this up and let's get it back in the
11 system, feed it back in there, and there are controls around
12 that happening.

13 So that is the maturation that we are looking to
14 get in the coming 12 months. And you can ask us next year
15 at this event: Do you feel like you're there?

16 COMMISSIONER CLARK: Thanks. Well, that's very
17 helpful. I am fully supportive of that transition that's
18 being made. I think it's absolutely the right thing to do.
19 One of the observations that I've made is, of course we hear
20 a lot from individual entities who come in and talk about
21 how they're just swamped with the paperwork, and the
22 check-the-box type of compliance. And now we say, be
23 careful what you wish for a little bit. I mean, I think
24 this is the right transition to make, but on one hand you
25 may be relieved from some of the check-the-box stuff but

1 what we're moving to will actually be a lot more
2 responsibility on your shoulders because it will take
3 independent thought and action to really assess what is it
4 that keeps the lights on?

5 So it in some ways will be just as much work if
6 not more, but hopefully it's a little higher level thinking
7 and focusing on the things that are important. So thank
8 you.

9 ACTING CHAIRWOMAN LaFLEUR: Just a process check.
10 I have a couple of follow-up questions. Then I'm going to
11 ask my colleagues if they have more questions, and staff.
12 And if we finish, we will excuse this wonderful panel and go
13 to the next--take a break and go to the next panel, which
14 was allocated a lot less time.

15 My first follow-up question, I just want to come
16 back on the issue of cost. I mean, I say all the time we
17 all know that almost all energy issues require tradeoffs
18 between reliability, cost, and the environment. And you can
19 never look at just one thing.

20 Obviously it's not reliability at all costs. The
21 observation has already been made, we can't protect the
22 hundreds of thousands of linear miles of the transmission
23 grid the way we protect the core of a nuclear unit. I mean,
24 you just couldn't do that.

25 I have somewhat resisted baking a specific

1 cost/benefit formula into the NERC process because I thought
2 the--I guess my impression was that the hybrid structure we
3 have already builds in a consideration of cost with the
4 industry, which is the one whose customers, or in the case
5 of bonds, shareholders have to pay the costs, sitting and
6 voting on the standards that we then look at.

7 And if you look at the body of FERC orders on
8 standards, so many of them we are pushing to go a little
9 farther. And then the comment comes saying, no, that will
10 cost too much to go that far. And we say, well, we think
11 you need to. And so I feel like there's kind of costs
12 somehow implicit, but I'm interested in reactions to that;
13 or whether formalizing it more as has been suggested would
14 add a discipline that we need?

15 From any of you in the process, Billy, or Gerry,
16 or--

17 MR. CAULEY: Let me--so it's a really interesting
18 challenge, and in some respects I think our board and I
19 would like to work on getting a better understanding and
20 analysis of cost. It's often a very complex proposition
21 because we have a diverse range of entities that fall under
22 the rules, and the implementation can vary widely.

23 And so what I wouldn't want to do is something
24 akin to a rubberstamp--I won't refer to names or
25 agencies--but, you know, we've estimated this will take

1 22,000 hours, and this is the cost, and, you know, it's just
2 sort of a paper exercise. It's very difficult to do.

3 I think we are open to developing more rigor in
4 cost assessments where they are needed. But I am primarily
5 where you are in your opening question there, that we do
6 have such an open, and transparent, and inclusive process
7 that we do get a lot of inputs and comments. And those
8 advisory inputs are--if we do something that's really
9 outrageous, we hear about it pretty quickly.

10 The other position that I feel we're in now is,
11 we have so many issues that we know are reliability problems
12 that we can work on--and I'll take the circuit breaker
13 failure example--if you know something is recurring on a
14 too-frequent basis and it's causing a circuit breaker to
15 fail and it clears a bus and there's a load outage
16 associated with that, well you know that's a problem you
17 need to fix. I mean, it's a maintenance fix. It's
18 something that can be done and you're going to eliminate 8
19 or 10 or 12 events that you can control, it's almost like a
20 no-brainer in terms of some of the really acute areas where
21 we know we need to focus.

22 I almost put it in the no-brainer. If we can cut
23 our relay miss operations in half, or, you know,
24 substantially, we know we're going to get a lot of benefit
25 in terms of outages that spread.

1 So i feel we're in that phase right now where
2 there's enough things that we know are important, if we
3 could just get focused on the important things and work on
4 fixing them, I'm pretty well guaranteed we're going to get a
5 good return on those.

6 But I think as we mature and get past those, I
7 think the idea of weighing costs is going to become more and
8 more important.

9 ACTING CHAIRWOMAN LaFLEUR: Commissioner Haque?

10 OHIO COMMISSIONER HAQUE: Thank you, Chairwoman
11 LaFleur. And I'll respond to that, and I do not disagree
12 with what Mr. Cauley has said.

13 I think this concept of whether to formalize cost
14 within the process or not, you know what I do not want to do
15 is create sort of a sense from NARUC or the states that we
16 are specifically requesting that we formalize costs in the
17 process.

18 Again, the question that was asked of us is: How
19 can we ensure that we are establishing a culture of
20 reliability excellence?

21 And so if within the processes that NERC
22 undergoes, if in fact cost is an element of that process,
23 then we're happy. And I think if you're looking at
24 formalization, you know, the concept of okay, cost was built
25 into this process and here's how states' cost was built into

1 this process, so that when your consumers, whether it be
2 industry or residential or whomever, is complaining about,
3 you know, a particular component in their bill. And as we
4 know, all these costs trickle down, we can say well, within
5 the process here's what was sort of baked into that process
6 to deal with cost.

7 And so I want to make--I again want to make sure
8 that we are talking about the culture here rather than the
9 sort of formalizing the process. So that is the first
10 component.

11 Then the second component, which I think I
12 mentioned very cursorarily, is I think there's probably an
13 opportunity with respect to this concept of our utilities
14 and owners being good risk managers. And hopefully--and I
15 think, Billy, you already alluded to this--sound processes
16 will yield prudent expenditures.

17 Now how you get there, that's a challenge. But I
18 think, rather than focusing on outcome, focusing on process.
19 You know, what was utilized? What was the methodology
20 utilized, utility owner, to make the decisions that you made
21 that led to NERC standard compliance? And were there sort
22 of best practices utilized?

23 I think that's another sort of component of this
24 cost--this cost universe that there could be some work done
25 on and could lead to true benefit to the consumers of my

1 state and consumers of other states.

2 ACTING CHAIRWOMAN LaFLEUR: Thank you. That's
3 very helpful.

4 My final question is on a different dimension,
5 and I'm hesitant. We were just told we shouldn't add a lot
6 more to the work list, but just a--another aspect of looking
7 at all the standards is: Which ones of them are structured
8 to design a system to prevent problems versus someone
9 mentioned resilience, standards to allow us to respond to
10 problems if they happen and get the system back up more
11 quickly?

12 You know, preventing versus responding when
13 things happen. I mean, that's something that is embedded in
14 a lot of the standards. We have been hearing a lot
15 recently, for example, about transformer inventory, and my
16 questions for the record that I answered last week on the
17 confirmation hearing, I think I had a question from someone:
18 Should you have a supply chain standard? Why don't you have
19 transformer standards? Or whatever.

20 Do you see NERC and this ERO enterprise going
21 more in the direction of kind of resilience-based standards,
22 like supply chain we have on hand or so forth, do you see
23 that more to the Forum and the standards are more output
24 measures? Because there's a little bit of that already in
25 the standards in the N-minus-1 and so forth. But I am

1 interested in if you see that is a trend, this emphasis on
2 resilience that will change the standards?

3 MR. CAULEY: That's a really good question, and I
4 think we, you know, strategically have not had a lot of
5 formal dialogue around that. But I think it probably is an
6 area that we could have some more dialogue on.

7 The standards--and I don't have the percentages
8 offhand--but they deal with having certain capability,
9 certain tools, certain data, things that you have that you
10 need to do a good job on reliability. That is a big set of
11 them, probably a third.

12 And then there's another group that has to do
13 with sort of preventive risk measures: Always operate
14 within these boundaries. Don't overload equipment. So they
15 are geared toward defense-in-depth layers of bad things not
16 to do because they are risky and dangerous and will help
17 protect the grid.

18 There is some--and that is a very large chunk.
19 And there is some portion that gets at preparations for
20 recovery, restoration procedures and those kinds of things.
21 So there's some of that in there.

22 But you're really raising a question that we have
23 really not gotten into too deeply. I think to some extent
24 the physical security standard does. And the question is:
25 How far into the asset management protection volume

1 resilience do you go in order to protect the public
2 interest?

3 And it is not an area that NERC has traditionally
4 gone into, and I think as we look at that, we would have to
5 be pretty careful and thoughtful about how we go at that.
6 Because, you know, the primary obligation for risk, when it
7 comes to did you have enough equipment, was the fence big
8 enough, can you recover quick enough, the predominance of
9 risk lies with the company and their relationship with
10 customers and the state commissioners.

11 But I think what is going to happen is, we're
12 going to be pressed, and I think the physical security, the
13 GMD for building in the physical attributes that give
14 greater withstand capability, greater ability to withstand
15 attack, is sort of, it's kind of obvious that it's coming
16 around.

17 This gives me a point, to make a--the question
18 let's me make a point that I kind of didn't get in before.
19 If you look at the State of Reliability Report, I noticed
20 this last year and I noticed it again this year, if you look
21 on a rolling five-year basis, there's about 10 CNN kind of
22 events.

23 Last year, in the five-year rolling basis
24 initiative, eight out of those ten have to do with severe
25 weather, which kind of gets to your question about

1 resilience and recovery. It's not in our scope, but I think
2 we can do a great service by at least reporting and
3 identifying those issues.

4 But I think at the same time, it makes us pause
5 to say all the things we're doing with these standards and
6 so on is kind of focused on avoiding the 20 percent of the
7 largest events, but 80 percent of them are severe weather
8 related issues. So we need to take a bit of--we're not
9 going to cure world hunger and peace; we're going to take
10 care of a slice of this, and we need to be respectful of the
11 O&M budgets. I don't want companies spending 80 percent of
12 their O&M budgets complying with NERC standards if the 80
13 percent of the harm to customers is in recovering from
14 storms and on the distribution systems.

15 So where we go in this is an interesting
16 question, but it's a very complex one and it should require
17 some extensive debate, I would think.

18 MR. BALL: Yeah, I would--well, just to be really
19 blunt, I really don't see the need for at least a NERC
20 standard on anything like supply-chain issues, transformer
21 inventories. That is a--in particular at our company, we,
22 we wrestle all the time with how many spares of different
23 things do we need to keep? That benefits many areas.
24 Gerry's right. Primarily it's about what our customers
25 expect as far as restoration times when we have an issue,

1 and a lot of that goes back to the feeling of the state
2 commission. Obviously there's cost associated with
3 inventory, no matter what your business line is.

4 And we have a very robust sparing program at
5 Southern Company, whether it's transformers or other major
6 devices, whether it's transmission or distribution, or even
7 in the generation world.

8 And I will tell you right now in the industry,
9 obviously, there's a lot of conversation about this. It is
10 not an area, you know, where people have their head in the
11 sand and aren't being very proactive here.

12 So I just don't see this as an area that's really
13 ripe for a standard. There is a lot of sharing going on
14 inside the transmission forum and other places around
15 sparing philosophies. There are a lot of efforts--you're
16 familiar with them--as far as trying to make life easy when
17 you need to share a piece of equipment with someone else.

18 So I actually feel very good about this space.
19 The other thing that often gets missed, I know at least in
20 our part of the world, on the large power transformers we
21 now have several manufacturers right there next door in
22 Savannah, Montgomery, Tennessee, and up in Wisconsin. And
23 so that's a huge improvement on where we were say 15 years
24 ago.

25 So I really don't see this as an area that's ripe

1 for a standard right now, and I'm really not sure what you
2 would say in a standard, to be honest.

3 ACTING CHAIRWOMAN LaFLEUR: Well thank you for
4 those comments, and I think it is an important dialogue. I
5 would just observe, to Billy's comment, everything in the
6 standards is something the industry did by themselves before
7 2005. None of this was made up. Trees were trimmed, and
8 relays were set, and people planned the configuration of
9 their grid. So the whole history of the body of standards
10 is figuring out what are the new emerging challenges? Where
11 do the standards have to go as we move forward, which is
12 part of what days like this are for.

13 Colleagues?

14 COMMISSIONER NORRIS: One follow-up, or not a
15 follow-up, a question I failed to ask the first time,
16 Mr. Cauley. You mentioned, it was 75 percent self-report?

17 MR. CAULEY: Yes.

18 COMMISSIONER NORRIS: And two things. What do
19 you attribute that to? And I want to assume the remaining
20 25 percent--

21 (An extraneous noise is heard.)

22 (Laughter.)

23 MR. CAULEY: Self-report? I don't know.

24 (Laughter.)

25 ACTING CHAIRWOMAN LaFLEUR: A room full of

1 engineers.

2 (Laughter.)

3 COMMISSIONER NORRIS: I presume the remaining 25
4 percent just didn't know it, but have you established any
5 analysis of the remaining 25 percent?

6 MR. CAULEY: No, think we're fortunate as an
7 industry to have a--it's a heavily regulated industry. So
8 the idea of self-reporting is almost in the DNA. And I
9 think that's a large part of it, is sort of that moral ethic
10 about identifying and reporting compliance issues.

11 I think the variances--because some of the self-
12 reports were sort of over-reported and we dismissed those,
13 and then some of them are not--are just about the
14 interpretation and understanding of the requirements.

15 There may be some cases where it's sort of latent
16 issues that's there, and the auditors find it but the
17 company didn't. So I don't think there's any attempt to
18 obfuscate the, you know, the compliance or 'I'll just wait
19 until somebody catches me.' It's usually about
20 understanding of the meaning of the standards, what's
21 sufficient evidence, and maybe thinking they're doing the
22 right thing but somebody else has a different judgment.

23 COMMISSIONER NORRIS: Thanks.

24 ACTING CHAIRWOMAN LaFLEUR: I was going to ask
25 the senior staff at the table if they have questions to add?

1 (No response.)

2 ACTING CHAIRWOMAN LaFLEUR: Well I guess we're a
3 little bit ahead of schedule, which is good news. So we
4 will thank this wonderful panel and try to resume a little
5 bit after 11:00. Thank you, very much.

6 (Whereupon, a recess was taken.)

7 ACTING CHAIRWOMAN LaFLEUR: Let's take our seats.
8 Well good morning, again. We are going to turn to the
9 second panel on our agenda today on Emerging Issues,
10 particularly focused on resource-mix changes and
11 implications for the infrastructure.

12 We have another set of great witnesses. Mr.
13 Cauley is staying with us because of his role at NERC.
14 He'll be sitting on the panel. But Tom Burgess from NERC,
15 who is also carrying over, will be speaking on this panel.
16 We have with us Pete Brandien from ISO New England; Brad
17 Bouillon from the California ISO; Allen Mosher from APPA,
18 and former head of the standards effort; Bradley Albert from
19 Arizona Public Service; and Robert Hayes from Calpine. So a
20 mix from around the country and different parts of the
21 industry to address this issue.

22 Again, I would ask folks to try to stay on time
23 in their prepared remarks. This one in particular was
24 almost like a summary of everything that's going on at FERC,
25 and so there's a lot to cover. So we will start with

1 Mr. Burgess.

2 MR. BURGESS: Thank you very much, and again
3 welcome, Commissioners and staff and fellow panelists.

4 You know, our independent assessment ability is
5 one of the core strengths at NERC. It was mentioned earlier
6 today, and I think that NERC really has a unique role and
7 ability to understand what is coming ahead of us, look out
8 to the horizon and identify trends and issues that need to
9 be addressed, and to formulate recommendations that can help
10 decision makers, as well as position the industry. So I
11 welcome the opportunity to share some of our perspectives.

12 The resource mix has changed rapidly, more
13 rapidly than my long experience in the industry over the
14 past five years. It is just a remarkable change. There are
15 a number of drivers that we are seeing that are beginning to
16 flavor those changes. Some of them are economic factors.
17 Some is all the natural gas that's become available. Some
18 of them are policy factors like RPS and REC types of
19 requirements. And others are related to environmental
20 regulations.

21 The things that that has led to is the use of
22 coal is declining. The use of gas is beginning to increase.
23 We're even beginning to see some emerging nuclear plant
24 declines or retirements.

25 We have continued to see the expansion of wind

1 and variable energy resources, as well as significant
2 amounts of distributed solar in certain areas. That has led
3 to a change in the mix, the fundamental mix of not only the
4 fuel but of the base, mid, and peaking type resources that
5 are available to a system operator to manage the system.

6 That has led to certain areas where we're
7 beginning to see stress on reserve margins, and stress on
8 essential reliability services.

9 The kinds of things that that has led to are
10 increased gas/electric interdependency. We've done a couple
11 of reports that have focused attention on some of the issues
12 that surround that, primarily in the planning area and in
13 the operation area.

14 And secondly, our recent work with the California
15 ISO has focused some attention on the importance of
16 essential reliability services. In that regard, we have put
17 together a tutorial, a white paper that tries to define and
18 describe the characteristics of essential reliability
19 services.

20 We have begun the work of building a framework so
21 that we can understand the reliability behavior, and the
22 characteristics, and use that to lead towards a solid
23 assessment in the areas where these stresses are most
24 prevailing.

25 I will also point out that with the integration

1 of variable generation task force, a project that started
2 some five years ago, we have a whole series of
3 recommendations, some of which point to certain
4 recommendations, but some of those will fold into this work
5 on the essential reliability services.

6 So our attention is to keep the spotlight on
7 understanding and providing a solid technical foundation,
8 and then make recommendations where those are appropriate so
9 that we can ensure reliability of the Bulk System.

10 So thank you. I look forward to your questions.

11 ACTING CHAIRWOMAN LaFLEUR: Thank you.

12 Mr. Brandien, a frequent visitor at our tech
13 conferences.

14 MR. BRANDIEN: Well good morning, Commissioners.
15 I feel like a broken record. Every time I'm down here I'm
16 talking about the same thing. And it's the challenges that
17 a lot of the different areas of the country are going to
18 face, even though New England has been the spotlight of a
19 number of these challenges over the last few years.

20 Those challenges are natural gas dependency,
21 power plant retirements, and what we're seeing is renewable
22 resources and trying to integrate those renewable
23 resources.

24 Really, our generation fleet began to turn over
25 in the late '90s, early 2000s. When I say "turned over," it

1 was mostly the units that we saw dispatched just due to the
2 economics and the efficiencies of those gas-fired plants
3 relative to the other--coal, oil, fossil, steam units, with
4 the heat rates not as well.

5 What we are seeing now is a number of those units
6 not running very often, and making the decision to retire,
7 which is increasing our dependency on gas-fired generation.
8 At the same time, New England is looking to increase the use
9 of gas for home heating.

10 So in the wintertime, between our increasing
11 dependency on gas for electric as well as the LDC use, we're
12 having a difficult time meeting the demands on the electric
13 side.

14 Next winter, I'm going to go into the winter
15 without a nuclear unit, without a few coal units, and an oil
16 unit due to retirement. At the same time, our intermittent
17 resources, our wind resources, are interconnecting in areas
18 of the system where we have to constrain them down because
19 of lack of transmission. They're being built where there's
20 no people; as a result, there's no transmission and we can't
21 fully get the benefit of those installed resources.

22 So I'm left with a lot of limited energy
23 resources, not able to dispatch the gas-fired in accordance
24 with their offered parameters. I have to look at how much
25 fuel they have, how much energy I have for the day, mix that

1 in with my intermittent resources, and hopefully the coal
2 and the oil units can supplement that. And what we found
3 out the previous winter that we took care of this winter is
4 low oil inventory, and we had a program to increase the oil
5 inventory on site.

6 So going forward we're going to need some
7 investment in infrastructure, both on the gas
8 infrastructure, the electric infrastructure if we're serious
9 about interconnecting these renewables, and we need to have
10 the right market incentives so that the investment on the
11 resource side are taken care of. And whether or not that's
12 dual-fuel, or invest in firm pipeline transportation so that
13 we can continue to meet the demands of the customers and
14 reliably operate the system.

15 Thank you.

16 ACTING CHAIRWOMAN LaFLEUR: Thank you.

17 Mr. Bouillon?

18 MR. BOUILLON: Thank you. Good morning,
19 Commissioners, staff, I appreciate the opportunity to speak
20 here on variable energy resources, or VERs.

21 My discussion is kind of centralized on three
22 aspects of VERs: the operational challenges associated with
23 integrating them; the importance of resources with flexible
24 operating capabilities to support them; and then also the
25 capability of the VERs to help address the concerns going

1 forward. Kind of three different aspects.

2 In my prepared statement there's quite a bit of
3 detail, so I am just going to keep it kind of high in the
4 interest of time.

5 California is embarking on the 33 percent by 2020
6 standard, the RPS standard, and we're on our way in that
7 direction, and as a result, we're seeing quite a bit of
8 renewables entering our markets.

9 We've hit 50 solar peaks this year, year-to-date,
10 so you're seeing a lot of projects in the pipeline. And as
11 such, we're seeing kind of a shift in the duck curve. And
12 for those of you who have seen the graphing, obviously I
13 can't give any presentation without discussing the duck
14 curve nowadays. The back of the duck curve is dropping more
15 quickly than we'd anticipated. So we are actually in the
16 2016 timeframe on that chart, a couple of years ahead of
17 where we thought we would be.

