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BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

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IN THE MATTER OF: : Docket Number:
RELIABILITY READINESS : PL04-13-000
REVIEW PROCESS :

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Hearing Room 2C
Federal Energy Regulatory
Commission
888 First Street, N.E.
Washington, D.C.

Wednesday, September 29, 2004

The above-entitled matter came on for technical
conference, pursuant to notice, at 9:15 a.m., Joseph
McClelland, presiding.

P R O C E E D I N G S

(9:15 a.m.)

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2
3 CHAIRMAN WOOD: This open meeting of the Federal
4 Energy Regulatory Commission will come to order to consider
5 our reliability review technical conference posted for this
6 time and place.

7 I'd like to welcome you all here and thank you
8 all for taking time out of your busy schedules to come down
9 here today. This is a followon to a conference we have
10 today with our counterparts from Canada.

11 I would like to recognize that Kim Kucey from the
12 National Energy Board, is actually also a multi-tasker
13 today. He's on our first panel, but he's also representing
14 the Canadian Government interest in overseeing the NERC
15 issues that we're talking about today.

16 One of the items that, after the blackout, that
17 Michael Gent and the NERC Board decided to do, right off the
18 bat, was to engage in a series of readiness audits or
19 readiness reviews of the different operators in the North
20 American energy market, to really assess, not in a formal
21 audit, per se, but to really assess the state of readiness
22 of the various parts of the country for the type of issues,
23 not only that showed up in the context of the blackout last
24 year, but, in general, just a general kind of readiness to
25 perform the kind of business that's necessary to keep the

1 lights on.

2 As a result of that, FERC Staff was invited to
3 participate in those audits, which we gladly did and have
4 continued to do. We took a break in mid-Summer, and, at the
5 end of June, NERC held a workshop with the different folks
6 that were working on these things, and made some
7 assessments, which we'll hear about today.

8 Our Staff was there as well and shared some of
9 their thoughts with me, which I've commemorated in a letter
10 at the end of July to Mr. Gent, CEO of NERC, and invited
11 NERC to participate in today's conference. They gratefully
12 accepted and we're glad to have them here participating on
13 all of the panels today.

14 In addition to them, we have a number of
15 participants from the marketplace, and that's what we'll
16 start off with in our panel here today, to talk about the
17 audit process.

18 One thing that I hope will come out of today's
19 meeting is a followon to Recommendation No. 18 of the
20 Blackout Report that came out earlier this year. It did
21 talk about the importance of supporting and strengthening
22 the NERC Reliability and Readiness Audit Program.

23 I think this should be viewed as both support and
24 exploration of what remains needed to strengthen this
25 program. I personally think it's the singlemost significant

1 thing to have come out of the blackout followup that the
2 industry has engaged in, and I think it has promise to
3 really be the heart of readiness for our entire continent's
4 future.

5 With or without legislation, this is an extremely
6 important step. I want to say that I'm personally committed
7 to making sure that gets better, that it continues to be a
8 fixture on the scene, and that we continue to use as much of
9 the resources of our Agency to support this effort, as we
10 can.

11 I think it's important that it move to a
12 different level. I think we're going to talk about that
13 today. Again, I think I speak for all of us. We'd
14 certainly like to see the Congress enact the energy bill
15 that includes the reliability legislation.

16 That would certainly, I think, provide some
17 clarity as to the importance, in fact, the mandatory nature
18 of complying with these rules. I think we've found here
19 that most entities are doing a good job, but certainly a
20 mandatory regime here on something this critical to our
21 continent's economy, is something that is long overdue. So,
22 it's our hope that we get that as soon as possible, and we
23 honestly wish that it would be already in place, so that we
24 could be working in that new role.

25 But we do the best with what we've got. I would

1 just like to start off by saying that I think this
2 particular effort we're focusing on today, is the hallmark
3 of what has happened in the last year in response to the
4 blackout that has made this continent's electricity grid
5 much more reliable, much more efficient, and a lot better to
6 serve the customers of our two countries.

7 I would like to introduce and turn it over to Joe
8 McClelland. Joe is head of our Reliability Division, which
9 was created in response to an increase in the Commission's
10 budget last year by the Congress when we got an additional
11 \$5 million to begin our focus on reliability efforts, in
12 expectation that the energy bill would be passed, so we're
13 still expecting that.

14 But we got the money, nonetheless, and got moving
15 on getting a good team here to work, both permanent staff
16 and technical advisors whom we've contracted with from the
17 outside, whom we will visit with throughout the day.

18 At this point, I'd like to ask my colleagues if
19 they have anything to add, before we turn it over to Joe.

20 COMMISSIONER KELLY: I'd just like to thank you
21 for being here. We appreciate it. We look forward to a
22 continuing dialogue. So far, it's been excellent. I know
23 from talking to my staff, that their relationships with NERC
24 staff, working on these audits, has been very productive, so
25 thank you very much.

1 COMMISSIONER KELLIHER: I'd like to make one
2 comment about the need for Congress to act and pass
3 legislation to make the reliability standards enforceable.
4 The past three major regional blackouts, July '96, August
5 '96, August of last year, were all caused, in part, by
6 violation of unenforceable, voluntary reliability standards.

7 We've been taught a lesson three times, but
8 Congress still has not acted to pass legislation to enforce
9 reliability standards. I urge Congress to act in the last
10 days of the session to pass the legislation. If they fail
11 to do so, they will have done great disservice to the
12 American people, and the next time we have a regional
13 blackout, which I think will occur, absent some legislation,
14 Congress will bear some responsibility. I urge them to act.

15 CHAIRMAN WOOD: We'll be joined later in the day
16 by David Meyer from the Department of Energy, who has worked
17 with us extensively throughout the entire blackout process,
18 and I'll let him make some comments at the appropriate time,
19 but until then, Joe, it's yours.

20 MR. McCLELLAND: Good morning. Welcome to the
21 Federal Energy Regulatory Commission. As we say within the
22 building, welcome to the FERC.

23 My name is Joe McClelland. I'm the new Director
24 of the Division of Reliability. I should say the newly-
25 created Division of Reliability. I'll be the Chairman for

1 today's meeting.

2 This is a technical conference for the
3 Reliability Readiness Review Audits that have been organized
4 and conducted by the North American Electric Reliability
5 Council, or NERC, with participation by HERC.

6 (Slide.)

7 MR. McCLELLAND: As we are all aware, on August
8 14, 2003, the largest blackout in our history occurred. It
9 affected over 50 million people and 61,800 megawatts of
10 load. A detailed investigation by the United States-Canada
11 Power System Outage Task Force produced a Blackout Report
12 and identified specific causes of the blackout, and specific
13 recommendations to help prevent similar occurrences in the
14 future.

15 In fact, Recommendation No. 18 in the Blackout
16 Report is entitled "Support and Strengthen NERC's
17 Reliability Readiness Audit Program." A summary of the
18 recommendation is as follows:

19 On February 10, 2004, the NERC Board of Trustees
20 approved the establishment of a NERC program for periodic
21 reviews of the reliability readiness of all reliability
22 coordinators and control areas. The Task Force strongly
23 supports this action, and recommends certain additional
24 measures described below.

25 This is a nice little illustration, a satellite

1 illustration of before and after shots of the blackout. I
2 think you folks have already seen it, so if you hit the
3 second one --

4 (Laughter.)

5 (Slide.)

6 MR. McCLELLAND: The second one is a little
7 better. Unfortunately, on the right was an Internet fake or
8 forgery, but it is actually a nicer picture, so we decided
9 to leave that in the presentation.

10 (Laughter.)

11 (Slide.)

12 MR. McCLELLAND: Sarah was testing this, and I
13 said, no, no, don't put that up on the screen until I
14 explained why I have it here. The purpose of today's
15 conference is to review the review. In other words, we're
16 going to take a step back from the audits and summarize what
17 we have learned, both about the current state of reliability
18 and about the audit process itself.

19 On this basis, we will identify the good and the
20 bad for the public's benefit. We here at the FERC
21 appreciate the hard work and effort expended by NERC and all
22 the organizations that have been reviewed and have
23 participated in the review process.

24 Your leadership and your cooperation in this
25 effort will contribute to its success. The ultimate purpose

1 of today's technical conference is to improve the process
2 and thereby to improve the reliability of the nation's bulk
3 power supply system.

4 Now, that said, we're going to just do a few
5 quick housekeeping items. Please feel free to step in and
6 out of the conference room as necessary today. There are
7 restrooms located past the elevators in the left and right
8 hallways. I'm not sure if left is Men's or left is Women's,
9 but you'll find out when you make that trip.

10 The Commission will accept comments to this
11 conference, through November 1st. The Docket Number in
12 which to file the comments is PL04-13-000.

13 With the housekeeping items, I thought we could
14 begin with an introduction of just the folks, excluding the
15 panel. We'll do the introductions of the panel in a second.
16 Let's begin with introductions here at the front table.
17 Please briefly state who you are, in other words, your name
18 and the organization or organizations that you will be
19 representing. Let's begin with Pat Wood.

20 (Introductions made.)

21 MR. McCLELLAND: I should mention that Tim is
22 wearing two hats. After he finishes on the panel, he'll be
23 joining us on the panel as a representative for Canada, and
24 David Meyer is planning to attend. He's from the DOE.

25 Let's begin our first panel. The first panel

1 will provide a summary of the audits program objectives.
2 From there, we've asked our distinguished guests -- and
3 thank you all for attending today -- to provide their
4 reviews and their views of the audit itself.

5 Let's begin with introductions, followed by Dave
6 Hilt's presentation about the program objectives. What I'd
7 like to do, folks, is start left to right, say who you are
8 and what organization you represent, the immediately after
9 we finish with Tim, we'll flip back over to Dave.

10 (Introductions made.)

11 MR. HILT: Good morning. Thank you, Chairman
12 Wood and Commissioners, for the opportunity to be here. We
13 really appreciate this opportunity to review with you, the
14 Readiness Audit Program that the NERC Board of Trustees
15 established in the wake of the August 14 blackout.

16 As Chairman Wood has mentioned, at NERC we
17 believe the Readiness Audit Program is the singlemost
18 important thing that we can do today to enhance the
19 reliability of the bulk electric system, and we believe,
20 since we initiated the program, our goal for the program is
21 to audit all the Control Areas and Reliability Coordinators
22 on a three-year cycle.

23 In that effort of audit, we are striving for
24 excellence among the entities we are auditing. We've had
25 very strong support from all sectors of the industry in this

1 program, particularly from the volunteers. From the level
2 of volunteers that we have seen, it's clear that the
3 industry is taking their responsibility very seriously in
4 this matter.

5 We look forward to today's discussion. The
6 Readiness Audit Program is evolving, and we expect to
7 improve it as we continue the program. We've already made a
8 number of changes in the audit process, based, in part, on
9 the feedback from the entities we've audited, in part from
10 the evaluation session that Chairman Wood, and, I believe,
11 Joe mentioned as well, with the audit team participants on
12 your own staff, along with members who had participated in
13 the audit, essentially from the auditors' perspective.

14 We expect to continue that development of that
15 process as a result of today's meeting, so if you can put
16 the slides up and just go on?

17 (Slide.)

18 MR. HILT: As part of a comprehensive set of
19 actions to prevent future blackouts, as has already been
20 mentioned, the Board established a program on February 10,
21 2004. This was a very, very aggressive program to audit all
22 of the Control Areas and Reliability Coordinators, as we
23 mentioned.

24 But we began with some field tests with a number
25 of the entities that worked closest to the blackout

1 findings, and they were really the guinea pigs, if you will,
2 on how do we do these audits. Looking at the Reliability
3 Readiness from that, we modified the process.

4 It was further developed and refined and we put
5 it into the field. The first audits were actually conducted
6 during the first week of March, again, a very aggressive
7 schedule to get out and accomplish these.

8 Some of the folks on the panel here were in that
9 first round of audits. I can't express my appreciation to
10 them enough in putting up with some very short timeframes
11 for completing questionnaires, et cetera, as we tried to
12 ramp the program up. Some of those issues, we've already
13 addressed.

14 Next slide, please.

15 (Slide.)

16 MR. HILT: The Readiness Audit Program is only
17 one of several programs within NERC that we're utilizing to
18 manage reliability from a compliance standpoint. We
19 certainly have a compliance monitoring enforcement program,
20 and, with that, there are audits conducted by the regions
21 for monitoring organizations to specific standards, which is
22 one of the other Blackout recommendations.

23 I think, in Chairman Wood's term, we crisped some
24 of the compliance measures up. Those are now being
25 monitored out there. We also have certification of new

1 Control Areas and some recertification activities, and we do
2 a number of investigations, not only of events on the
3 system, but of complaints with regard to things like TLR
4 processes, and there are a number of those processes.

5 We have a number of other activities, including
6 Version 0 Standards and the functional model that we're
7 working on, but the program is really to help Control Areas
8 and Reliability Coordinators to recognize and assess their
9 reliability responsibilities, and helping them champion the
10 changes they need to better meet those responsibilities.

11 Next slide, please.

12 (Slide.)

13 MR. HILT: A number of deficiencies were
14 identified during the blackout investigation in areas for
15 things like communication, coordination among operating
16 entities, visualization, and the ability of the tools. All
17 of that related to how they performed during a developing
18 emergency, really, the preparedness of an operating entity.

19 Those areas of preparedness are very subjective
20 to measure, and require review by some experienced
21 individuals, to really look at how well is this organization
22 performing. Are they prepared to perform?

23 You can have all of the documentation in the
24 world, but if an entity does not have operators that
25 understand what that means and how to implement that, that's

1 really the key to what we're trying to accomplish.

2 Next slide, please.

3 (Slide.)

4 MR. HILT: The Readiness Audit Program is an
5 independent review group, utilizing those people with that
6 appropriate experience. It provides an independent review
7 of the Control Area and Reliability Coordinator operations,
8 to assure they have the preparedness to meet their
9 reliability responsibilities.

10 We are looking to identify areas of improvement
11 where they can improve their operations, and we're looking
12 to share some best reliability practices across the
13 industry, and we see much of that already happening in these
14 reviews, just among the participants.

15 We believe we need to be very constructive. We
16 need to help Control Areas and Reliability Coordinators
17 achieve that excellence in their operations.

18 Next slide, please.

19 (Slide.)

20 MR. HILT: I won't go into this slide in detail.
21 It lays out at a very high level, the audit process that we
22 have been using. It basically goes through the process of
23 collecting questionnaires and information ahead of time,
24 sharing that with the audit team, reviewing that, preparing
25 for the audit, for the onsite meeting, onsite visit where we

1 actually break into teams and sub-teams and look at the full
2 operation and the develop reports from that, which are now
3 posted on the NERC public website. Next slide, please.

4 (Slide.)

5 MR. HILT: Where are we with it? As of September
6 24th, audits have been completed in 37 Control Areas; four
7 Reliability Coordinators, and one transmission operators.
8 Some of the Control Area audits are operational centers that
9 operate multiple Control Areas, so there's a smaller number
10 of our onsite visits.

11 But in terms of numbers, that's the number of
12 Control Areas. That represents 64 percent of the Eastern
13 Interconnection load, electric demand in the Eastern
14 Interconnection, and 14 percent in the Western
15 Interconnection, to date.

16 So, we started, obviously, with some of the very
17 large entities out there, because there are roughly 145
18 Control Areas in North America, and 18 Reliability
19 Coordinators .

20 Next slide, please.

21 (Slide.)

22 MR. HILT: As was mentioned earlier, it's a
23 pretty aggressive schedule, continuing in the Fall,
24 obviously, to audit that many entities. We need to complete
25 more than one a week. We have 20 audits scheduled in the

1 Fall in 21 Control Areas. Some of them have multiple
2 Control Areas and one operational center and two Reliability
3 Coordinators, trying to reach the goal of doing at least 50
4 in this calendar year.

5 The remaining audits will be completed by the end
6 of 2006 in the current schedule. This, again, requires a
7 lot of commitment from the industry, a lot of commitment
8 from NERC and FERC to get into these audits, as well as our
9 friends in Canada.

10 (Slide.)

11 MR. HILT: In terms of improving the process, we
12 believe that it is a strong program, but as we roll it out,
13 we're finding areas for improvement. We are finding some
14 examples that we would consider as best practices, that are
15 already being shared informally by the people who are
16 participating in the audits.

17 We need to find ways to improve that. We've
18 conducted surveys of those. We've audited and received some
19 feedback on the audit process. I know that some of the
20 folks here at the table today responded to our earlier
21 survey, and, as mentioned, we had an auditors' review
22 meeting at the end of June, where we included NERC Regional
23 and the folks who participated in many of these audits, to
24 give us some constructive feedback on the audit process from
25 the auditors' perspective.

1 Today, what we hope to achieve is to get some
2 constructive participation from those who are actually
3 reviewing the audit reports. We're putting material out
4 there. There are some 23 audit reports currently available
5 for people to review on the NERC website, to see, are they
6 meeting the objectives of what the reader of that report is
7 expecting.

8 From that, we hope to again take a step forward
9 and improve the process. Thank you.

10 MR. McCLELLAND: Thank you, Dave. The format --
11 and I neglected to say this in the housekeeping issues, but
12 the format that we'll use is, after each of the
13 presentations, if there are any questions, we'll handle
14 those burning questions now, otherwise, let's hold off on
15 the questions until the panel is finished, and then we can
16 accept questions to the entire panel. In that case, it
17 would be Dave's presentation and the collective views of the
18 folks in the panel.

19 With that said, are there any burning questions
20 for Dave at this point?

21 Yes?

22 COMMISSIONER KELLIHER: I have just one smoking
23 question.

24 (Laughter.)

25 COMMISSIONER KELLIHER: On Slide 70, when you

1 reviewed the audits that have been completed to date, you
2 noted at the end that those audits represent 64 percent of
3 the Eastern Interconnection and 14 percent of the Western
4 Interconnection.

5 I'm just curious about the disparity in those
6 numbers and why the Western number is so much smaller?

7 MR. HILT: That's a very good question. There's
8 also another interconnection. Chairman Wood is very
9 familiar with that one, ERCOT. The focus had been starting
10 primarily with the East, because in the Western
11 Interconnection, with their management program that you
12 folks have approved, there have been a number of audits
13 performed there, and we felt the priority in getting through
14 the initial round of audits was to focus on the Eastern
15 Interconnection and to begin to engage with the Western
16 Interconnection in the process that they currently have.

17 It's certainly been enhanced by the Reliability
18 Audit Program, but we did not necessarily focus on the
19 largest entities in the Western Interconnection at the
20 outset.

21 COMMISSIONER KELLIHER: But have there been
22 audits conducted, other than under NERC's auspices, then, in
23 the West?

24 MR. HILT: Certainly under NERC auspices, but as
25 part of the Compliance Enforcement Program in the West and

1 the Reliability Management System that they have approved
2 and that they have filed here with the FERC.

3 COMMISSIONER KELLIHER: Thank you.

4 MR. McCLELLAND: Any other burning or smoking
5 questions?

6 (No response.)

7 MR. McCLELLAND: Let's move on to the views on
8 the audits. Let's start with Scott Moore. I understand
9 that you have an obligation or conflict today, so we'll need
10 to hear your views first, and so we're a bit constrained on
11 time, and from there, we'll move to my left, your right, and
12 we'll move to Bill after you. Thanks, Scott.

13 MR. MOORE: Thank you. I do have time
14 constraints, but not that tight. I'm Scott Moore, with
15 American Electric Power. My comments will be very brief.

16 First of all, AEP is a very strong believer in
17 firm reliability standards that are mandatory and compliance
18 to those standards. We welcomed the opportunity to be in
19 the review process, not quite as early and with as little
20 time as we had to respond, but we thought that was a very
21 good process to go through.

22 In general, I think the self-assessment was a
23 very good tool, even though AEP has very good tools and
24 practices in place, doing self-assessment forces you to look
25 at those things, in-depth, again, as you prepare to explain

1 them to a third party.

2 And so that gives you an opportunity to really
3 self-assess what you're doing, have you looked at it
4 recently, and are you prepared to explain it to a third
5 party, so that they understand it, and it forces you to be
6 better in that process.

7 And so we believe that that was a good tool for
8 the audit, although AEP believes that it should be more of a
9 readiness review or readiness preparedness, versus the term,
10 "audit."

11 As Dave mentioned, we had very little time to
12 answer the questionnaires, because we were --

13 CHAIRMAN WOOD: Why is that?

14 MR. MOORE: Why is that? The review, in my mind,
15 about 30 percent to 40 percent is really compliance with the
16 standards. I think that the great value out of it is the
17 other 60 to 70 percent which is not so much compliance with
18 standards, but in terms of looking at what you do, looking
19 at your tools, looking at how prepared your operators are,
20 which you really can't judge by a standard itself.