18 And as a result of that, we are seeing kind of
19 increased pressure on our markets for greater downward
20 dispatchability of renewables to meet those times where we
21 have low load conditions in the middle of the day and not
22 just overnight, as kind of historically people have seen
23 renewables.

24 And these changes have kind of forced us into a
25 greater dependence on flexible operating resources that can

1 backstop those changes, where you have cutouts or cutins for
2 renewables. The simple-cycle, fast-ramp, gas-fired
3 generation has become more of a role player than it was in
4 the past. And in California, where we don't have dual-fuel
5 capability, we're kind of all natural gas, coal is de
6 minimis, almost zero in our state. We only have one dual-
7 fuel plant. It's reliability based, it's not economic
8 based. And so we're natural gas. Pretty much that's where
9 we are.

10 And having those newer units that are fast-ramp
11 has been very favorable to our markets, the ability to
12 respond quickly with those newer units. And the trend in
13 repowering is going from those historical large base-load
14 gas-fired combined cycle units to these simple-cycle, fast-
15 ramp units. So it's good. It's kind of coming together.
16 It's converging into a solution that is helping us give--
17 helping us operate with better tools than we had in the
18 past.

19 The moving forward of the capability of variable
20 energy resources to address the challenges involves kind of
21 greater proliferation of those resources. We have AIM
22 pending, but potentially a west-wide energy imbalance market
23 that has several states involved, parts of several states
24 involved, giving greater diversity for our renewables as
25 well, participation opportunities, as well as balancing of

1 renewable changes within our market that will play to the
2 benefit of reliability.

3 Within California, I think that the improvements
4 that we're seeing will help our customers have a better
5 reliability solution, but also give us better tools to be
6 successful. And that is combined with market changes that
7 we have either pending or planned to help improve and
8 support the variable energy resources, and also the greater
9 penetration of these new gas-fired units.

10 One last item I'm bringing up is obviously the
11 gas and electric coordination plays a major role in this, as
12 you heard New England discussing, and that is that it
13 becomes increasingly critical that we have a full
14 understanding of their system and the implications of the
15 changes in their system on our commensurate electric
16 generation output.

17 And with that, I welcome questions obviously for
18 greater detail.

19 ACTING CHAIRWOMAN LaFLEUR: Thank you.

20 Mr. Mosher?

21 MR. MOSHER: Good morning to the Commission and
22 staff. Thank you for the opportunity to speak this
23 morning.

24 I'm from American Public Power Association. We
25 have 2,000 municipals across the United States. We're very

1 diverse. We range from cities as large as Los Angeles and
2 state-owned utilities, down to small municipalities that
3 have less load than this building does. But reliability is
4 job one for APPA members. We put a hierarchy of first of
5 all safety, safety of the public and of our workers;
6 secondly, reliability; then keeping the costs down and
7 managing our environmental obligations to the communities,
8 meeting community expectations.

9 So I think we're doing a pretty good job of it.
10 My general plea is for the Commission to give us flexibility
11 on how we do it. We believe in the vertically integrated
12 model that we have, and we think that load serving entities
13 planning on behalf of their communities can meet community
14 expectations and meet the expectations of regional system
15 operators to provide the resources that they need to
16 reliably dispatch the system.

17 The real risk we face are both in the short term
18 and the operational characteristics. I'm going to commend
19 NERC for identifying some issues that are, as was just
20 pointed out by Brad, are right on our frontier right now.
21 This is a real-time issue here of managing reliability.

22 And the ones we really need to worry about are
23 the ones that are a few years out with this combination of
24 massive retirements of coal-fired generations. We're going
25 to lose inertia. It's a major turnover in the fleet that's

1 going to have economic consequences and pushback. It will
2 have major issues in terms of how we comply with EPA
3 regulations in the existing CO--or rules resisting units for
4 CO2 regulation go through. It's going to be very hard to
5 manage these things.

6 We need flexibility from the government generally
7 on how we do it. Coming back to the Commission's
8 jurisdiction, it's this intersection of all of these
9 different factors of gas and electric, getting adequate
10 pipeline supplies into the communities to meet the flexible
11 needs for new resources, building the various new fast-ramp
12 or flexible generation that was referred to earlier. And
13 then developing, or accounting for the new business model
14 needs that may be required for all of the distributed
15 generation that our systems are confronting.

16 That changes the relationship between electric
17 utilities and their customers. And that is something that
18 needs to be confronted on the local level and state level.
19 It's not really within the Commission's jurisdiction, but
20 you need to understand the consequences of those changes so
21 that you can help us adapt to those.

22 And with that, I'll take questions.

23 ACTING CHAIRWOMAN LaFLEUR: Thank you, Allen.

24 Mr. Albert?

25 MR. ALBERT: Good morning, Commissioners and FERC

1 staff. It's my pleasure to be here today with you.

2 I feel like APS out in Phoenix, Arizona, we are a
3 good example of the type of significant changes that are
4 happening to the generation fleet right now. Over probably
5 the last four or five years, we've gone from having very
6 small amounts of solar on our system to now 750 megawatts of
7 solar on our system, in just a short amount of time. 500
8 megawatts of that are solar PV, with the majority of that
9 being rooftop solar, or distributed generation.

10 We also have a 250 megawatt solar thermal
11 facility which is just a completely different thing because
12 it incorporates six hours of thermal energy storage into the
13 design, which makes a vast difference in terms of the things
14 like the duck chart on our operational problems.

15 So we are going through a very significant
16 transformation of our generation fleet. And I think some of
17 the things that we are thinking about include accuracy of
18 our forecasting techniques, and that's not just about
19 ordering the right amount of natural gas to put into the
20 pipeline on the day-ahead basis, or efficiently transacting
21 with the market; but it's also about developing the
22 confidence of our operators in doing that right risk-
23 management balance of how much regulation margin they need
24 to put on the system to match the intermittency type
25 characteristics of the solar resource on that day.

1 So all of those things are a very important
2 tradeoff between the costs that we incur to serve our
3 customers and protecting reliability on our system.

4 We are also very focused on transforming our
5 generation fleet. Generating units with fast ramping
6 capability is one of our key concerns right now. So we've
7 initiated a project to add 500 megawatts of fast-acting CTs
8 to our system in the next couple of years.

9 We are finding during that non-summer timeframe
10 when we experienced the duck-chart type of a load shape,
11 that that fleet of combined cycles that are on our system
12 are just not as effective, or not as efficient in meeting
13 our load profile because of their high start-up costs and
14 high minimum operating levels.

15 The last thing I wanted to mention was
16 electric/gas coordination. So we've been very supportive
17 and very involved in the dialogue over the last year or so
18 on electric/gas coordination. We are very encouraged by the
19 NOPR that was issued by FERC in the last couple of months,
20 because for us having the later nomination cycles
21 particularly with the summer-peaking utility that peaks at
22 5:00 p.m. Pacific Time, having those later nomination cycles
23 are very important for us, and very important for protecting
24 our system reliability.

25 So with that, I'll conclude and look forward to

1 any questions you may have later.

2 ACTING CHAIRWOMAN LaFLEUR: Thank you very much.

3 Mr. Hayes?

4 MR. HAYES: Thank you, Commissioner. My name is
5 Bob Hayes, and I am Vice President of Gas Trading for
6 Calpine Corporation.

7 Calpine is an independent power producer with
8 more than 29,000 megawatts of generation, 94 power plants
9 across 20 states. Approximately 95 percent of our
10 electricity generated by Calpine is from natural-gas-fired
11 power plants.

12 In my capacity as Vice President of Gas Trading,
13 I oversee all gas purchasing and balancing for Calpine's
14 fleet of natural-gas powered plants.

15 I would like to thank the Commission and FERC
16 staff for inviting me here today to speak about the emerging
17 issues, and specifically reliability issues, regarding
18 gas/electric interdependency. I have been fortunate to
19 participate in prior FERC-sponsored gas/electric
20 coordination conferences, and I believe through these
21 discussions the gas and the electric industries are
22 developing a more thorough understanding of each other's
23 business, as well as--and through this understanding we're
24 improving our communications and developing a more
25 productive working relationship.

1 Just recently, recognizing the growing
2 interdependencies between the two industries and the
3 challenges this presents, the Commission issued a NOPR and
4 commenced a 206 proceeding to better coordinate natural gas
5 and electricity scheduling practices.

6 These proposed changes are welcome improvements,
7 and calpine supports the Commission's efforts. We are
8 actively participating in the NASB process and will remain
9 engaged as the process moved forward.

10 In the agenda for today's conference, the panel
11 was asked to discuss changed that are occurring in the power
12 generation industry with regard to gas/electric
13 interdependency. How an increased dependency on natural gas
14 can impact reliability. And what actions should be needed
15 to maintain reliability.

16 Calpine believes the electric industry is sound
17 and is ready for the transition from a system supported by
18 older, less efficient, and more costly coal plants to one
19 that supports newer, more efficient, less expensive and
20 cleaner natural gas plants.

21 There is a significant power generation
22 investment occurring, particularly in the PJM region. These
23 investments are being made due to the abundance of shale
24 natural gas and the existence of a competitive market, and
25 the commitment by PJM and its stakeholders to seeing the

1 market function well.

2 We believe that similar investment will be made
3 in other markets, provided that the markets are functioning
4 properly and are able to send the signal when the investment
5 is needed.

6 Although none of the markets are perfect, changes
7 to address some of the issues are underway and grid
8 reliability is secure. The natural gas pipeline industry is
9 similarly responding to increased demand in natural gas. We
10 are already seeing significant expansion in pipeline
11 infrastructure in the Northeastern United States, and more
12 broadly pipeline companies have announced approximately 25
13 projects scheduled to be in service over the next three to
14 four years that will move approximately 15 billion cubic
15 feet of natural gas from the Marcellus shale region to
16 markets east of the Rockies.

17 These plants represent total capital expenditures
18 of some \$12- to \$18 billion, and can fuel more than 130,000
19 megawatts of fuel generation. Although it's unlikely that
20 all these projects will be built, the level of proposed
21 investment is a clear signal that the gas industry is
22 ready, willing, and able to meet the demands of the power
23 industry.

24 Market signals are working to incentivize
25 investment in new electric and gas market infrastructure.

1 However, markets are not perfect and some levels of ongoing
2 optimization is required.

3 Many of the changes needed to remove market
4 distortion and ensure efficient development of capital are
5 underway, and the ISOs and RTOs should continue to work with
6 the stakeholders to explore ways to address market
7 imperfections.

8 In conclusion, Calpine believes the power markets
9 are generally working well, sending the appropriate price
10 signals that inform owners of older plants when it's time to
11 retire their facilities, and in sending generation
12 developers to build new facilities to meet demand.

13 The Commission should continue to take a
14 leadership role in ensuring that this transition occurs
15 reliably and without market distortions.

16 I thank you.

17 ACTING CHAIRWOMAN LaFLEUR: Well thank you all.
18 This is certainly a very timely topic, and I think the
19 comments, both the comments filed in advance and what we
20 just heard, really demonstrate that everything FERC works
21 on, everything in energy seems to be a seamless web with
22 everything relating to everything else.

23 A lot of the work at the Commission right now is
24 really driven by changes in resource mix that we're seeing
25 around the country, whether it's our infrastructure work on

1 gas pipelines and electric transmission, or markets' work to
2 make sure the markets reward and properly attract the
3 investment that we need for reliability.

4 So that really dovetails with the work you
5 mentioned, Tom, of identifying the essential reliability
6 services to make sure we're measuring, and tracking and
7 rewarding the right increments.

8 I want to focus this discussion on the role of
9 NERC and the REs and the ERO enterprise on this. As we make
10 this big transition in power supply, driven by so many
11 things--you know, new technologies, gas prices, new
12 environmental rules--I'm interested in what this panel sees
13 as the role of NERC and the rest of the ERO enterprise, the
14 regional entities.

15 Is it primarily an assessment and an early
16 warning rule? Do you think there are standards that might
17 have to change, be they related to frequency, or
18 forecasting, or fuel supply? I mean, how does this change,
19 if at all, what NERC is doing? And how can we distill what
20 the Commission has to do, what the ISOs have to do, what the
21 companies have to do, and what does NERC have to do to
22 contribute to this?

23 Yes, Allen.

24 MR. MOSHER: I think NERC has a really good focus
25 through its periodic assessment and special assessments it

1 does on identification and sort of delineation of problems.
2 It's really done a great job in variable energy resources on
3 the work it's done on natural gas. I think that's really
4 the primary role that NERC has.

5 The part that, the new project that I haven't
6 looked at yet is the Essential Reliability Services' effort.
7 That is really a precondition for doing much of anything new
8 in this area. Because first you need to develop with
9 greater precision the characteristics that you're really
10 looking for out of generators. Because if you don't define
11 what you're looking for and put them out in public, people
12 are going to build the generators they're going to build.

13 I mean, when we started off with a lot of
14 renewable generation, they were just straight megawatt
15 machines with no controls, nothing on them. And of course
16 they had all these adverse consequences. All the other
17 generators on the grid had to react to them, respond, and
18 protect against it. That's a real problem.

19 But if you put out the characteristics and either
20 define them in state or local level interconnection
21 policies, for example, you can manage the impacts of solar
22 generation. You need some combination mix of storage, and
23 maybe active controls on devices to manage those issues.

24 At the aggregate level, NERC can do the
25 assessments that sort of define the regional problems, and

1 then the generic issues of what characteristics we're
2 looking for. Because we're losing a lot from the retirement
3 of the traditional generators. What are we going to replace
4 it with? We need to be explicit on what we need.

5 ACTING CHAIRWOMAN LaFLEUR: Yes.

6 MR. ALBERT: I would maybe echo the same type of
7 comments. I think in this period of rapid change that we're
8 going through, I think it is essential that we all learn and
9 continue to learn from the experiences that other utilities
10 are facing across the Nation.

11 Because things are changing so rapidly it's
12 difficult with our staffs at an individual utility to keep
13 up with everything, and to learn, and to keep ahead of the
14 curve the way we need to. And I really feel like NERC and
15 some of the special assessments and some of those type of
16 things that they disseminate to the industry is really a
17 great service to us.

18 MR. CAULEY: I think primarily our role continues
19 to be the independent assessments and sort of shining a
20 light on the emerging issues.

21 One of the other things we do, we have to remain
22 fuel neutral, you know, market neutral, but basically
23 focused on reliability. So one of the things we have to do
24 is how does that get incorporated into the standards and
25 compliance.

1 As an example, we think of a generator over 75
2 megawatts, these rules apply. Then you say, but what if the
3 75 megawatts is made up of dozens, or a hundred individual
4 elements? And then how do we practicably turn that into a
5 reliability rule?

6 We are doing everything we can to basically be
7 agnostic or neutral to the configuration of the technology
8 and the source. So I think those are the main things we can
9 do.

10 It is really important, as Commissioner Moeller
11 said earlier, for us to maintain our independence. And my
12 suggestion is that's true of the Commission as well in terms
13 of your role, and work with us to be sort of the vigilant
14 guardian of reliability. And I know that the Commission
15 understands that. But there's a lot of inherent risks that
16 are hard to see ahead of time.

17 If you look at the situation in Germany--I know
18 it's been discussed a lot--but good intended people spent a
19 lot of money, and made plans, set out policies, and then
20 realized that they had made mistakes.

21 If you look at the polar vortex situation, things
22 that you may not have thought about--you know, one is
23 obviously the competition for gas as a fuel versus retail
24 customers. But then there's other issues like the coal
25 fleet that's sort of headed toward retirement. It is not as

1 ready and not as maintained. It's been sort of cannibalized
2 and wasn't quite as available as you would have expected.

3 So I think we're obligated to try to read the tea
4 leaves and see where the breakdowns are going to be, and
5 highlight those. I think we have much less control over
6 doing anything about those things because of our scope.

7 ACTING CHAIRWOMAN LaFLEUR: Well I definitely
8 agree that NERC has an important role to play in assessment,
9 both the nationwide assessments like the gas/electric report
10 I thought was excellent. Mine is all worn out, and the
11 staple doesn't work anymore because I've looked at it so
12 many times--

13 (Laughter.)

14 ACTING CHAIRWOMAN LaFLEUR: --and also being part
15 of the regional conversations like the ongoing conversations
16 we are having on MATS implementation. But when I think of
17 the body of standards that we have now, they were primarily
18 built for kind of the Bulk Electric System holding together
19 mostly central station generation.

20 If we someday have a system with a lot more
21 distributed generation and less of the baseload,
22 potentially--I mean, I agree with you that we are not, our
23 focus should be on reliability. I think we should have
24 trademarked Phil's comment that "we're fuel neutral but not
25 reliability neutral," we could have made more money if we'd

1 trademarked it.

2 (Laughter.)

3 ACTING CHAIRWOMAN LaFLEUR: But do you need a
4 different set of standards for a different kind of system
5 with, you know, more distributed, more real-time fuel supply
6 through the gas pipeline network than you have with, you
7 know, what we think of as the old-fashioned baseload mid-
8 merit peakers on the edges?

9 MR. BURGESS: Frankly, I think that having the
10 technical foundation that helps us understand what the
11 different elements are that all contribute to a reliable
12 bulk system is kind of the first premise.

13 Once we understand that, then I think we can
14 begin to turn our attention to, okay, what are the right
15 ways to effectively achieve those objectives? And in some
16 cases those are on a balancing area dimension. In other
17 cases those are a regional perspective. In other cases,
18 those are across sector, across industry types of
19 coordination.

20 But there are a lot of tools that are available
21 to begin to try to address those. And in some cases, they
22 are standards, or they are guidelines. And those can be put
23 into effect.

24 Our belief is that if we describe the reliability
25 characteristics well enough that we will be able to adjust

1 our standards in a way that helps facilitate the end zone
2 that we're trying to get to.

3 But in some cases there are also technical
4 requirements that are important. And we've done some work
5 with IEEE on the 1547 group to help change the way that
6 they're looking about the requirements. And so I think
7 there are some things that are available in those arenas, as
8 well as in market rules where market rules can help
9 facilitate the right kinds of results. I think that can be
10 beneficial.

11 MR. CAULEY: I would just, I'm trying--it's a
12 really good question, and I'm not sure we've been totally
13 responsive to where you're trying to get to.

14 I think Section 215 of the Federal Power Act
15 really limited our ability to mandate resource requirements,
16 and adequacy issues, and fuels. I think that was pretty
17 clear. And so we struggle with how do we--if we see a
18 problem, how do we deal with it?

19 And so I don't think a standard is the right
20 approach, and I don't think--in my view, it's not allowed
21 within our current jurisdiction. But we see an area like
22 ERCOT where we feel that the capacity picture there, and the
23 ability to meet severe events, and severe even this summer--
24 you know, we highlight that in our report. We go meet with
25 ERCOT and with the state commission folks to use whatever

1 levers we have to make sure that they're aware of our
2 concerns and addressing the issue.

3 We highlighted a similar concern with the Midwest
4 in the MISO Region in our most recent long-term assessment.
5 And the idea there for us is, I don't think a standard would
6 work. We publish what we think are resource requirements,
7 and reserve margin requirements, but they are basically
8 targets.

9 So I think it is really challenging for us to do
10 anything more than that.

11 ACTING CHAIRWOMAN LaFLEUR: Thank you. I wasn't
12 thinking so much of a resource adequacy standard, and I'm
13 not an electrical engineer, I'm the mother of a physicist,
14 that's my most technical attribute--

15 (Laughter.)

16 ACTING CHAIRWOMAN LaFLEUR: --but more that these
17 different types of generation might have different frequency
18 characteristics, or inertial characteristics, or, you know,
19 reactive power, and all those things that hold the grid
20 together that are Bulk Electric System increments that we
21 might be looking for different--if you are California, as
22 you did in your study, and you have 33 percent variable
23 resources, you might be looking for different things in
24 different increments than now. And that is a market piece,
25 but it might be a NERC piece as well.

1 MR. CAULEY: Well I think in that area there is
2 more leeway. Because we currently have performance
3 standards in all those areas: voltage response, frequency
4 response. The question then is: Who is going to be held
5 accountable? And that is where the dispute comes in.

6 So if we have a requirement to a balancing
7 authority or a transmission operator, but all the new
8 resources won't provide the underlying voltage control
9 capability, or the voltage stability capabilities, then you
10 have a huge debate.

11 So the question is: Do you break that logjam by
12 instituting more robust connection requirements? Or respect
13 the studies required to connect those? Or do you put a
14 performance--shift the burden of the performance standard to
15 the resources?

16 Those are questions we have not crossed, but I
17 think as the issues become obvious of where there's a real
18 point of risk, that that is within the scope of the
19 standards to have performance requirements on all assets.

20 ACTING CHAIRWOMAN LaFLEUR: Thank you. Pete?

21 MR. BRANDIEN: Yeah, I agree a lot with what Tom
22 and Gerry spoke of. You know, I'm at the ISO, Registered
23 Reliability Coordinator, Balancing Authority, TOP Planning
24 Coordinator, all those sort of things.

25 The NERC reliability standards give me somewhat

1 of a stick to go out and require people that are
2 interconnecting to the system, or that are interconnected to
3 the system, that they have to be the model. I get that
4 through the MOD standards.

5 So making sure that the standards require them to
6 provide that sort of information. We are constantly redoing
7 the study, redoing the study, redoing the study every time
8 because they're updating the model.