21 And so a good portion of the review is
22 compliance, which you can term an audit, but AEP believes
23 and I believe that the greater value was the review of what
24 we were doing and what we do, and compare that to best
25 practices, which I'll get to in a moment. And so that's why

1 we say more of a review than audit, because of where we
2 place the value in the process.

3 The types of questions that are on the audit and
4 the self-assessment -- and, of course, we were one of the
5 first companies, and so it has changed since we were
6 reviewed -- but they are very detailed. In a lot of cases,
7 you could do a yes or a no, and if you answered a no, you
8 needed to provide comments.

9 AEP believes that even in the yes-questions,
10 where you could simply put a "yes," there's much more --
11 it's much better to require comments to explain why you have
12 a "yes" to the question. And so the questionnaire itself, I
13 believe, could be a little bit crisper and require a little
14 bit more work, because that's where you really do the self-
15 assessment as you think about and have your engineers
16 thinking about, well, how do we comply with whatever the
17 question was, instead of simply putting a "yes."

18 This takes us to the neighboring Control Area
19 questionnaire. If it's to remain, then that thing needs to
20 be changed quite a bit.

21 We have concerns that there's vagueness in that
22 questionnaire, that a neighboring Control Area can raise an
23 issue, without really explaining what the issue is, and
24 whether or not they had tried to resolve that issue.

25 And AEP had one of those questions that was in

1 our audit. The audit team felt compelled to raise it and
2 put it in our recommendations, because it had been raised.
3 In actuality, this was the first time AEP was even aware
4 that there was an issue, and we it was resolved the very
5 next day

6 But we don't believe the -- the questionnaire
7 should be crisper and should not allow a Control Area to
8 basically throw stuff up that the other Control Area, you
9 know, hasn't been discussed before.

10 One of the things that we believe is most
11 important is the best practices piece of it. What comes out
12 of the audits? I've had the opportunity to read a few of
13 the other audits and look at it, but I think and I believe
14 that NERC's plan on this is to do a summary of best
15 practices, so that I can compare my operation to those best
16 practices.

17 Or course, with us being one of the first ones,
18 that has not been done, but I'd like to compare myself and
19 be able to improve our operation. I think the audit showed
20 and I believe that we were doing everything we needed to do,
21 but we did a thorough review, and are going to be doing
22 things better, and I think that was very important.

23 I guess the last piece from Mr. Wood is, in
24 approximately 38 hours, AEP will no longer be a Control
25 Area, and so even though we'll be the largest transmission

1 operator of the system, we will no longer be a Control Area,
2 and I think --

3 CHAIRMAN WOOD: We'll be watching it.

4 MR. MOORE: As will I. So, with that, I'm
5 finished.

6 MR. McCLELLAND: Thank you, Scott. Any burning
7 questions for Scott at this point?

8 (No response.)

9 MR. McCLELLAND: Okay, Bill?

10 MR. PHILLIPS: I'm Bill Phillips. I'm Vice
11 President of Operations for the Midwest ISO.

12 The prime directive for any regional transmission
13 organization is to ensure the reliability of the
14 transmission grid. In the Midwest ISO, we have invested
15 heavily in technology and talent to ensure that we are up to
16 that task.

17 But it is coordination and commonality of
18 expectations that are the keys to maintaining reliability
19 over the highly-interconnected portions of the grid. The
20 standards of the North American Electric Reliability Council
21 have historically provided that commonality of understanding
22 and the procedures upon which the industry has operated.

23 The Midwest ISO has participated in four NERC
24 audits since becoming an RTO. Accordingly, I thank the
25 Commission for arranging today's conference and for allowing

1 the Midwest ISO to speak to this very important issue.

2 My generic comments address three subjects:

3 First, the composition of the audit teams; second, the
4 consistency of the audit standards; and, third, the schedule
5 for reliability coordination readiness audits.

6 The NERC audit teams, historically composed of
7 NERC staff and professionals from utility organizations,
8 should be a permanent staff of professional auditors
9 dedicated full-time to this function alone.

10 This will allow not only more independence in the
11 auditing process, but more consistency as well. Let me also
12 be quick to add that in any movement toward permanent staff,
13 it is critical that personnel highly skilled and experienced
14 in power system planning and operations, be selected for
15 those roles.

16 Operators from other utilities who may have
17 developed stopgap measures or work-around procedures in
18 their own control centers, may be reluctant to criticize
19 their colleagues for similar practices. This may not
20 threaten the grid on an isolated basis, but the cumulative
21 effect over time, is to turn what should be standards, into
22 a loose collection of local interpretations, all approved by
23 the most recent NERC audit.

24 More important is the inability to meaningfully
25 compare one operating entity or reliability coordinator with

1 another. Because these different teams are assembled for
2 each audit, and even the NERC staff may change from one team
3 to the next, NERC, FERC, and peer groups in the industry are
4 prevented from placing audit reports side-by-side to compare
5 readiness capabilities.

6 The subjective judgments of the audit team create
7 variability in the final reports that may distort relative
8 performance. This leads to my second point:

9 Standards upon which entities are audited, must
10 be clear, specific, and consistently applied. I have
11 participated in the NERC committee meetings for 22 years,
12 and I have chaired the NERC Operating Committee.

13 That experience leads me to conclude that the
14 process by which standards are developed, requires a degree
15 of consensus that often leads to watered-down and vague
16 standards. The standards may be acceptable to the majority
17 of the industry participants, but they do not necessarily
18 produce the clear, unequivocal, and objective criteria that
19 make audits more effective and promote harmonious
20 interactions between control areas and regional transmission
21 organizations.

22 For example, the August 25th Reliability
23 Readiness Coordinator Audit Draft Procedures, which I
24 believe are quite good in most ways, contain the following
25 statement: The audit team is charged with assessing the

1 degree to which the reliability coordinator meets the intent
2 of the NERC policies for reliability coordinators.

3 If NERC standards were clear, specific, and
4 consistently applied, this statement would be unnecessary.
5 As written, the statement may be read by one audit team as
6 an excuse to approve operating practices that don't meet the
7 literal standard, but are adequate, in the subjective
8 opinion of the auditor, to meet the intent.

9 But in another region, another audit team may
10 view this same language to require a reliability coordinator
11 to undertake corrective measures, over and above the written
12 standard, to meet what that audit team interprets as a less
13 forgiving standard.

14 Finally, I would note that the proposed schedule
15 for NERC to complete its audits of the existing reliability
16 coordinators, simply is not aggressive enough. NERC has
17 been successful in auditing approximately 30 control areas
18 in the last year, and eight of the reliability coordinators
19 in the Eastern Interconnection have undergone audits of
20 their control area responsibilities.

21 But only PJM and the Midwest ISO in the Eastern
22 Interconnection have undergone reliability coordination
23 readiness audits in this same time period, and even
24 including the other interconnections, only the Pacific
25 Northwest Security Coordinator has also undergone a

1 reliability coordinator readiness audit.

2 This process must be given the highest priority,
3 simply because many of the existing deficiencies likely to
4 be identified, will take time to correct.

5 Getting to a uniform application of tools is a
6 significant investment in time and money. A status
7 estimation tool, for example, cannot be installed and
8 expanded overnight. The sooner those responsible for
9 regional grid monitoring, all operate pursuant to the same
10 clear standards, using compatible tools and common
11 communication protocols, the sooner the Commission will be
12 able to judge expansion plans and rate treatment for added
13 reliability tools.

14 Accordingly, I would recommend that all
15 reliability coordinators be audited and corrective measures
16 implemented before May of 2005.

17 In conclusion, NERC provides vital services to
18 the power industry and has performed admirably and
19 professionally. The experience of the Midwest ISO has been
20 very favorable.

21 The NERC staff has been consistently professional
22 and well informed. Similarly, the teams assembled for the
23 audit process, have been comprised of more than capable and
24 experienced individuals.

25 As the industry changes, however, the NERC audit

1 procedures must keep pace. As I have discussed, there are a
2 few structural impediments that have hindered the capability
3 of NERC to improve the process.

4 While the recent changes are definite steps in
5 the right direction, NERC must not be timid about taking
6 greater steps and pushing for more frequent and more
7 thorough audits.

8 Again, I want to express my appreciation to the
9 Commission for the opportunity to participate in today's
10 conference. I would also like to commend the Staff of the
11 Commission for participating in the Reliability Readiness
12 Review Audits that have occurred since August 14th. The
13 Midwest ISO looks forward to working with the Commission,
14 NERC, and other participants through this process. Thank
15 you.

16 CHAIRMAN WOOD: Bill, do you think MISO and its
17 member companies and member groups would support the type of
18 increase to the NERC permanent staff that would be necessary
19 to do this audit function on an ongoing basis?

20 MR. PHILLIPS: I can assure that the Midwest ISO
21 would. I believe that substantial portions of our
22 stakeholders would.

23 CHAIRMAN WOOD: Thank you.

24 MR. McCLELLAND: Just a quick followup to that
25 question, what would the composition, the ideal composition

1 of that team be? How many individuals and what specialties?
2 Have you given that any thought?

3 MR. PHILLIPS: I have not given it great thought.
4 As I indicated, they must have great degrees of expertise
5 and experience in power system planning and operations.
6 Those are the functions that they are there to review and
7 judge, but the reviews and the judgments should be against
8 the standards, good standards.

9 MR. McCLELLAND: Thank you, Bill. Are there any
10 other burning questions, or can we hold the questions?

11 COMMISSIONER KELLY: Bill, regarding the
12 independence of the auditors, do you think if there's a
13 permanent staff at NERC, that that independence would be
14 compromised over time? How about the funding? Would that
15 compromise the independence of the auditors?

16 MR. PHILLIPS: I'll answer the funding question
17 first. I think the funding has to go with the funding
18 mechanism that exists today.

19 COMMISSIONER KELLY: Because there isn't a better
20 one, or because it's the ideal one?

21 MR. PHILLIPS: Because there isn't a better one
22 or there isn't a different approved one at this point in
23 time. Perhaps that will come with legislation, in terms of
24 losing its independence over time.

25 Actually, I have hope of NERC's staff and its

1 purpose and its responsibilities, gaining independence over
2 time, over what it has displayed in the past.

3 COMMISSIONER KELLY: And setting the audit
4 standards, would you see NERC setting the audit standards?

5 MR. PHILLIPS: Yes.

6 COMMISSIONER KELLY: Thanks.

7 COMMISSIONER KELLIHER: I just want to ask Mr.
8 Phillips, are you aware of INPO's auditing process? How are
9 their audit teams composed? Are they composed of permanent
10 staff?

11 MR. PHILLIPS: My last involvement with INPO has
12 been about 20 years ago when I actually supported nuclear
13 generation. I'm a bit familiar with their audit process.

14 My understanding, at least at that time -- I
15 don't know if it's changed -- this was not a long -- for a
16 week an few days doing an audit. It was a case of companies
17 actually providing INPO with staff on loan for a year, maybe
18 two, maybe three.

19 These were rather extensive stints, if you will,
20 different than anything I've seen elsewhere.

21 COMMISSIONER KELLIHER: Thank you. Just one
22 question for Mr. Hilt: What is NERC's view of the merits of
23 permanent staff to perform these audits?

24 MR. HILT: Certainly there are some merits in
25 having permanent staff in terms of gaining independence and

1 avoiding, obviously, issues that you may have run into at
2 times, in finding volunteers to participate.

3 We, too, have spent quite a bit of time with the
4 INPO folks. Mr. Phillips is correct that they use a number
5 of what they call loan employees, and they have a program.
6 We're looking at some options that we may be able to
7 implement in a similar fashion, and it has some advantages,
8 from that standpoint.

9 If you bring someone in from the industry and
10 have him as a loan employee for a period of months, you can
11 go back and industry and keep current in industry
12 technologies, industry applications over time.

13 We think there may be some advantage to it from
14 that standpoint, as well.

15 COMMISSIONER KELLIHER: Thanks very much.

16 MR. McCLELLAND: A quick question: In that
17 regard, Dave, if you did a loan program, you wouldn't -- at
18 least I don't think you would -- completely address one of
19 Bill's points, which is the composition of the team, the
20 consistency.

21 Even on loan, even with folks with similar
22 backgrounds, you'd still have different emphasis, and to do
23 side-by-side comparisons to the report itself, would still
24 be difficult, so you may have some consistency for some
25 period of time, but do you see that you might still have

1 that problem, albeit, to a lesser degree?

2 MR. PHILLIPS: We potentially may still have the
3 problem. Obviously, the volunteers you have, you get
4 different mixes of expertise. In the audit teams, you try
5 to establish some criteria for what we expect on each one of
6 the audit teams.

7 You may be able to provide -- in a program like
8 that, you may be able to establish a little more rigid
9 criteria for people who want to participate in the teams.

10 COMMISSIONER KELLY: How does WECC do their
11 audits?

12 MR. HILT: WECC is now completely joined with the
13 NERC program. Previously, in terms of their RMS audits,
14 they were not quite as extensive as the readiness audit that
15 we're currently doing, so their audit program has been
16 expanded to include that, with very similar programs, very
17 similar staff, along with industry volunteers to participate
18 in the audit team.

19 MR. McCLELLAND: Thank you, Bill. Jack?

20 MR. BERNARDSON: I'm Jack Bernardson, President
21 of Pacific Northwest Security Coordinator. PNSC is a
22 nonprofit Washington corporation organized solely for the
23 purpose of what is now called reliability coordination, so
24 we're somewhat different from other organizations performing
25 this service in other areas.

1 PNSC was pleased with both the process and the
2 product of our readiness audit. The notification documents
3 that were provided to us -- and I guess it's significant to
4 note at this point that our audit was somewhat later than
5 some of the other audits that were performed, so things had
6 been developed somewhat better -- but the notification
7 documents provided adequate time and detail to ensure that
8 both PNSC and the audit team were prepared when the audit
9 team arrived.

10 Besides, the composition of the audit team
11 provided substantial diversity, which PNSC feels was
12 valuable in developing the evaluation of PNSC's strengths
13 and weaknesses. I guess I would add to Mr. Phillips's
14 comments, that I think that there's an element of diversity
15 that may not -- that you may not achieve, if you have the
16 same team over and over, but there may be a way of reducing
17 that with a few volunteers to the core group.

18 Selection of team members is among the most
19 important factors affecting team performance. Also, they
20 are among the most important factors for creating
21 differences in the output. And I guess PNSC's approach to
22 looking at the audit report was not to look at it on the
23 basis of comparing it with other individual -- other
24 reliability coordinators' audits, but just to be able to
25 determine what we could do to improve.

1 So, we didn't -- weren't troubled as much by any
2 possible disparities between the reports.

3 The most important aspect that we saw of the
4 audit, was that the audit team remained focused on helping
5 PNSC to develop, maintain, and improve its capabilities to
6 monitor and analyze the interconnected system and to ensure
7 its stable and secure operation, and in the event that there
8 was a disturbance, to coordinate the return of stable and
9 secure operations.

10 We didn't note a lot of concern about the precise
11 details of the compliance with policy, policy which has been
12 developed over, I guess, about seven years, reliability
13 coordinator policy. It is getting closer to the measurable
14 state that it needs to have to ensure consistency.

15 Although there were no significant conflicts
16 between PNSC and the audit team regarding the substance of
17 the report, the NERC process does allow for resolution of
18 such disagreements, and we think that's an important
19 consideration.

20 Now, finally, the resulting report provides
21 adequate detail and explanation. PNSC's Board of Directors
22 met Monday, and that body is using the document to guide its
23 efforts at improvement in the short term, as well as over
24 the next few years.

25 We were overall pleased with the process. We see

1 ways that it can be improved, but we're pleased. That
2 concludes my remarks.

3 MR. McCLELLAND: Do we have any burning questions
4 at this point?

5 CHAIRMAN WOOD: Just to understand the role,
6 underneath WECC, there are four --

7 MR. BERNARDSON: Three.

8 CHAIRMAN WOOD: Three RCs, and you're the one in
9 the Northwest?

10 MR. BERNARDSON: Yes, sir.

11 CHAIRMAN WOOD: Cal ISO and then there's one in
12 the Rocky Mountains.

13 MR. BERNARDSON: Loveland, Colorado.

14 CHAIRMAN WOOD: Okay, and they handle the?

15 MR. BERNARDSON: Desert Southwest and Rocky
16 Mountain area.

17 CHAIRMAN WOOD: And so your role is to
18 coordinate, then, the various control areas underneath you
19 within the Northwestern area?

20 MR. BERNARDSON: That's correct, seven states and
21 two provinces.

22 CHAIRMAN WOOD: And VPA, are you still sited in
23 the VPA headquarters?

24 MR. BERNARDSON: We have a contract with VPA
25 where they provide us with some technical support, and

1 office space, that's correct.

2 CHAIRMAN WOOD: And how many employees are
3 working at PNSC?

4 MR. BERNARDSON: In theory, there aren't any
5 employees. We have all people from separate corporations
6 that work for us. We have no members and no employees.
7 There are about nine FTEs, I guess. We have eight FTEs that
8 work directly in support of the organization, and then we
9 fund a lot of different technical people from time to time,
10 to work with us.

11 CHAIRMAN WOOD: How is it funded?

12 MR. BERNARDSON: Through WECC membership.

13 CHAIRMAN WOOD: Thanks.

14 COMMISSIONER KELLY: Jack, are you familiar with
15 the WECC audit process that occurred before the NERC audit
16 process?

17 MR. BERNARDSON: I am.

18 COMMISSIONER KELLY: Can you give any
19 comparisons, things that that process had that this one
20 might have, or ways that this process improved on that one?

21 MR. BERNARDSON: They are separate purposes. The
22 WECC system was a compliance audit, so it concentrated on
23 compliance with the various policies and processes, whereas
24 this one focused more on whether or not the job could
25 actually be done.

1 It's possible for an organization to be fully
2 compliant with all policies and still, even to the not-so-
3 trained eye, you can tell that they really aren't as
4 flexible or competent as they might be.

5 On the other hand, it's possible to be ready to
6 deal with situations and have the broad situational
7 awareness that we're looking for the in reliability
8 coordinator, and still maybe not be compliant yet with all
9 of the details.

10 COMMISSIONER KELLY: As we move ahead, as the
11 audit process evolves, how do you see it evolving? Will it
12 -- presumably it will include more compliance aspects.
13 Should it also have a readiness aspect to it?

14 MR. BERNARDSON: It certainly doesn't make any
15 difference if they are compliant and we can't do our job, so
16 readiness has to be the primary component. If we've done
17 correctly, of course, compliance with standards will
18 demonstrate the likelihood of being able to perform work, so
19 we still have a ways to move in the development of useful,
20 measurable standards.

21 COMMISSIONER KELLY: As a security coordinator
22 when you see difficulties arising within your area, how do
23 you communicate that to your members? Do you go to WECC,
24 directly to your members? How does that work?

25 MR. BERNARDSON: Directly to the individual area

1 with the problem, because they usually have the solution as
2 well. If they don't, we coordinate it amongst the operating
3 entities that have the possible part of the solution.

4 We do our best not to ever have to issue a
5 directive, because if we have good tools, we see the problem
6 develop early, and we analyze the situation and communicate
7 that to the control area operators, who have the obligation
8 to serve in the best interests, with the knowledge of the
9 people and the facilities involved, so they're best able to
10 develop the solution. It almost always happens that way.

11 COMMISSIONER KELLY: Thank you.

12 CHAIRMAN WOOD: Dave Hilt, I was thinking back,
13 after hearing Jack and then thinking back to what Bill
14 Phillips had recommended as a third point, I was wondering,
15 considering the role that the reliability coordinators play,
16 is there a thought toward the schedule of getting all those
17 tasks done ahead of some of these smaller control areas, or
18 are some of these control areas more the Achilles Heel of
19 the system?

20 MR. HILT: We'll take this back and take a look
21 at it. Probably the reason we have not included the
22 reliability coordinators in our very aggressive schedule, is
23 that there have been previous audits of the reliability
24 coordinators, primarily compliance audits performed by NERC.
25 Those are posted on the website, so you can look back at

1 Jack's previous audit, which was probably in 2001.

2 But there have been other audits of them, as Bill
3 mentioned. I think he's been audited four times now.

4 As footprints change and things expand and change
5 within the Midwest ISO, obviously, as the changes take
6 place, there have been a number of audits, but we'll take
7 that back, Pat. I think we'll take a look at that and see
8 if we need to do that.

9 CHAIRMAN WOOD: Sounds like it makes sense.

10 MR. McCLELLAND: Thank you, Jack. Mitch?

11 MR. NEEDHAM: Thank you, and good morning. I do
12 have some slides prepared, if you would, Sarah.

13 (Slides.)

14 MR. NEEDHAM: I'm Mitch Needham, and I'm with the
15 Tennessee Valley Authority and I'm the Manager of Compliance
16 and Standards for Electric System Operations. That's
17 located in the office of Transmission and Power Supply.