9 The other thing is, the reliability is essential.
10 Give me what I need to go after in my marketplace. So as
11 they say, I need frequency response. I need this. I need
12 that. Because we're not getting it from the rotating mass
13 anymore, and I've got to get power electronics to provide
14 more voltage support, or more frequency response, things
15 along those lines.

16 It gives me something to point to when I'm
17 working with our market development people, our
18 participants, and we can embed in our tariff what we need to
19 go after; or we can embed in the interconnection
20 requirements that they have to meet that low voltage ride-
21 through, things like that.

22 So they're giving me the tools to go out and to
23 design and interconnect resources and maintain reliability
24 going forward. So they're doing me a service by documenting
25 what those requirements are. And then I need to take them

1 and build a reliable system from it.

2 ACTING CHAIRWOMAN LaFLEUR: It also informs
3 transmission planning. How many places do we see where they
4 say they needed this transmission to meet this NERC
5 standard. So if the NERC standard wasn't right, we might
6 not have known what we needed.

7 It just proves that there's no shortage of new
8 challenges, I guess is what this panel is about. Even when
9 you think, okay, we're finally getting there, the standards
10 are in good shape, there's always new things coming at us.

11 Commissioner Moeller?

12 COMMISSIONER MOELLER: Well thank you, Chairman
13 LaFleur. A couple observations again.

14 Gerry, I liked your view of, yeah, there's just a
15 lot out there that's not exactly visible, and just to raise
16 it as part of the 1.11(d), there's some significant talk of
17 environmental dispatch.

18 And, you know, that's a complete different
19 mindset than economic dispatch. And if that's a real
20 proposal, we're going to have a lot of new ways we have to
21 think about the system. You know, it's out there. They
22 raised it. So it's going to be a pretty live topic I think
23 for the next year.

24 I want to commend all of you for highlighting the
25 gas/electric coordination. And particularly Mr. Hayes, I

1 think back on when this effort really got started about two-
2 and-a-half years ago, and we had those five technical
3 conferences in the summer of '12. And I think it's fair to
4 say Calpine was kind of a skeptic of the need for us to
5 really dive in, and you've completely changed your approach.

6 You've been one of the more consistent backers of
7 what we've been doing lately, and I commend the recognition
8 and the willingness to see how the landscape changed. And
9 obviously we're deep into it, and we will be for a long
10 time.

11 Mr. Bouillon, I want you to know that I gave a
12 presentation to some of our European colleagues a few weeks
13 ago because we have an annual meeting with them, and so the
14 duck graph has now penetrated Europe as well.

15 (Laughter.)

16 COMMISSIONER MOELLER: But I thought it was kind
17 of interesting, and to get your reaction, when I was meeting
18 with the Western regulators last week, we don't really talk
19 that much about Hawaii because we don't regulate them, but,
20 wow, are they facing some very interesting challenges with
21 the amount of VERs.

22 And, you know, for decades we've talked about
23 trying to shift load into the night. They're talking about
24 seriously trying to shift load to the middle of the day,
25 which is something you're probably maybe doing? I think you

1 alluded to it in your comments. And they're seriously
2 considering real-time pricing as a way to get to manage the
3 system. I don't know if it's worth a field trip, but...

4 (Laughter.)

5 COMMISSIONER MOELLER: I'm curious if you're
6 looking to Hawaii. And I was quite impressed with the depth
7 of their strategy toward dealing with VERS integration.

8 MR. BOUILLON: From a work standpoint, I'm not
9 familiar with the Hawaii model. From a personal standpoint,
10 I've actually been following it. So I actually am curious,
11 as well. I know some of the solutions they are proposing
12 are extremely expensive.

13 And so I don't know what they're going end up
14 ultimately doing, but, you know, Hawaii has some unique
15 challenges, as well as hour-by-hour cloud challenges for
16 solar in managing that. They're going to be very--they're
17 going to struggle, I think, in my opinion, personal opinion
18 obviously here. And I would support a field trip if you
19 wanted to go.

20 (Laughter.)

21 COMMISSIONER MOELLER: Well I think it's
22 something we can look to in terms of, again, prices are very
23 different there given the nature of the system.

24 I want to talk a little bit more about reserve
25 margins. Going back to that presentation to the European

1 regulators and comparing the NERC numbers to the EIA
2 numbers, and the difference is that the NERC numbers, as I
3 understand it, you essentially report what the utilities
4 tell you. EIA takes a little bit different, independent
5 look at some of those numbers. And they are different going
6 forward. There's a gap there.

7 So we've been diving in a little bit in my office
8 with the help of the other offices and the staff, and I
9 realize--I just want to raise it to get your perspective--
10 but we go to this rolling five-year average. It doesn't
11 really take into account extreme weather, and unit failures
12 under extreme weather.

13 Terry Boston will tell you, you know, they had
14 those polar vortex peaks. They not only had 35,000
15 megawatts above average load during that time, they lost
16 something like 35,000 megawatts of units that they expected.
17 That's a pretty big hit on the system even that big.

18 Do we need a little bit more of a robust effort
19 to, since every region does reserve margin analysis
20 differently, maybe not standardize it, but look more at kind
21 of a real-world snapshot, given that a rolling five-year
22 average really doesn't address polar vortex type events, or
23 summer extreme heat, so that we are adequately prepared
24 going into again what I think is going to be an extremely
25 challenging four to five years.

1 MR. CAULEY: Let me take a high-level response to
2 that, and then Tom can fill in with the more detailed answer
3 if needed.

4 First, I would like to maybe just correct one
5 notion of how we produce our assessments. We do get the
6 data from industry. It's sort of a roll-up, but it is
7 heavily vetted. It's sort of peer-vetted, and we have
8 standards around how entities can count resources.

9 So we use historical performance metrics to put
10 adjustment factors on the resources. So we are trying to
11 get to as real a picture as we can. We don't just take all
12 the numbers at face value and sort of add them all up. And
13 it's a challenge process, as well as, you know, our
14 independence comes into play when we say, no, but this type
15 of resource in your region has performed this way over the
16 last few years and we're going to apply a factor that will
17 recognize that.

18 It is true that severe events can challenge the
19 capacity of the system. But the margins that we use, which
20 are roughly in the 13 to 14 percent range, are weather-
21 normalized margins. But that's the reason you have the 13-
22 14 percent margin, is to account for the difference. So we
23 think there's somewhat of a safety factor built in there.
24 It's not like we're taking a 50-50 chance whether we're
25 going to meet the load. The margin is meant to incorporate

1 that.

2 And finally, I think to respond to I think where
3 you're pushing there on the question, I think there's an
4 area where we're not doing enough analysis now on, which is
5 severe events, severe conditions. So there's a very end of
6 the tail of severe events that rarely happen, but sometimes
7 when they do happen they overwhelm the system and, you know,
8 we see challenges.

9 I think there's an opportunity to evaluate the
10 risks associated with that, the consequences, and is there
11 any investment opportunity to deal with those tails?
12 Because I think we're historically seeing, I don't know if
13 it's just because we're paying more attention, but we're
14 historically seeing a lot more severe events and dealing
15 with them on the system, and I think we can't just say,
16 well, we didn't study that. We didn't plan for that. I
17 think we have to start looking at those events.

18 So in summary, I think we've got the margins
19 about where we need to, and I think it's appropriate. But I
20 think there's value in looking at those severe-condition
21 events and seeing if there's anything else that we need to
22 do.

23 MR. BURGESS: Yeah, the one piece that I would
24 add to that is that every other year we take a look at it on
25 a probabilistic basis, and so I think that that gives us the

1 opportunity to take a look at some of the added changes,
2 both on the load side and the resource side, that can allow
3 us to take a look at other kinds of events, other kinds of
4 situations.

5 And so we do have an opportunity--we probably
6 haven't expressed it as well--to test on severe weather
7 conditions, but that is an opportunity. We try to do that
8 every other year.

9 MR. BRANDIEN: I think we do pretty good job of
10 looking at it from the electrical side. And you heard a lot
11 of talk here about the change in resource mix, and it can go
12 much more into gas. The time constant on the gas side is a
13 lot longer than on the electric side. But I'm not sure our
14 analysis takes into account, you know, loss of a compressor
15 station.

16 You know, we saw a compressor station problem in
17 western Pennsylvania that impacted about a half a bcf flow
18 into the East, to northern New Jersey. That pipe also
19 supplies the Algonquin pipe up into New England. That's a
20 significant amount of gas on a cold winter day.

21 As the flows on the gas system change, people
22 don't think they have problems today. But when they shut
23 all that coal unit down, we're going to find more and more
24 gas constraints around the system, more and more gas
25 compressor stations that have consequences that we didn't

1 anticipate. And on the electric side, we do all these
2 testing N-minus-1, N-minus-2, make sure that we build the
3 system. On the gas side, they declare a force majeure and
4 then they start just cutting their contracts out.

5 We need to be aware of that. I'm concerned that
6 there may be some sleepers out there just in the just-in-
7 time fuel delivery system that we're not totally in tune to
8 because we're not familiar with exactly how that gas flows
9 in the future.

10 COMMISSIONER MOELLER: Al?

11 MR. MOSHER: Yes, I want to endorse what Peter is
12 saying. I really worry about the interaction between
13 different infrastructures that aren't used to communicating
14 based upon new business expectations. The world is pivoting
15 for the gas industry, and I think they're trying to catch up
16 and understand it, but I don't think they understand this
17 enough yet.

18 I mean, I'm an old Commission hand, and I can
19 remember the days when the conversation between the gas and
20 electric offices only took place on the top floor, basically
21 in the Commissioners office and through the General
22 Counsel's office. We had separate offices here.

23 The Commission restructured to get that
24 communication within this building. More needs to be done
25 with--again, with us talking to the gas sector. And there's

1 this interaction between the environmental regulations that
2 are coming on, this emergence of distributed generation, and
3 the new reliance on gas. We don't really have a good handle
4 on where it's going to go.

5 We're making best efforts, but if you haven't
6 modeled it you may be off on an area of the risk curve that
7 you think you have well characterized and in fact you do
8 not. Or everything may turn out to be fine. But if it
9 isn't fine, there will be hell to be paid.

10 COMMISSIONER MOELLER: Bradley?

11 MR. ALBERT: I would echo some of the same
12 concerns. As a utility that is dependent upon three
13 different pipelines, with no real market area storage
14 capability in the Phoenix area, and really no dual-fuel
15 capability either, you know at the time of our peak load in
16 the summertime we will be carrying that peak load with more
17 than 50 percent of the generation source being natural gas.

18 So we're very dependent upon natural gas. So we
19 studied the electric system to death, and we have a pretty
20 good understanding of what our contingencies are, and our
21 diversity, all of those type aspects. That reliance upon
22 the natural gas system is one of the things that we worry
23 about.

24 I had one other comment responsive to your
25 question concerning reserve margins. For us at least, we

1 are spending a lot of time focusing on capacity contribution
2 of a whole different set of resources that we're not used
3 to. What does solar PV contribute at the time of our peaks?
4 What can we expect? What's the difference between a utility
5 scale solar PV that might track the sun and perform better
6 later in the afternoon versus that 20,000 distributed
7 generation systems that are on people's rooftops that are at
8 whatever orientation that the rooftop is at?

9 All of those questions are really germane to us
10 in terms of, you know, reserve margins and adequacy of our
11 capacity sources.

12 COMMISSIONER MOELLER: Tom?

13 MR. BURGESS: The point that I wanted to add to
14 Allen's observation is that, you know, that's kind of the
15 essence of the output of our gas/electric interdependency
16 study. And that was that we need to do a better job of
17 cross-sector planning. And we laid out a template for how
18 that can take place, and how those factors can be
19 considered, and quite frankly we are pleased to see that a
20 lot of very careful work has been underway in various parts
21 of the country, taking those principles, those ideas about
22 planning coordination to the next level to reflect their own
23 uniqueness of their own system and their own supply
24 characteristics.

25 So that is an avenue that seems to be emerging

1 and is really following in the footsteps of the
2 recommendations exactly as we had hoped that they would.

3 COMMISSIONER MOELLER: Well we've made a lot of
4 progress to defend the gas industry. It's kind of a set of
5 issues that has been caused by the electric industry. So we
6 appreciate them coming to the table. I mean, they've got
7 something in it as well, but I can understand their position
8 that you guys kind of forced us into this, but that's the
9 way it goes.

10 I am taking a lot of time. Briefly I'm going to
11 throw out the idea, though, of the concept of do we need
12 some kind of a cold-weather standard? And I don't mean a
13 prescriptive standard. And I've mentioned it before. but
14 do we need the system to at least have a plan for extreme
15 weather kind of unit-by-unit?

16 We saw in the Southwest outage, the Texas-New
17 Mexico-Arizona outage, that weatherization was a big
18 problem, or lack of weatherization. You know, do we need to
19 pursue that? I'm pretty sure I know what the answer is
20 going to be, but--

21 (Laughter.)

22 COMMISSIONER MOELLER: --I'll throw it out there,
23 but cede the rest of my time to my colleagues.

24 MR. CAULEY: I've asked the question, and we're
25 doing a pretty thorough analysis and investigation at this

1 point in terms of the cause on a unit-by-unit basis,
2 collectively why did this generation not show up during the
3 polar vortex?

4 And I think we've really got to answer that
5 question. So it's on my mind in terms of do we need
6 something further than the voluntary educational awareness
7 building? We do periodic site visits. My philosophy is, if
8 you're committed as a generator and you are in the mix, then
9 you should be there. And that's a perfectly avoidable
10 outage or loss.

11 So we are evaluating it. I can't say 'yes' or
12 'no' at this point, but I think it is a serious question.

13 COMMISSIONER MOELLER: Okay. Thanks.

14 ACTING CHAIRWOMAN LaFLEUR: Commissioner Norris?

15 COMMISSIONER NORRIS: I want to start with a
16 follow up on what Mr. Brandien said, the hand-off you talked
17 about from the reliability folks to the markets, this
18 changing resource mix we have, and the increasing need for
19 what I characterize as more qualitative resources--be it
20 frequency regulation, or voltage support, or other ancillary
21 services. And the conversation we kind of had earlier about
22 do we meet these needs through increased standards, which
23 I'm kind of hearing--correct me if I'm wrong, no, but we are
24 going to rely more and more upon the markets to meet a
25 different, several different sets of resources.

1 How should we approach that? Should we look at
2 this to be a standard? I mean, standards would seem to me
3 to be more absolute in terms of relying upon, and how does
4 the market--what's it the markets are shooting for, if it's
5 not for entities to reach a certain standard about the
6 makeup of their resources?

7 How do we navigate this? And what is the best
8 approach for the Commission to take to ensure that the right
9 adequate resources are there, and the type of resources, to
10 maintain the system?

11 MR. BRANDIEN: What I had in mind when I brought
12 that up was that, you know, NERC is doing work in the
13 reliability-essential area. They are looking at it as we
14 move away to these other resources, and maybe they don't
15 provide that rotating inertia that they would identify for
16 what is required from a reliability perspective.

17 And I would suspect that they would then look at
18 that and see whether or not those requirements are covered
19 in the standard. And if not, do they have to--and I may be
20 speaking for FERC--for NERC here, but this is what was in my
21 head, would take place is that they would look at the
22 standards. And if they saw something that wasn't covered in
23 a standard, they would make sure it's embedded in a
24 standard. And then within that standard it would identify
25 who is responsible for meeting that requirement within that

1 standard.

2 And I would need to look at that, and look at my
3 marketplace and make sure that I am providing that
4 reliability service in some manner, whether it's a voltage
5 regulator on a generator, whether it's the rotating mass in
6 a governor, or something else. But I have a requirement
7 that I have to meet. And can I get it from the conventional
8 resources? Or do I have to open it up for flywheels, or
9 some power electronics to provide that service to be able to
10 carry out the standard?

11 I think the work that they're doing hopefully
12 it's identified that those reliability essentials are
13 embedded in the standards, and then I can carry it out from
14 my marketplace.

15 MR. CAULEY: I think the difficulty of setting a
16 standard with forethought, like we know we need these
17 services, we know the generators coming on need to
18 contribute to reliability, sort of let's set some standards,
19 I think it would be very inefficient and it would really not
20 let the technologies, and solutions, and markets work
21 themselves out. It would be, in the analogy to the physical
22 security standard, it would be like saying all the fences
23 had to be a certain height, and we had to put concrete walls
24 for the transformers, which might all seem like good ideas,
25 but you almost have to question, you know, the value on a

1 case-by-case basis.

2 So I think what we can do in the current
3 situation is recognize that the NERC standards provide an
4 over-arching reliability framework and some must-haves. And
5 the essential reliability services document that we're
6 preparing and work we're doing is sort of highlighting the
7 key issues.

8 Now it's up to each of the companies to say, with
9 the resource mix that's coming on in our area, what do we
10 need? How do we make this work? Do we need new ancillary
11 services' products? Do we need to ask the Commission to
12 change our tariff? Do we need to go ask the state
13 commission for some connection requirement or something?

14 Then for the regulatory role, it's to have an
15 open mind and awareness that a lot of different questions
16 and challenges are going to come to you. And I think we
17 have to be able to listen to the arguments, challenge the
18 studies, and challenge, you know, what people are saying,
19 and try to make a prudent decision.

20 But I think this idea of sort of letting a
21 thousand paths work, and then reserving if we need a
22 standard it's sort of a last resort--and I'm not saying that
23 just because we don't want standards; I just don't know what
24 standards we would do at this point, and I'm not sure it
25 would be very efficient in the end.

1 COMMISSIONER NORRIS: Do you think the RTOs have
2 enough--given what Gerry, what Mr. Cauley just said, enough
3 guidance, not having standards but give enough confidence in
4 knowing what resources you need to make the system reliable?
5 And are the markets as they're constructed now sufficient
6 for delivering what you interpret as the right amount of
7 resources, and type of resources you need to keep the system
8 up?

9 MR. BOUILLON: From California's perspective, I
10 like the comment on shining the light on emerging issues,
11 which is kind of you're letting the markets function. The
12 design entities, elements within our organization, are
13 seeking out the products proactively and then looking for
14 guidance to refine those.

15 I mean, putting on my other hat, unfortunately,
16 about gas/electric coordination, listening to the discussion
17 about OFO penalties and reimbursement for OFO penalties is
18 an example of where you're saying, okay, from a reliability
19 standpoint we need to seek out products that help manage
20 reliability.

21 So the electric side puts out a proposal and we
22 look at it, and it is an emerging issue and we're trying to
23 be out in front of it, but then you find out, well, wait a
24 minute, on the gas side you're having conflicts that from a
25 big picture it may not work and you need to go back and

1 refine those.

2 To me, that's the model I think works. And then
3 we look to NERC to say: Hey, what did you learn? Okay,
4 from what you're learned, help with guidance on helping
5 direct that so that we don't learn that lesson twice.
6 That's the biggest fear I have, is, you know, we all work in
7 good faith, and we all work to the best of our abilities,
8 but unfortunately silos develop, and the silos are what
9 result in people falling into a mistake and then another
10 entity falling into a mistake, and another entity falling
11 into that same mistake. And the goal I think should be to
12 avoid that so that we learn and move forward.

13 COMMISSIONER NORRIS: Anybody else? Mr. Mosher?

14 MR. MOSHER: Yes, just to add on, I think Gerry
15 framed the issue well, that we need to do some research and
16 characterize--you know, define the characteristics we need
17 for a new fleet of generation. And then we need to do
18 regional analyses, or even subregional analyses.

19 Because the operational problems that the SERC
20 region is going to have are likely to be very different from
21 the ones they would have in the Pacific Northwest. We
22 already had, for example, conflict between wind generation
23 and hydro release, and hydro operations that are being
24 governed by dam license conditions and, you know--

25 COMMISSIONER MOELLER: That's still pending, so

1 we've--

2 MR. MOSHER: Oh, I'm sorry.

3 ACTING CHAIRWOMAN LaFLEUR: One element is still
4 pending rehearing for reciprocity.

5 MR. MOSHER: My apologies. The point is, there
6 are regional differences that need to be addressed by those
7 operators, and we're going to have different RTO models as
8 well, whether you have capacity markets or not. I've stated
9 my views on this, but we have to send those characteristics
10 from the regional operators out to those who are responsible
11 for building.

12 ACTING CHAIRWOMAN LaFLEUR: Thank you.

13 Commissioner Clark?

14 COMMISSIONER CLARK: Thank you, Madam Chairman.

15 It seems like the overall takeaway is, everything
16 about the system is getting tighter as we transition to this
17 new energy world that we're looking at. So you've got an
18 increase in VERs, a big increase in natural gas which by its
19 very nature is dependent on a gas source flowing at the
20 specific time that it's needed, and that sort of rise is
21 coming at the same time you're seeing a decline in what was
22 sort of our traditional baseload sources of power, whether
23 it be coal, which was either mine-mouth operation, had an
24 800-year supply of coal right next to it, or a 30-day coal
25 supply in the pile, or nuclear units which we've seen

1 stressed, and certainly economically stressed in certain
2 parts of the country.

3 So the question is, taking all this into
4 consideration, the factors that are driving it are not in
5 FERC's authority necessarily always. It's either market and
6 technological revolution that's taking place on the shale
7 gas side and is supply affordable natural gas, or it's state
8 environmental mandates, state RPS mandates, things like
9 that, EPA rules and regulations. But I suspect if this
10 tighter system eventually causes a problem with electric
11 reliability, Congress isn't going to be calling up EPA and
12 the governor of a certain state; they'll be picking up the
13 phone and asking FERC, we gave you authority over
14 reliability. Why did this happen?

15 So the question, and I'll tee it up for anybody
16 who wants to take a stab at it: Outside of what the
17 Commission is already doing with regard to gas/electric
18 coordination, some of the other issues that we've been
19 taking up with regard to NERC standards and all of that, is
20 there something that we're missing that if you had a request
21 list, if there's some thing that could be done that we're
22 not doing right now that we should be taking a look at, even
23 if that something is turning to Congress and saying: look,
24 here's a specific thing that we need addressed that's
25 causing us issues that we could better assure the

1 reliability of the electric system on behalf of the American
2 people, any suggestions? Are we doing everything we
3 possibly could right now?

4 MR. MOSHER: Keep working on your relationship
5 with EPA. You need to be the resource for the Federal
6 Government for this kind of analysis for impacts, working
7 through NERC but you're the pivot point.

8 MR. BRANDIEN: What I struggle with is the two
9 business models where the electric side is look out 10
10 years, plan it, build it for when the electric customer
11 shows up; and the gas model, which is come and we will build
12 it, and they don't perform all these contingency analyses.
13 And those two business models seem to be at a crossroad
14 right now as we move to the more dependent on gas as the
15 fuel of choice across the country.

16 And I really worry about how do we get the
17 infrastructure built in a timely manner to support a
18 reliable electric grid. And I don't have an answer for
19 that, but I sit in New England where we can't seem to get
20 infrastructure built, and I just see the rest of the country
21 headed in that direction and I get very concerned.

22 MR. HAYES: Obviously we support the NOPR and the
23 proceedings that are happening for this, and we are hopeful
24 that it follows through to the ultimate conclusion it does.

25 One thing it doesn't address--and I don't know

1 the extent it can be addressed by this Commission--are the
2 issues for generation facilities behind local distribution
3 companies.

4 While we can be as firm gas-supply-wise as can be
5 to the citygate of some of the local distribution companies,
6 we stand quite differently behind those lines. And in
7 particular in PJM for example we're behind three different
8 local distribution companies. All three of us, we have
9 different levels of issues in our reliability, our status of
10 being able to transport.

11 In other cases, we can lose our transportation
12 availability. We can even lose the gas we've delivered to
13 the gate. So I don't see that as specifically being
14 addressed right now. That would be something that I would
15 love to put on the wish list, if possible.

16 COMMISSIONER CLARK: Great. Thanks. Anyone
17 else?

18 MR. CAULEY: I'll just sort of repeat, and maybe
19 try to state it differently. A lot of decisions come to the
20 Commission with regard to tariffs and connection
21 requirements, and I think the track record at the state and
22 federal level I think to this point has not been that great
23 in terms of requests coming in to put in power factor
24 requirements, or voltage requirements on resources. And the
25 intent of our initiative on essential services is to

1 highlight that.

2 And I think we need just a greater awareness, and
3 maybe some amount of deference and understanding of the
4 technical studies that try to document those needs. The
5 entire grid, the history of the grid, is dependent on every
6 company, every balancing area, every asset doing no harm to
7 the rest of the grid.

8 So I think we have to, you know, sometimes the
9 feeling is that people are putting roadblocks up to the new
10 resources. And I think that is sort of the reaction to it
11 is, well, you're just saying that to block these new
12 resources. But the reality is, there should be--every
13 element that's connected electrically has a contributing
14 role and should do no harm and not be a burden to the rest
15 of the grid.

16 So I think that message I'm really working hard
17 on at the state and federal level, just to be a little more
18 open-minded to listen to the issues. And if somebody is
19 using reliability as an excuse to block a resource, then
20 shame on them. They shouldn't be doing it. And I think the
21 staff at the Commission is smart enough, and has the
22 analytic capabilities to verify what's the truth and what's
23 not the truth. But I think keeping that eye open in the
24 future will be a great help.

25 COMMISSIONER CLARK: And then one last question,

1 which just happens to be on my mind since I spoke at the
2 Energy Storage Association meeting last week.

3 But I think all of us see the potential as energy
4 storage really being a game changer in terms of the
5 operation of the electric grid, especially as we bring more
6 variable energy resources online.

7 I'm curious if you could talk to your experience.
8 How are we doing with regard to the development of energy
9 storage and how it can interact with the grid? And how much
10 more potential is there that's going to be hopefully
11 unlocked over the next few years? Tom?

12 MR. BURGESS: Yeah, I just had an opportunity to
13 present at a different conference, the CGRIT conference, and
14 there was a--Andy Ott was presenting about some storage
15 development that they had brought online, batteries in this
16 case, coupled with a windmill farm.

17 And the performance was very effective. There
18 was a lot of dynamic control that they could apply to that
19 combination of resources. And so there is opportunity, and
20 there is potential there.

21 The thing that from our vantage point, as we look
22 at resources, as we look at the mix, as we look at the
23 things that are actually existing out there on the system,
24 frankly we see very, very little of storage development
25 happening at the scale that it would need to to correlate

1 with the amount of other kinds of VERs that are actually
2 being implemented.

3 And so that's just a potential, but maybe not--we
4 haven't realized it--

5 COMMISSIONER CLARK: Sure. Can I follow up quick
6 on that? Are there certain devices? Because energy storage
7 is a huge topic. It's everything from large-scale pumped
8 hydro to water heaters and electro-thermal storage furnaces.

9 Is there an area that seems to be holding more
10 promise in terms of its ability to exploit that potential
11 for say things like frequency regulation and ancillary
12 services, things like that, that can help support
13 reliability?

14 MR. BURGESS: Umm...

15 MR. CAULEY: Well I think, first of all, I'll
16 agree with Tom. I mean, I've been a fan of storage since I
17 became an early engineer in 1980 and I was out in the West
18 and I was looking at all the hydro capability and I said:
19 You mean you could store up energy and put it any time of
20 day you need it? And if there's an emergency you can have
21 it gush down the tubes and provide really fast responsive
22 energy?

23 I think it has huge potential. And at some point
24 in our future--and I don't know if it's 3 years, or 5 years,
25 or 20 years, or 50 years--we will be very heavily dependent

1 on storage for a reliability grid. Because it's the best
2 thing, as an operator it's the best thing you can have is
3 fast, responsive storage.

4 My sense is, I agree with Tom, is practically we
5 have so little now, other than some pump storage facilities,
6 but I think the personal view is our most hopeful technology
7 is in battery storage at the utility scale, which will give
8 us sort of the operational flexibility to realize all this
9 reliability. I think it is just a question of the cost and,
10 you know, when will we get there? But I think we'll make
11 that crossover.

12 I was just at a conference last week and there
13 was an individual from one of the battery companies talking
14 about some of the breakthroughs and the cost thresholds
15 they're getting to is getting closer now. So I think that's
16 the long-term reality, is going to be utility-scale battery
17 technology.

18 COMMISSIONER CLARK: Thanks. Bradley?

19 MR. ALBERT: I've been fortunate to be able to be
20 in a position to contrast solar with storage versus solar PV
21 that doesn't have storage.

22 We started commercial operation on a 250 megawatt
23 solar thermal facility back in October of last year that
24 incorporates six hours of thermal energy storage. So this
25 is a solar plant that has the full capability to be able to

1 produce at the times when our customers need it most. Even
2 on a winter morning, for instance, where we're peaking
3 before sunrise, you know, a couple of hours before sunrise,
4 we've held thermal energy over in storage and been able to
5 start the facility at 4:30 or 5:00 in the morning to
6 contribute to the morning peak, but still collect solar
7 energy during the day and have it there after the sun sets
8 and be able to produce across the evening peak. Quite a
9 different proposition.

10 So I'm a very big believer, from a technical
11 perspective, in terms of the value of having storage and
12 integrating it into the grid, really the issue is cost of
13 when does it reach that cost-effectiveness point where
14 that's a preferable resource type versus other choices that
15 I can deploy on behalf of my customers, like a peaking unit.

16 We're agnostic. We're indifferent. We're going
17 to deploy what gives us the most bang for our buck.

18 COMMISSIONER CLARK: Anybody else? Brad?

19 MR. BOUILLON: I just wanted to comment that we
20 have the same technology in California that Arizona just
21 referenced. And we have pump storage, as well, in our north
22 and our southern system. But from a battery, there's a
23 later speaker on a later panel, a PG&E speaker, who actually
24 is more than expert on that, on the battery situation that's
25 running in Northern California from a pilot standpoint.

1 From a technical standpoint, I've been impressed.
2 The technology I believe is still developing, and I think we
3 are a ways off from the utility-scale, true utility-scale
4 battery storage. I think the visibility is really going to
5 help push that along, like we've seen.

6 I think in the pilots, we're in small megawatt
7 pilots, we've tested a battery over the last several years,
8 actually, a smaller megawatts ancillary service type
9 produce, subancillary service products, meaning they were in
10 less timeframe than our current market policies at the time,
11 to help give flexibility to evaluate that as a product.

12 I think it's important. I think it's necessary.
13 I think that it's something that is going to develop over
14 time. Again, it comes back to cost, which right now is
15 expensive. I think the battery control, true control of the
16 battery's output and input, is probably the bigger challenge
17 right now and some entities may be better at it than others.
18 But I think the battery itself could be scalable. I just
19 think that we're not right there quite yet.

20 COMMISSIONER CLARK: Thank you.

21 ACTING CHAIRWOMAN LaFLEUR: Just a follow-up
22 question for Mr. Albert. What is the nature of the
23 technology? Is it molten salt storage they have?

24 MR. ALBERT: Exactly. It's a molten salt
25 storage, six hours' worth. So six hours at 250 megawatts.

1 So like on a day like today, I think it's 110 degrees in
2 Phoenix today, we would expect that plant to start up at
3 6:00 a.m, 6:30 a.m. in the morning, and continue to run
4 until midnight with solar collection and with that six hours
5 of thermal energy storage.

6 So it certainly contributes fully to meeting that
7 peak load at say 5:00 p.m.

8 ACTING CHAIRWOMAN LaFLEUR: Thank you. I really
9 appreciate Tony's question about what we should be doing.
10 We can't let Gerry walk away with all the to-dos when
11 there's a lot of implications for us.

12 Colleagues? Senior staff, any questions?

13 (No response.)

14 ACTING CHAIRWOMAN LaFLEUR: Okay, I think we are
15 ending a little bit early, but I think we should probably
16 still resume at 1:30 because of envisioning the lines at
17 Phillips Cafe and the Sunrise Cafe that you'll be facing.
18 So let's start right at 1:30 sharp.

19 Thank you very much, gentlemen.

20 (Whereupon, at 12:26 p.m., the meeting was
21 recessed, to reconvene at 1:30 p.m., this same day.)

22

23

24

25

1 is--oh, Mr. Burgess. I didn't know if it was just like
2 progressive where you just kept adding a NERC person, and
3 the newest one would speak.

4 (Laughter.)

5 ACTING CHAIRWOMAN LaFLEUR: So we'll start with
6 Mr. Burgess. Thank you.

7 MR. BURGESS: Thank you very much, and welcome
8 after lunch, Commissioners and staff.

9 Again, I want to focus my comments on two
10 initiatives that are proceeding. First is the BES
11 implementation, and second of all the risk-based
12 registration effort.

13 So first of all, with respect to the BES, of
14 course we have received the final order approving the
15 definition, and so we've proceeded to transition towards
16 effective implementation.

17 We think that that implementation is essential
18 across the industry and for NERC to provide the clarity and
19 the consistency about what are the elements of the Bulk
20 Electric System.

21 We have a fairly extensive communications
22 training and outreach plan that is directed towards the
23 registered entity, the regions, and we have provided a lot
24 of reference materials available on the website to make it
25 accessible and understandable with things like frequently

1 asked questions' materials.

2 This has also encouraged--or this led to us
3 developing what's called the BESNET tool, or the Bulk
4 Electric System Enterprise-wide Tool, which is used by all
5 users, Registered Entities, regions, and NERC, to manage the
6 process of self-determined notifications and exception
7 requests.

8 We have succeeded I believe in getting users
9 registered, and we are anticipating the July 1st effective
10 date just around the corner.

11 With respect to risk-based regulation, we believe
12 that we are arriving at a mature state with respect to
13 integrating risk considerations into a number of areas a
14 cross the ERO enterprise, and so we would like to apply
15 those same kinds of risk considerations in the registration
16 arena.

17 We want to make sure that the right entities are
18 registered for the right functions. We are building a draft
19 design framework. At this point, it has been released and
20 posted for comment. We anticipate completion of the
21 framework later this year using '15 as a transition plan
22 year, and then full implementation in '16.

23 A couple of principles that shape how we
24 approach, and we consider the keys to success for the risk-
25 based registration effort. One is to build on the BES

1 definition as sort of the starting point.

2 Second of all is to ensure that any changes or
3 alignment on a risk basis are accompanied with a solid
4 technical basis to allow us to substantiate the revised
5 thresholds.

6 And thirdly, to keep it simple so that it is
7 readily implementable. And overall, we don't want to create
8 any reliability gaps.

9 So the current status is that we're making a lot
10 of progress. We have some registration categories that we
11 think are probable candidates for elimination, the PSC, the
12 IA, and the LSC. And we are moving forward towards some of
13 the risk-informed thresholds for some of the other
14 categories such as the DP and the TOP.

15 So all in all, we believe that we are making good
16 progress, solid progress, a significant initiative, and with
17 that I would be glad to answer any questions as we turn to
18 questions.

19 Thank you.

20 ACTING CHAIRWOMAN LaFLEUR: Thank you. Mr.
21 Hedrick.

22 MR. HEDRICK: Thank you, and good afternoon. I
23 appreciate the opportunity to come here today and talk to
24 you about RAI.

25 Twenty years ago when I was explaining to my

1 mother that I had accepted a role as an internal auditor at
2 Union Pacific Railroad, I wouldn't have expected the topic
3 to be so exciting at this point in my career, but yet it
4 is.

5 So for about the last year-and-a-half, we've been
6 working on activities related to the Reliability Assurance
7 Initiative with the intent that it was designed to create a
8 single common approach to oversight that would be executed
9 by the Regional Entities.

10 One of the core projects to developing the single
11 design was partnering with industry in the performance of a
12 series of pilots to test our approaches, specifically for
13 our industry and to formalize the oversight process.

14 In addition to working with the industry on the
15 pilots, we also coordinated the development and execution of
16 an evaluation criteria that we worked on during this past
17 year, or during the earlier portion of this year.

18 The first output of these pilots was a common,
19 agreed-upon framework that would be used for the execution
20 of the Reliability Assurance Initiative. In this, looking
21 at how we assess risk, evaluate controls, and determine the
22 scope in selecting our oversight approach.

23 The pilot evaluation criteria were completed
24 during the first quarter of 2014, and the ERO enterprise is
25 currently finalizing the documentation of the processes,

1 procedures, and the methodologies that will allow for the
2 single design to be implemented.

3 We currently have a team working on two core
4 elements related to that framework. The first is the
5 inherent risk assessment, and the second is the internal
6 control evaluation process.

7 The assessment of controls is not dependent upon
8 the risk assessment approach itself and provides for a
9 flexible approach for the way that we look at and evaluate a
10 registered function, a registered entity and look at the way
11 that we scope an audit. Controls merely help us facilitate
12 the dialogue with that organization on how they achieve
13 compliance and allow us to modify audit and testing
14 approaches.

15 The design of the program was done so that they
16 can be performed exclusive of each other, which allows a
17 registered entity to choose whether they want to participate
18 in the sharing of their internal controls and the evaluation
19 of those controls through the assessment and the approach of
20 the testing processes.

21 In addition to the program design itself, we,
22 NERC, must also assure that the initiative is carried out in
23 a consistent manner. And so the creation of a single
24 implementation plan, the development of auditor, manual, and
25 checklist, and the deployment of role expectation guides

1 were foundational documents to help us as we begin to
2 implement a lot of the processes related to the control
3 evaluations and to the assessment of risk and selecting of
4 testing approaches.

5 Beyond that, to ensure that we have a consistent
6 approach to the way that we perform testing, we will be
7 rolling out tools and processes and training, not only for
8 our Registered Entities but also for our auditors so that
9 both understand how to communicate with each other.

10 The next steps that will lead to the full
11 implementation of RAI by 2016 include incorporating the
12 processes into the 2015 annual implementation plan and the
13 Actively Monitored list, and developing training through the
14 second half of 2014 and executing through 2015 with the
15 intent of a full deployment by 2016.

16 With that, I can answer any questions related to
17 the Reliability Assurance Initiative and the activities
18 associated with it.

19 Thank you.

20 ACTING CHAIRWOMAN LaFLEUR: Thank you very much.

21 Mr. Henry?

22 MR. HENRY: Thank you, Acting Chairman LaFleur,
23 Commissioners, staff, and fellow panelists. I welcome the
24 opportunity to participate this afternoon.

25 My name is Scott Henry and I'm President and CEO

1 of SERC Reliability Corporation. I also have the honor of
2 serving as the Chairman of the Regional Entity Management
3 Group.

4 My comments today do reflect the views of the
5 Regional Entity Management Group. We all aggregately are
6 appreciative of the opportunity to share a regional
7 perspective.

8 I am going to assume that the earlier statement
9 is correct, that you've read the testimony, and I am going
10 to make this easy. I am going to provide three statements
11 for each of the three initiatives as a summary of the
12 written material.

13 First, risk-based registration. The Regional
14 Executives have supported a review. It's time to do a
15 review.

16 Second statement, we need to move forward
17 cautiously because related activities are in progress.

18 Third statement, we need to ensure there are no
19 gaps as we move forward.

20 Moving to Bulk Electric System definition. The
21 consistent implementation of the BES definition is a
22 priority objective for the Regional Executives.

23 Second statement, Regional Entities are as
24 prepared as we can be at this point for the July 1st
25 implementation.

1 That leads to the third statement. We're anxious
2 to see what kind of interest by the Registered Entities
3 there is out there, because we've not yet opened up the
4 gates for the requests to come in. So we're anxious to
5 hear.

6 Lastly, on the Reliability Assurance Initiative,
7 my first statement would be: Great progress is being made
8 on enforcement and compliance monitoring reforms.

9 Secondly, pilot integration is going very well
10 and is supported by Regional Executives, so that consistent
11 implementation for RAI activities can occur.

12 And lastly, RAI is a big change and expectations
13 do need to be managed.

14 Thank you for the opportunity to participate, and
15 I look forward to the questions later. Thank you.

16 ACTING CHAIRWOMAN LaFLEUR: Thank you, Mr. Henry.
17 If we had a gold star to give out for terseness of
18 presentation, you would surely win it. Thank you.

19 MR. HENRY: Thank you.

20 ACTING CHAIRWOMAN LaFLEUR: Not to put the
21 pressure on, but I'm turning to Mr. Naumann.

22 (Laughter.)

23 MR. NAUMANN: Good afternoon, and thank you for
24 inviting me to speak at this conference.

25 These annual conferences, as has been said, are

1 useful in identifying issues, discussing priorities, and
2 identifying areas of possible improvement.

3 As I indicated in my prepared comments, of the
4 many ERO programs we believe that the Reliability Assurance
5 Initiative is the most important for change. The need for
6 change is essential not because Registered Entities are
7 trying to avoid compliance with standards, but because of
8 the amount of time and effort spent by the ERO and the
9 Registered Entities on violations that have little or no
10 impact on the reliability of the Bulk Power System.

11 For every possible violation, no matter how
12 small, it takes hours of time on the part of subject matter
13 experts, legal and regulatory people and executive
14 management. The focus needs to be on violations that have
15 an impact on the Bulk Power System and we applaud NERC for
16 its move toward RAI where the goal is to put the emphasis on
17 reliability.

18 But as I stated in my written comments, both the
19 details and the timing of RAI implementation are critical.
20 As we sit here, we still do not have good insight as to what
21 is in the yellow boxes in the high-level flow chart I
22 included in my written comments.

23 It is important that Registered Entities
24 understand these processes, especially the internal controls
25 evaluation. Also, we need to fully understand the processes

1 the ERO will use to exercise discretion in determining
2 whether or not to treat something as a formal violation.
3 And we need regulatory assurance that the Commission agrees
4 that these processes are acceptable.

5 The timing of the transition RAI is especially
6 important in light of the implementation date of April 2016
7 for CIP Version 5. With the planned January 2016 date for
8 full implementation of RAI, there is little room for
9 slippage in the schedule.

10 The other initiative, although it wasn't on the
11 list that I discussed in my earlier filed comments, is the
12 need for a strong and well functioning ISEC. As we move
13 toward more information exchange and analysis, the need for
14 strong functional separation between the ESI SAC and the
15 rest of NERC, especially the compliance and enforcement
16 functions, becomes more essential.

17 We need the maximum amount of information sharing
18 not chilled by the possibility that information will be used
19 for other purposes. We understand that expanded work for
20 the ISAC will mean increased costs, and we support the
21 necessary expenditures, including flexibility for NERC to
22 ensure the appropriate funding.