18 At TVA, this is the group primarily responsible
19 for the proper reliable operation of the transmission
20 system.

21 In case you're not familiar with our location,
22 TVA is a member of the Southeastern Electric Reliability
23 Council. We affectionately call them SERC, so we've got
24 SERC and NERC and FERC, and we're into the 'ERC business,
25 also.

1 (Laughter.)

2 MR. NEEDHAM: This is one of the ten NERC
3 regions, and TVA exists as one of the four identified
4 subregions within SERC.

5 As a quick overview, the TVA control area serves
6 an internal load of approximately 30,000 megawatts and also
7 internally-owned generation of about the same amount. Our
8 Summer and Winter peaks are similar, although the load
9 profile does shift between the hotter and cooler weather
10 seasons.

11 In the control area, there are 12 independent
12 power producers, which total approximately 7,300 megawatts.
13 The primary bulk transmission system contains over 17,000
14 circuit miles of transmission lines, from 500 to 161 KV, and
15 is controlled through a system of over 500 substations and
16 switching stations.

17 (Slide.)

18 MR. NEEDHAM: This next slide is just a quick
19 overview of our EHV system, the 500 KV system. This system
20 support power transfers, and is an integral part of the
21 Eastern Interconnection.

22 TVA actually has over 60 interconnection with our
23 neighbors, and supports power transfers north to south and
24 east to west. You can see from the 500 KV system that
25 that's a fairly critical cog in the Eastern Interconnect.

1 On April 21st, we welcomed the Joint Control Area
2 Readiness Audit Team to TVA in Chattanooga, Tennessee. The
3 team consisted of a representative from NERC, three
4 representatives from other utilities in the local SERC
5 region, one SERC staff representatives, a representative
6 each from ECAR and WECC, and two representatives from FERC.

7 The team was co-led by the NERC member and one of
8 the SERC utility members. This was a total of nine people
9 on the audit team.

10 The team arrived at TVA facilities on April 20th
11 and spent that first day reviewing materials gathered for
12 their assessment. The two actual audit days were devoted to
13 presentations, interviews, and additional fact-gathering by
14 the team.

15 The audit itself was the culmination of many
16 weeks of preparatory work, which I will cover briefly.
17 Following the August 14th blackout event, TVA, like most
18 utilities, I suspect, embarked on a very intense examination
19 of our own processes to identify any potential weaknesses
20 and to promptly shore them up.

21 A result of the August 14th event, ESO -- that's
22 Electric System Operations -- formed a task force to
23 identify and track action items for the reliability of the
24 TVA system. This list eventually grew to 37 action items,
25 and included all of the NERC recommendations that came out

1 of our audit.

2 After NERC announced the Readiness Audit Program,
3 and TVA learned we would be one of the initial entities
4 audited, the preparation became much more succinct. TVA
5 spent a good deal of time providing a comprehensive response
6 to the self-assessment questionnaire, which was mentioned
7 earlier, believing, correctly, that this would provide the
8 basis for the actual audit.

9 This involved gathering appropriate written
10 procedures for the audit team, determining any necessary
11 evidence to show adherence to those procedures, and to make
12 certain that our information infrastructure and training
13 were at the correct level.

14 Through this process, we were able to identify
15 internal subject matter experts, as well as to make sure
16 that the audit team had adequate access to any power system
17 operators they needed to interview.

18 (Slide.)

19 MR. NEEDHAM: This slide shows the principal
20 groups in Electric System Operations who supported the
21 audit, either directly or peripherally. The organization
22 shows our earlier adoption of the functional model
23 nomenclature that NERC had adopted.

24 The four groups in the center column contain
25 TVA's NERC-certified operators. That's 72 individuals, in

1 total.

2 TVA approached the readiness audit with a mindset
3 to accentuate what we believe are the prime factors in
4 ensuring electric system reliability: Organizational
5 engagement from the system operators to the management
6 staff; state-of-the-art facilities, both backup and primary;
7 autonomous control of the operating systems -- that's both
8 power system level and information technology that supports
9 them; and having very regimented outage coordination and
10 communication protocols, both internally and with our
11 neighbors.

12 (Slide.)

13 MR. NEEDHAM: This final slide shows the
14 framework for our approach to emergency preparedness.
15 You'll note a lot of opportunities for communications,
16 regardless of whether the emergency is as a result of an
17 operational abnormality, or a security risk.

18 You've probably seen the TVA audit report posted
19 on the NERC website. TVA believes the audit process was
20 beneficial to us, in that it provided an opportunity to
21 closely examine our internal processes and to have them
22 reviewed by experienced colleagues.

23 The overall result has been a heightened
24 awareness of the roles we all play as we strive to design,
25 build, and operate a part of the biggest machine on the

1 earth, which is the electric power system.

2 In addition, TVA has been an active participant
3 on other readiness audit team, and as Dave has already
4 mentioned, that was a great benefit to us, by seeing,
5 firsthand, other utilities and their best practices, the
6 things that they have developed.

7 I do appreciate your attention and I look forward
8 to further discussions in the technical conference. Thank
9 you.

10 MR. McCLELLAND: Thank you, Mitch. We'll move to
11 Steve.

12 MR. WILLIAMSON: Thank you. I'm Steve
13 Williamson, Director of Bulk Power Operations at Southern
14 Company.

15 When the blackout happened, we, like everybody
16 else, saw the spike in the frequency, and immediately
17 started to try to determine what the cause of it was, so
18 there was -- I would say that our response to the blackout
19 started the day of the blackout.

20 So in that, we started looking at what our
21 system, how did our system react, what did it do? Did the
22 generators do what they were supposed to do? Did all of
23 those things happen?

24 So, we were doing those sorts of things. Also at
25 that particular time, we had a President at Southern Company

1 that was much more technical than most Presidents are, and
2 y'all have seen Mr. Franklin many times in the past.

3 So he immediately started asking questions, and
4 we did, to answer his questions, what I would consider a
5 pretty in-depth self-assessment of where we were, all the way
6 from the planning process to operations, to the restoration.
7 So we were doing all of those things in preparation prior to
8 the audit.

9 We were one of the early ones. As you said
10 earlier, the Board approved this in February and we were one
11 of the March participants.

12 So we had to hurry and scurry to get the
13 information together, because, again, a lot of the
14 information on the self-assessment, that, again, falls into
15 the audit, was not the type that we normally keep in a
16 drawer or readily accessible, so we had to gather those
17 things up.

18 The good thing about that is that it forced us --
19 as we were gathering it up, we asked ourselves some
20 questions that maybe we hadn't asked before. So, as we went
21 through that process, we -- in getting ready, we gained it. In
22 preparation for the auditors to get there.

23 I think the comment about some of the
24 questionnaire questions could be yes or no. We made the
25 assumption that we had to answer more than that. We didn't

1 necessarily send that information in, because, again, early
2 on, the confidentiality agreement issue was still evolving
3 about how this was going to work out.

4 But we prepared books for the auditors when they
5 came onsite, that had that information that if it was a yes,
6 yes, why? If it was a no, no, why? So that information was
7 made available to the auditors when they came onsite.

8 I feel I'm repeating about half the things other
9 folks have said, but we feel strongly that there is a huge
10 benefit to the audit. We feel strongly that mandatory
11 standards are important.

12 We also feel like the audit team needs to have
13 actual operating experience to be able to know what they're
14 looking at. When you look at a pig, it doesn't need to look
15 like bacon.

16 We really need to know -- so, we're really a
17 little concerned about not having audits, but having good
18 standards and good auditors. To me, it's more important to
19 have consistent standards than consistent auditors.

20 And I think one thing that's important to remind
21 all of us is, we did this real rapidly. I know Bill's
22 concern is legitimate that we didn't -- there are still
23 things to be done.

24 But I think to start from ground zero and get as
25 much done as we got done in that short period of time, as it

1 was evolving, is important to note.

2 The big thing that came out of that, I think, is
3 the accountability. All of a sudden, we're sitting there
4 and everybody is trying to run a good control center or a
5 good control area or be a good security coordinator, but,
6 all of a sudden, you've got someone else that you've got to
7 answer question to. Your accountability is a little bit
8 higher.

9 It's like a safety audit. You know, when
10 somebody -- you're operating safely, but you've never looked
11 around. You've kind of gotten used to the file drawer being
12 open and sort of those kinds of things, so this audit just
13 made all of us raise our awareness higher than it had been
14 before. That, in and of itself, has a benefit.

15 So, continuing that awareness with standards, is
16 going to be a huge benefit to the industry. Thank you.

17 CHAIRMAN WOOD: Steve, you've got a number of
18 control areas around you that are relatively smaller,
19 compared to Southern Company, and I wondering, how did that
20 questionnaire process -- I think Scott, you mentioned it in
21 your comments, was kind of pretty black and white. I mean,
22 was that -- did that provide any input, or did you all ever
23 -- do you get to see that, actually, or is that just when
24 the audit team gets there?

25 MR. WILLIAMSON: No, we did not see it. The

1 audit committee saw that questionnaire's response. But we -
2 - I think that the way we work with our security coordinator
3 around us -- and there's a real tight dialogue, you know,
4 with those folks.

5 We were not surprised. I think a bigger issue we
6 had was for internal. We have a lot of independent power
7 producers, and getting information that the audit asked
8 about, about the relay settings and some of those sorts of
9 things, that by not being a member of a reliability council,
10 they did not have to push that through a certain envelope,
11 so those were the kinds of things that we -- there was an
12 awareness to us, that we needed to go back and get some
13 information that we just didn't have.

14 So, that was more of an internal issue than it
15 was external to us.

16 CHAIRMAN WOOD: As to the security coordinator,
17 your part of it would be who?

18 MR. WILLIAMSON: Steve Corbin, and Southern
19 Company is the security coordinator for the Southern
20 Subregion, and, you know, we -- obviously, inside Southern,
21 we run the security desk, so you're knowledgeable of what
22 you have.

23 I think what we've been able to accomplish since
24 the start of that process, is a relationship with the other
25 entities that while he is a Southern Company employee, he's

1 been able to establish a trust level with those other folks,
2 that he's not going to make a Southern Company decision;
3 he's going to make a security coordinator's decision, and I
4 think that's the only way it can work.

5 CHAIRMAN WOOD: Jack, why did they set up a
6 separate one in the Northwest?

7 MR. BERHARDSON: Well, I'm not sure we have
8 enough time to discuss all of the reasons, but it started
9 out being a matter of trust. We were asking for a lot of
10 information.

11 A reliability coordinator cannot function without
12 data. You get it, you process it, and distribute the
13 results. And there was a concern that that information
14 could be used to somebody's commercial advantage.

15 That was part of it. Another was to lock in
16 solid protection against the reliability coordinator making
17 economic decisions. So, we tried to stay out of that with
18 the decisions.

19 Our story is that we want the region to have
20 good, sound economic solutions, because if they allow
21 congestion management to get to us, we're going to make
22 decisions that aren't going to be very pretty; they're going
23 to be timely and effective.

24 And they were also worried about liability, so
25 our -- the empowerment agreements that we have are bilateral

1 agreements, one with each one of the 16 control areas that
2 we deal with.

3 CHAIRMAN WOOD: David, how many -- David Hilt,
4 how many of the reliability coordinators are actually
5 independent of the control area or the transmission
6 companies? We've got, what, about 20 in the continent?

7 MR. HILT: There are 18 within North America
8 today. Primarily, the bulk of them are independent from one
9 of the control areas, with the exception of things like in
10 the RTOs where PJM is a control area and the reliability
11 coordinator, as well as near the Northeast.

12 It was one of the focuses of our last round of
13 audits, was confirming that independence of the actual
14 decisionmaking in those organizations. Southern and TVA,
15 both, of course, are reliability coordinators, and we spent
16 quite a bit of time looking at that, and there are some
17 details on those in the previous audit reports.

18 CHAIRMAN WOOD: Thank you.

19 MR. McCLELLAND: Thank you, Steve. Now we'll
20 hear from John from the New York ISO.

21 MR. RAVALLI: Thank you. I'm John Ravalli from
22 the New York ISO. I'm Supervisor of Power System
23 Operations.

24 The blackout did, as Steve stated, raise the
25 awareness of readiness and reliability requirements for

1 system reliability. And New York, having gone through being
2 affected by the blackout, did review its processes prior to
3 a NERC audit, and we continue to feel that we do run a
4 reliable system.

5 But the New York ISO welcomed the NERC readiness
6 audit, to demonstrate that we do operate a reliable
7 operation. The audit was in April of 04. New York also
8 does feel that mandatory standards should be in place for
9 compliance.

10 As far as the questionnaires, we were given a
11 questionnaire. We responded to that questionnaire, and our
12 neighboring control areas also responded to that
13 questionnaire, and we felt the questionnaire -- maybe if it
14 was April, we had enough time that we were able to prepare,
15 in the sense of having packets ready for the audit team,
16 with all the information, to gather it in a fashion that
17 they would be able to go through it in an efficient manner.

18 Let's see, I think, then, as we go through these
19 audits, it did strengthen the reliability and the awareness
20 of the control areas and the RCs. We were audited as a
21 control area, not as the RC, but I did see that there was a
22 lot of overlap from the audit team, and questions that we
23 were -- our reliability coordinator roles as a control area
24 also, so I think, to some degree, we did delve into our
25 reliability RC role, even though it was a control area

1 audit.

2 I feel that having our peers, our neighbors, on
3 part of this audit team, is very important. There's nobody
4 more interested in New York operating a reliable system than
5 my neighbors, IMO, New England, and PJM, so that they have
6 the assurance that I'm operating reliably.

7 So, I feel that we need to have peers on this
8 audit team at the same time as possibly independent people,
9 but part of the makeup of that audit team.

10 I think that's pretty much all I have to say.
11 Everything else seems to have been expressed.

12 MR. McCLELLAND: Thank you, John. Tim?

13 MR. KUCEY: Good morning. I have comments from
14 both the Government of Canada and the IMO, however, as it's
15 likely appropriate to speak only about the IMO and I'm on
16 this side of the table, I'll save the Government of Canada's
17 comments for later.

18 As noted in its recent comments filed with the
19 FERC, dated September 27, the Ontario Independent Market
20 Operator, the IMO, is the NERC Control Area Operator, as
21 well as the NERC Reliability Coordinator for the bulk power
22 network of the Province of Ontario in Canada.

23 By Provincial legislation, its responsibilities
24 also include the establishment and administration of the
25 Province's wholesale electricity market, as well as

1 integrated operation of the Ontario power system.

2 The IMO is pleased to participate in today's
3 conference, particularly this opportunity to speak. In
4 light of its own recent reliability readiness audit
5 experience conducted in April of this year, and of its own
6 review of the audit program, the IMO has several comments to
7 share here today.

8 To begin with, the IMO has not submitted any
9 comments to NERC regarding the readiness audit of the IMO
10 and has no comments to add to that today. Next, the IMO
11 would like to express its general agreement with the 13
12 points that Chairman Wood made in his letter of 28 July 2004
13 to NERC, proposing this conference.

14 However, the IMO would like to use this
15 opportunity to suggest or recommend the following seven
16 points, which, for clarity, I will identify, using the
17 numbering scheme used in the IMO September 27th submission,
18 and, for brevity, will identify and summarize only, in lieu
19 of reading out the entire text of that letter.

20 The IMO's first points A and B concern audit
21 timeframes. IMO Point A is that the rigor and thoroughness
22 of future audits must be enhanced in order to gain complete
23 insight into reliability practices.

24 Point B is that the length of time allowed for a
25 review should be increased, should not be subject to an

1 arbitrary upper limit such as the current three days, and
2 suggests that timeframes for evaluations should be minimums,
3 rather than ceilings.

4 IMO Point C concerns audit team makeup. The IMO
5 believes that an independent and experienced auditor,
6 ideally a professional auditor drawn from outside the
7 electric industry, should be included in each audit team.

8 Point C also notes that IMO welcomes the
9 participation by Canadian Regulatory Authority staff and the
10 FERC in any audit it is subject to.

11 IMO Point D concerns entities subject to the
12 reliability readiness audit process. The IMO suggests that
13 all operators whose actions could significantly affect
14 interconnected reliability, for example, generation and
15 transmission owners and operators, in addition to
16 reliability coordinators and control areas, should
17 potentially also be subjects of the readiness audit program.

18 IMO Point E concerns the audit program process
19 and its guideline documents. The IMO believes that the
20 process should be based on a uniform audit plan, issued in
21 advance, one of the clear objectives and criteria, in part,
22 so that various audits are as directly comparable as
23 possible, and greatest insight from the findings can be
24 drawn.

25 Point F -- and I will highlight that of all of

1 its points, this one is of greatest interest and importance
2 to the IMO -- is that the process by which interconnection
3 reliability operating limits, IROLs, are derived, must be
4 standardized in an auditable manner, so that a common
5 understanding and application of IROL is reached in the
6 industry.

7 And lastly, Point G, the IMO believes that
8 followup should be an integral part of any audit review, and
9 that formal followup mechanisms must be instituted in the
10 readiness audit process, so that both identified
11 deficiencies and the means by which they are corrected, are
12 tracked.

13 Those are all of IMO's comments at this time,
14 thank you.

15 CHAIRMAN WOOD: Tim, how is IROL dealt with
16 today?

17 MR. KUCEY: I'm not an authority on that.
18 Probably Mr. Hilt could give you a better definition of how
19 that is done.

20 MR. HILT: Within the NERC operating manual is a
21 definition of what's called an operating security limit.
22 There has been some confusion in nailing down that
23 definition as to when is someone exceeding an operating
24 security limits, so there has been some work to further
25 define it in our new standards process, and the term is

1 being called interconnected reliability operating limit.

2 That's being developed in the current standards
3 development process, with very much industry input, so, as
4 we move forward, we certainly don't disagree with the IMO,
5 that that needs to be very clearly defined, but it is moving
6 along the way.

7 CHAIRMAN WOOD: Would that be Version 0 or
8 Version 1?

9 MR. HILT: It would be Version 1. Version 0 is a
10 translation of existing standards.

11 MR. McCLELLAND: Thank you. I have a few
12 questions for the panel. I'd like to start with you, Dave.
13 Something that you mentioned that we've seen and struggled
14 with as far as putting in our presentations for later today,
15 in fact, as many panelists as could stay for the
16 presentations, we'd appreciate that -- a lot of the points
17 that you've hit, we've noticed also, and we'd like you to
18 see if you either second those comments or further refine
19 those comments for us.

20 But I question I have is, immediately after the
21 blackout, volunteers for participation in the audits were
22 pretty easy to come by. As the audits have continued, we've
23 noticed that it's been more difficult to find volunteers.

24 Is this a general trend that you've noticed also?
25 Are you in agreement with that? And if it is a trend, how

1 do you propose we address it?

2 MR. HILT: I guess the enthusiasm following any
3 major event, tends to wane. It's a matter of keeping
4 people's focus on the right items. Just general requests
5 that we have sent out for volunteers, while we continue to
6 get them, we've seen probably fewer responses.

7 We just recently went back and raised the ante a
8 little bit. We've not gone to the CEO level or needed to do
9 that yet, to obtain volunteers, but I think we are certainly
10 working to continue to have good volunteers.

11 When we went back through the regional managers
12 with a letter from our Senior Vice President, volunteers
13 appeared. I can't say that the industry is not supporting
14 us at this point. If they don't, I think we have some other
15 avenues to twist a few arms, and have volunteers come along.

16 I think this conference certainly helps by
17 pointing to the value. We've heard a number of panelists
18 today talking about the value, not only of their audits, but
19 of participating in the audits and the things they learn,
20 the value that comes back to their company by participating
21 in the audit.

22 MR. McCLELLAND: What I'm hearing is, it's not
23 just bodies, but we need competent, qualified folks on the
24 audit. If we can help in any way with that, don't hesitate
25 to contact us.

1 MR. HILT: We certainly appreciate that.

2 MR. McCLELLAND: I have another question and this
3 would be for Steve. You mentioned that the standards are
4 vague or at times, undefined. Can you provide a specific
5 example? We have some specific examples that we'll cover, I
6 believe, in the next panel, but from your opinion, what
7 would be a couple of good examples for the audience?

8 MR. WILLIAMSON: Let's talk -- I guess, let's
9 start with compliance, versus the audit, as we're moving
10 into our normal compliance audit. We have standards there,
11 and those standards have evolved into Version 2 or Version
12 1, so that, I think, with time, we will have more of the
13 compliance pieces there.

14 Inside the readiness audit, I guess I'm not
15 asking for standards, as much as I am asking for clarity. I
16 think we just need, as this evolves into asking questions
17 relative to the group of generators, there's lots of things,
18 lots of information that you just didn't have there in the
19 past.

20 We just need to get that honed down, so we know
21 what we're looking at, so that the information is there and
22 people maintain that. I guess I'm really talking about just
23 clarity of intent, as opposed to standards.

24 MR. McCLELLAND: Thank you. At this time, I'd
25 like to open it up to questions from anyone at the table to

1 any one of our panelists.

2 MR. FARROKHPAY: I think Scott mentioned this
3 issue of questionnaires sometimes raising issues that might
4 be a surprise to you. Looking at some of the questionnaires
5 in the West, the folks in the West seemed to be a lot more
6 forthcoming with their issues and problems, and they used
7 the questionnaires to air them out and resolve them,
8 actually, and it's very helpful to the audit teams.

9 I haven't seen nearly that level of
10 responsiveness from the folks in the East, and I'm wondering
11 if there's a process issue or a cultural issue or what it
12 is. How can we get the Eastern folks to open up and bring
13 out the issues so that the audit team can deal with them?

14 MR. NEEDHAM: I might offer a contrary
15 suggestion, that perhaps others could learn to communicate
16 better ahead of time.

17 (Laughter.)

18 MR. NEEDHAM: And really being aggressive in
19 working out those issues before they come up in an audit
20 process. It's been our experience that when something has
21 bubbled up in an audit, it should have been addressed many,
22 many months beforehand, usually.

23 MR. FARROKHPAY: Do you think that the fact that
24 in the West, they send out the questionnaires, the response
25 to the questionnaires, to the company being audited, makes a

1 difference? I think that in the East, they don't get the
2 response; the company that's being audited, doesn't get to
3 see the questionnaires.

4 MR. BERNARDSON: I have a partial answer, why it
5 works that way in the West, because we've been doing audits
6 for some time in the West. Before audits, there's always a
7 questionnaire.

8 Perhaps they're just more accustomed to using it,
9 and maybe thicker-skinned, too. I don't know, but I would
10 rather find it out. In some of my neighbors'
11 questionnaires, there were comments made that some of them
12 didn't make any sense, and that some of them, I wasn't aware
13 of, but I would rather get them there than not get them at
14 all.

15 I don't know what the answer is, but I don't
16 think they should be discouraged.

17 MR. LUONG: I just to follow up on Saeed's
18 question about the neighboring questionnaire. You mentioned
19 that one of the control areas brought up one of the issues
20 that
21 AEP was not aware of, and it took AEP just the next day to
22 clear it up.

23 Do you think that's a positive outcome from the
24 survey?

25 MR. MOORE: Absolutely, it's a positive outcome.

1 It's something that needed to be cleared up, got cleared up.
2 I guess the concern or issue that I had is that it took an
3 audit process to bring it up, something that needed to be
4 fixed.

5 Had it been brought to our attention, it would
6 have been cleared up earlier. I guess AEP took the audit
7 very seriously or the review very seriously, and the
8 recommendations that came out of that review.

9 Basically, it wasn't put in writing, but I was
10 told that we were going to pass this audit, no matter what,
11 and we're going to make sure that anything that we need to
12 do, gets done.

13 Of course, I think that we have followed through
14 with that, but the audit team who audited us, felt
15 compelled. They said, we've got this issue. You've already
16 cleared it up, but we're still going to have to put it into
17 the recommendations.

18 So, basically, it's in the recommendations in the
19 past tense. That's my concern, something that needed to be
20 taken care of, got taken care of, but the process to do it,
21 I don't think was the proper process.

22 Now, if it was an issue that they had brought to
23 our attention before, and for some reason, it did not get
24 resolved, if there's a technical issue or something else and
25 it hampered reliability, most definitely, that's what the

1 audit process is for, to make sure that reliability is
2 maintained.

3 If, for some reason, there is an issue between
4 control areas that has not been resolved after working on
5 it, and this could be raised to the awareness of those
6 involved, then it should be brought up.

7 Third parties should look at that, which is the
8 audit team, and say, this just needs to be cleared up, and
9 this is maybe how it should be cleared up. I think it is
10 very important, as a process.

11 I've been involved in many control area
12 certifications, having set things up in ERCOT when they had
13 many control areas a long time ago, so a neighboring control
14 area questionnaire is very important, but that's to make
15 sure that things are adequate, technically, or that there's
16 issues that have not been resolved. But if you get a third
17 party, albeit an audit team who reviewed that and said,
18 let's get this done, it's important.

19 I think the questionnaire needs to be written,
20 such that if an issue is brought up in that, there should be
21 a followup question of have you brought this to the
22 attention of the control area being audited, and what was
23 the difficulty in not getting it resolved?

24 You need to have those followon questions, that I
25 don't believe were there currently. That was the issue.

1 MR. WILLIAMSON: Let me make a comment. It could
2 be concluded, I think, from our comments, that we have made,
3 that there is a growing or serious problem with the control
4 area and the control area communications.

5 There probably are some of those issues out
6 there, but let me give you an example of how that's not
7 necessarily a problem: I think all of you know about the
8 hurricanes Florida has gone through just recently, and
9 there's a lot of activity that had to take place between the
10 Southern Control Area, the Southern Security Coordinator and
11 his counterpart in Florida, to do a lot of things, to be
12 able to maintain a reliable system during the time when you
13 were losing generation, when you were losing load, when you
14 couldn't anticipate what was happening.

15 You had some nuclear requirements you had to
16 adhere to. That was all done because of the relationship
17 and the coordination. It was a coordination agreement, but
18 it was more than that.

19 It was the personalities involved and the desire
20 to maintain reliability. That same thing happens -- and,
21 again, I'm going to focus on Southern. It's a big area, but
22 if they have an ice storm in the Carolinas, the same kind of
23 thing happens.

24 I guess I get a little concerned that someone
25 might conclude that these folks are operating so isolated

1 that they don't talk to each other. I'm telling you that's
2 not the case.

3 CHAIRMAN WOOD: Did any of you all companies -- I
4 guess they've all been through the audits, otherwise you
5 wouldn't be here.

6 Was there anything that came out in the audit
7 reports, again, because we're focusing on the process on
8 this panel -- was there anything that came out of the
9 published reports that was a surprise to you, for one reason
10 or the other. Scott?

11 MR. MOORE: There was one issue raised in the
12 ECAR region concerning the definition of firm energy.
13 Basically, if you're looking at the control area, the
14 definition of firm energy can impact how you count reserves.

15
16 Is firm energy with reserves? Without reserves?
17 How many? How much reserve do you have to have on the
18 system?

19 The audit team, as they were discussing this with
20 our commercial operations folks, who actually run the
21 generation side of our control area, the issue came up that
22 there's not actually a clear definition of firm energy, and
23 how people count that energy in their daily plans, varies
24 from control area and from region to region.

25 Some areas are very specific in their definitions

1 and what can be counted in our plan as either non-firm or
2 firm energy, and how that affects the reserve levels, which
3 directly impacts reliability from a capacity standpoint.

4 This issue got raised within AEP's audit. Let me
5 back up a little bit. AEP's audit involved both our SPP and
6 ECAR control areas, so it's kind of like a double audit.

7 But mainly the issue was raised in the ECAR
8 control area. One of the recommendations was that we should
9 work with ECAR to get a clear definition of firm energy.
10 That was the recommendation of the audit team.

11 Although AEP agrees with that, it's not really
12 within our capability, and so if we ever come to a follow-
13 through and we come to a check point and you get your report
14 card, it's going to come down to that item.

15 Unfortunately, I don't think AEP will ever be
16 able to get that one checked off. At some point, if
17 somebody does compliance against recommendations, AEP could
18 potentially always be out of compliance.

19 I thought that although AEP agreed with the
20 intent, we are a little bit surprised that their audit team,
21 in our recommendations, would put something in there that
22 was really more a regional or Eastern Interconnect problem
23 that we could potentially be held accountable for.

24 I'd term that a surprise, just the way it was
25 done.

1 CHAIRMAN WOOD: Anybody else? Bill?

2 MR. PHILLIPS: We had audits of both our facility
3 in Indiana and also the St. Paul facility in Minnesota. In
4 both audits, the issue of the authority of the reliability
5 coordinator came up.

6 In the judgement of the readiness audit, we
7 should have written, signed authority from all the entities
8 under our reliability coordination. We don't disagree with
9 that requirement, but we felt it was a subjective judgement
10 on the part of the teams, based upon the then-current policy
11 in line with NERC.

12 We objected to the fact that the requirement was
13 expected of the reliability coordinator, as opposed to the
14 operating entities that seek reliability coordination
15 services from the reliability coordinator.

16 We also objected to the post hoc basis in which
17 it was applied. We firmly support the idea; we just believe
18 that it would be better if it was actually a NERC standard,
19 a standard form, a standard statement, so that you don't
20 have any inconsistency across the interconnection as to what
21 those arrangements are.

22 CHAIRMAN WOOD: Do you mean a standard of Policy
23 9 that says specifically, what --

24 MR. PHILLIPS: Policy 9 does not specifically
25 require a written authorization committing the operating

1 entities to a reliability coordinator or the authorization
2 of the reliability coordinator.

3 Policy 9 simply says that all entities shall
4 abide by the authorities of their reliability coordinator.
5 So the issue became one of what do we have in writing,
6 authorizing us to have authority over these entities?

7 CHAIRMAN WOOD: Dave, is that on the schedule
8 anywhere, or where does that fall; do you know?

9 MR. HILT: I think these are exactly the kinds of
10 issues we need to bring out in these audits. Certainly, if
11 you're an auditor and you're standing in someone's shop and
12 you say, do you have the authority and he says, yes, well,
13 show me your authority. Where do you derive your authority?
14 I need to see that in a document. I need to see that in
15 writing, I need to see that somewhere.

16 We believe that certainly it's a best practice to
17 have some very clear lines of authority in documentation to
18 support that. That may well be, as Bill suggests, something
19 that needs to now become a standard, as we learn some things
20 from these audits and we begin to monitor for compliance, as
21 opposed to, in terms of, is it best practice for readiness?

22

23 MR. McCLELLAND: Dave, isn't the plan to be
24 addressed in the functional model that NERC is preparing?

25 MR. HILT: Certainly, to some degree, but even as

1 a reliability coordinator or a reliability authority or
2 however the case may come out in the functional model, there
3 will need to still be some clear line of authority to direct
4 actions of balancing authorities, transmission operators, et
5 cetera.

6 The form of that is the question, I think, that
7 is at hand here. Do we need to standardize the form of that
8 authority?

9 CHAIRMAN WOOD: Any other surprises, just to wrap
10 up my question?

11 MR. LARCAMP: Before we leave that, who is going
12 to define firm energy? If ECAR is not, I don't think we
13 should leave that hanging here, if it's affecting reserve
14 calculations.

15 So if ECAR is not, is NERC going to? Is FERC
16 Staff going to facilitate that resolution? Who is going to
17 do it?

18 CHAIRMAN WOOD: Why doesn't PJM do it?

19 MR. MOORE: Basically, I was going to address
20 that. We're evolving into markets. The markets basically
21 facilitate either -- there is no need for the definition, or
22 if there is a need, based on market design, it's within
23 those business rules.

24 ECAR, unfortunately, asked part of its members
25 and PJM, who were following those market rules, and part of

1 its members in MISO and part of its members, wherever else
2 they were -- where you have markets or developing markets,
3 the rules are a little bit better defined.

4 So, that's another issue for AEP. Come the first
5 of October, it's going to be a non-issue for us, because the
6 market is going to define how that works.

7 So, it's hard for us to get ECAR to move forward
8 on a definition. A lot of it, unfortunately -- we have
9 markets in some areas and don't have markets in others, and
10 different regions have taken different perspectives on how
11 they write the rules.

12 SPP, how you treat firm energy, it is defined
13 within the criteria of SPP, so that's very clear. That
14 issue was not raised for our control area. That's the
15 Southwest Power Pool.

16 In ECAR, I'm not sure how we're going to address
17 that. For those companies joining PJM, it would be
18 addressed, but those companies joining MISO, once they get
19 their markets up by March of 2005, hopefully, I think it
20 will be addressed.

21 I can't really answer for the other regions. I
22 think it's just an evolving issue, as we're in the
23 transition period.

24 CHAIRMAN WOOD: I know that there have been
25 discussions about the fact you've got MAC, ECAR, MAIN, MAPP.

1 I know that's not the focus of today's hearing, but what's
2 the latest thing on the consolidation and all of that? It
3 makes a lot more sense.

4 MR. MOORE: I can only speak from the ECAR
5 standpoint. The Executive Board had some discussions about
6 forming a super reliability organization of those four
7 groups, so there are discussions at the high levels amongst
8 those four regional organizations.

9 I think there is a good intent to move forward,
10 but that's a process that's going to take a little bit of
11 time. I think there's a lot of support for that, and I'm
12 sure that there's folks who are in disagreement.

13 I think it is moving forward and probably will
14 get a little bit more visibility in the very near future.

15 CHAIRMAN WOOD: Fixed by the time the energy bill
16 passes, because we need to kind of move on.

17 MR. McCLELLAND: All right. We don't have Phil
18 Donohue here today, but we do have Sarah. The audience has
19 been sitting patiently. If anyone in the audience at this
20 time has any questions for the panelists, we would
21 appreciate those questions.

22 MR. VEGAS: Chuck Vegas with TVA. I'd just like
23 to reiterate something mentioned earlier. One of the main
24 focuses that needs to come out of this process is that a
25 practice -- you know, a lot of the readiness review was

1 focused on minimum requirements, so to speak.

2 What we really need to focus on is how we can
3 share best practices among the different control areas.

4 CHAIRMAN WOOD: David, what is the process?
5 Everybody is reading the document. I would say, for maybe
6 our staff, see what they find. The documents sometimes
7 avoid a lot of the, I guess hot points or low points of
8 compliance. You can meet the minimum standard, but that's
9 it. I think it's the bell-ringers that we want to throw a
10 lot of spotlight on and drive the excellence in this
11 industry.

12 MR. HILT: We began to look at how to do that.
13 Obviously, we've just now posted 23 of the reports and how
14 you begin to pull that out of there and take a look at that.

15 The teams have made some observations in those
16 reports as to what are the best practices, and they have
17 made some specific references to these particular areas that
18 are best practices.

19 We think we need to have potentially some review
20 of that through our technical communities to take a look at
21 that and essentially publicize a list, if you will, of here
22 are some of the best practices.

23 They may not apply in all areas. For example,
24 things that are best practices in Jack Bernardson's area in
25 the West, may not apply in the Southeast. We just don't

1 know, but we think there should be a list of things that we
2 have identified out there that are the best practices.

3 And, as Scott has said, his organization can look
4 at those and decide, on their own, whether some of these
5 apply and whether I should be implementing them in my own
6 organization or not, or whether they don't apply. It's a
7 process we're just now beginning to look at. I'll talk
8 about that a little later in our process improvement
9 section.

10 CHAIRMAN WOOD: One that has come out in number
11 the reports is a discussion about a state estimator. I
12 don't remember how many of you all have actually operating
13 state estimators in your systems.

14 (Show of hands.)

15 CHAIRMAN WOOD: All right.

16 MR. MOORE: I take that, Mr. Wood, with a grain
17 of salt. You're looking at some of the largest and best
18 operators right here.

19 CHAIRMAN WOOD: If you all do, you know, I will
20 say that one of the things that falls out of these audits,
21 you know, that inform the lay reader, is, in this brave new
22 world, maybe some of these control areas don't really need
23 to be around.

24 Basically, there will be a level of
25 sophistication and investment that's required to be made to

1 meet the reliability standards and to meet good practice and
2 to keep up with the best practices that have come out of
3 these audits.

4 For some of these folks, it's just not going to
5 be economical or it's not going to be practical for them to
6 continue to be invested with this much responsibility from
7 NERC. I don't really know if they are up to it.

8 You're right, we are talking about some of the
9 cream of the crop here. But I don't mind that that begin
10 now, because we really don't need to have any Achilles Heels
11 in the grid.

12 MR. MOORE: I agree with that, and I normally
13 wouldn't respond right now, but since I'm going to be
14 leaving, I'd like to respond to that.

15 I tend to agree with you, and as Bill has
16 mentioned before, in the last 20 years, as we have developed
17 the operating policies and planning standards, quite often
18 we came to the lowest denominator in order to set the bar
19 level, which is not where we need to be.

20 And because basically, a more specific example is
21 in training. And that is, we were trying a few years ago to
22 bring up operator certification and bring up training
23 requirements. When you go to vote in committees, you know,
24 things tend to get voted down, because they aren't
25 economical, especially for the small players.

1 And I agree with you that as we move forward,
2 that there are a lot of people who should not be operators,
3 unless they are willing to make the economic decision to do
4 that, and a small operator probably can't do that.

5 I would caution you, though -- and you've heard
6 me speak to this in relation to the blackout technical
7 discussions -- is when you start removing some of the
8 smaller players, and you move things either to an RTO or to
9 larger control areas, that's a good thing. You get the wide
10 area view, but we also need to remember there's another
11 concept called defense-in-depth, that you have to have a
12 second, and you are well aware that as AEP is moving into
13 PJM and a lot of the functionality, quote/unquote, will be
14 PJM's responsibilities, that AEP still has a responsibility
15 to monitor its system, its whole system, including our 765,
16 so that we do have that second set of eyes.

17 And that takes a financial commitment. And so,
18 as we move to the RTOs, that we have all the functionality,
19 either RTO or ISO, that have that wide area network, to make
20 sure that they have that functionality. Let's not lose
21 sight that we need a second pair of eyes focused, as well,
22 on the smaller scope, but with the same set of tools that
23 the larger folks have. Remember defense-in-depth.

24 CHAIRMAN WOOD: That's a good point. I think the
25 realization we've got, certainly as regulators working with

1 the states. We're going to be responsible for paying some
2 of this, too. Recognize that the cost of what we're talking
3 about here is not just consolidation. It's an incremental
4 investment, not just yours, that needs to be made for the
5 well being of the grid. A double set of eyes is certainly
6 part of that.

7 MR. MOORE: Thank you.

8 MR. PHILLIPS: Chairman Wood, if I might add, in
9 support of Scott's statement, sometimes we confuse control
10 areas with local control centers. Although I do suggest
11 that the number of control centers that we have in the
12 interconnection is greater than we need, I would also
13 caution against the assumption that we would get to the
14 point that we would only have the RTOs as control centers.

15 There are lower levels of voltage in the
16 transmission system that require monitoring, lower levels
17 than we would normally expect the RTOs to be monitoring on a
18 detailed basis. And there is a purpose for smaller control
19 centers, control areas.

20 CHAIRMAN WOOD: As long as this is clear -- and
21 this is true in the West and the East and in ERCOT -- as
22 long as it's clear, who is in charge and who can call the
23 shots in an emergency.

24 I was troubled by the question you raised in your
25 comments, in your written comments that we talked about and

1 questioned a moment ago, about the written authorization
2 issue. If push comes to shove, it ought to be absolutely
3 clear that the reliability coordinator can call the shots
4 and that everybody has to jump and they've got to jump in
5 this much time or there are severe consequences for not
6 doing it.

7 MR. PHILLIPS: Let me very clear that there's
8 never been any question in our minds at the Midwest ISO,
9 that we have the authority and that our participants have
10 always followed that direction. It was a surprise to us
11 that it came out as a written requirement in the audit.

12 It was not a problem with respect to our
13 transmission owners, those members of the RTO, because they
14 provided that in writing as part of the transmission owners
15 agreement. But for other entities under our reliability
16 coordination, we were doing that through agreements with
17 MAPP or ECAR or other avenues.

18 CHAIRMAN WOOD: David?

19 MR. HILT: On this issue of where AEP is heading
20 and looking to become ultimately a transmission operator,
21 and will no longer be a control area, we believe, certainly,
22 that we need to work cooperatively with the RTOs and the
23 Councils as well in terms of continuing to do audits of
24 those control centers.

25 It's an issue we've raised that we're going to

1 pursue. Certainly, in your former territory, there are some
2 very large local control centers beyond the ERCOT control
3 center.

4 We think we need to be able to cooperatively take
5 a look at their preparedness and readiness as well. I
6 certainly agree with Bill, you know, on the issue of these
7 authorities and other documents.

8 They're clearly best practices. That's what
9 we're trying to accomplish with the readiness audits.
10 We're trying to go beyond just compliance with the standards
11 and essentially raise the bar.

12 If we always try, if we're monitoring compliance
13 with standards, as the compliance portion of the program --
14 and there's too many actions that take place, potentially,
15 most legislation -- here we're looking for achieving
16 excellence.

17 Some of the things that we find in these audits
18 may well need to become standards, that there will be
19 ultimately the potential for punitive actions, should they
20 not comply with those standards.