23 Thank you again for the opportunity to speak
24 here, and I look forward to any questions.

25 ACTING CHAIRWOMAN LaFLEUR: Thank you.

1 Mr. Lawson?

2 MR. LAWSON: Thank you. Good afternoon, Acting
3 Chairman LaFleur, Commissioners, staff, and my fellow
4 panelists.

5 NRECA appreciates the opportunity to talk today
6 about the reliability issues that we're assigned to address.
7 Before I do that, I want to provide some context around the
8 number of cooperatives that have compliance responsibilities
9 with reliability standards.

10 Currently, the NERC Compliance Registry has
11 approximately 60 generation and transmission, or G&T
12 cooperatives, and about 100 distribution cooperatives listed
13 in the Registry.

14 For many other distribution cooperatives, their
15 G&T has registered on their behalf and taken on that risk
16 for them.

17 I want to start off on the risk-based
18 registration initiative and say that NRECA is fully
19 supportive of this initiative and the goal to present the
20 board, the NERC board, with a plan for their hopefully
21 approval in November at the board and MRC meetings.

22 From the beginning of this process on the RBR
23 initiative, it has been a good, productive, and
24 collaborative effort by NERC, the Regional Entities, and
25 industry. And we are pleased with the focus on the

1 potential revisions to the compliance registry criteria
2 document, and other rules of procedure revisions that are
3 related.

4 NERC, the REs, and the industry, including at
5 some times some FERC staff, attended these meetings amongst
6 the parties and developed a proposal to address a number of
7 registration issues. And as you heard earlier, it was
8 posted on June 2nd for comment.

9 We support this proposal and see it as a
10 practical and reasoned solution that considers the
11 experience of the last eight years or so with registration,
12 with audits, and compliance and enforcement lessons learned.

13 Turning to the Bulk Electric System
14 implementation, implementation of the BES definition of
15 course begins on July 1 of this year. And until a period of
16 time after that date, it is going to be too early to fully
17 assess the issues that were listed in the formal notice for
18 this conference. But I do want to briefly bring up two
19 issues that are critically important to cooperatives in the
20 BES definition area.

21 First, there must be--and we heard Scott Henry
22 mention this, and we agree with him--there must be
23 consistent application of the new definition and the
24 exception process across all of the Regional Entities.

25 Second, under the self-determination process of

1 identifying BES facilities, entities--Registered Entities
2 are required to notify or inform the Regional Entity of any
3 changes in status to particular facilities.

4 We do not view this as an opportunity for REs to
5 approve or not approve an entity's determinations if the
6 definition was applied in good faith by that entity. If the
7 RE disagrees with the determination by the entity, then we
8 believe the RE must use the exception process to challenge a
9 self-determination. That is why the exception process was
10 set up.

11 For RAI, we continue to be a strong supporter of
12 the concept that has been described to us numerous times.
13 And while significant work has been done and is currently
14 underway by NERC and RE staff, including two of my fellow
15 panelists, Jerry Hedrick and Scott Henry, much remains
16 unclear on the details of RAI and its relationship,
17 especially with the CIP Version 5 standards. And FERC
18 directed certain revisions to the CIP Version 5 standards,
19 and that is also unclear how it relates there, as well.

20 With new and future CIP standards being
21 implemented over the next few years, understanding the rules
22 of the road in compliance and enforcement is critically
23 important now while Registered Entities are working to
24 implement these requirements.

25 I look forward to your questions. Thank you.

1 ACTING CHAIRWOMAN LaFLEUR: Thank you. Mr.
2 Clermont.

3 MR. CLERMONT: Bonjour. Good afternoon,
4 everyone, Acting Chairman LaFleur, Commissioners, staff, and
5 fellow panelists.

6 Thank you for the opportunity to speak today. I
7 am especially grateful to you, Chairman LaFleur, to let me
8 in even after the Montreal Canadians beat the Boston Bruins
9 in the last hockey playoffs.

10 (Laughter.)

11 MR. CLERMONT: But that's very kind. I currently
12 serve as Manager of Transmission Services for Hydro-Quebec
13 TransEnergie, which as you know operates the most extensive
14 transmission system in North America.

15 I also have the pleasure of serving as Vice Chair
16 of the NERC MRC, although today I am appearing on behalf of
17 the Canadian Electricity Association, the CEA, which I will
18 refer to as CEA.

19 I would like to begin by assuring you that, while
20 as you know regulatory frameworks in Canada are different,
21 all regulators and Registered Entities takes reliability
22 seriously. As a general matter, as you know, NERC standards
23 are mandatory and enforceable in all Canadian Provinces, and
24 they apply to the same type of Entity as in the U.S.

25 As an Entity, we work with our Regional Entities

1 on any issue, as my own organization demonstrated by working
2 with NPCC on lessons learned after the large forest fires we
3 had last summer.

4 No surprise, CEA believes that the international
5 nature of the ERO must be preserved. You will see in my
6 written remarks positive examples of recent efforts both at
7 NERC and FERC which have helped reinforce this. However, as
8 always there remains area for improvement.

9 The physical security order, for example, was not
10 fully mindful that the ERO needs to file standards with
11 multiple regulators. It states something like: the
12 reliability standards should include a procedure to allow
13 the Commission to add/remove facilities from owners or
14 operators of critical facilities.

15 That did not make it in the standard, but that
16 would not have been approved like that by Canadian
17 regulators, obviously. So we respectfully encourage the
18 Commission to continue to strengthen its engagement with its
19 Canadian counterparts, and to bear in mind when you adopt
20 directives that they can have consequences in Canada.
21 Needless to remind you that the electrons, as we say, don't
22 stop at the border; we all know electrons don't travel.

23 But with respect to more on the topics of this
24 panel, we generally applaud all initiatives seeking to
25 implement risk-based approaches across core ERO program

1 areas. That is a good sign of maturation by the ERO.

2 Again, similar to other aspects of reliability
3 governance, the approach to registration in Canada varies
4 somewhat to that of the U.S. However, all of our approaches
5 are based on the NERC reliability program, and all entities
6 in Canada are either listed on NERC's Compliance Registry or
7 their equivalent in Canadian Provincial Registries, or in
8 some case like my organization on both.

9 Several Canadian jurisdictions have already
10 implemented practices to ensure that the right entities are
11 subject to the right standards. Experience here may be
12 instructive for both NERC and the Commission, and we would
13 be glad to help you on that.

14 On the revised BES definition, all Canadian
15 jurisdictions recognize the importance of a clear
16 definition. Several have already adopted the revised
17 definitions, and all others are pursuing equally effective
18 means of defining the scope of facilities to which standards
19 apply in their jurisdiction.

20 On that, CEA members are working and are
21 committed to continuing working with their original entities
22 and U.S. industry partners to ensure a continuity in
23 reliable operations, especially during the transition
24 period.

25 On the matter of tiering facilities under

1 standards, which is one of the other topics, we caution
2 against establishing any predetermined approach which would
3 dictate how this would be performed within a given standard.
4 Such effort would be at odds with the general trajectory of
5 shifting NERC standards and program toward this risk-based
6 approach.

7 With respect to REI, everybody touched base on
8 that. CEA remains fully supportive of the concept and
9 objectives of that, and we acknowledge the great progress
10 that NERC has made in rolling out REI's building blocks.

11 However, it is not clear for CEA members, and we
12 do not clearly understand the intended application of REI,
13 and I have yet to see clear communications on what it will
14 mean for a Registered Entity

15 Before I conclude, I would like to talk briefly
16 about another topic, which is the timing of ERO initiatives.
17 As I said, ERO has reached a point of healthy maturation,
18 but the timing of initiatives seems to be an area under
19 where we all continue to struggle. And it's hard to have a
20 careful look into everything that comes out.

21 We suggest that maybe a good way to do that would
22 be to reflect those initiatives in the three-year strategy
23 and business plan.

24 So that concludes my remarks. Thank you again
25 for the privilege of being here today, and I will be happy

1 to ask any question you may ask.

2 ACTING CHAIRWOMAN LaFLEUR: Well thank you,
3 Mr. Clermont. As Iveton has been breaking our hearts in
4 Boston for decades--

5 (Laughter.)

6 ACTING CHAIRWOMAN LaFLEUR: Thank you also for
7 your very specific comment on our sensitivity to Canada in
8 the physical security order and the three-year suggestion.

9 Well there was just a lot in those six talks.
10 Just a couple of comments, and then a couple of questions.
11 I am sure it makes me some kind of a reliability geek that
12 I'm very excited that the Bulk Electric System is going live
13 July 1, since it's been years and years that we've been
14 working for that.

15 I am also very interested in all the ways that
16 you are factoring risk into different elements of the
17 process--you know, whether risk-based registration, and
18 potentially RAI, and other things.

19 And finally, I appreciated Scott's comments on
20 the work toward consistency at the regional level, something
21 I know we talked about last year.

22 My question really relates to the issue of risk
23 and how we gear the standards to the right level of risk.
24 What I've noticed increasingly in a lot of the--in some of
25 the standards at least, is a concept of tiering of assets,

1 where the most critical assets get a different level of
2 protection than other assets. That is embedded in the CIP 5
3 standard. That is the whole basis of it.

4 And it was suggested by the physical security
5 directive, as well as almost has to be, somehow come across
6 in the GMD standard because you can't do everything
7 everywhere, and I wonder whether you think there's a
8 potential to build on the concept of different tiers of
9 assets, whether there might be benefit, for example, at the
10 bottom of the pyramid of some of the smaller assets that we
11 hear again and again from the munis and the co-ops that it's
12 too expensive to comply with some of the standards that the
13 bigger companies that have more assets comply with.

14 Is this something that you see as limited to the
15 security area? Or is it something you see more embedded?
16 And I believe somebody--it may have been Sylvain--commented
17 that it was too complex to have tiers. But it's something I
18 just keep sort of like have echos of it in different orders,
19 and I'm interested if you think it's just something specific
20 that happens to be in those orders, or a direction we're
21 moving toward as we think about the Bulk Electric System?

22 I'll start with Gerry--

23 MR. CAULEY: That's the question I sat here for,
24 because there's a lot of confusion--I was debating not to
25 come up here, but there's a lot confusion about it.

1 ACTING CHAIRWOMAN LaFLEUR: It's your chance to
2 answer it.

3 MR. CAULEY: So there's two different things
4 going on, and they're getting confused, which is why I
5 appreciate the question.

6 There are some aspects of the standards which
7 become--the cost of implementing them has to be traded off
8 with the value. So it makes sense to put a tiered type of
9 threshold on the applicability.

10 We first encountered that with the vegetation
11 management standard where we focused on 200 kV and above.
12 Once you start getting into the 115 and some of the lower
13 sub-transmission type voltages, the cost is overwhelming.
14 Not to say that there's not vegetation management on there,
15 but to do it under a mandatory regime of the standards, we
16 set that limit.

17 We also did it initially with the relay
18 loadability standard. Now we've tiered the physical and
19 cyber security. You could not put the same amount of cyber
20 protections and measures around every single electronic
21 device in the entire grid. It would just be impossible.

22 So how do you overcome the impossible? You
23 narrow the scope to the most important assets. So I think
24 that has been--it's something that we will use when
25 appropriate to the standards process to limit the scope to

1 the most important area and the most practical area.

2 There's a different aspect of tiering that comes
3 up in registration and gets confused around the previous
4 model I just described. And the tiering in registration
5 that we're looking at is based on the GO/TO, the generator-
6 owner or transmission owner where you have a generator and
7 it's connected by a 10-mile line to the grid, and that's the
8 extent of your transmission. Should you have 400
9 transmission reliability requirements apply for that 8-mile
10 line? It just seems like overkill in terms of
11 requirements.

12 So we went through and approved through the
13 Commission a narrow set of requirements that applied because
14 you had a limited set of assets. That's the thing we're
15 looking at in the registration process now. Are there some
16 really small entities with limited numbers of assets, not
17 just generator/transmission owners, but you just have
18 transmission, but I only have 5 lines and they feed an area
19 that's sort of on the fringe of southern Illinois and
20 doesn't really go to anyone else after here, it's just to
21 our customers, is there a subset of standards that should be
22 applicable to that entity?

23 So we're trying to ask that question through the
24 registration process, to say everyone who meets these
25 criteria of limited assets, you have a small set of

1 standards. So tiering gets used in both models and means
2 completely different things.

3 ACTING CHAIRWOMAN LaFLEUR: That's very helpful.
4 I saw other people writing down. So, Barry?

5 MR. LAWSON: Yes. Thank you for that question.
6 The way that I try to look at this is you first have the BES
7 definition. That is going to be used to determine whether
8 you're BES or not. And that is looking at assets, or
9 facilities.

10 Then you have the statement of compliance
11 registry criteria, which is going to determine which owners
12 or operators of those assets should be registered for
13 certain functions? And those functions have standards that
14 apply to them.

15 And thirdly, in the reliability standards
16 themselves there's an applicability section. And
17 historically that applicability has mostly focused just on
18 the function; but we're starting to see many more standards
19 now today that take that applicability language and go more
20 granular, get deeper into, okay, well which entities that
21 perform this function should this standard apply to?

22 And if we want to call that tiering, that's fine.
23 I think tiering can be useful in all of those areas, but I
24 don't think we need one approach to that. And I think it
25 should be based on the context of what we're addressing.

1 I do think we're not looking at a lot of change
2 in registration with all of those three tools. I think
3 we're looking at some of the entities that are right now
4 just barely in the compliance registration may be not having
5 to be in the compliance registry.

6 For example, I have one member, one electric
7 cooperative that has 2,800 meters on its system, and it's in
8 the compliance registry. Now I will say, they don't own
9 this but they oper--they don't even operate this--they have
10 8 miles of 230 kV line radial that's at the end of a BPA
11 radial, and it serves a mine. The line, 8 miles of line, is
12 owned by the mine. The co-op maintains it.

13 The mine is closed. That entity is in the
14 compliance registry. There's been some efforts underway in
15 the last few months by the Regional Entities to start taking
16 a closer look at these types of cases, and we're seeing some
17 good movement there. But I think we need the BES
18 definition, this risk-based registration initiative, to move
19 forward so we can get that list of who needs to comply with
20 what standards a little more focused.

21 ACTING CHAIRWOMAN LaFLEUR: I guess the question
22 is, if it's sufficiently one-off, like a really odd
23 situation, isn't that what the exceptions process is for?

24 MR. LAWSON: Well we didn't have an exception
25 process--

1 ACTING CHAIRWOMAN LaFLEUR: No, but I mean--

2 MR. LAWSON: --and we don't until July 1.

3 ACTING CHAIRWOMAN LaFLEUR: --but if there's a
4 whole bunch of them, then you'd change the whole process
5 somehow.

6 MR. LAWSON: So, you know, that's why we're
7 looking forward to these things.

8 ACTING CHAIRWOMAN LaFLEUR: Yes?

9 MR. NAUMANN: Well, what Barry says makes sense.
10 The problem becomes how one looks at these assets. So you
11 may have a radial line and way, well, so you lose the radial
12 line, you just affect this load, that's really not that big
13 a reliability risk.

14 And then someone says, but, you've got a relay at
15 the other end of the line, and if that relay fails now you
16 can go into the Bulk Electric System and you can do
17 something else.

18 And I think that's in a way how we got to some of
19 the areas which probably are problematic, to say we're not
20 going to look at the direct impact, we're going to look at
21 the secondary or tertiary impact, and that could possibly,
22 conceivably impact the reliability, so we're going to keep
23 it there.

24 That gets back to the BES exception process,
25 which I think a number of people have said, we don't know

1 not only what the Registered Entities are going to ask for
2 exceptions, we don't know what the Regional Entities, once
3 they see what Barry said, the list, are going to say, oh,
4 no, we think that should be in.

5 So, you know, the tiering works if you almost
6 have a bright-line cutoff, which was what the BES is,
7 because once you start going--I can cascade a number--bad
8 word--

9 (Laughter.)

10 MR. NAUMANN: I can add a number of failure modes
11 to say it's going to affect the BPS, so keep it in. That's
12 how you got generator leads dealing with tree trimming over
13 parking lots. You know, they got a line, and they're in
14 there, and because, you know, you can have one tree at the
15 end of the line and you just either have to at some point
16 administratively say we're going to accept these
17 administrative definitions and go through this process. Or,
18 you're going to have to do it one by one by one. And I
19 think the BES rule said we're going to have bright line,
20 here's the process, the exclusions are part of the bright
21 line, go ask for your exceptions and let's go forward.

22 ACTING CHAIRWOMAN LaFLEUR: Scott, and then
23 Barry. I just meant in terms of I saw Barry, but Scott had
24 been waiting.

25 MR. HENRY: Thank you. Just a couple of

1 comments, or possibly cautions.

2 When we talk about tiering, that may be
3 appropriate in some situations. It may not be appropriate
4 in others. I think that point's been made.

5 As you take a look, it probably could be said
6 that no matter what tiering definitions you provide there
7 will always be someone who is not going to be happy.
8 There's not perfect tiering.

9 So if we do go down the road of tiering for
10 whatever the case may be, I think we need to recognize that
11 we may not achieve happiness for everybody.

12 I also would want to point out that tiering would
13 have to be cautiously done because there is great
14 interdependency of Bulk Electric System elements, in terms
15 of types of elements, in terms of amount, number of
16 elements, or amount of load. So one individual thing may
17 not necessarily be an issue, but an aggregation of items
18 potentially could be if they're similarly situated, could
19 have potentially a negative impact on reliability.

20 So it gets to be a pretty complicated thought
21 process to go through to really answer the question: Are we
22 comfortable that reliability is being maintained under some
23 type of approach like that?

24 And lastly, I think the regional executives
25 clearly desire to apply risk-based concepts. I think this

1 is an area where risk-based approaches are very appropriate.
2 But at the same time, I think we have to be cautious to make
3 sure we don't make an overadjustment on trying to achieve a
4 better balance in the regulatory burden than does exist.

5 The fact is, with all due respect to the
6 Commission, regulation is a burden to somebody. And so
7 there's going to be some amount of burden. But we take that
8 burden because there's a societal interest or public
9 interest in ensuring that in our case reliability is
10 protected.

11 So I just offer those cautions to be aware of.
12 Thank you.

13 ACTING CHAIRWOMAN LaFLEUR: Thank you.
14 Mr. Lawson?

15 MR. LAWSON: On the BES definition, of course we
16 have a baseline definition and then we have a set of
17 inclusions and exclusions. The intent there--and I was on
18 that drafting team--the intent there was to be able to
19 address the vast majority of the assets out there, so it
20 would be as clear as you could possibly make it for most of
21 the assets.

22 For the assets where it was not clear, or for
23 where there's disagreement, that's the exception process.
24 And I don't think that's going to be a huge amount, but it's
25 undetermined. Steve is right that we don't know how it's

1 going to work yet.

2 But the example that Steve gave with the relay on
3 the radial line that could have impacts on the BES, that's
4 exactly what the exception process is for. If Scott at SERC
5 and his colleagues believe one of my members who is excluded
6 from the BES by the application of the definition, if he
7 believes that should not be that way, then it's up to the
8 Regional Entity. They have the burden to demonstrate
9 otherwise, and there's a process for that. And it will get
10 handled.

11 So we see it as being a good balanced process,
12 but it just hasn't been used yet. And we will be studying
13 that in a few weeks.

14 ACTING CHAIRWOMAN LaFLEUR: Sylvain?

15 MR. CLERMONT: Yes, thank you. Just in addition
16 to everything that's been said before, and Jerry mentioned
17 it, I would like to also guide that discussion a little bit
18 to the discussion you had this morning about cost, and
19 Commissioner Haque had. I guess the tiering of assets at
20 times may become a good way to deal with--and I call that
21 cost-effectiveness instead of cost, because I prefer this
22 one dollar you're going to spend, are you going to spend it
23 on what will improve most reliability? It's not a question
24 of avoiding to spend one dollar; it's to make sure that you
25 spend that dollar on what counts most in this risk-based

1 approach.

2 So this tiering makes sense sometimes if you
3 consider this cost effectiveness approach. The other thing,
4 it's in my written comment, tiering makes sense. We discuss
5 about a couple of examples, the fact FAC003, but we should
6 not go--we should not also use that so much that we start
7 losing simplicity and clarity. And Scott Henry alluded to
8 that in terms of increasing the burden.

9 But this should be clear and simple for entities
10 to understand what the compliance is and whether I should
11 register or not. So it's a difficult balance to find, but
12 still the simplicity and clarity, I believe we must keep
13 that in mind.

14 ACTING CHAIRWOMAN LaFLEUR: Thank you. A very
15 interesting discussion. I have another question, but I
16 think I am going to go to my colleagues first and then I'll
17 come back. I'll poke another nerve if there's more time.

18 COMMISSIONER MOELLER: I have a couple of
19 questions, too, but I think I'll maybe let Commissioner
20 Clark ask some a little earlier in the process.

21 COMMISSIONER CLARK: Actually, I didn't have a
22 lot of questions, so...

23 (Laughter.)

24 COMMISSIONER CLARK: I mean, mine were more along
25 the lines of comments. This is all very interesting to me,

1 as much as anything, because I sort of boarded this train
2 late, especially with regard to the definition of the BES,
3 which substantially was done prior to my time on the
4 Commission. So learning about it, and I sort of got in on
5 the tail end of it, but--so I'm having the opportunity to
6 benefit from what you all are saying in the field is really
7 actually helpful to me.

8 On this issue of the exceptions, and then the
9 smaller entities, it's one that I'm particularly sensitive
10 to coming from the part of the country that I do where
11 there's a lot of those types of entities out there. So I'm
12 going to appreciate having the opportunity to see how this
13 process rolls out on a going forward basis after July 1.