21 CHAIRMAN WOOD: Sounds good to me.

22 MR. McCLELLAND: A quick question for the
23 panelists: Were you folks aware that FERC had produced a
24 document that was entitled -- or where the subject matter
25 was best practices for IT tools, and have you seen that

1 document? It's kind of a split vote. How many have seen it
2 and are aware of it?

3 (Show of hands.)

4 MR. McCLELLAND: You'll see it again this
5 afternoon.

6 MR. LARCAMP: Ask them if they want copies of the
7 document, Joe.

8 MR. McCLELLAND: We can make those available. In
9 the past, we undertook a study and put together
10 recommendations for best IT tools.

11 Any further questions?

12 (No response.)

13 MR. McCLELLAND: There's an audience question in
14 the back -- actually two.

15 MR. KOPMAN: My name is Stanley Kopman. I work
16 for the Northeast Power Coordinating Council as Director of
17 Planning and Compliance.

18 I've been listening to the discussion, and one of
19 the points I'd like to make, in reference to a suggestion
20 made earlier regarding the makeup of the audit teams, that
21 it should become an independent NERC function.

22 One has to recognize that these readiness reviews
23 were set up as joint leads between the regions and NERC.
24 There was a reason for that.

25 The Regional Reliability Council and the members

1 of the NERC have been working directly for a number of years
2 with the control areas, monitoring not only their
3 compliance, but also their readiness to be able to perform
4 their functions. As such, I think it provides a very strong
5 interface between NERC and the control areas.

6 I think that's something that can't be lost in
7 this process. As a member of NTCC, I participated in a
8 couple of the readiness audits.

9 I thought that we provided something that was
10 important. We provided a viewpoint from a regional
11 perspective, and we provided the expertise and a number of
12 years of experience in working with control areas, and we
13 were unable to work with NERC in that co-lead role, very
14 effectively. I'd like to see some reference to that.

15 I am going to suggest that I prepare comments in
16 that light to the Commission.

17 MR. McCLELLAND: Thank you.

18 MR. GOLD: Mike Gold from Southern Company. I'd
19 like to go back a minute and talk about the reliability
20 coordinator. It's called the reliability coordinator today.

21

22 It was a security coordinator in 1992 when NERC
23 sent out the initial questionnaire, and it was an audit,
24 that you would file a plan with NERC and it would go to a
25 committee, and that plan would have to be approved. It was

1 posted on the NERC website.

2 That plan did require that you had authority,
3 that the security coordinator had authority. The reason why
4 is because I could not get authority from the Southern
5 Subregions at that time, filed it back with the regional
6 members.

7 They said, I won't give you the authority in
8 order to get off of Thanksgiving, because I want it off,
9 just like everybody else did. I wrote in the plan that I
10 had authority and filed it back with NERC.

11 When I filed the initial plan, NERC sent it back
12 and said it didn't meet the compliance of the audit. So, I
13 had to put that in. So I'll take a little bit different
14 stand, saying that there was a requirement in the security
15 coordinator in 1992 to achieve that authority, whether you
16 go forth and get it or not, which is, by the way, in
17 Southern's position.

18 The members that spoke back to Southern said, we
19 would be the security coordinator, because we have the
20 capability and the load flow. We had the state estimator,
21 and it was obvious that we could tell the meter that
22 information and provide a wide area view.

23 The other members said, prior to me joining that,
24 I would require to have a document written, so we had to
25 develop a security coordinator operating committee agreement

1 that was documented and filed with NERC.

2 The other issue I'd like to point out is, it does
3 no good to have compliance, if you don't follow it. We had
4 NERC policy, we had NERC procedures prior to the blackout.
5 If you go back and look at those, the implementation of
6 those could very well prevent a blackout, could very well
7 take action to either stabilize the situation or prevent it.

8 But if you sit and do nothing, even if you give
9 us a compliance requirement and it's in hand, if you're not
10 going to implement that or you don't have the tools to allow
11 you to know what's coming, the inevitable is going to be
12 there anyway.

13 MR. DANIELS: Howard Daniels from SunPoint Energy
14 in ERCOT. One of the things that I would like to have seen
15 in the readiness audit is the focus on the market
16 participants and how they are adhering to the rules,
17 particularly in the area of reactive management.

18 It's one thing, looking at what the region is
19 doing and the tools they have, the capability of the tools,
20 but in the area of reactive management, there is an issue of
21 how well are generators supplying reactive, how much effort
22 is expended to get them to do what they do.

23 What is the real capability on a day-to-day
24 basis, of the reactive operator or their units? To me,
25 that's a reliability issue. It should be captured as in the

1 reliability readiness area, and is certainly a non-trivial
2 issue in the marketplace.

3 CHAIRMAN WOOD: This came up with Tim raised the
4 issue they were interested in looking not just at the TOs,
5 but the other market participants. What would that entail
6 to do, David, to actually look at the participants in the
7 entire region, as opposed to just the operator of the grid?

8

9 MR. HILT: From our perspective, certainly, it's
10 conducting additional audits and finding -- we'll talk about
11 that a little bit in some of the changes, as we go forward,
12 with regard to the functional model, literally going deeper
13 into the organization.

14 Today, we're starting with reliability
15 coordinators and control areas who have some level of
16 responsibilities, even to assure that those folks are
17 providing the resources and reactive resources under
18 contracts, et cetera.

19 But as we go to the functional model, we'll be
20 looking to go deeper, looking at other entities as a result
21 of identifying who is responsible through the functional
22 model for those activities, and to audit where those
23 responsibilities lie.

24 We've certainly had to do some of that with some
25 of these audits where we discovered we couldn't do this on a

1 single site and complete an audit; we had to go to some
2 other sites and completely close some of the loops.

3 I think we do need to do some more of that and go
4 a little deeper.

5 MR. McCLELLAND: I think that concludes the first
6 panel. Thank you folks for your participation. Please
7 feel free to stay. You may join the audience.

8 Our second panel reviews the good and the bad
9 that we found in the audits. These results are compiled in
10 terms of categories such as security, backup control
11 centers, tools, et cetera. They are an important indicator
12 of the current state of readiness of the nation's bulk power
13 supply.

14 We'll begin with introductions from Brendon Kirby
15 and John Kueck. Fellows, as soon as you get situated, if
16 you'd introduce yourselves, and, Rich, I guess you're
17 sitting in for Dave Hilt, so we probably better do
18 introductions with you, also.

19 CHAIRMAN WOOD: Before we do that, let me welcome
20 the Chairman of the Independent Board of NERC, Richard
21 Durant, who is here today, and the General Counsel, David
22 Cook. Welcome back. We're so glad to have you all here.

23 MR. McCLELLAND: Rich, I think we'll begin with
24 you. If you would just introduce yourself and state your
25 organization?

1 (Introductions made.)

2 MR. McCLELLAND: Okay, folks, Rich, we're ready
3 to begin.

4 MR. SCHNEIDER: I do have a presentation
5 prepared.

6 (Slide.)

7 MR. SCHNEIDER: You've heard Dave Hilt mention
8 several times this morning that we've done a number of
9 readiness audits. We've published the results of 23 of them
10 on our website.

11 I want to discuss the findings of those audits at
12 a relatively high level.

13 (Slide.)

14 MR. SCHNEIDER: As you've heard from many of the
15 participants this morning, there is significant value to
16 both the audited entity and the individual team members,
17 right from the start.

18 When we scheduled these audits, we sent out a
19 notice that we're going to conduct an audit. The entities do
20 an internal self-review and identify a number of issues,
21 many of which, I believe, have been addressed before we even
22 arrive onsite.

23 Also, there are a number of team members who have
24 been back to us and told us that in the process of doing the
25 audit, they've seen a process or a procedure that they felt

1 their company would benefit from, and have brought that back
2 and implemented it, so early on, we see there is benefit to
3 the various entities.

4 (Slide.)

5 MR. SCHNEIDER: Most of the entities that we
6 audited, we found were generally ready, not only to perform
7 their duties and responsibilities on a day-to-day basis, but
8 also in the face of emergencies. Some of them have, in
9 fact, demonstrated best practices, and also on the other
10 side of it, some of them have shown need for improvement in
11 various areas such as training, backup control facilities,
12 the documentation of operator authority and
13 responsibilities, real-time monitoring, the monitoring of
14 reactive reserve, and the disseminating of procedure and
15 policy updates to the operators in a timely fashion.

16 There are six or seven items listed here. I
17 could go through all of them, however, I have chosen three
18 to discuss here now, and as it's been pointed out, the
19 reports are available.

20 The first area is in training. The requirement
21 is that control area operators must be well trained, so that
22 they can perform their duties and their roles in an
23 effective manner.

24 The control area must have documents in place
25 that outline the training plans for the operators. They

1 must maintain the training records for the individuals on
2 the staff, and make those records available.

3 We have found that several of the training
4 programs do, in fact, qualify for best practices. On the
5 other hand, we feel that training is an area that needs
6 improving in about two-thirds of the entities audited.

7 Some of the best practice concepts that we've
8 identified, would include allowing adequate time for the
9 training, having excellent resources available, the use of a
10 training simulator, having a dedicated staff of trainers
11 with outside expertise used for special topics that need to
12 be taught; requiring trainees to achieve 100 percent test
13 scores on a module before allowing them to proceed to the
14 next higher module, and not allowing system operators to
15 take vacation time during scheduled training days.

16 There are others on the list, but I am not going
17 to go through all of them.

18 Planning is another area where control areas must
19 have a process in place, not only to do next-day planning,
20 but also longer-term planning, and we found that most of the
21 entities did have adequate planning programs in place. Some
22 even ranked as best practice. Some of those practices were
23 a control area that uses an N-minus-two contingency analysis
24 in order to ensure restoration of operating reserves for
25 both transmission and capacity constraints;

1 The establishment of a real-time system analysis
2 shift position, using control room operators; a look-ahead
3 process that includes contingency analysis, reserves, and
4 unit commitment.

5 Loss of the control facilities is a big area.
6 The control area must have a workable plan in place to
7 continue to perform its operations in the event of a sudden,
8 catastrophic loss of the primary control center.

9 What we found was that there were some
10 outstanding facilities and plans in existence, but, again,
11 about two-thirds of the entities did need improvement in
12 certain areas such as adding functionality, adding
13 redundancy or additional procedures, and a few, in fact, had
14 no backup center at all.

15 Again, some best practices were identified: A
16 facility that is seismically designed and tornado-proof;
17 having a backup center that is an exact image of the primary
18 control center; an infrastructure that has redundant
19 computer system and power supplies; and the backup systems
20 are driven by computers that are house in an alternate
21 facility; and testing the backup facility quarterly, using
22 unannounced evacuation drills.

23 Our basic goal, as you have heard, in these
24 audits, is to achieve excellence. We feel that in each
25 audit cycle, we will raise the bar so that the second audit

1 is different from the first, that the third is different
2 from the second, et cetera, and we see a lot of this coming
3 about by identifying these best practices, cataloging them
4 and disseminating them to the industry so that the industry,
5 in turn, operates to a higher level. Then we go around and
6 repeat the cycle again.

7 MR. McCLELLAND: Rich, if I can interrupt just
8 for a second?

9 MR. SCHNEIDER: Sure.

10 MR. McCLELLAND: That comment intrigues me. What
11 would be the incentive for the industry to operate at a
12 higher level, absent mandatory standards?

13 MR. SCHNEIDER: Well, I think part of it right
14 now is that all you have is peer pressure, that you've heard
15 comments about comparing to one another, report cards, with
16 AEP saying they'd like to go through the list and compare
17 themselves to the list.

18 And really all you have right now is the peer
19 pressure.

20 CHAIRMAN WOOD: Do we give them enough
21 information in the audit reports, so that the peer pressure
22 works? I mean, that's where I was going with -- you know,
23 they are kind of bloodless when you read them.

24 I think you can get out of here that where people
25 have not kind of met the minimum standard, and I think that

1 in a few of the reports, the best practices are clearly
2 shown upon, but I'm talking about in between where people
3 are over the bar but not by much.

4 MR. SCHNEIDER: Right.

5 CHAIRMAN WOOD: There's no indication -- I mean,
6 the staff tells me a whole lot more from, you know, from who
7 was looking stronger than what -- and maybe it's not fair to
8 have just a lot of impressions be down on paper, but if in
9 this kind of transition era, we're not going to have
10 mandatory compliance yet, because we don't have the rules
11 finished and we don't have the hammer, the peer pressure is
12 all we've got.

13 So, I know there were probably three reports that
14 were markedly lower than the others that I've seen, but it's
15 the in-between crowd that could stand to get the nudge.

16 MR. SCHNEIDER: I think part of that is our
17 experience. The first batch of audits, we saw, we weren't
18 sure what was out there, and I think as we move forward --

19 CHAIRMAN WOOD: You can test that.

20 MR. SCHNEIDER: Hopefully we will -- well, not
21 hopefully; the reports will become more crisp and more
22 clearly defined.

23 CHAIRMAN WOOD: As we push best practices,
24 though, are people going to be -- if they are not mandated
25 by NERC, but just kind of the spotlight shown on them as

1 best practices, good ideas, better practices, are regulators
2 other than us going to have trouble saying, well, that's the
3 cost that you ought to be including in your rates and get
4 recovered, if it's not a requirement, but is just a good
5 practice?

6 MR. SCHNEIDER: Well, I think you have to
7 emphasize the benefits of the best practice, and, you know,
8 if you're not operating to that level, some of the things
9 that can happen as a result.

10 You do need the mandatory practices, the
11 mandatory standards to go along with it.

12 MR. McCLELLAND: Another question, not to double-
13 team you, but to double-team you, when you consider the
14 reports themselves, and you can look at a variety or
15 reports, and consider some that have not done so well and
16 others that probably come through with an A-plus, the
17 Executive summaries -- and this goes back to an earlier
18 point that Dave made as far as who is the audience,
19 legislators, regulators, state regulators, et cetera, when
20 one compares the executive summaries from report to report,
21 there usually isn't much substance there, other than
22 congratulatory remarks and, you know, a high-five, if you
23 will, for the entity.

24 Any plans to address that as you move forward?

25 MR. SCHNEIDER: Yes, you know, Dave will get into

1 this more, moving forward. We're in the process of hiring
2 full-time audit team leaders, and we'll provide training and
3 an element of consistency to all of that.

4 MR. McCLELLAND: Thank you.

5 COMMISSIONER KELLY: Richard, how do you
6 determine best practices? Did it come about as part of the
7 audit, after you saw things and you said, that's the best?
8 Was it a preexisting notion?

9 And when you say "best practices," is that a
10 cost-benefit conclusion, or is that a best conclusion?

11 MR. SCHNEIDER: Well, I'll say what I read here -
12 - I'll characterize many of them as candidates for best
13 practices. And it's an impression of the audit team, it's
14 an impression of the NERC staff right now, and I think
15 that's where we do need input from the technical community
16 to say it really is a best practice, and not my opinion or
17 Dave Hilt's opinion.

18 In some cases, there can be a cost-benefit to it,
19 yes.

20 COMMISSIONER KELLY: Well, when you say "best,"
21 you mean a cost-benefit, you don't mean that's the best that
22 can be done? Or do you mean that's the best that can be
23 done, regardless of whether that's --

24 MR. SCHNEIDER: Well, I mean, that's the best
25 that can be done.

1 COMMISSIONER KELLY: Okay.

2 MR. SCHNEIDER: You asked if there was a cost-
3 benefit that was associated with it, and there may or may
4 not be.

5 COMMISSIONER KELLY: Okay.

6 Regarding authority, it seems to me that one of
7 the most important aspects of reliability is the system
8 operator having authority to take action, particularly to
9 take action immediately. That was part of the problem with
10 the blackout.

11 Half of the entities don't have good
12 documentation that they have authority. Is there a followup
13 plan on that?

14 MR. SCHNEIDER: Well, with all the
15 recommendations, there's a followup plan that those
16 recommendations be tracked. It's being developed by one of
17 the NERC subcommittees, but it will be turned over the
18 Compliance Enforcement Section of each region, with NERC
19 oversight.

20 Specifically with regard to the operator
21 certification, yes, that's something that we, too, are very
22 concerned about back at NERC. I think, in almost all cases,
23 the operators have the authority, but the documentation that
24 gets the word to the operator that says, yes, you have the
25 authority, I think that's what's lacking.

1 And some of the things we've seen in that area as
2 candidates for best practices, may be a statement that's
3 signed by an officer of the company and it's actually on the
4 control room wall, or it's in their job description, some
5 sort of corporate backing, and it's given to the operator.

6 COMMISSIONER KELLY: So, at the moment, the
7 entities that you've audited, don't have an obligation to
8 report back to you on response to deficiencies?

9 MR. SCHNEIDER: The process has not been
10 completed; that's correct.

11 COMMISSIONER KELLY: Okay.

12 MR. SCHNEIDER: Many of them have, but the
13 problem with that is that it hasn't been validated. They
14 say we've done this and we've done that, and I'm not saying
15 that they haven't, but there's no validation in a lot of
16 cases where we've gone back and seen that it's been done,
17 and that's the formal process we're looking to develop.

18 COMMISSIONER KELLY: And now those results are
19 going to be handed off to the reliability coordinator within
20 whose region the entity --

21 MR. SCHNEIDER: The compliance group within each
22 region, yes.

23 COMMISSIONER KELLY: The compliance group, okay.

24 MR. SCHNEIDER: There will be NERC oversight of
25 that and reporting back and forth, and eventually followup

1 visits to the site, if required, to validate.

2 MR. McCLELLAND: So, absent the passage of
3 mandatory reliability standards, as far as followup and
4 enforcement, again, it reverts to peer pressure?

5 MR. SCHNEIDER: Yes.

6 MR. McCLELLAND: Thank you.

7 MR. SCHNEIDER: Unless it's an outright
8 compliance violation, yes.

9 MR. McCLELLAND: But the readiness review audits
10 are not compliance?

11 MR. SCHNEIDER: They're a different process;
12 that's correct.

13 MR. McCLELLAND: Thank you. Sorry for the
14 multiple interruptions, Rich. Pick it back up again.

15 MR. SCHNEIDER: I said, you know, that we have to
16 catalog and communicate this information to the industry. I
17 think we've accomplished a lot in the last six to eight
18 months, given the short implementation timeframe that we
19 had, but I think we'll continue to improve the process as we
20 move forward with industry input. Thank you.

21 MR. McCLELLAND: Thank you.

22 MR. SCHNEIDER: I'm done.

23 MR. McCLELLAND: Quick question for you: On the
24 reports themselves, have you circled back with the folks?
25 Again, these were identified by Dave, in his prior

1 presentation.

2 Have you circled back with, say, the regulators
3 and legislators and said, hey, here is our report, how
4 readable is it? Can you understand this report? Do you
5 know, from reading this report, whether there are
6 deficiencies or the audit team feels there are deficiencies
7 with the control area, the reliability council? Have you
8 made any of those contacts?

9 MR. SCHNEIDER: We have not made a direct
10 solicitation of the regulators for those comments. When the
11 reports are published, a notice goes out. We have a "burst
12 e-mail" at regulators@nerc.net, and for regulators that sign
13 up for it, they get a "burst e-mail" announcing that they
14 can go and get them.

15 Actually, I get a lot of comments back that say
16 why are you sending me this? Because you subscribed to it.

17 (Laughter.)

18 MR. SCHNEIDER: I guess that if it's not in their
19 state or a neighboring state, they -- but of those that have
20 received it, I, personally, have not received any comments
21 back on them.

22 MR. McCLELLAND: Thank you. Let me consult my
23 agenda. Oh, Brendon's up next. So, next are specific
24 issues that we have identified while conducting the audits.
25 Included in this presentation will be items such as

1 variations in security, backup control centers, tools, et
2 cetera, and these are important items when you consider the
3 reliability of the nation's bulk power supply.

4 Brendon, I believe you have specific examples to
5 help illustrate your point, so at this point, I'll turn it
6 over to Brendon. Thank you.

7 MR. KIRBY: Thank you. I think I've got -- there
8 we go.

9 (Slide.)

10 MR. KIRBY: These are looking at both the
11 strengths and the weaknesses. The examples of areas include
12 the tools, operational practices, backup centers, backup
13 center training, wide-area view, security.

14 As has been said repeatedly today, there are no
15 definitive standards to measure against, so as you're going
16 through the audits, much of what the auditors have to do is
17 necessarily subjective.

18 (Slide.)

19 MR. KIRBY: Looking at tools, there are quite a
20 few tools the system operator needs. Some of the most
21 important include: Real-time state estimation, which tells
22 you the current condition of your system; online contingency
23 analysis that tells you how your system will respond in the
24 event of the next event; alarms that are prioritized as to
25 how important they are; suggested remedial actions to give

1 an operator a suggestion as to what should be tried to
2 remediate an upcoming contingency; and tools for monitoring
3 the condition of the energy management system.

4 Frank Macedo produced a tools catalog, produced
5 at the July 14th software conference. You see a tremendous
6 range in the tools that people have. Some folks have all
7 these tools that do not only online contingency, state
8 estimation online contingency analysis, but they're looking
9 at assuring that they know they will be able to restore the
10 system within 30 minutes to handle the following
11 contingency.

12 Other folks do not do that. They do not have the
13 online contingency analysis, they are running based on
14 contingency analysis that was performed the night before.

15 Prioritized alarms: Some have alarms prioritized
16 so that the most important alarm is brought to the
17 operator's immediate attention. Many do not, and the alarms
18 are simply presented in the order they come in, and you get
19 into a severe situation with a lot of alarms coming in, and
20 the system, the operator can easily be overwhelmed.

21 A few of the best have got suggested remedial
22 actions, where the system itself will look through the
23 effects that various actions could have to remediate
24 possible contingencies and present them to the operator.
25 Still, it's the operator's choice to use this material or

1 not.

2 EMS monitoring: Actually, a number of systems
3 have got continuous monitoring of a number of conditions in
4 the energy management system, so all the software processes
5 are being watched and presented to the operator, who knows
6 that all of the things he's needing in his tools are, in
7 fact, updating.

8 Many do not have that. There may be a single
9 alarm; there may be no alarms; there may be no way to know
10 that the EMS system has stopped performing some of its
11 functions, other than that the system operator needs to be
12 attentive. Next slide.

13 (Slide.)

14 CHAIRMAN WOOD: On that list, would you say all
15 these things would be a best practice that we would want to
16 see everywhere?

17 MR. KIRBY: It's an interesting question. If you
18 view best practices as something that everyone who is
19 competent is actually doing, it's not the ultimate to be
20 achieved. It's what someone who is doing a credible job,
21 ought to be having. Yes, all of those --

22 CHAIRMAN WOOD: It's not the A-plus; it's you're
23 doing your job right?

24 MR. KIRBY: Yes.

25 CHAIRMAN WOOD: Not defined by the voluntary

1 standards, but right as defined by what a group of non-
2 interested or interested but non-invested engineers would
3 say this is what we need to do to make the system work well?

4 MR. KIRBY: Yes.

5 CHAIRMAN WOOD: Would be these types of things?

6 MR. KIRBY: Yes, and many more.

7 CHAIRMAN WOOD: Okay.

8 MR. McCLELLAND: A followup question to that: If
9 an entity did not have a state estimator and you feel a
10 state estimator should be status quo, if an entity didn't
11 have a state estimator, how would it be reflected in a
12 report that would be filed by the readiness review?

13 How would that be reflected in the readiness
14 review report? Would it show up poorly? Would it not show
15 up at all? Would it be mentioned only as a recommendation?
16 How would it be addressed?

17 MR. KIRBY: It might not even be mentioned as a
18 recommendation. Typically, if an entity is working on
19 putting one in, in the experience, I think, of all of the
20 auditors, that would be jumped on as a recommendation to
21 continue the process of putting it in place and would be
22 included.

23 If it's not there and the team feels that this is
24 a large entity that consequently really needs it, I think it
25 would show up as a recommendation. It becomes very

1 subjective to try and say is that entity small enough that
2 you might be able to get away without having it.

3 It's been my experience that teams tend to lean
4 in the direction of being lenient or trying to give the
5 control area a break, rather than being very rigid. It's
6 difficult for a team, because there is no standard that says
7 you must have this.

8 MR. McCLELLAND: I think that goes back to an
9 earlier point Bill made, that, at least to some extent, it
10 depends on the composition of the team, who the volunteers
11 are and how strongly they feel about a particular subject.

12 MR. KIRBY: Yes.

13 MR. McCLELLAND: Thank you.

14 MR. KIRBY: Next slide.

15 (Slide.)

16 MR. KIRBY: This is an example of the first of
17 five pages of a table that lists the various tools, gives
18 them a description, and over on the right, it states whether
19 this is minimally required, is it best practice, and it
20 provides that kind of breakdown.

21 An earlier version -- and I am told that there is
22 hope we'll be moving in that direction -- has a further
23 breakdown that would say, for each type of entity, is the RC
24 required, does the reliability coordinator require this
25 tool? Does the coordinator? Does each of these entities?

1 Must it have the tool itself, or does it just need the
2 output from the tool?

3 As I said, this is a five-page tool or a five-
4 page list that provides a lot of depth as to listing all the
5 tools.

6 CHAIRMAN WOOD: And this was used -- you said
7 here on the prior page that the checkoff list is now
8 included with the audit materials?

9 MR. KIRBY: A checkoff list is beginning to be
10 included with the audit materials. The last audit that I
11 was personally involved in, I think, three weeks ago, did
12 not have that list. We provided a similar list.

13 MR. McCLELLAND: This particular tools catalog
14 page is not a NERC requirement.

15 MR. KIRBY: There are no requirements for these.

16

17 MR. McCLELLAND: This was a recommendation by
18 FERC, as far as what we felt the best practices were.

19 MR. KIRBY: Yes, this was Frank's list.

20 MR. McCLELLAND: Thank you.

21 MR. KIRBY: Next slide.

22 (Slide.)

23 MR. KIRBY: Here we look at the operating
24 practices. There is a lot of range on operating practices.

25

1 For procedural rigor, whether you're only
2 operating in a condition that has always been previously
3 studied, are you able to immediately study any change in the
4 topology of the system, the connectivity of the system?

5 If lines go out of service, if generators go out
6 of service and you always have a study, it then enables you
7 to know how the system will respond to the next event.

8 There should be procedures that tell you what to
9 do, when to do it, how quickly to do it, how to know that
10 you are into a condition that requires action. The best
11 have got very detailed procedures that give the operator a
12 lot of structure that says this is what I need to do, this
13 is when I need to do it, and this is how quickly I must have
14 it done.

15 Others tend to say, well, we'll deal with the
16 problem when it shows up. We've got 30 minutes or so to
17 handle it, once the situation actually presents itself.

18 A problem, of course, is, in the power system,
19 you're looking at very improbable events. There are many,
20 many lines, many, many buses. The chances of one of those
21 lines tripping in the next few minutes or in the next hour
22 is always very low, but since you've got so many of them,
23 one will, and you need to be prepared for it to the extent
24 to which you had a prior study. There is a lot of
25 variability.

1 Next is demonstrated ability and willingness to
2 shed firm load. That becomes one of the very important
3 things that gets looked at in the audits. There is quite a
4 range on that.

5 In the best, you see not only do people say there
6 are only two, but they convince you that there are, and
7 they've got a track record from the recent past that shows
8 that, where they have been, unfortunately, faced with a
9 situation where it was necessary, they took the action, and
10 the action was complied with.

11 In the worst, we've seen people that have said --
12 control areas, for instance, have said, no, they would
13 think about if their reliability coordinator told them to
14 shed load, and if they felt it was the right decision, then
15 they would go ahead and do it. If not, they might not.

16 MR. McCLELLAND: Say that again.

17 MR. KIRBY: There have been a number of audits
18 where a control area would say, if we were directed by the
19 reliability coordinator to shed load, if they did not agree
20 with that, they wouldn't do it.

21 CHAIRMAN WOOD: That's in the standards today,
22 what the relative role of the RC is; is that right, Richard?

23 MR. SCHNEIDER: Yes, it is. I know of one
24 instance -- possibly two -- and I don't believe those
25 reports have been published.

1 CHAIRMAN WOOD: Okay. Would that type of issue
2 be referred to the Compliance Committee?

3 MR. SCHNEIDER: Yes.

4 MR. FARROKHPAY: Rich, I have seen a couple of
5 published reports that have instances of where there was
6 some doubt expressed by the team that the operators would
7 actually follow through and shed load.

8 MR. SCHNEIDER: As an opinion of the team, based
9 on day responses -- I'll put it that way.

10 MR. McCLELLAND: I think I know of one, Saeed. I
11 know of one particular response. I'm fairly certain of the
12 second, where he was actually told no, we will not comply
13 with the reliability coordinator.

14 I don't remember how that was reflected in the
15 report. You may remember the specifics.

16 MR. FARROKHPAY: I think the caveat was, unless
17 they felt it was necessary.

18 MR. McCLELLAND: That's a no to me.

19 MR. SCHNEIDER: Again, I know of only two. You
20 can fill me in later and I'll go back and read the reports,
21 but I know of only two instances. Neither of those have
22 been finalized and published yet.

23 MR. McCLELLAND: Just a quick question to Saeed:
24 As I remember the two reports, I don't think that was
25 reflected in the Executive Summary.

1 It may be because we're all gentlemen, but I
2 think the Executive Summary pretty well gave a
3 recommendation, glowing recommendations and flying colors,
4 or the audit did in the Executive Summary. Is that how you
5 remember it, Saeed?.

6 MR. FARROKHPAY: In at least one of them, that
7 was the case. In the other one, I don't remember exactly.
8 Certainly there was no failing grade given as a result.

9 CHAIRMAN WOOD: Did the staff auditor from our
10 Staff bring it up in the audit report to the final
11 drafters?

12 MR. FARROKHPAY: I was the staff auditor.

13 (Laughter.)

14 MR. FARROKHPAY: We've been through a number of
15 these audits, and I think there's a lot of hesitancy on the
16 team to come out and fail a control area, and that
17 contributes to the fact that it's not pointed out so
18 prominently in the Executive Summary.

19 It is listed as one of the items that they need
20 to deal with in the Recommendation Section, but the
21 Executive Summary doesn't highlight it.

22 CHAIRMAN WOOD: Okay.

23 MR. McCLELLAND: Thank you.

24 MR. KIRBY: The next item is the ability and
25 willingness to move generation, to check its capability to

1 respond to both real and reactive power. There's a
2 tremendous difference there.

3 It's quite common to hear operators complain,
4 especially about IPPs, that they don't believe the IPPs are
5 either willing or able to respond, especially the way the
6 utility generation is. It's certainly a big reliability
7 concern, if that's the case.

8 There have been cases where the control area or
9 the RC would then challenge the operator's response and say,
10 you know, we do have agreements, so they must. In at least
11 one case, that was not reflected in the report because the
12 control area -- it was a combination of a control area and
13 RC -- felt strongly that they had that capability.

14 On the other hand, in the best places, there is
15 an ability built into the market structure, where the
16 operators can move generation anytime they want to. They do
17 it quite regularly for reactive power, they regularly test
18 the unit's ability to provide reactive. It's done at the
19 discretion of the operator, simply because, for whatever
20 reason, there's a concern, whether the unit can.

21 They can do it for real power as well. There's a
22 little question about who will pay for the power in the case
23 of moving the unit for real power.

24 In general, in that particular case, they found
25 that the market tends to move the units by itself for real

1 power, so they had a lot of confidence. The distinction
2 between having operators who were just not certain that
3 units will respond, and having structure in place, where, if
4 you have any questions, you just go ahead and move the
5 units, was pretty dramatic.

6 COMMISSIONER KELLY: Brendon, did you say that
7 works best in centralized markets?

8 MR. KIRBY: I don't know if I want to make that
9 generalization. In the particular cases that we've been
10 able to see through the audits, that has turned out -- let
11 me phrase that right -- the instances where the operators
12 must strongly expressed that they had the confidence the
13 units would respond, was because they knew the units would
14 respond, because they were moving them. In those cases,
15 they all happened to be market environments.

16 COMMISSIONER KELLY: Thank you.

17 MR. KIRBY: Backup control center is another area
18 with tremendous variability in the capabilities that
19 different control areas and RCs have. For functionality in
20 the very best, all of the functions are duplicated in the
21 backup facility -- the reliability functions, computing
22 facilities, all the tools are available and full market
23 operations are supported.

24 In the worst cases there is no backup facility;
25 there is simply a plan of what to do.

1 (Pause.)

2 In the worst cases, there is no backup facility,
3 and/or the facility requires the continued existence of the
4 main facility's computers to continue operating. A very
5 good question to ask is about the smoking hole scenario.
6 What happens if your main control center is a smoking hole?
7 Can you continue to function?

8 That tends to draw out the responses you're
9 looking for, and you can identify the places that have got
10 the full redundancy.

11 MR. McCLELLAND: Brendon, let me ask a quick
12 question there. You've been on several audits, eight or
13 nine audits. I've lost track.

14 You've also seen the results, I think, from all
15 the others. Without naming names, can we get kind of a best
16 scenario that you've seen, as far as backups, and a worst
17 scenario?

18 The followup question, I guess, to that, actually
19 would be a precursor, would be, is there a specific NERC
20 requirement for a certain type of backup facility? Does
21 certain equipment need to be included? Certain types of
22 buildings? Certain types of security? A certain amount of
23 staff?

24 I think I know the answer, but can you give just
25 kind of a gross comparison where maybe both would have met

1 the standard?

2 MR. KIRBY: In the best case -- and I'm thinking
3 of one very specific example -- they provided the full
4 redundant computing capability, full communications, full
5 redundant communications at both facilities. They have an
6 ability. The operators are aware of multiple routes to get
7 between the main control center and the backup.

8 It supports not only the basic reliability
9 functions, but the market functions, because they believe
10 that the market functions also contribute to reliability.
11 They operate routine drills. They have also operated -- in
12 this particular case, the main control room needed to have
13 an extensive cleaning, so they just picked up and moved.
14 There was no hesitancy whatsoever, and they moved to the
15 backup to feel confident in running from it.

16 In the worst -- obviously, the worst is that
17 regions don't have a backup facility. Often people say,
18 well, we're planning on having one.

19 I should mention another one of the best has a
20 full forward on the backup, but they felt that was too
21 close, and I believe it was ten miles away, and they felt
22 that there was a potential for some sort of an attack that
23 could cover that kind of geography, and they were building a
24 third backup center 100 or 120 miles away, to give them
25 enough distance. That was certainly quite impressive.

1 MR. McCLELLAND: The worst example, I know you're
2 coming to is like buy a double-wide trailer, a folding
3 table, and a laptop. Would that satisfy whether I skate
4 through the report or not?

5 MR. KIRBY: I think you would skate through the
6 standards. I don't think there is any standard, except that
7 you need to have a plan.

8 The reports, in general, would recognize that you
9 need more than that in a backup. The reports, that is one
10 place that there has been a lack of consistency.

11 Some of the reports are specific. They don't
12 feel that relying on the main control center's computers is
13 acceptable. Other reports have allowed that. They said,
14 oh, that's fine; they do have the backup and that's not
15 actually in violation of a standard, so the report doesn't
16 highlight it.

17 In some ways, facilities that are inadequate are
18 perhaps worse than no facility, because there's no facility
19 you can recognize; they just don't have any.

20 Interesting that you mentioned the trailer. In
21 one audit we were at recently, they don't have a backup yet,
22 but the plan is to have a backup. The backup is going into
23 a double-wide. It was going to be at the substation. And
24 this is in tornado country.

25 MR. McCLELLAND: Was it accepted by the review

1 team in the absence of a more rigorous standard? I suppose
2 it would have to be, with, perhaps a comment.

3 MR. KIRBY: Right. The comment was, since even
4 that level of backup didn't exist yet, that the RC was
5 encouraged to go ahead and complete those plans and actually
6 have that in place. The report did not reflect on the
7 quality of the backup that was coming.

8 MR. McCLELLAND: Thank you.

9 MR. KIRBY: A few of the control areas hand RCs
10 operate with continuously-manned backups. That's obviously
11 got some real benefits to it. Whether they have been tested
12 and exercised, some, yes, some, no.

13 There are control areas that feel it would be far
14 too dangerous to try and test and exercise their backup
15 facility.

16 Communications: Full communications in the best,
17 it's full and redundant. Furthermore, in the best cases,
18 the operators are knowledgeable of the communication paths.

19

20 In some cases you can say that it's not real
21 important. The communications people worry about that. It
22 can affect reliability, though, if you're not aware of what
23 it is you were going to lose when you lose a certain set of
24 communications.

25 In the best cases, the operations were aware of

1 not only the types of communications, but also of the routes
2 that the phone lines take, for instance, so that they know
3 that they are physically separated.

4 Proximity: Obviously, you'd like to have the
5 facility far enough away to avoid a common disaster, but
6 close enough to get to promptly. There is a lot of
7 difference there.

8 Some facilities are extremely close, and you
9 wonder how you would expect one facility to survive, if the
10 building adjacent was lost.

11 (Slide.)

12 MR. KIRBY: The next slide is about training in
13 simulators. There is a tremendous difference here.

14 The training requirements, the actual training
15 requirements, tend to be fairly minimal. The actual hours
16 that are required, quite often you find, first, that the
17 controlling RC will state, here's how many days of training
18 we provide in the schedule. As you probe more deeply, you
19 find, well, yes, but vacations, sick leave, and coverage for
20 other shifts, all comes out -- frequently all comes out of
21 that training schedule, so, the amount of hours that are
22 actually available for training, are greatly reduced.

23 You find a significant difference in staffing
24 levels, where either five, six or seven shift rotations are
25 supported. I only recall one case where there were seven.

1 That was certainly exemplary.

2 The training is often unstructured. In the best
3 cases, it is quite structured and there's a program
4 established for what training an operator is expected to go
5 through. In other cases, it's very unstructured, and the
6 operator is simply given time to keep up with the industry
7 during that time.

8 CHAIRMAN WOOD: And that training is done by whom
9 and for whom?

10 MR. KIRBY: There's a good range of difference
11 there. In the best cases, there will be a training staff
12 and the training staff would --

13 CHAIRMAN WOOD: At the RC?

14 MR. KIRBY: The RC or the control area. The
15 organization itself will have a training staff. It will
16 outline a program. In the best case, there will even be
17 some sort of testing and feedback, so the operator knows how
18 well he's doing, so that the management knows how well he's
19 doing.

20 It's reasonably common, though, that there is not
21 a structured program, especially in the smaller
22 organizations. There won't be the ability to have extra
23 staff, and so it's left very unstructured.

24 On simulators, there is quite a range there.
25 There is, of course, no requirement for simulators. The

1 control areas and the RCs that have simulators, tend to
2 think extremely highly of them.

3 They provide a very variable, high-stress
4 environment to train in. The operators get to experience
5 things that you hope they don't get to experience in real
6 life.

7 On the other hand, the simulators are expensive.
8 They are expensive in dollars and they are expensive in
9 manpower to keep them running, so it's only a pretty good
10 sized organization that's able to expend that effort.

11 We had an interesting experience in one of the
12 audits where a combined control area RC was installing a
13 simulator. The team felt that they hadn't added enough
14 staff in to support that. I'll talk about it a little
15 later. The team was reluctant to discuss manpower issues,
16 so they only gingerly brought up the question, you don't
17 really have enough people, and the RC just jumped on it and
18 went around the room quizzing the team as to, do you have a
19 simulator and how many people do you have to support it?

20 And, of course, they thought this was kind of
21 intimidating. It turned out, no, they were very interested
22 in the feedback, and they concluded from that, that they had
23 not had enough staff built in, and they promptly added more
24 staff to that function, they thought so highly of the
25 simulator that they wanted to make sure they supported it.

1 (Slide.)

2 MR. KIRBY: Wide area visualization: It's a
3 problem that's been recognized, especially highlighted by
4 last August's blackout. We have seen improvement in the
5 data that's available.

6 Control areas and RCs are seeing data coming from
7 a larger area, which is good. There are data quality
8 problems.

9 In the best cases, you see data coming in from a
10 very broad geographic area; in the worst cases, it's just
11 confined only to the single control area.

12 One real difficulty is, how do you visualize?
13 What do you do with this data? How do you present it to an
14 operator so that it's meaningful?

15 As an industry, we're very good at having ways of
16 presenting problems with a single generator. You can see
17 the problem, you can dive into it, you can identify what it
18 is. There are very good tools for that.

19 Tools haven't been developed yet in the industry,
20 saying this is how you should present a very large deal with
21 this type of information.

22 In the best cases, both control areas and RCs are
23 trying various approaches. They're trying out new ideas,
24 they're fielding them in the control rooms, they're seeing
25 how the operators like them, how well they work.

1 That is probably the best that can be expected
2 right now. It's a good way for the industry to identify
3 what is best.

4 In the worst case, of course, the information
5 simply isn't presented.

6 (Slide.)

7 MR. KIRBY: The next slide is on security. The
8 teams that look at security, try and say very little about
9 it, partly because you don't want to be highlighting
10 vulnerabilities. That makes perfect sense.

11 The differences in security vary tremendously.
12 In the best case, you had armed federal officers, so you've
13 got basically an army at your disposal for security.

14 In other cases, there is no specific security,
15 other than locking the door and that kind of thing.

16 There is quite a diversity in how well
17 identification is checked. In some places, ID is asked for
18 of some kind; in other cases, no ID is asked for. In some
19 cases -- in one specific case, whenever the team or team
20 members were in the control room, there was a security
21 person in the control area.