14 And then finally, to Mr. Clermont in response to
15 your comments on Canadian Hockey, in the State of North
16 Dakota we have no problem with Canadian hockey. Our
17 University of North Dakota hockey team for years has
18 benefitted from being almost entirely made up of Canadians,
19 and we think of it as a win/win situation. These kids come
20 down to the States and get a great education, and we get to
21 win national hockey titles.

22 (Laughter.)

23 ACTING CHAIRWOMAN LaFLEUR: Phil?

24 COMMISSIONER MOELLER: Well I will follow up on
25 the BES issue for Barry Lawson. It's really kind of more of

1 a comment, but I think you knew, I grew up on co-op lines, a
2 full requirements customer of EPA, Inland Power & Light,
3 still have the ranch.

4 I just, you know this but we had the San Diego
5 outage in a sub-100 kV system, and maybe I can say this to
6 some of your members and you can't, but just be careful
7 because it's a legitimate--I thought your example was great.
8 I'm curious which co-op that is. But we just have to make
9 sure that, you know, we make the right decisions. And there
10 is a connectiveness that we found out about painfully in San
11 Diego that was below requirement, and we're still dealing
12 with that.

13 So just my comment. If you want to respond, you
14 can.

15 MR. LAWSON: Just very briefly, the incident
16 you're referring to involved sub-100 kV lines, but they were
17 parallel path.

18 COMMISSIONER MOELLER: That's right.

19 MR. LAWSON: What I'm talking about are radial
20 lines.

21 COMMISSIONER MOELLER: Yes.

22 MR. LAWSON: They do not reconnect anywhere, and
23 it only serves load of that co-op. So I totally understand
24 what you're talking about, how that incident was a little
25 bit below the radar screen as far as those facilities, but

1 it's a very different setup.

2 COMMISSIONER MOELLER: Understood. Yes. Well,
3 thanks for letting me express, and hopefully you take it in
4 the right context.

5 Masseur Clermont, thank you for coming. A couple
6 of thoughts. I know we put you in a tough situation when we
7 have these particularly expedited situations, and I think
8 you know this, but on physical security we were responding
9 to a lot of pressures that we usually do not deal with on
10 reliability orders. So kind of apologies for that, but that
11 was the situation.

12 Is there a way we can generally get that better
13 in terms of any timing on standards that could ease the
14 transition in the Provinces?

15 MR. CLERMONT: On the physical security, we all
16 understood the context into which--

17 COMMISSIONER MOELLER: Yes.

18 MR. CLERMONT: --and I used that example, and it
19 is really a small piece of this physical security thing.
20 And, you know, I read only one sense in an order that's not
21 that long, but still has a couple of pages long, where you
22 just said we reserve the right to do something kind of
23 unilaterally. That cannot be adopted in a standard. These
24 standards--if that was in a standard, it would have been
25 remanded in all Canadian jurisdictions.

1 Usually in terms of timing, I guess you have the
2 trilateral meetings--

3 COMMISSIONER MOELLER: We do.

4 MR. CLERMONT: --from time to time. Our
5 regulators are getting--they prepare for those. They come
6 and CEA, the Canadian Electrical Association, we have
7 discussions with them.

8 I guess that's a good forum. I would just
9 encourage, as I said there's plenty of very positive
10 examples recently where there's been a greater collaboration
11 between the U.S. and Canada. And I guess the trilateral is
12 the right forum to do that.

13 COMMISSIONER MOELLER: Okay. You also said that
14 you had some experience with the BES definition that you
15 might want to share with us.

16 MR. CLERMONT: That was on registration.

17 COMMISSIONER MOELLER: Oh, okay. All right.

18 MR. CLERMONT: Some Provinces have already
19 excluded--I mean, it's nothing spectacular, but some
20 jurisdictions, provincial jurisdictions, have already
21 excluded the PACs, and exactly what we're looking at doing.
22 But some regulators have already excluded a couple of these
23 things.

24 My regulator in Quebec, they dealt for a moment
25 and finally they settled for an appropriate that's a lot

1 more like yours. But they thought about these tierings, or
2 creating categories of tiers, like we created tier one, tier
3 two, tier three, depending on your rank. And then finally,
4 simplicity and clarity, the regulator figured out that it's
5 hard to figure out whether you are a tier one, or tier two,
6 or tier three, so let's just go with the application within
7 the standards.

8 But I was just referring--mainly referring to the
9 fact that some regulators have already skipped some entities
10 out of the registration.

11 COMMISSIONER MOELLER: Well, if you have lessons
12 that we could benefit from, I think we would be interested
13 in additional follow-up.

14 MR. CLERMONT: Thank you.

15 COMMISSIONER MOELLER: Thank you.

16 ACTING CHAIRWOMAN LaFLEUR: Thank you. I just
17 want to turn a little bit, before I close the panel, to RAI.
18 It's something that seems to have great promise to simplify
19 the compliance piece of the cycle, which, you know, we've
20 heard about it for awhile.

21 I guess it's, not meaning to be critical,
22 sometimes it seems when we hear about it there's way more
23 clarity around what's wrong with how we do it now, and how
24 we need to change than maybe where we're going to.

25 So I'm curious about what is the timeline to kind

1 of pull RAI forward? And if anyone wants to step into this,
2 do you think it will be filed with the Commission? Or do
3 you think it's just something you'll do that doesn't need to
4 be filed? I mean, I'm just trying to get a little bit of a
5 sense.

6 Jerry?

7 MR. HEDRICK: Thank you for the question. And
8 I'll start with the last part first.

9 Our intent is to have an informational filing
10 with FERC that explains the processes relative to RAI. When
11 we talk about overall timelines, and really what we're
12 driving towards, there's been many pieces that have already
13 been put into place, if you've followed really kind of when
14 we started rolling out the checklist last year, which is
15 really more around how do we approach auditing? How do we
16 approach compliance? How do we make sure that on a region
17 by region basis they are consistently performing the same
18 activities? So very little impact really to the Registered
19 Entity, other than that the processes look and feel the
20 same.

21 With that, we added the auditor manual which gets
22 into more detail and helps an auditor understand some of the
23 activities around those processes. That was rolled out
24 roughly a month-and-a-half, two months ago. And so it gives
25 an auditor a reference point relative to the use of the

1 auditor checklist.

2 We have also put into place a role-expectation
3 guide, which spells out the capabilities and competencies
4 that we would expect a Regional Entity to have within their
5 organization to carry out some of the activities related to
6 being able to assess risk, to perform audit activities, and
7 to take a look at controls, and to scope an audit
8 accordingly.

9 From that, we also had the pilots. The pilots
10 were completed roughly in the first quarter. We have been
11 going through an evaluation process to create that single
12 design.

13 The first step of that was the adoption of the
14 framework itself, which really lays out the four elements
15 that we will use as we assess, evaluate, and prepare to
16 perform oversight of a Registered Entity.

17 Within that, the two primary components that have
18 the greatest impact to a Registered Entity are the internal
19 control evaluation and the inherent risk assessment.

20 We expect to be completed with the inherent risk
21 assessment over the course of about the next two weeks. And
22 with that, we will be rolling out a clear example that
23 demonstrates how that's done, and we'll be putting training
24 with that as we move through the middle of the year.

25 So risk assessment is going to be the first step,

1 and to me the most important step. And the reason why is it
2 looks at the Registered Entity for the functions that they
3 perform and the real risk that they pose.

4 So a perfect example would actually come from
5 Scott's organization for SERC. I was recently speaking with
6 a compliance executive for an organization that is going
7 through an audit right now. Normally for their registered
8 functions they've got roughly 52 standards that apply to
9 their function.

10 From that 52, SERC was able to go through, using
11 the risk assessments that we've developed through the pilots
12 as we've worked toward a consistent approach, really using
13 how we've evaluated risk of that organization, we landed on
14 14 specific reliability standards.

15 If we would have followed purely the AML
16 approach, they would have been audited for a minimum of
17 about 42 standards. And one of those, really only CIP 2
18 applied to their organization, so it actually'd of been
19 about 33 standards that would have applied for that audit.

20 So you can see just by assessing the risk itself,
21 you've already cut the scope in half. From that, they sat
22 down and they reviewed. This was an organization that
23 wanted to share their control environment and talk about the
24 controls within their organization, the way that they
25 perform internal audits, evaluate, and do control self-

1 assessments.

2 That information allowed the scope to be further
3 reduced to 10 reliability standards. And so you can see
4 there's an evolution of process that you can go through.
5 And so when we talk about the existing system, we would have
6 been looking at a static set of roughly 33 standards that
7 really we were able to get down to 10 applicable standards
8 for the risk that was truly posed for the registered
9 functions.

10 And so what we want to do is explain and share
11 how that risk assessment is done over the course of the next
12 few weeks, which is really going to roll into the
13 implementation plan and become a part of the AML so that
14 we're not looking at a static structure that is a one-size-
15 fits-all formula for a Registered Entity.

16 So it gets us our first pass down to really
17 focusing on what is the risk of that organization.

18 Now the second phase of that is the internal
19 control evaluation which we're beginning to take a look at
20 all the results from the pilots and the lessons that have
21 been learned through the course of these pilots.

22 We have found that the information is more than
23 available and plentiful, but we really want to get down to
24 what is the right amount of information so that we're making
25 the right decisions and we can test the right things.

1 And so those are really some of the next steps to
2 finalize the control evaluation portion, which we expect to
3 take place over about the next 8 to 12 weeks. That will be
4 rolled out as we get to the middle of this late--middle to
5 late this year, so that we will have a complete program that
6 can be shared with a Registered Entity that we can develop
7 clear training and communications around through the
8 remainder of this year, allow for adoption of the program as
9 we go into 2015, and assure that we have trained our
10 auditors for the capabilities and competencies guide that
11 has been rolled out so that we can effectively deploy these
12 processes.

13 So that's really the near-term timeline for the
14 expectation of being able to fully adopt these programs as
15 we head into 2016.

16 ACTING CHAIRWOMAN LaFLEUR: Well that is really
17 helpful. That is the clearest explanation I've heard, and
18 that is extremely helpful.

19 Without prejudging, the things you're talking
20 about, about writing a new audit manual, and making better
21 compliance, and focusing the audits, don't sound like the
22 kind of thing that you'd put an information filing in for, I
23 thought there was an element of this at the end where maybe
24 you had the standards book, but if you found little
25 standards you didn't enforce then, you just sort of graded

1 on like how good is the control, and then you would enforce
2 on that rather than the standards. And that sounded closer
3 to like we could talk about whether FERC--and I didn't know
4 if that's still in, or maybe I misunderstood it.

5 MR. CAULEY: We have actually a speaker on the
6 next panel on competitive enforcement, Sonia Mendonca, and
7 that is a topic then, but that would be, you know, the
8 option of using discretion or aggregating minor issues at
9 the company level and not reporting them, or reporting them
10 on a periodic basis is a little bit more substantive in
11 terms of need for filing.

12 ACTING CHAIRWOMAN LaFLEUR: Okay. Staff,
13 questions?

14 MR. BARDEE: Thank you.

15 Sylvain, I actually have a question for you. It
16 goes back to the statement you made about our order on
17 physical security, in particular the sentence that said the
18 Commission should have the authority to add or remove
19 facilities.

20 And I want to make sure I understand your
21 concern. Because at one point it sounded as if the concern
22 was a standard saying "the Commission" as opposed to perhaps
23 some language like "the applicable regulator." And that's
24 one kind of concern, an international kind of concern.

25 But then I later heard you say in a way that

1 sounded like the concern was with an entity other than the
2 Registered Entity unilaterally changing the list.

3 Is it the former, that it's really just, you
4 know, the idea of the Commission showing up as wording in a
5 standard?

6 MR. CLERMONT: Yes. It was clearly--and maybe we
7 misread what the intent was, but as we read it it may have
8 looked like you asked that in the standard the Commission be
9 granted the permission to add/remove facilities from an
10 owners' list. And you are absolutely right. I mean, you
11 just change "Commission" by "applicable," I think we use
12 "applicable regulatory authority" or "governmental
13 authority," a GA, that would have done.

14 But if you request that in a standard there is a
15 provision saying the Commission may do something, obviously
16 that standard would not be approved by Canadian regulators.
17 I'm sorry if I confused things, but I was really referring
18 to that part.

19 ACTING CHAIRWOMAN LaFLEUR: Barry?

20 MR. LAWSON: I was wondering if we could go back
21 and respond to some of the RAI issues, very briefly?

22 ACTING CHAIRWOMAN LaFLEUR: It's fine by me.
23 Were you done with your questions, Mike?

24 MR. BARDEE: Yes.

25 MR. LAWSON: I wanted to just start off on the

1 audit scope. Getting a reduced audit scope is a great
2 thing. No one is going to complain about that.

3 But I think what the Commission has to remember
4 is, you're still required to be in compliance with all the
5 standards. So you're not reducing the scope of what you
6 have to comply with; you're reducing the scope of what you
7 potentially get audited on. And that is based on you
8 participating in an assessment-type exercise, which is not a
9 light lift. It looks like it could be a pretty substantial
10 exercise for trying to get some reduction in audit scope.

11 So there are a lot of pluses and minuses there.
12 But again, no one is going to argue about a reduced audit
13 scope.

14 And I think one of the most important things here
15 with RAI is we have CIP Version 5 that entities are working
16 on now to start the process of budgeting and to get in
17 compliance with CIP Version 5, even though we've got
18 revisions being worked on now in response to the Commission
19 directives.

20 These two things are both traveling through space
21 at their independent speeds, and we really need those things
22 to come together appropriately so that entities know what
23 they need to be doing for compliance purposes.

24 Now I just wanted to highlight, I had four
25 questions that I included in my written statement and, very

1 quickly, it's:

2 Will RAI increase or decrease the compliance
3 burden for Registered Entity?

4 What are the specific benefits for Registered
5 Entity under RAI?

6 Will this be a voluntary program?

7 And a question that was already asked: Will
8 implementation of RAI require rules of procedure revisions
9 that must be approved by the Commission?

10 So those are our four foundational questions.

11 ACTING CHAIRWOMAN LaFLEUR: Thank you. Steve?

12 MR. NAUMANN: It seems, you know, with RAI, as a
13 number of us said and we just heard, the internal controls
14 evaluation is still being worked on. We don't really know
15 what it's going to look like. We don't know what the audit
16 of the controls is going to look like. And, to say what
17 Barry said, we don't know if that's going to end up being
18 more burdensome than what we're dealing with.

19 But having said that and agreeing with what Barry
20 said, audit scopes reduced by need is a good thing. If I
21 recall correctly from this morning, 75 percent of the
22 violations are self-reported, which means they didn't show
23 up in an audit.

24 And when this effort started, we thought one of
25 the big benefits of the new process, whatever name it is,

1 was the exercise of discretion. As I said in my remarks,
2 we've been told that NERC believes they have now, without
3 any changes to the rules of procedure, the ability to
4 exercise discretion as to whether to report a violation or
5 handle it in some, for lack of a better word, extrajudicial
6 manner.

7 And what's a little hard for some of us to
8 fathom, considering you've got the 75 percent self-report
9 sitting out there, is why that has to wait for everybody
10 until January 2016 when we're especially--and I think we
11 kind of hate to keep bringing it up, but we're facing CIP
12 Version 5 three months later.

13 The standard that was voted on was, you know,
14 rehearing is over, we're not going---it is what it is, but
15 the "identify, assess, and correct" was taken out of that.
16 And with the kind of promise to the stakeholders that RAI,
17 but to me it's not RAI it's the discretion, was going to
18 deal with it.

19 I still don't have a good handle on, you know, we
20 hear things about, well, if you have your controls evaluated
21 you're going to get the presumption of discretion. If you
22 don't, you're not going to get the presumption. I don't
23 know what that means, honestly.

24 I do know what legal presumptions mean, but these
25 rules aren't written down. And yet, with 75 percent of the

1 violations self-reported, and many of them, we honestly
2 believe, and if you read the violations, they said, oh, it's
3 not a big threat to the BES, that's where the time is on our
4 part. That's where we're spending people time, money time,
5 management time, that really should be focused on
6 reliability and not data requests, and answering back and
7 forth, and does having a list mean having one list? I mean,
8 why should we be spending more than three minutes on that?

9 And why the discretion can't simply be moved up.
10 If it takes a filing with the Commission, or if the
11 Commission believes it should have a filing--and I don't
12 know what it should be--we would like that clarity. Because
13 I think that's where you can get a lot of savings in effort
14 so that we can concentrate on the things that truly are
15 important.

16 Because if we get into CIP V-5 and we don't have
17 these things really in place working, there's going to be a
18 lot of work for everybody. And understand, if there are
19 threats to the system, they should be dealt with, but if
20 they're paperwork, or they're very minor things taking up a
21 lot of time moves away from the big things that we really
22 need to concentrate on.

23 Thank you.

24 ACTING CHAIRWOMAN LaFLEUR: Gerry, did you have a
25 comment?

1 MR. CAULEY: I could respond to that, unless
2 you're trying to end this session, but--

3 ACTING CHAIRWOMAN LaFLEUR: Yes, but that's fine.

4 MR. CAULEY: Just quickly, I appreciate
5 Mr. Naumann's frustration on the pace. I think a clear
6 answer is we do believe we have the authority to exercise
7 discretion on calling the balls and strikes of what's a
8 violation that goes into Enforcement. So we think we have
9 that authority.

10 But the practical matter, you know we did our
11 initial filing of the initial batch of violations back in,
12 it was around April or May of 2008, a year after the
13 standards had gone into effect. We got a very detailed
14 Order from the Commission in July of 2008 which basically
15 explained how each violation was to be treated, what the
16 record looked like.

17 We've had a practice since the beginning of each
18 violation getting identified and being processed. So even
19 though we believe we have discretion, it is a change from
20 past practice, and it's a change in how we've done
21 business.

22 So we've been working through the pilot. We've
23 actually been exercising the discretion in enforcement pilot
24 programs, and letting the company collect their violations
25 and reassessing. We got to the end of the pilot phase.

1 We're going back and re-evaluating the results and fine-
2 tuning it.

3 So at the end of the day, what we want to have is
4 the same thing we want to give to the Commission. Even
5 though you rely on the company to self-police and capture
6 things and keep a record of what happened, there has to be
7 some amount of transparency and ability to provide oversight
8 as to how well is it working, and is the company effective
9 in that process.

10 So when we're ready to do that, then I think we
11 will be ready to file the changes in the practice of what
12 we're doing.

13 I do believe that the discretion option will be
14 much more of a discrete switchover, because when we're ready
15 I think we're going to be ready. Whereas, I view RAI as a
16 longer, progressive transition, a lot of learning, a lot of
17 behavior modification, and so on, in both the companies and
18 the regions and at NERC.

19 So I think we're actually--and you'll hear from a
20 panelist in the next panel who can talk in much more detail,
21 but I think we will make pleasant progress that seems like
22 progress to the industry in the near future on the
23 discretion piece.

24 ACTING CHAIRWOMAN LaFLEUR: I just--I didn't mean
25 to be opining that we did need to approve it. It's kind of

1 a chicken-or-egg, you need to know what it is to even know
2 that, but it sounds like a very good topic for meetings with
3 staff when you have your report on your pilots done.

4 I'm looking at both Enforcement and Reliability
5 here in the room, but--which it sounds like you're
6 anticipating anyway.

7 Phil?

8 COMMISSIONER MOELLER: Again just a comment that
9 we've gone through phases where I think we have a Commission
10 now that's very involved in reliability. There was a time
11 when it wasn't as popular, so to speak, and so we go through
12 phases.

13 And when we did find, fix, and track it was
14 important to me that we have some kind of sampling element
15 to make sure that I think we're kind of going off too much
16 on a direction where we were losing track of things. And I
17 don't know if that is relevant for this, but I will just
18 mention that I think it is important because otherwise we
19 can have a little bit of a tendency to just kind of sit back
20 and forget about it.

21 So it's kind of an accountability element that if
22 it can be included I would be supportive of it.

23 ACTING CHAIRWOMAN LaFLEUR: Steve?

24 MR. NAUMANN: I just want to agree with
25 Commissioner Moeller. I think in an exercise of discretion

1 you need, and the ERO needs, the assurance. And there's no
2 question about that. I think our question, or our concern
3 is the pace, is the lack of knowledge as to when it's going
4 to happen. And, you know, as I said in my written remarks,
5 there are a number of initiatives being--all being done at
6 the same time, and I forget, we've used so many analogies
7 here, we've used diving boards, and we've used other stuff.
8 I used having several relay races run on the same track and
9 having to have all the batons handed off to the right people
10 at the right time.

11 And so I appreciate what Gerry said, that we
12 should see some progress on discretion rolled out in the
13 near future. I really think it's something many of us have
14 been saying for a long time, understanding the Commission
15 needs to be comfortable that there is the assurance there.
16 And I think, you know, with the ERO there will be that going
17 back through spot checks, or other processes, to make sure
18 that, to quote Acting Chairman LaFleur, don't ignore the
19 little things because the little things can become big
20 things.

21 We don't understand that, but something's got to
22 give here because we want to put the management time for the
23 real important stuff. You're asking us to do some very big
24 stuff on physical security, on GMD. I hear from the ESSC
25 meeting we may be looking at something on other

1 electromagnetic issues. These are all things that will take
2 serious time and serious investments.