22 I know I went up and asked if he was there just
23 for us, and I was told, yes, he was. That was kind of
24 reassuring.

25 In another case, a team member was left alone in

1 the control room and no operator was present. That's a
2 pretty big difference.

3 (Slide.)

4 MR. KIRBY: Conclusions: This is the last slide.

5

6 There's a lot of diversity, both on tools,
7 procedures, backup centers, the training, wide area view,
8 and security. There also seems to have been a lot of
9 improvement, but there's also a tremendous need for more
10 improvement.

11 Perhaps the biggest thing is that there has to be
12 some sort of minimal standards. The minimal standards now
13 are extremely low-bar.

14 CHAIRMAN WOOD: Are those standards the ones that
15 are being codified in Version 0 right now, or does Version 0
16 not even speak to these types of issues? Do you know,
17 Richard?

18 MR. SCHNEIDER: Version 0 is an interpretation
19 for clarity of the existing standards. Version 1 bumps it
20 up.

21 CHAIRMAN WOOD: It will push that up? What do
22 we, kind of collectively, on the public interest side of the
23 fence, need to do to get that standard up to, I think, some
24 of the things that Brendon pointed out here?

25 MR. SCHNEIDER: I think, again, the mandatory

1 aspect, for Congress to make NERC standards.

2 CHAIRMAN WOOD: In the meantime, our job is to
3 get the crisp enforcement standards ready, so that on day
4 one, when they push that button, it's ready to go.

5 MR. SCHNEIDER: I'm going to have to ask somebody
6 else to address that, but I believe that's being worked on
7 right now.

8 CHAIRMAN WOOD: Is this the stuff, Mike, that's
9 going to be in Version 1?

10 MR. GENT: And beyond. My name is Michael Gent.
11 I'm the President of the North American Electric Reliability
12 Council.

13 A lot of these issues will continue to come up in
14 terms of security, through the standards process. For
15 instance, the cyber security standard, which now is an
16 urgent action temporary standard, which will be a permanent
17 standard later on, will be much tougher than the existing
18 cyber security standards, that will, of its own, require
19 security to the point where, for instance, you can be left
20 alone in the control room, and stuff like that will be
21 fixed.

22 We also have physical security guidelines that we
23 are intending to put much more emphasis on in the coming
24 year, so that physical security will be improved in all
25 facilities, not just control rooms, but in the switching

1 stations, the transmission stations, and so on.

2 As far as improving the level of system analyzers
3 or state estimators, contingency analysis in the control
4 rooms, we need some advancements in technology to be able
5 to lower the price of these facilities. I think that's on
6 the way.

7 This is where the public interest side -- and I
8 like to think of myself as also being public interest -- I
9 think we need to keep pushing our research organizations
10 like EPRI and others, to develop lower-cost simulators that
11 can be specifically applied to the facility.

12 EPRI has a pocket simulator. It's a great
13 device. We need to come up with ways of tailoring that for
14 each specific control center, so the people in the control
15 center can train on their own systems.

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1 Whether this is done through standards or not is
2 something that's going to have to come up through the
3 industry. I think it will happen.

4 While I have the floor here, if I could say a
5 little bit more about the training. I've talked to many of
6 you personally. I think this is our next great effort.
7 We'll focus as much effort on that as you've seen put into
8 these readiness audits.

9 I think a lot of the issues on training are going
10 to be improved. How we're able to enforce compliance to
11 training standards, to training curriculums, to
12 certification has yet to be defined. But that program is
13 well is under way.

14 MR. MCCLELLAND: I appreciate the answer. I
15 guess the converse to that would be are there gaps? Are
16 there vulnerabilities while we wait for the technologies?
17 Do we have these vulnerabilities? Are they in place? Are
18 they being recognized and addressed in some fashion?

19 MR. GENT: We're always going to have
20 vulnerabilities. We're just raising it to the level of
21 difficulty to get to the vulnerabilities. Yes, they're
22 going to be there. I don't know how we do away with it
23 short of mandating that everybody has to operate a control
24 center in a certain way.

25 Once you lose the diversity, you also lose

1 innovation. So you have to make a case of putting some
2 standards out there that people can reach without specifying
3 how you do it.

4 For instance, just one you may want to think
5 about. The standard is very loose for backup control
6 centers. And I personally abhor that. But I can't
7 personally change it either.

8 However, I was told by a smaller system we have a
9 plan but we don't have a backup system. Our plan is to turn
10 it over to A over here. If A can't take it, we turn it over
11 to B. This is a perfectly viable solution, not having a
12 backup control center.

13 They've got a plan that achieves what a backup
14 control center is supposed to do. Such is the nature of our
15 standards. We're trying to get performance rather than
16 specify equipment and facilities.

17 MR. MEYER: Mike, could you review for us the
18 linkage between the version one standards and the functional
19 model? I'm thinking of a minimum functional requirement
20 that the model would set for different categories and
21 players.

22 Does the functional model just sort of pick up
23 the version I standards as they emerge and then plug them in
24 and go further from there? How does that work?

25 MR. GENT: I think I'd turn that upside down.

1 When we get version zero and the board approves version zero
2 in February and we set the implementation plan, we will have
3 moved the existing standards into the format of a functional
4 model where possible and be doing the same thing.

5 But version one, the standards from then on will
6 be raising the bar. They may be alternating the existing,
7 which at that time will be from version zero or they may be
8 adding to it.

9 All the standards at that point will be referring
10 to the functional model entities and the functions they
11 perform.

12 Did I answer that?

13 MR. MEYER: Okay.

14 MR. MCCLELLAND: Let's move on.

15 Lastly, in this panel is a presentation of the
16 responsibility matrix as has been assembled and populated by
17 John Kueck. This item is also a critical for us, as
18 responsibilities at present vary between the bulk power
19 supply entities.

20 This does create the potentiality of having
21 overlap or worse gaps in the execution of duties necessary
22 to maintain the security and reliability for bulk power
23 supply.

24 With that I'll turn it over to John.

25 MR. KUECK: Thank you.

1 (Slide.)

2 MR. KUECK: The matrix of reliability
3 responsibilities is something that we have put together as
4 an effort as we go through the readiness reviews to try to
5 keep track of which entity performs which specific
6 responsibilities. There are many, many tasks and functions
7 being performed now.

8 And as we've discussed this morning, the whole
9 situation in many areas is in a state of flux.

10 As we go from control areas to transmission
11 operators and as we move into the functional models, the
12 team felt that we needed a way to try to keep track of a set
13 of critical responsibilities and to have a chart of
14 ownership for critical responsibilities among the various
15 entities.

16 (Slide.)

17 MR. KUECK: So we chose to identify a set of 21
18 critical responsibilities for each part of the entity. We
19 couldn't do all the various tasks or functions, but we chose
20 21 that we thought were key and critical.

21 Then, based on each audit, we made judgments as
22 to whether the responsibilities were covered or not covered.
23 Or where we had kind of a grey area, perhaps they were
24 covered with some sort of clarification.

25 (Slide.)

1 MR. KUECK: The first five responsibilities are
2 from the functional model. And they are for entities such
3 as the reliability authority, the balancing authority, the
4 transmission operator. So we know what type of entity we're
5 looking at.

6 For example, a security coordinator might be
7 audited with the reliability coordinator template. But we
8 may expect him to have responsibilities in common with
9 reliability authorities.

10 So the idea is with the first five rows to see
11 who we're dealing with. Then the next 16 rows on the chart
12 are specific responsibilities that we selected as examples
13 of things we'd really like to know about -- things like who
14 monitors and controls voltage and the responsibilities that,
15 as you said, might possibly have fallen through the cracks
16 or whose ownership is not clear.

17 And ultimately, NERC has a mapping effort. And
18 we thought this could lead into the mapping effort.

19 In brief, there are vast differences between the
20 various entities, even entities that have the same function
21 as to how they deal with the set of responsibilities. And
22 we'll get into that.

23 (Next slide.)

24 MR. KUECK: First what I'd like to do here is to
25 go through the responsibilities that we selected so you have

1 a little background before we get into the chart.

2 The first five, as I said, are not all the
3 responsible entities, but five that we chose as significant:

4

5 the reliability authority, who enforces
6 requirements, monitors parameters, performs analysis, among
7 other functions;

8 the balancing authority, who calculates ACE
9 reviews, generating commitments, and formulates an
10 operational plan;

11 the transmission operator, who maintains voltage,
12 monitors operations, and provides maintenance schedules;

13 the interchange authority, who determines
14 interchange schedules and maintains a record of
15 transactions;

16 and the transmission service provider approves or
17 denies transmission service requests and coordinates at ATC.

18

19 Then the selected responsibilities.

20 (Slide.)

21 MR. KUECK: The next 16 that we selected.

22 Someone could be a market operator.

23 Seven is to set pre-contingency voltage limits
24 and determine set operating voltage limits which will assure
25 adequate post-contingency voltage. We heard a comment this

1 morning about reactor reserves. This is a way of insuring
2 that you have adequate reactor reserves by doing a study to
3 determine post-contingency voltage and set pre-contingency
4 voltage limits that will assure that your post-contingency
5 voltages are adequate based on the reactive reserve that you
6 have.

7 But then for people who don't do it that way,
8 perhaps they determine reactive requirements, which is
9 number eight -- determine a set reactive reserve such that
10 post-contingency voltage is adequate. The reactive reserve
11 requirement may be expressed by pre-contingency voltage
12 limits, as we said, in number seven.

13 Number nine -- determines amount and location of
14 operating reserves.

15 Ten -- monitors and takes action on real and
16 reactive reserves.

17 Eleven is monitors flow gate congestion.

18 Twelve is monitors and declares an emergency. It
19 has clearly defined entry criteria for the emergency
20 condition, and has the authority to declare the emergency
21 when these conditions are met and has the authority to set
22 aside normal operating procedures and transfer to emergency
23 procedures.

24 The key thing we were looking for here was a very
25 simple procedure that states in simple terms with defined

1 entry criteria when you have an emergency so that the
2 operators know I'm in my emergency condition. I set my
3 normal procedures. I go to my emergency procedures.

4 We're looking for something that's simple, a
5 procedure that's simple, that the operators can have and
6 feel comfortable using.

7 (Slide.)

8 MR. KUECK: Item thirteen is something we've
9 already talked about a little bit in this panel -- shedding
10 load in event of emergency is their procedure and do
11 operators have the authority to shed load when an emergency
12 is declared without gaining any management approval.

13 Fourteen -- performing voltage monitoring and
14 control. You can see we hit on voltage quite a bit. That's
15 because of concerns with adequate reactive reserves. How we
16 determine adequate reserves, how we deal with possible of
17 voltage collapse, areas that are susceptible to collapse.
18 Who is responsible for maintaining voltage within set
19 limits? Who monitors and maintains voltage within these
20 limits?

21 Item fifteen -- insuring generational and load
22 balance.

23 Sixteen -- performing contingency studies.

24 Seventeen -- real time state estimation.

25 Eighteen is the key one providing neighbor system

1 awareness monitoring conditions in real time beyond the area
2 footprint into the neighboring systems.

3 Nineteen is an especially interesting one --
4 determine nuclear plant voltage adequacy. We wanted to know
5 if the entity had established agreements with nuclear power
6 plants in the area to insure that the system is operated in
7 the manner such that the nuclear power plant voltage will be
8 maintained with the needed limits.

9 Looking ahead a little bit, this was an area
10 where we saw a lot of grey area, a lot of clarification that
11 was needed during the audit, a lot of misunderstanding on
12 the part of the operational staff.

13 In some areas we saw just a tremendous response,
14 top to bottom, from the operators up to management. They
15 knew what their procedures were and their procedures looked
16 great, but it was a very checkered type of response that
17 shall be seen.

18 Item 20 -- approve generation outages.

19 And 21 -- approve transmission outages.

20 Before we get into the actual chart -- next slide
21 -- some preliminary general findings. One very interesting
22 thing is that some entities are keeping their historical
23 responsibilities even though other new entities are now
24 responsible and have the needed data.

25 For example, EMS and contingency evaluations.

1 Some entities wish to continue to maintain EMS and to do
2 their own contingency evaluation even though they're not
3 really responsible for that now in their new role in the
4 functional model.

5 Unfortunately they don't have the data to do it
6 because they can't get the data because somebody else now
7 owns it and isn't giving it to them.

8 I have to say that in a lot of these situations
9 these almost amusing situations come up during the audit.
10 We say during the audit this doesn't look satisfactory. We
11 need to deal with this. Everyone agrees it's not
12 satisfactory. We need to deal with it.

13 And as part of the audit team approach we come up
14 with a plan of action for the reviewed entity to go ahead
15 and deal with the situation. The concern that I have is
16 what about all the places where we haven't been, where these
17 things might be existing and no one's come along and asked
18 the questions.

19 CHAIRMAN WOOD: It is duplication. That's a
20 whole lot less worrisome than that gap.

21 MR. KUECK: That's true, but one of the problems
22 with the duplication is -- and this was a problem that they
23 raised to us -- is what happens if they come up with
24 different numbers and they get in a debate as to who's in
25 charge.

1 We have different numbers than you do. We think
2 we have a problem and you don't. And they're going to have
3 different numbers because they're not working with the same
4 data.

5 CHAIRMAN WOOD: Is that what happened last
6 summer? Or was it really that we didn't have the right
7 data?

8 (Slide.)

9 MR. KUECK: I think it was more of a really basic
10 problem of data and personnel, operational procedure
11 problems during the blackout.

12 But it was my personal opinion that whenever you
13 have situations where responsibilities aren't clearly
14 understood, especially responsibilities this detailed and
15 this important, then you're looking for major problems to
16 develop because people think, oh, that's not really my job
17 or this isn't the neighboring area. We see something
18 brewing next door. What should we do?

19 In my opinion responsibilities need to be very
20 clearly identified and understood. That was one of the
21 reasons we put this matrix together -- was to see if we
22 could try to bring some light to the whole thing.

23 Another alternate position was some control areas
24 believe that many of their responsibilities have been
25 delegated and no longer perform them. We were at one

1 control area where we were told we still have our
2 transmission system, but we are no longer responsible for
3 functional control of our transmission system. It's not our
4 job. It's the ISO's, so that's the ISO's job.

5 Interestingly, that was the same control area,
6 one of the control areas, that also said, by the way, if the
7 ISO told us to shed load and we thought it was a bad idea,
8 we wouldn't do it.

9 That was another issue worked out during the
10 audit so that in the audit report we can say we came across
11 this issue. It was worked out during the audit and the
12 operators are being retrained. And procedures are going to
13 be realigned.

14 That was my next bullet. Some entities do not
15 recognize the authority of the RA to command the load shed.
16 And we saw many controlled areas that do not have written
17 agreements with their reliability coordinator, or else the
18 written agreement that they had was so vague that it was
19 really meaningless.

20 Some of our preliminary general findings are on
21 the next slide. Some control areas presently do not
22 establish reactive reserve margins. In some cases
23 reliability coordinators do not directly monitor voltage.
24 They might monitor but a few points, but they don't monitor
25 across the whole footprint.

1 Some ISO's have delegated the voltage
2 responsibility for nuclear power plants to the transmission
3 service provider. But the transmission service provider
4 can't do that job alone. He has to have the ISO working
5 with him, knowing what the needs are. He can't maintain
6 those voltages alone.

7 Some control areas have no entry criteria for
8 emergencies, which is what I was saying earlier. You need
9 to have clear, well understood entry criteria for
10 emergencies so you can say, oh, I'm in an emergency; I set
11 aside my normal procedures and go to my emergency
12 procedures. And it's well understood it can be a simple
13 decision.

14 (Slide.)

15 MR. KUECK: Let's go into the matrix. If you see
16 across the top A, B, C, D, E, F, G, and so forth, those are
17 the various audited entities. If it is a kind of green
18 color -- it looks almost blue here today -- that's a yes.
19 That means the responsibility is taken care of.

20 If it's red, it's no.

21 If it's white with a question mark, that means we
22 weren't really able to figure it out. It might be then at
23 the bottom, where it's tan. That means the responsibility
24 is taken care of, but with some sort of a comment or
25 clarification.

1 What we'll do is just go through these. You can
2 see that there are a number of tan areas and a number of
3 question marks even after the audits.

4 In the first column there you can see that some
5 of the control areas are very limited in what they do now
6 and the functions they perform because of the new functional
7 model.

8 That's not necessarily bad. And the concern is
9 that because this is a situation of flux, we just need to
10 know who does what.

11 If we look under column B on this first slide,
12 you can see that some control areas don't do some of the
13 things or were unclear that some of these things would be
14 kind of good to see them doing like pre-contingency voltage
15 limits determining reactive requirements. Question marks
16 determining location of operating reserves was a yes with a
17 clarification.

18 (Slide.)

19 MR. KUECK: Let's go to page 2. We go out
20 through several more audited entities, again with the same
21 first set of responsibilities.

22 In column L there you'll see it's amazing how
23 limited these responsibilities can be.

24 If you look at that first column, we've got
25 greens there at the top and bottom, but all the rest is red.

1 In column T you can see there's a great deal of red. That's
2 because the entity has delegated almost everything.

3 There's nothing wrong with delegation. But when
4 it's delegated, that delegation has to be extremely well
5 defined, understood, and agreed upon. That's the point that
6 we need to make.

7 Let's move ahead to the next slide.

8 CHAIRMAN WOOD: Is that then what you're looking
9 for as far as the documentation?

10 MR. KUECK: That's correct. We go ahead and look
11 for documentation. And we have left off the names, okay,
12 across the top. We just have letters across the top, but we
13 were greatly disappointed in some of these some areas where
14 there was a great deal of delegation in the documentation
15 that showed the responsibilities had been delegated.

16 (Slide.)

17 MR. KUECK: The next one is responsibility, the
18 12 through 21 group. So now we go back to the second set,
19 the 12 through 21 list of responsibilities in the first
20 group of areas.

21 Unfortunately you can see there in row 19, which
22 is determine nuclear plant holdage adequacy. There are a
23 few question marks in there. And there are a few areas.
24 The red areas don't concern me too much. That means simply
25 it's not my job; I don't do it. It's somebody else's job.

1 But the question marks came up sometimes. When
2 we got there and we asked the question, they said, "Well, we
3 sort of have a rule on that but not really." That's the
4 transmission service provider, for example, okay?

5 You need to go talk to the transmission service
6 provider or you need to go talk to the transmission
7 operator. And then in some cases we haven't done that yet.
8 In some cases we've been in the transmission operator after
9 doing a lot of digging.

10 We've found some good procedures, but the
11 operators didn't know about them. The operators hadn't
12 heard about them. Those are very good things that the
13 audits are doing for us. They are flushing all this out.

14 CHAIRMAN WOOD: If I may ask the question why
15 wouldn't the operators know about the procedures for the
16 nuclear power plants? Is it something that is just
17 considered such a rare contingency that it may not be on the
18 front burner? Or why would there not be an emphasis there?

19 MR. KUECK: In this particular case it was
20 because they had made changes to their transmission system
21 this year. They hadn't retrained the operators. On
22 specific voltage limits the operators weren't aware of the
23 voltage limits that nuclear power had.

24 We were able to find the analyses. We were able
25 to find the documentation that showed that they had done

1 studies when they made the changes, but they just hadn't
2 followed through and given the operators the same
3 understanding that the operators needed to have.

4 CHAIRMAN WOOD: Some of the problem, is it caused
5 -- or maybe most of the problem -- caused from the
6 regulatory standpoint because NRC has a certain
7 compartmentalized area versus FERC, which has another
8 limited area and the two really haven't engaged?

9 MR. KUECK: The NRC's jurisdiction stops at the
10 isolated phase bus duct. They will not absolutely
11 positively go beyond that. It would be inappropriate to go
12 beyond that. They do not look beyond that. And they are
13 very, very firm on that point. That's not their
14 jurisdiction.

15 The NRC requires the nuclear power plant to
16 determine the accessible voltage. They can require them to
17 do that, but that is as far they can go.

18 CHAIRMAN WOOD: How does that relate back then to
19 the industry? The industry deals with the NRC to that
20 point, FERC to the next point or NERC to the next point.

21 It seems as if for that particular column, John,
22 you have several question marks, as many as anywhere else if
23 not more. Is that separation or is that disconnect do you
24 think? What do you think is the reason?

25 MR. KUECK: What is the reason for the

1 disconnect? I think the reason for the disconnect frankly
2 is that the need the nuclear power plants have for this
3 voltage, which is in my opinion a highly critical need, has
4 not been communicated adequately to these entities, to the
5 control areas, and to the transmission operators and to the
6 transmission service providers.

7 I think if that need had been communicated
8 adequately to them, they would have done the training on it.
9 They would have had the procedures in place to handle it.