3 ACTING CHAIRWOMAN LaFLEUR: Well on that pregnant
4 pause--

5 (Laughter.)

6 ACTING CHAIRWOMAN LaFLEUR: --on that note, I
7 want to thank the very meaty discussion, and we will wait
8 for the heralded next panel as well. Let's start again at
9 3:05. Thank you.

10 (Whereupon, a recess was taken.)

11 ACTING CHAIRWOMAN LaFLEUR: We are in the home
12 stretch here. Now that I'm joined by a colleague, I guess
13 we will resume. And perhaps as I introduce the panel I will
14 be joined by more colleagues.

15 So this is obviously our last panel of the day on
16 ERO performance. We have with us Sonia Mondonca from NERC,
17 and her colleague Steve Noess--I don't know if I'm
18 pronouncing that right; and Lane Lanford--Lanyard?

19 MR. LANFORD: Lanford.

20 ACTING CHAIRWOMAN LaFLEUR: Lanford, I had it
21 right the first time. I'm just so confused by your name tag
22 that says "Tim Gallagher" but I know you're Lane Lanford
23 from the Texas Regional Entity on behalf of the Regional
24 Entities. Brian Murphy of NextEra Energy. Jon Eric Thalman
25 of PG&E. And our good friend Carol Chinn, who seems to be

1 representing the Florida Municipal Power Agency, but all
2 things NERC.

3 And we will start with Sonia.

4 MS. MENDONCA: Thank you, Acting Chair LaFleur,
5 Commissioners, fellow panelists.

6 I would like to thank you for the opportunity to
7 be here to discuss trends associated with compliance and
8 enforcement of reliability standards, and also a little bit
9 about RAI.

10 NERC regularly reviews enforcement data to
11 identify trends and inform actions. And the results of
12 those analyses are posted quarter on the NERC website. So I
13 will just highlight three trends very briefly.

14 There's a significant decline in overall
15 violations of reliability standards, and that combined with
16 the robust level of self-reporting that was discussed
17 earlier this morning indicates a level of maturity of most
18 entities' compliance programs, especially as it relates to
19 non-CIP standards.

20 The second trend is that CIP standards continue
21 to be the most violated, and for a number of reasons,
22 including the fact that they apply to more functions and
23 they have had less time to mature.

24 As you hear from Steve, NERC, all the regions,
25 and industry are involved in a concerted effort to ensure

1 that the transition to the next version of CIP standards
2 occurs smoothly, and that is one of the efforts currently in
3 place to prevent continual--or to bring violations of CIP
4 standards in line with what we have observed with non-CIP
5 standards.

6 And then the last trend that we'll bring me to
7 the issue that the prior panel was just discussing is that
8 we have noticed an increased efficiency in how the ERO has
9 addressed violations of reliability standards. And that
10 increased efficiency has been driven by the streamlined
11 processes that we have been using in significant levels most
12 recently since the introduction of the find, fix, track, and
13 report program in 2011.

14 The utilization of these streamlined processing
15 trends is very much in line with the shape of our caseload,
16 which is primarily composed of minimal risk issues. We
17 have, as Gerry indicated this morning, significant focus on
18 mitigation. So everything has to be mitigated, but not
19 everything needs to become an enforcement action.

20 And the process of scaling back the level of
21 processing requirements, documentation requirements that
22 began with the FFT, is what we are working on now with RAI.
23 And so I wanted to clarify briefly the two enforcement
24 programs that were referenced in the prior panel.

25 We are working on expanding our exercise, the

1 ERO's exercise of enforcement discretion through the use of
2 compliance exceptions, which essentially are matters that
3 were--they are situations that are not in compliance with
4 reliability standards but they have posed a minimal risk to
5 the reliability of the Bulk Power System.

6 And in the assessment of the Regional Entity and
7 NERC, those are matters that should not proceed to an
8 enforcement action. And we have begun doing this on a pilot
9 basis, and we ran the pilots through April of this year.

10 We have been regrouping within the ERO enterprise
11 to examine the results of this experiment, looking at the
12 kinds of issues that came true, fine-tuning the
13 documentation requirements associated with these issues, and
14 the level of the record that's necessary to consider those
15 issues to be closed. And that will inform the informational
16 filing that was also mentioned earlier today.

17 The other program within enforcement is the
18 ability, or allowing certain entities that have gone through
19 a level of assessment of their internal controls, and that
20 were found to have a process for continuous self-monitoring
21 and self-assessment and mitigation of any noncompliance with
22 reliability standards that they identified themselves, to
23 collect minimal risk noncompliance for a specific period of
24 time, and to bring that at some--you know, at a periodic
25 basis to the Regional Entities with the presumption that

1 those matters will also not trigger an enforcement action.
2 So those matters will also be disposed of as compliance
3 exceptions.

4 Again, we're collecting the results of these
5 pilots, and we're coming in just a few weeks to continue the
6 discussions with FERC staff in that regard. And again, at
7 this stage fine-tuning documentation requirements, the exact
8 process for oversight to inform the filing to be made before
9 the end of this year with the Commission.

10 The only other thing I would like to mention
11 about the informational filing is, we--

12 (Timekeeper ends time.)

13 MS. MENDONCA: I'm sorry, so I'll answer any
14 questions. I'll reserve whatever for the questions.

15 ACTING CHAIRWOMAN LaFLEUR: Thank you very much,
16 Mr. Mendonca. Mr. Noess? I'm sorry, Ms. Mendonca. I'm
17 really losing it. Thank you very much, Ms. Mendonca.

18 Mr. Noess?

19 MR. NOESS: Thank you, Acting Chair,
20 Commissioners, staff, and fellow panelists. It's my
21 pleasure to be here today. My name is Steve Noess, and I'm
22 Associate Director of Standards Development at NERC.

23 You know one of the great strengths of the NERC
24 standards development process really is the industry
25 engagement and participation. And I wanted to highlight

1 today some significant strides in the standards development
2 process itself that we've seen recently that have been
3 continuing and are ongoing.

4 One of those really is focused on highlighting
5 the recognition by all parties the importance of early
6 engagement, communication, and partnership. And that spans
7 across NERC staff, FERC staff providing input and
8 perspectives early, collaboration with our stakeholder
9 standards committee, and of course our region and
10 communication with the stakeholders themselves.

11 You couple that with the recent enhancements to
12 the standards development process that went into effect last
13 year, and I think that we're seeing that we're in the midst
14 of a great transition toward a much more efficient standards
15 development process that focuses on quality early, and that
16 provides a level of balance flexibility.

17 So just to highlight from my written remarks,
18 traditionally it took to revise a standard anywhere from 25
19 to 40 months in some cases. And what we're seeing now, in 8
20 projects that began since the new standards development
21 process has gone into effect, 8 of those projects were able
22 to complete development in far less time, less than 10
23 months, in some cases less than 7 months. And of course the
24 most recent example, the physical security standard, in less
25 than 3 months.

1 And that standard I think, again, is one of the
2 great testaments to the capacity and the balance flexibility
3 in the standards development process that went into effect a
4 year ago, because the industry was able to complete that
5 under that process. They were able to collaborate, and now
6 we have a standard that addresses the physical threats and
7 vulnerabilities of our most critical facilities.

8 Finally, I just wanted to note as kind of a
9 follow up, Chair LaFleur, you mentioned this morning kind of
10 the anecdote that when a final rule is passed that that's
11 maybe the beginning and not the end, and I think we share
12 the same commitment with regard to standards, too. Just
13 because a standard is completed doesn't mean it's the end.
14 And we've noted CIP Version 5, the cyber security standards,
15 and we're really committed to following through with our
16 transition program to ensure that there's some level of
17 consistency of understanding of the new requirements that
18 clear a path to transition toward what that standard will
19 mean. And, a clear understanding for all involved of what
20 efforts and resources are necessary.

21 So while the standard may have been approved, and
22 while we may be completing some revisions, we know that the
23 standard itself is not the end of the process with regard to
24 the folks.

25 So thank you.

1 ACTING CHAIRWOMAN LaFLEUR: Thank you.

2 Mr. Lanford?

3 MR. LANFORD: Yes, thank you, Acting
4 Commissioner--Acting Chair. I'm used to calling you
5 Commissioner, and I get all mixed up.

6 ACTING CHAIRWOMAN LaFLEUR: Well I missed up
7 about half of the names, so...

8 (Laughter.)

9 MR. LANFORD: Commissioners, staff, and other
10 panelists, my name is Lane Lanford. I'm President and CEO
11 of the Texas Reliability Entity, and also the Vice Chair of
12 the Regional Management Group.

13 Today I am here standing in the place of Tim
14 Gallagher who wrote those eloquent comments that you
15 received, and hopefully have read. I'm going to just take a
16 few moments to briefly go over those comments and point out
17 some particular things to you.

18 I hope that as you read those, or as you will
19 read them, you will pick up in the general comments that we
20 are concerned about three very important things:
21 consistency, coordination, and uniformity.

22 This is something that we have had some recent
23 initiatives about. These three things are commitments made
24 by regional management to achieve better results in these
25 particular areas. And we've also, in the document that we

1 gave you, discussed something about of course some of the
2 things that you've just heard, the standards' process.

3 Certainly the standards process is something that
4 we receive the results of that process, and we're to apply
5 it to what we see in the field. We have had a struggle in
6 the past of being consistent in an application. Well, in
7 all of these things that I'm going to talk about, training
8 is very important.

9 Training is critical to what we need to do in the
10 field. With all the changes we're making, training is our
11 number one effort over the next year to be sure that we are
12 consistent, and that we do coordinate our efforts.

13 Also in trends and compliance and enforcement,
14 you've heard what the trends are basically from the first
15 two panelists. We will be transitioning to a risk-based
16 oversight program.

17 Again, we are asking all of our people to think
18 more than they ever have in the past, to think consistently
19 to get the right answer out of whatever we do. In many ways
20 in the past we've done things with a very narrow cookbook
21 approach; we are asking a lot more out of our staff, and
22 we're going to have to train them a lot more to get that out
23 of them. So we know that that is critically important.

24 Here in particular in the compliance and
25 enforcement area, consistency to us is consistency in

1 process, procedures, and tools. We can't guarantee outcomes
2 simply because outcomes are based on fact-specific
3 situations.

4 And so what you might hear at the very highest
5 level is a claim of inconsistency. Most of the time when
6 you look under it, there are different facts around the
7 decision that was made.

8 So I ask that you, when you hear that, you call
9 us directly if you have that kind of a problem, or be sure
10 that you have all the information.

11 As Sonia indicated, we're going to introduce some
12 discretion in enforcement, where we will be making some
13 calls, we believe, on minor-level violations, calling them
14 whatever, at the present time we're calling them compliance-
15 exceptions. They are compliance issues. They're things
16 that are low-level violations we believe that either are
17 mitigated or demonstrate quick mitigation can be done to
18 those issues.

19 They will be recorded. They will be available
20 for review. They will go with the company's record. So any
21 region that finds these will have them available whenever
22 they're needed to be reviewed.

23 Another area is CIP 5. Boy, what a challenge.
24 CIP 5, while we're enforcing 3 up until it's finally in
25 place, we are like you've heard before, we have a lot of

1 pilot activity going on. we're trying to figure out exactly
2 how to make this happen much better than we did in the past
3 with other CIP applications, and we think that we can do
4 that by test driving the thing just a little bit before we
5 get to the magic date that everybody has to do it.

6 We have multiple working groups. We have working
7 groups among regions. We are comparing notes. We are doing
8 the very best that we can to make this happen in a,
9 hopefully, nonevent type situation where we don't have just
10 a huge wave of violations that then we have to process
11 through the system that we could have prevented.

12 (Timekeeper calls time.)

13 MR. LANFORD: Okay, I'll finish my comments and
14 be prepared to answer questions. Thank you.

15 ACTING CHAIRWOMAN LaFLEUR: Thank you, very much,
16 Lane. Mr. Murphy?

17 MR. MURPHY: Thank you. I'm very appreciative to
18 be here today to speak to the Commissioners and their staff.
19 I am speaking in my capacity as Chair of the NERC Standards
20 Committee, and would simply like to echo many of the
21 comments that Steve Noess made.

22 Steve Noess and I work very closely, along with
23 all the NERC developers, stakeholders, our committee, FERC
24 staff, and 2013 reforms have worked and have become an
25 effective and efficient mechanism to get standards done.

1 What I would like to touch on in this brief time
2 that I have for opening remarks is, reflecting on the other
3 panels and what I heard.

4 I heard a lot about standards, which was
5 obviously interesting to me. And part of my interest in
6 that area is where we've come, and now we're capable of
7 developing standards in a short period of time, but we also
8 in an integrated work work with the ERO and with the Risk
9 Committee to set priorities.

10 So one of the invitations that I would put out
11 there is to have a broader discussion on many of the issues
12 that popped up this morning, in those forums, because I
13 think it would be instructive not only to the Standards
14 Committee but the ERO at large with regard to how we are
15 setting priorities and at what pace we need to move those
16 priorities.

17 Because right now we have an integrated wheel
18 where the Standards Committee collaborates with the Risk
19 Committee and with NERC to develop the priorities and the
20 pace of our projects, and to ensure that they are completed
21 in a high-quality and timely basis.

22 The other part that I heard a fair amount of
23 discussion on was on cost effectiveness. And what I would
24 like to do is just add more information.

25 There were two pilots that were completed. There

1 were a lot of lessons learned out of the two pilots. They
2 were piloted on two specific standards. Part of it was that
3 what folks who have worked in this area know, that they are
4 very data intensive.

5 So if you are looking at a standard on how it
6 affects a very large community of stakeholders, the data
7 that goes into a truly cost-effective analysis can really be
8 a heavy lift for any entity, including NextEra where
9 obviously I've promoted as being full participants in it.

10 With that said, we are looking at how to
11 institutionalize in a different way. We had a day-long
12 meeting on it last week in the Enhanced Periodic Review
13 material that's in my written comments. We are thinking of
14 including it there so that a high-level strategic level
15 group thinks about it, considers it in the ways that I heard
16 talked about this morning.

17 As well, I would like to just echo I think it was
18 Gerry who mentioned that the ANSI process does take this
19 into consideration kind of intuitively. So we have
20 consumers, we have state regulators who are voting. We also
21 have people who are in unregulated markets--you know,
22 NextEra is in a lot of unregulated markets, and we vote
23 based on cost considerations, reliability benefits from that
24 perspective as well.

25 Thank you again, and I look forward to any

1 questions.

2 ACTING CHAIRWOMAN LaFLEUR: Thank you.

3 Mr. Thalman?

4 MR. THALMAN: Thanks, Acting Chairman LaFleur,
5 and Commissioners. My name is Jon Eric Thalman. I am the
6 Director of Transmission Asset Management and Regulatory
7 Strategy at PG&E, and it is a pleasure to be here today to
8 talk about our experience at PG&E on physical security.

9 Our history is, as I'm sure you're aware--

10 (Laughter.)

11 MR. THALMAN: --and so what I want to share is
12 really just highlights of that, and our support for what we
13 have been doing in collaborating on the latest of the
14 standards around physical security.

15 So from our focus on providing safe and reliable
16 service, PG&E historically has been very focused on
17 maintaining safe operation of the grid, but we've done that
18 through, when we look at our substations, maintaining a
19 parameter. And for the most part, that was looking
20 internally, maintaining the monitoring and control of what
21 goes in and out of a substation, all focused on keeping the
22 grid safe and reliable and separated from anybody who might
23 be walking around.

24 Of course that's changed in the last year. Our
25 approach has shifted, beginning at the substation parameter,

1 looking externally. We are now very focused on situational
2 awareness, the surveillance and control of the system not
3 just inside the substation parameter but also outside.

4 In the past, a substation fence we might use a
5 wall in some cases but it was usually just for a visual or
6 environmental impact, and now it's a visual deterrent.

7 I have to recognize that this change in our view
8 has not been done in a silo, or just because of what
9 happened in our service territory, but it's been the result
10 of a collaborative effort across, with our sister utilities,
11 with our law enforcement, with regulatory, state and federal
12 agencies, and it's really shown that a lot of--driven home
13 that a lot of what we do at this level on setting standards
14 and working together has a synergistic benefit.

15 So we want to apply what we have done and are
16 looking forward to CIP 5. And that's my high-level summary.
17 I would be pleased to provide other insights as we have our
18 discussion this afternoon.

19 ACTING CHAIRWOMAN LaFLEUR: Thank you.

20 Ms. Chinn?

21 MS. CHINN: Thank you. Good afternoon. Thanks
22 for the invitation to participate today.

23 I am Carol Chinn, representing Florida Municipal
24 Power Agency, FMPA, and TAPS, the Transmission Access Policy
25 Study Group.

1 I had worked in the FERC Division of Reliability
2 shortly after the passage of the 2005 Energy Policy Act, so
3 it's nice to be among many familiar faces here today.

4 I will sum up my views on the ERO performance as
5 further described in my written comments. The good news:
6 NERC and stakeholders have implemented a number of standard
7 process input groups, big recommendations, to make standard-
8 drafting teams more efficient at producing timely standards
9 that pass ballots and receive regulatory approval.

10 The not-so-good news: We're still faced with the
11 following overall situation. To many standard requirements,
12 too many registered entities, too many violations, too much
13 uncertainty. Overlay that with the threat of a million-
14 dollar-a-day penalty, and you have the perfect storm that is
15 detracting from reliability and clearly not sustainable.

16 We all play a role in solving this. Tremendous
17 effort and resources have been put forth by FERC, NERC, the
18 regions, and industry to address these known issues, yet we
19 still have not managed to alleviate this situation.

20 For example, too many standard requirements.
21 Paragraph 81 was our opportunity to eliminate unnecessary
22 requirements. It's not entirely clear how many have been
23 retired due to this effort. We need better communications
24 so paragraph 81 does not get lost in the shuffle.

25 RISC, the Reliability Issue Steering Committee,

1 was established to perform triage on reliability issues, to
2 help prioritize and determine whether a standard is actually
3 needed, or other solutions are more appropriate. That is
4 happening on a very limited basis. We need to leverage the
5 risk to do what it was intended to do.

6 And then cost-effective analysis process. It was
7 supposed to incorporate cost/benefits into the standard
8 development process, but the programs lacked a clear
9 implementation plan. We have heard a little bit about that
10 today. We need a better strategy for cost-effectiveness.

11 Next, too many Registered Entities. We have the
12 risk-based registration, RBRs, under development and is on a
13 fast track. This may be our best hope. This effort is
14 intended to align registration with risk to the BES. We
15 need to remain committed to execute the plan on RBR.

16 Also, too many violations. Sonia went over the
17 numbers earlier. It's clear we have a system that's
18 burdened with processing mostly minor infractions that do
19 not impact the reliability of the BES.

20 RAI is supposed to do away with zero tolerance,
21 but as you heard today RAI remains elusive despite the
22 tremendous efforts. We need to move quickly from discussing
23 concepts to delivering the details of RAI.

24 And then finally, too much uncertainty. An
25 example, RSAW is another recommendation was to align

1 development of the reliability standard audit worksheet by
2 posting these RSAWs alongside violated standards and
3 providing transparency around RSAW revisions.

4 These recommendations have not been fully
5 implemented, but they have been recently addressed. So we
6 must have rigor around RSAW process for regulatory
7 certainty.

8 And then the CIP Version 5 standards reflect a
9 major shift from previous versions, and when implementing a
10 standard as complex as CIP Version 5 we're going to run into
11 unanticipated problems. So we need timely guidance to
12 lessen uncertainty.

13 For example, industry needs more guidance on the
14 transition, asset identification, and issues such as access
15 control and shared facilities. We need resolution on
16 numerous CIP implementation matters.

17 Overall conclusion, ERO performance is moving in
18 the right direction, specifically with the recent
19 enhancements to the standard development process. But we're
20 not there yet. We need to finish what we started regarding
21 initiatives addressing the high number of requirements,
22 Registered Entities, and violations, along with assuring
23 regulatory certainty.

24 Once these initiatives are across the finish
25 line, implemented and communicated with clear results, we

1 can heighten our focus on the end goal: the reliability of
2 the Bulk Electric System.

3 I would be happy to answer any questions. Thank
4 you.

5 ACTING CHAIRWOMAN LaFLEUR: Thank you very much.
6 Thank you for reminding us, Carol, how much we still have to
7 do, in case we were feeling good about everything we've
8 done.

9 (Laughter.)

10 ACTING CHAIRWOMAN LaFLEUR: I want to give
11 Commissioner Norris a chance, if he has questions, because I
12 think he has to leave a little bit early.

13 COMMISSIONER NORRIS: Thank you.

14 Ms. Mendonca, you talked about the high volume of
15 CIP violations, of all violations, and I think Mr.
16 Gallagher's testimony also cited the fact that the vast
17 majority are, not to characterize it, but were CIP
18 violations, and now we're about to enter another round of
19 version of CIP.

20 What can NERC do, what can we do to help enable
21 entities to, how shall I say it, to follow CIP standards so
22 it doesn't represent a disproportionate--if you just look at
23 our penalties, I mean they're dominated by CIP violations.
24 So I'm concerned about how we--what needs to be done to
25 reduce the high volume or percentage of CIP violations.

1 MS. MENDONCA: Right. And the split has been
2 constant at around 60/40, so 60 percent CIP, 40 percent
3 non-CIP over the last few years.

4 What NERC, the regions, and industry are doing is
5 to--NERC has led, with the help of the regions,
6 implementation studies looking at entities that were,
7 Registered Entities, transitioned into CIP 5 ahead of
8 schedule, and the lessons learned from those studies are
9 about to come out.

10 There have been specific technical issues that
11 stakeholders have identified, and again NERC, the regions,
12 and industry are working to come to a consensus. We all
13 have the same goals: preventing a bow wave of CIP
14 violations that are essentially caused by confusion or
15 misunderstanding of what the requirements are.

16 So there are a lot of efforts in that regard
17 designed to improve the clarity and the communication.
18 Clearly we are not there yet, but that has been the
19 effort.

20 COMMISSIONER NORRIS: I'll give the other folks a
21 chance to respond, too, but is there something different
22 about that than what's been done for the previous CIP
23 standards?

24 MS. MENDONCA: As far as I'm aware, this has not
25 been done. I mean, we are almost two years, or over a year

1 from the effective date, and we have for the past several
2 months been working on that. So as far as I know, we have
3 never prepared that far in advance for the implementation of
4 a significant revision of the CIP standards as we're doing
5 now.

6 COMMISSIONER NORRIS: Are the rest of you
7 experiencing that? Do you sense that this is being done
8 more effectively, or differently in terms of enabling folks
9 to understand what needs to be done to comply with CIP?

10 Yes, Mr. Murphy.

11 MR. MURPHY: I would agree with Sonia that there
12 is an extra effort, given the complexity of Version 5 and
13 what NERC is planning to do to roll it out.

14 I also think that there is a new emphasis on
15 technical guidance generally. And you will see that in the
16 CIP 14, that there was even that sort period of time an
17 emphasis on having technical implementation guidance in the
18 standard.

19 So when the issues that come up that Sonia said
20 might bubble up and people are a little confused on what the
21 standard is, we could either change the standard to make it
22 clear, or we can also use this vehicle that's in the
23 standards process manual, Section 11, to make the
24 implementation guidance really clear for those folks.

25 And we all know the challenge, and we do think we

1 have the vehicles to do it. And clearly we have statistics
2 that show that we need to do it. So I am confident that we
3 can work together to get it done.

4 MS. CHINN: Something I had mentioned in my
5 comments alluded to the reliability standard audit
6 worksheets, the RSAWs, and those are the guidance for
7 auditors on how they're going to audit. And it sets
8 expectations for the Registered Entities to know what they
9 need to have in place to make sure they're complying.

10 And with the CIP Version 5, we don't have those
11 RSAWs. Those worksheets are not available as of yet. I
12 understand they are coming soon. But I think that's a key
13 tool that can really help with the implementation and making
14 sure that Registered Entities--we just want to do what's
15 right. We need to understand what that is. So that would
16 be helpful.

17 COMMISSIONER NORRIS: Yes, Mr. Lanford.

18 MR. LANFORD: Just one other comment that I'd
19 make, and certainly echoing something that Brian just said.
20 Something we are doing internally generally in this process
21 is making sure we can understand it.

22 The guidance documents are being written. The
23 regions get them. Then if we can't understand it, how can
24 we expect everybody else can?

25 COMMISSIONER NORRIS: That's a good first

1 indicator.

2 MR. LANFORD: So that is one departure, I think,
3 possibly, from how we had done business in the past. And
4 there's no guarantee certainly that everybody will
5 understand it after that, but it has a better likelihood
6 anyway.

7 COMMISSIONER NORRIS: Good. Well I just want to
8 stress, the goal here--at least my goal, I would presume my
9 colleagues might agree with me on this--we're not into being
10 a revenue generator for the Federal Government here. We are
11 into having a more reliable system. And so whatever we can
12 do, that I can do to help focus or enable folks to better
13 understand and make compliance--not make the standard
14 easier, but to make the understanding of it and the
15 compliance with it and following the standard easier I think
16 we would be most supportive of that.

17 So thank you.

18 ACTING CHAIRWOMAN LaFLEUR: Well thank you. It
19 definitely is about reliability, not being a revenue
20 generator--although the FERC fees are very welcome, for
21 those of you who pay them.

22 (Laughter.)

23 ACTING CHAIRWOMAN LaFLEUR: Otherwise, it would
24 be a very dark building.

25 I want to ask sort of a provocative question, but

1 not as provocative as do we need the REs, because I already
2 heard about that for the whole year since I asked that.

3 But I am just sort of struck by two recent
4 developments. I mean, I think--and my question is on
5 standards development, and the process, and all the work
6 that's gone into that. Because obviously going from 25 to
7 40 months to 7 to 10 months is a huge improvement.

8 In the last few months, for various sets of
9 reasons, we had asked for a 90-day turnaround on the
10 physical security standard, and it was filed early. And in
11 a nonreliability context, after 2 to 3 years of talking
12 about a demand curve in New England at meetings like this,
13 we asked for it by April 1 and it was filed on time and it
14 has been approved.

15 It makes me think somehow if we are clearer in
16 what we want with shorter timelines, I mean have we been
17 doing it wrong all along with big philosophical things? I
18 mean, that's not to say just because you could do one
19 standard in 90 days that's the new norm, but it is rather
20 staggering that things can happen quickly when people are
21 focused.

22 And so is there anything we can learn from that,
23 from those--you don't have to comment on the ISO New England
24 one. I think Pete has left. But I mean, if there are
25 elements that enabled it to be done more quickly, other than

1 just getting the deadline, we should try to capture those
2 elements in other orders and maybe be more selective or
3 directed in what we do so we could help move the process
4 faster.

5 I just throw that out there, if there's anything
6 to be learned?

7 MR. NOESS: Yes, thank you, Commissioner.

8 I think on the context that you raised on the
9 physical security standard, it is important that just
10 because it was 90 days in this context you're certainly not
11 applying 90 days in all contexts.

12 But I do think it is important to note, as well,
13 that that was a standard that really wasn't addressing the
14 same technical issues that most of our standards are
15 addressing. And so I think that is an important set of
16 contexts.

17 With respect to guidance, too, I think the
18 Commission was certainly clear in outlining the parameters,
19 but I think one of the strengths of our process, as well, is
20 the ability for the industry subject-matter expertise to
21 arrive at the solution.

22 So to the extent that the guidance is clear
23 relative to the reliability risk that's being addressed,
24 then that is welcome. But our standards development process
25 really does provide a lot of expertise to arrive at the best

1 result.

2 And I guess on the notion of time, the final
3 thought I would add, and maybe some others on the industry
4 side of the table or entity side of the table rather, could
5 weigh in, would be the immense amount of resources that were
6 brought to bear for that particular set of standards.

7 So I think, you know, the standards development
8 process that we have has an appropriate level of flexibility
9 built into it to address emerging reliability issues as they
10 arise. But the counterpart to that is that, you know, it is
11 really not what the standards development process was
12 intended to do in all cases.

13 And, you know, we have seen some early results
14 indicating much quicker development times in general since
15 the new process went into effect only a year ago. We have
16 also began to more meaningfully apply a level of
17 prioritization with input from both the risk and as part of
18 our reliability standards development plan as well.

19 So I think this is a good topic for continued
20 conversation, but I think we are well on our way as well to
21 already hitting some of those improvements and I think we
22 will see a continued progression.

23 ACTING CHAIRWOMAN LaFLEUR: I think that's--and,
24 again, I am not suggesting that this is the new norm--but
25 when you mentioned that you brought a lot of resources to

1 bear, maybe if we worked on fewer things faster, rather than
2 so many things--I mean, I don't know, there are some lessons
3 probably. Brian?

4 MR. MURPHY: I would offer a lesson learned, and
5 then an observation.

6 The lesson learned I think is one that can be
7 generally applied. And that is, there was a fair amount of
8 discussion and exchange on what would make sense in this
9 space. So there were meetings with staff that I thought
10 were very informative, and the exchange back and forth I
11 think informed the order and informed the industry on the
12 direction of the Commission and why.

13 So that type of dialogue I think is fruitful no
14 matter what the subject is. And that kind of goes back to
15 my original comment that pacing the priorities, and what
16 bubbled up this morning, I think those are all interesting
17 ideas. I think informal discussions on whether those ideas
18 should turn into standards or not, whether those discussions
19 have at the Risk Committee, or at the OC, or the Planning
20 Committee, or even at the Standards Committee if you'd like,
21 I think those would be very helpful.

22 And part of that is educating and leaning into
23 something where the industry understands it's coming and
24 why. And that is I think very meaningful.

25 The observation, very briefly, is that as someone

1 who is working with Steve and NERC on this priorities and
2 pace, when I saw this coming--and it wasn't a lot of lead
3 time--I really tried my best to marshall the necessary
4 resources to get it done just in a very businesslike manner,
5 not--you know, no excuses. We're going to get it done.

6 To do that consistently, you know, there's a
7 certain elasticity where, you know, it becomes a little
8 difficult. But with those, I think there is a lesson
9 learned that we could take advantage of.

10 ACTING CHAIRWOMAN LaFLEUR: Well thank you for
11 that. One of the things we did in that instance was make
12 some of the FERC staff nondecisional, too. Was that useful
13 to have?

14 MR. MURPHY: That was--

15 ACTING CHAIRWOMAN LaFLEUR: That's something
16 we've talked about a lot in the past but haven't done that
17 much.

18 MR. MURPHY: Not only useful and, you know, Ted
19 is here and I'd really like to give a lot of kudos to Ted
20 and his team. Without that guidance--and we're seeing this
21 in other places, too--without the guidance and input from
22 FERC staff, we would not be able to turn standards around in
23 the time that we're turning them around. And we would not
24 have been able to do that one in a short period of time
25 because it wouldn't have been speculation upon speculation

1 of what, you know, where was this going, and of course
2 they're very careful to say we're not speaking on behalf of
3 the Commissioners or the Commission, but extremely helpful.

4 ACTING CHAIRWOMAN LaFLEUR: That's very useful
5 input. Again, not to suggest that that's the new model, but
6 it sounds like what worked well was a shared sense of
7 priority going in, like it didn't just come out of nowhere.
8 There was a sense of background, and then the process.

9 MR. NOESS: And just to add an echo to what Brian
10 mentioned, on the issue of collaboration and communication
11 with nondecisional FERC staff in this case, but in other
12 cases as well, you know, I just wanted to reiterate that the
13 notion that, you know, this is reflective of what we're
14 seeing as transitioning towards a better model in standards
15 development. And I think what we're going to see as a
16 result is that this early communication amongst all levels
17 of stakeholders from participants, direct participants and
18 observers up through FERC staff, early is by the time we're
19 finished with the product and file it to you it should be in
20 a place where most if not all of the questions relative to
21 the reliability issue being addressed have been answered and
22 have been considered.

23 ACTING CHAIRWOMAN LaFLEUR: Of course lawyers
24 would make me say, I mean I'm definitely not prejudging
25 anything, but we appreciate the timeliness with which you

1 filed. And even if the lawyers didn't make me say it,
2 that's just what I try to do.

3 Tony?

4 COMMISSIONER CLARK: My question is more on the
5 side of human resources in implementing all that's been
6 thrown at you, especially in relationship to CIP, both from
7 a NERC and RA side, but also from the perspective of
8 utilities.

9 Can you give me a sense for if you feel like you
10 have adequate human resources at your availability in terms
11 of subject matter experts, people with the right type of
12 background and skills that are needed to implement some of
13 the things that we've been throwing your way, especially as
14 a result of implementing CIP 5?

15 Brian?

16 MR. MURPHY: From an industry perspective, it's a
17 question that we've been asking ourselves, the very question
18 that you asked. And I think what--at least I'll just speak
19 for my company, but I think it's similar in other
20 companies--there is a cultural issue. Because IT was
21 thought of as something that was fun, and exciting to get
22 into, and a lot of people that went into it didn't think
23 they were going to have to do a lot of paperwork, or they
24 were going to have to comply with a lot of regulations.

25 And at the companies, especially at NextEra,

1 we've worked on that cultural. So it's not a matter of do
2 we have enough people, or are they smart enough, it's just
3 transitioning from an environment they were in to the
4 environment we're now in. And it is not an easy cultural
5 shift, but it is one that we are making.

6 COMMISSIONER CLARK: Thanks. Yes.

7 MR. LANFORD: I would just, in discussing that
8 particular issue at the Regional Entity, I think that we
9 believe we have some of the right people. We need some more
10 of the right people. And I think that we have recognized
11 that through just generally looking at the staff that we
12 have and seeing what kind of training that we need that
13 we're not getting right now, or that we need to make it in
14 the new world that we'll be in.

15 And so like I said in my remarks, we are focused
16 on training. We are focused on giving the best product back
17 that we can, and we've got to have trained people to do
18 that.

19 So I think in the CIP world, boy, everybody has a
20 CIP expert and we have to have one, too. And so that is
21 very important for us. I think most of us have at least
22 one. But that guy takes vacations, so we do need to have
23 more expertise and we are actively pursuing that in order to
24 fill that gap.

25 COMMISSIONER CLARK: Jon?

1 MR. THALMAN: Yes. So I think when the CIP
2 Version 5 first came out in its first form, within PG&E you
3 had the IT Department, they looked at it, and you had the
4 Electric Operations Department and they looked at it, and it
5 was very clear as we started to get together that our
6 interpretations were different. And so it was good to have
7 NERC reach out with the interpretation and helping us
8 understand what it meant.

9 The readiness assessments and reporting back and
10 forth was helpful. But I think some of the cultural issues
11 have been addressed, that you have two different types of
12 entities within a utility that are looking at a standard.
13 IT maybe is not as familiar with the structure, and so it
14 was good to have time to work together to break down those
15 differences. And now with the more common understanding I
16 think we do.

17 If you had asked us that question when it first
18 came out, I think we would have said, wow, I'm not sure;
19 this looks really big. But now as we've been able to close
20 the gap, we feel like we have enough resources and we have a
21 plan.

22 And I think part of that is having enough
23 anticipation to prepare for a standard to be in place so
24 that you have a plan and you're ready to go.

25 COMMISSIONER CLARK: Is a lot of the training

1 that's going to have to be done internal type training, as
2 opposed to the talent pool that may be available out there,
3 I think as you suggested? That either just generally in the
4 industry, or from outside sources you've got people who are
5 smart enough to get it done but it's really a
6 standardization of the training process within the
7 organizations that's the issue more than anything?

8 And is that standardization of training, is it
9 happening so that utilities are learning from each other, or
10 across say REs learning from each other?

11 MR. LANFORD: Oh, I think certainly we are
12 learning from each other, but I think Regional Entities are
13 learning from industry; industry may be learning a few
14 things from the REs; REs are learning between REs.

15 We definitely need to have a common understanding
16 of what we're talking about. And I think that in some cases
17 we have a big gap between those two things. That's the
18 reason why in my comments again I was talking about how
19 training is so important.

20 We have got to be able to understand what we
21 write, and the industry has to understand it as well as we
22 do. And so that's I think common understanding as much as
23 anything, that we're after this and not what you're showing
24 us. And that's what we really need to get to.

25 COMMISSIONER CLARK: Steve?

1 MR. NOESS: Yes, thank you.

2 I think in the context of transitioning to CIP
3 Version 5, as you suggest, one of the important things to
4 get our arms around as an industry is, you know, once we've
5 kind of made that determination, and we pretty much have,
6 what technical requirements are different, because a good
7 number of requirements are relatively similar to previous
8 versions, with regard to those kind of newer technical
9 requirements, that really underscores the collaboration
10 that's occurring now.

11 One of the key focuses of our concerted
12 transition programs is helping to find that clear transition
13 and common understanding to get to an implementation date in
14 2016. And to that end, we want to work to develop, you
15 know, a set of training that can be applied commonly across
16 those identified areas. But we also note that that's got to
17 be balanced against kind of the recognition that one of the
18 advantages of Version 5 at its core is this notion of
19 allowing tailoring to individual entities and recognizing
20 that not all entities may approach operations in the same
21 manner.

22 And so where we find that balance I think is what
23 is going to be important out of the transition.

24 COMMISSIONER CLARK: Brian?

25 MR. MURPHY: I just wanted to briefly add to your

1 second question. There is a fair amount of discussion
2 between companies on the issues that you raise. So EEI,
3 which we're a member of, has sponsored workshops on CIP
4 Version 5 implementation.

5 Maggie Powell from Exelon, who happens to be one
6 of the co-chairs of the current drafting team, has done an
7 excellent job of bringing some of the larger companies
8 together on calls to discuss these issues so they can learn
9 from each other, so that we're not doing this in a silo'ed
10 manner to transmission form, as well.

11 So I think we are getting a baseline across the
12 companies on the cultural issues I've talked about, as well
13 as what training needs to go into it outside the standard
14 arena to make these cultural changes to implement Version 5
15 on time.

16 COMMISSIONER CLARK: Thanks. Well I appreciate
17 all the effort that you're putting in to those things, and
18 the thought that you're putting into the human resources,
19 the human capital side of things. I think about, I mean all
20 of the company leadership that I see come through each of
21 our offices and talk to us about some of the things that are
22 challenging their companies, to a person they all have
23 expressed a desire to get this right. And I think sometimes
24 the struggle is where do we go next, and how do I make sure
25 I can pick up that phone and have the talent pool to draw on

1 to ensure that this can get implemented in a way that
2 everyone wants to.

3 So thanks for all you're doing to standardize
4 that and to bring attention to the human side of the
5 equation.

6 ACTING CHAIRWOMAN LaFLEUR: Thank you.
7 Commissioner Moeller?

8 COMMISSIONER MOELLER: Thank you, Cheryl.

9 I guess to everyone today, but particularly to
10 this panel, thank you for your dedication to reliability.
11 NERC has sent a lot of people. I particularly think though
12 the folks who work in the private sector and are involved
13 also deserve special thanks.

14 It seems to me that when Allen Mosher was chair
15 of the Standards Board, that was a second full-time job for
16 him. So thanks to you, Mr. Murphy, and to your company that
17 allows you to spend that extra time in a critical position.

18 I will give you a little nudge. When you use the
19 term "unregulated markets," it gets me because--

20 (Laughter.)

21 COMMISSIONER MOELLER: --they're competitive
22 markets, but they certainly are regulated.

23 This question, Lane, may have been answered
24 collectively in the question that Commissioner Clark posed,
25 but you mentioned kind of test driving CIP 5 implementation.

1 Can you elaborate on that?

2 Again, maybe it was answered previously, but can
3 you help me visualize what that would entail?

4 MR. LANFORD: Well I think it's kind of a simple
5 way to put some very difficult work, but Sonia I think
6 discussed it in her comments. And what we're doing is we
7 have selected certain companies that we're going to take
8 through that process of adopting CIP 5, and looking to see
9 as we go through that with them what some of the obstacles
10 are, what some of the things are that we need to address now
11 instead of wait until later.

12 It's simply, these companies were great partners
13 to step forward and spent a lot of their time and effort to
14 go with us down that journey, and both of us learned a lot
15 along the way. And so I think at the end of that we are
16 going to be informed, at least, about what some of the
17 problems are, if we haven't already solved them we'll
18 certainly know what that list is that we need to attack now
19 so we can have a good implementation.

20 COMMISSIONER MOELLER: Well if it's appropriate,
21 I think we would be interested in kind of getting updates as
22 you go through that process because I think it will help
23 inform our decision making as we go toward implementation
24 day.

25 MR. LANFORD: I'm sure you can get those updates.

1 COMMISSIONER MOELLER: A final thought is that on
2 February 26th, 2008, I was in Atlanta speaking on
3 reliability, which was the day of the Florida blackout, and
4 the theme of that conference, or at least what I heard
5 repeatedly, was inconsistency between the REs and how they
6 were enforcing standards. I still might hear that
7 occasionally, but it's so much less than six years ago. So
8 that is progress.

9 I appreciated your invitation that if we hear
10 those comments again, we just pick up the phone and ask you
11 what's going on.

12 MR. LANFORD: That's right.

13 COMMISSIONER MOELLER: So thanks for your
14 comments, as well.

15 ACTING CHAIRWOMAN LaFLEUR: Other closing
16 comments?

17 (No response.)

18 ACTING CHAIRWOMAN LaFLEUR: Well when we broke
19 for lunch, one of the reporters came up to me and said:
20 What are you hoping to get out of today?

21 And so I said, well, this is one of the most
22 valuable days of the year because we really get a sense of
23 the broad priorities, and context, and challenges of NERC's
24 work that helps inform the background, as we look at our
25 oversight over the year--and he said:

1 No, no, what are you really trying to get out of
2 today?

3 (Laughter.)

4 ACTING CHAIRWOMAN LaFLEUR: But that really was
5 what I was trying to get out of today, because these more
6 philosophical discussions and kind of looking thematically
7 across the trends and challenges that you're seeing, really
8 hopefully get incorporated into the grey matter as we are
9 voting out the next bunch of directives, or thinking, or
10 evaluating a proposal that you make to understand the
11 context that it comes from.

12 So I really want to thank all the people who have
13 spoken. Gerry, who cancelled personal plans to be here.
14 And the people who hung in to be in the audience, or on the
15 phone, and to be a part of this, and especially the staff
16 around the table and not around the table who put the
17 conference on and who work as part of the enterprise with
18 this all year long.

19 So I thought it was a very good day. Thank you,
20 very much.

21 (Whereupon, at 4:30 p.m., Tuesday, June 10, 2014,
22 the technical conference in the above-entitled matter was
23 adjourned.)

24

25