10 MR. KUECK: And the other reason why we spent the
11 time on it is because of the amount of generation
12 represented by the nuclear power plants and also, I guess,
13 with my own limited information about the circumstances my
14 assumption would be that the backup generation on site of
15 the nuclear facility would be adequate to stabilize the
16 facility itself.

17 I see a smile. That's something that we hear a
18 lot. Oh, the nuclear power plants have diesel generators.
19 We absolutely positively do not want to use those diesel
20 generators. This is so key when we do use them in a
21 blackout, all right, fine, we use them.

22 But we don't want to be in a situation where we
23 think we have adequate off-site voltage and we start up all
24 our safety loads that we're going to shut down the nuclear
25 reactor with with the off-site voltage, thinking it's

1 adequate.

2 And it turns out to be inadequate in midstream.
3 We're out there in midstream trying to shut down a plant,
4 turning all these pumps with its voltage, and the voltage
5 goes down.

6 And it damages the pumps and possibly causes
7 thermal overloads to trip, possibly causes fuses to blow.
8 Then we have to restart with diesel generators. We do not
9 want to be in that position.

10 MR. MCCLELLAND: If the group was to a point
11 where it was determined that it was stable as far as the
12 plant operation, then it would initiate shut down from the
13 backup generation.

14 MR. KUECK: It depends on the specific nuclear
15 power plant. But the control areas do it right, issue a
16 communication on alarm to the nuclear power plant saying we
17 can no longer provide adequate voltage. That's the key
18 thing.

19 Then the nuclear power plant goes into a specific
20 action statement, knowing that adequate voltage can't be
21 provided anymore. Okay, it's the knowledge. There are many
22 that do it extremely well and provide a special alarm, the
23 highest alarm in the nuclear plant control room and the same
24 alarm in the control area and control room saying the
25 voltage at this point -- we can't guarantee you adequate

1 post-contingency voltage anymore. We're having stress on
2 the grid. We've had contingencies. We can't guarantee you
3 adequate post-contingency voltage anymore and now you know
4 it.

5 And the nuclear power plant at that point in time
6 knows it. And they can take action to make sure that
7 they're safe in spite of that situation. It's when they
8 don't it and a contingency occurs -- that's the risk.

9 MR. MCCLELLAND: Which is back to your point in
10 the matrix that the operators need to be trained and have a
11 situational awareness of the nuclear power plant's need or
12 you may inadvertently trigger an event.

13 MR. KUECK: Right.

14 MR. MCCLELLAND: Thank you.

15 (Slide.)

16 MR. KUECK: Just one more thing I wanted to point
17 out. In column N it's just surprising how many noes we
18 found. In some cases you see all the red, all the
19 responsibilities that this particular entity does not have.

20 Next slide.

21 (Slide.)

22 Some interesting notes. Actually I've mentioned
23 some of these, an entity which stated that they had the TO
24 responsibility also stated that they do not have functional
25 control of the transmission system and that the ISO was

1 responsible for monitoring flows.

2 A TO did not have a procedure for monitoring
3 conditions and declaring an emergency. A CA would shed load
4 when directed by the RC if the CA felt it was the wrong step
5 to take. The responsibility for contingency studies taken
6 by both the CA and TO but not cooperatively. And a CA was
7 unclear on the ownership of many significant
8 responsibilities.

9 Go on to the next one.

10 (Slide.)

11 MR. KUECK: An RA exists who is not the
12 interchange authority, who does not determine the amount and
13 location of reserves, does not monitor voltage or nuclear
14 power plant voltage and does not approve outages.

15 One audited entity was not an RABATORIA and
16 essentially all responsibilities were delegated. In
17 addition, there were no agreements for delegation.

18 One reliability coordinator did not include all
19 his control areas in emergency planning because not all of
20 them would come and participate.

21 Let's go ahead to conclusions.

22 (Slide.)

23 MR. KUECK: My conclusion, then, is that the ISO
24 must be capable of monitoring system conditions, declaring
25 an emergency when established criteria are met, then

1 responding with emergency procedures because sometimes there
2 is no clear emergency responsibility below them.

3 We were talking earlier about defense in depth.
4 I think defense in depth in some cases is really being
5 eroded because people are saying it's not my job anymore. I
6 don't have functional control of the transmission system. I
7 know the ISO's watching over me and so the ISO had better be
8 capable of doing these things.

9 Another conclusion I think we can make is the
10 actual ownership of the responsibilities is presently
11 disorganized. It's in a state of flux. We heard again this
12 morning how responsibilities is changing. Mapping of the
13 responsibilities, which is something NERC is undertaking
14 now, is really going to be a challenge.

15 It's going to be a difficult thing to do. And I
16 don't think a good understanding of responsibility ownership
17 across the nation is presently available today.

18 (Slide.)

19 MR. KUECK: There's been a recurring theme that
20 key responsibilities have been delegated, but with differing
21 institutional frameworks and imprecise splits and functions.
22 It's sometimes difficult to determine if a responsibility is
23 being adequately addressed.

24 And perhaps it would be better to do -- and this
25 is just a thought -- combined control RC or combined RABATO

1 reviews of some entities to handle the delegation. I don't
2 know. In one case we were at a balancing authority. They
3 said we can't answer question after question. The TO is
4 only a mile away. Go talk to the TO.

5 We went over and talked to the TO. And that
6 helped a whole lot. It really did. Actually we had to make
7 an appointment and come back later with the same review
8 team. But we were able to iron out a lot of these things
9 when we could talk to the two together.

10 Also as a suggestion, when the functional
11 registration is done, I really recommend that the functional
12 registration include not only the function, but also the
13 tasks and relationships that are performed for each function
14 per the reliability functional model so that all this data
15 is acquired at the same time when the registration is done.

16 That's all I have.

17 CHAIRMAN WOOD: What is being required presently?

18 MR. KUECK: As I understand it, it's just the
19 registration of what sort of entity they are.

20 MR. SCHNEIDER: I believe they are defining the
21 tasks as well that go along with the responsibilities.

22 MR. KUECK: I didn't see that in the letter, but
23 I'm glad to hear that.

24 MR. MCCLELLAND: As I look across the panel and
25 the audience, it looks as if there's some hungry and tired

1 expressions, so let's skip questions for now. We can come
2 back and revisit that in the last half hour. Let's move to
3 the third panel.

4 The third panel will be Brendon Kirby and Dave
5 Hilt. I think you've got this one, don't you, Dave?

6 The third panel will discuss the issues specific
7 to the audits and how they affect the outcome either good or
8 bad. We'll close the session with planned changes to the
9 audit.

10 So let's begin with Brendon. Brendon's going to
11 talk about what worked, what didn't, and what were the
12 surprises. Following his presentation let's hold off on
13 questions. Let's move directly into Dave's presentation
14 after Brendon's. We'll go ahead and discuss what's changing
15 to address the issues that we've seen.

16 As far as the audit structure in process, I'd
17 also ask the speakers -- let's try to keep to around a 15-
18 minute timeframe if you can to leave some questions.

19 Brendon, thank you.

20 MR. KIRBY: I'll be discussing observations on
21 the audit process.

22 Go to the next slide.

23 The process observations looking at FERC's role,
24 the subjective nature of the reviews, the success of the
25 published reports in showing the differences between the

1 entities, talk a little bit about difficult subjects, the
2 voluntary nature of the process, the role of the
3 facilitator, and the process efficiency.

4 (Slide.)

5 MR. KIRBY: There's a great deal that's very good
6 in the process, especially given the structure it's
7 operating under. And the primary feature of that structure
8 is that there are no rigorous reliability standards.

9 Given that you're having to operate without those
10 standards, there is a lot that's good. I think it's the
11 general consensus of the teams that have been doing these
12 audits that these are necessary and they are increasing
13 reliability. They do identify vulnerabilities. They
14 certainly recognize excellence and best practice. Hopefully
15 they encourage improvement.

16 The teams have had to be multiple disciplined and
17 quite experienced. The fact that the reports are published
18 is very good. Many, perhaps most -- almost all of the
19 control areas and RC's are genuinely interested in
20 improvement.

21 We've want international cooperation. Many
22 thanks. The Canadians have been wonderful. Obviously there
23 is no FERC jurisdiction. The hospitality has been very
24 appreciated. This is an evolving process.

25 (Slide.)

1 MR. KIRBY: Looking at FERC's role, FERC does
2 provide the continuity and consistency. And a fairly
3 limited FERC staff has participated in all of their reviews.
4 Several of the staff have participated in 8 or more. I
5 think the top may either be 10 or 12 reviews.

6 It does provide an overall perspective and
7 obviously there's independence. FERC clearly has no
8 operational or market involvement.

9 (Slide.)

10 MR. KIRBY: Without clear standards the reviews
11 are necessarily subjectives so they're not really audits.
12 These are voluntary. They are voluntary on the part of the
13 entity that's being investigated. And they're not based on
14 enforceable standards.

15 So you can have ambiguity. NERC is definitely
16 working on enforcement of standards. But it's obviously
17 going to take some time. You end up with no specific
18 follow-up or consequences or penalties in the event that
19 there are negative findings.

20 With the ambiguous standard and no enforceable
21 consistency -- and you do have examples. The backup centers
22 -- the way they get reported out in the reports or the
23 security is not necessarily consistent from report to
24 report.

25 This does tend to lead toward -- the reports tend

1 not to fully emphasize the worst or the best. The worst you
2 can always find good things to say. The reports
3 deliberately do find good things to compliment even the
4 worst on. Similarly, with the best there's always room for
5 improvement.

6 Consequently, there's a tendency to drive towards
7 the center in how the reports were written.

8 Last on this slide, it certainly is easier to
9 emphasize the quantifiable things even if the subjective are
10 more important, specifically the operator's willingness and
11 ability to shed load.

12 Clearly the most important: Is the operator
13 willing to take the action? Have they taken action in the
14 past? But that's subjective. It's a judgment by the folks
15 who are there.

16 You do have the quantifiable. Is there
17 documented authority? It is very important -- is there the
18 proper plaque on the wall and so forth. But it's very
19 important to have the documented authority. But it's very
20 easy going through the process to lose focus.

21 The most important thing is are they going to
22 shed load when they need to.

23 (Slide.)

24 MR. KIRBY: Do we fully get the differences
25 reflected in the report? There is a tremendous difference

1 in the entities being looked at. I think you can find clear
2 consensus coming out with the teams, as has been said by a
3 number of people.

4 In a sense it's like pornography. There is no
5 problem identifying the best and the worst. It's a lot
6 tougher to put that into the report. The lack of specific
7 requirements make it very difficult.

8 MR. MCCLELLAND: Well, if I can interrupt just
9 for one second, but the pornography statement -- it's not
10 identifying the best and the worst. I think your point was,
11 I know it when I see it.

12 (Laughter.)

13 MR. MCCLELLAND: Let's move on from there. Thank
14 you.

15 MR. KIRBY: Again, the full magnitude of the
16 difference isn't apparent in these written reports.

17 (Slide.)

18 MR. KIRBY: No one's perfect, so you're always
19 finding things to suggest even the best can improve on and
20 no one's truly worthless. Even the worst.

21 There are examples of things they're doing fairly
22 well. It may be difficult for somebody who's been on these
23 audits to judge. It doesn't seem to me when you read the
24 reports that they're reflected. We've had some independent
25 corroboration in getting other people to review them that

1 haven't been on the audit and saying they don't particularly
2 see the difference.

3 (Slide.)

4 MR. KIRBY: With comparison reporting, one
5 suggestion would be it might be good to develop some kind of
6 a tabular -- put out a table really simple and
7 straightforward -- that compares the results. You can
8 arrange them so that a nonexpert could look at the overall
9 results and see which entities are doing the best and which
10 are not, which need improvement.

11 MR. MCCLELLAND: Along that same point would it
12 be something that would be, say, a report card? It would
13 come with a grade, so hey, my theory flunked. I guess I
14 need to be active about this.

15 MR. KIRBY: A report card would be even better --
16 where you say here's the grade that's given. The table
17 would kind give a backup of why, if they got a C- or got a
18 D, why did they get that.

19 It would be interesting, too, to see if the teams
20 could be willing to provide low grades. It's very difficult
21 to go through it because these are subjective things. You
22 don't have very specific things -- that absolutely you've
23 missed 7 of 10 questions, so you get an F.

24 It is a subjective process, so it's tough to come
25 out with a grade that's low. It needs to be done. And, of

1 course, it should cover the full range, all of the areas we
2 look at -- tools, training, shift coverage, operational
3 practices, the backup facilities.

4 The next slide.

5 There are difficult areas to address. It's very
6 tough for the teams to address things like staffing level.
7 It's been consistent throughout. Teams are extremely
8 reluctant to go out and say, gee, you don't have enough
9 staff.

10 The feeling is that's the prerogative of that
11 area and it's management. If they can do a job with minimal
12 staff, that's their prerogative. I haven't seen the team
13 yet that will address the staffing issue.

14 Tools requirements -- similarly. Easy to
15 compliment somebody for having excellent tools. Difficult
16 to say you must add this tool.

17 Costly, time-consuming actions. This is
18 frustrating. The team will deliberately go through and say,
19 well, there is no point in a recommendation that says in
20 March you must add X, Y, and Z tool by the summer because
21 you physically cannot.

22 It's not possible to do it unfortunately. That
23 can then get turned around where the entity can come back
24 out and say, "I've done everything that was required.
25 Therefore I must be in excellent shape."

1 No, you may have had things that the team just
2 looked at and said it wasn't physically possible. So you
3 kind of get a pass on it. There is a reluctance to include
4 subjective judgments.

5 In one specific case the team felt the operators
6 were complacent and inattentive, but the group decided they
7 could not put that in a report.

8 Reluctance to name specific products. In this
9 particular case we're looking at a wide area view, which is
10 an area that has not been fully addressed. We're casting
11 around for good solutions in wide area view.

12 One of the team areas wanted to place the name of
13 the products, not as an endorsement but just so it would
14 tell the industry, okay, this is what they're looking at.
15 The feeling is no, that would be seen as endorsement, so we
16 couldn't put it in the report.

17 And there can be a reluctance to pursue topics
18 that aren't specific NERC requirements. You can't go after
19 somebody for not doing something that's not actually
20 required.

21 (Slide.)

22 MR. KIRBY: Controlled areas versus the RC's. In
23 different frameworks you've got splits between the
24 functions. As John was talking about, in the functional
25 matrix this is kind of an even more primitive version. You

1 don't necessarily know what the split will be between the
2 control area functions and the RC functions. It makes it
3 tough to go in and decide is that really being done?

4 In many of the cases there's a combined control
5 area RC function. Those are a whole lot easier to review.
6 You can simply find out is the function being performed and
7 you're not really worried about who's doing it.

8 It doesn't matter if it's being covered in the
9 splits, where the control area and the RC are two separate
10 entities. It's tougher because if you're only looking at
11 one and that entity, the control area says it's being
12 covered by the RC -- no ability to particularly go and find
13 out if that is being covered.

14 And it won't be the same team typically that goes
15 and sees the RC, so there's not necessarily the continuity.
16 There's no list handed off that says make sure that function
17 X is being performed.

18 CHAIRMAN WOOD: Who are the combined CARC's?

19 MR. KIRBY: There's a great number of them. PJM
20 is one. ISO New England, IMO, Southern. New York
21 certainly. There's a bunch of them that do that.

22 An interesting observation. In many of these --
23 where they do the RC function, there will be more than one
24 control area they are looking at. You can find the
25 distinction there.

1 The RC function may be being performed very
2 aggressively for their own control area and in my opinion
3 doing a very good job of being very much in the control
4 area's business. You can see a reluctance that says that's
5 another entity. That's a control area. As an RC I will
6 perform the RC functions when they ask me for something, but
7 I'm reluctant to get as deeply into their business. Things
8 are just moving a little bit in my own control area. I'll
9 just jump on them and get them to move.

10 You can see those distinctions. The
11 responsibility matrix should be a tremendous help in
12 identifying which functions and, very specifically, not only
13 the functions but the individual aspects of those functions
14 to make sure they're really being performed or who's doing
15 it.

16 (Slide.)

17 MR. KIRBY: Looking at the facilitator's role,
18 the NERC lead, as you expect, has the most experience with
19 the audits, which is excellent. It's very important for the
20 lead to be prepared.

21 There have been times where, due to the heavy
22 workload for the leads, you're going right from audit to
23 another. It's tough. That really should be work done to
24 make sure they're prepared. When the lead is not prepared,
25 it has a tremendous impact. It wastes a lot of time for the

1 rest of the team.

2 Remembering that the team is typically
3 volunteers, it has an impact on the team and the entity
4 being looked at. So you want that lead to have the time and
5 ability to run a very effective process or very efficient
6 process.

7 It's very good to have the control room walk
8 through the day before. It gives you a sense for what the
9 entity is you're looking at. There's a real danger of the
10 lead dominating the process.

11 The lead ought to facilitate rather than lead --
12 draw out the participants. The participants have tremendous
13 technical expertise. Draw out that expertise and make sure
14 that they all -- if they're not giving an opinion, beat it
15 out of them, provide pre- and post-support effort.

16 You've got to remember these team members are all
17 volunteers. You want to capture their expertise, but not
18 burden them with work. That forces the workload back on the
19 facilitator. You certainly avoid the known process errors
20 and hear there are no errors. You're right at the
21 beginning.

22 The lead will typically point out that you need
23 to ask open-ended questions and listen more than you talk.
24 Never answer -- one team member should never answer a
25 question for another team member. Let the CA or the RC

1 answer it. There may be a reason the question is being
2 asked even if it appears to be a dumb question.

3 Never state a conclusion to the CA or the RC
4 until the team has had a chance to really review it. The
5 abilities are known. They should be re-emphasized
6 throughout the audit. Volunteers are volunteers. They're
7 not fully experienced in all this. They hear it once. They
8 can forget it in the first hour, so it needs to be brought
9 back to their attention repeatedly.

10 Next.

11 The questionnaire's real benefit is that it
12 should be jumpstarting the process. It should really move
13 people along. The facilitator ought to pre-review these
14 responses, send them back if they're not right, don't accept
15 yes, no answers.

16 You should typically have three sentences at
17 most. You don't want people spending time writing a book
18 about each answer. But you do want to draw out their
19 answer. A yes or no is not a whole lot of use.

20 Never accept information. Information will be
21 provided during the audit. If it's okay for information to
22 be provided during the audit, don't ask the question. The
23 questions should be designed to be things that should be
24 provided. And certainly distribute the answers and
25 responses to the team early enough that they can do a lot

1 with them.

2 Questionnaires are being continuously refined.
3 That really needs to be focused on. A lot of effort should
4 be put into really getting a good set of questions. So much
5 time is lost based on trying to understand the question.
6 They should be organized around the process that the team is
7 going to go through. During the audit it should be lined up
8 around the tools, interview the training, the operators, the
9 backup facility.

10 (Slide.)

11 MR. KIRBY: Audit guide. Similar comments. It
12 should be organized around the way the process is going to
13 go to the extent that it can be done. Check-off lists are
14 very useful. The new check-off list on tools -- one on
15 responsibility delegation. The fact that you can check them
16 off, you know it's covered. Then you can focus on the areas
17 that are critical.

18 (Slide.)

19 MR. KIRBY: The team's size and composition. You
20 definitely want to have diversity to the extent possible.
21 You certainly include members from at least one other
22 interconnection. It's best if you can have members from
23 both other interconnections.

24 Ideally the auditors should be independent
25 experts if that can be done. A diversity of expertise is

1 also desirable. Obviously you have operators, but you also
2 need planners and you need tools, experts. Diversity is
3 very useful.

4 CHAIRMAN WOOD: So what size of the team, then,
5 would be ideal?

6 MR. KIRBY: That is a problem. In some cases
7 team size becomes difficult. We'd like to slim the size
8 down. Because the entity we're looking at is smaller, I
9 think the nine size worked out fairly well where you had
10 three groups of three.

11 We have seen the problem. I don't know if
12 interest is falling off but, of course, people are very
13 busy, so both NERC and FERC should encourage participation
14 especially from the best entities. That way you bring in
15 members, one, they're from a good entity so they're probably
16 very good experts. You also will tend to lift the bar.

17 Next slide and a follow-up.

18 Immediate concerns should be addressed right away
19 rather than waiting until the reports are finalized.
20 Certainly establishing specific practices to correct
21 deficiencies would be a big improvement. They should be
22 differentiated by severity. Critical things ought to have a
23 timeline that's very much compressed.

24 Also capturing the best practices, that
25 processing. Perhaps even naming best practices isn't good.

1 Best practices may connote something that's great when
2 somebody has enough time and money. But when I'm in the
3 real world, I just want to be as I need to be.

4 Well, these best practices are really kind of as
5 good as you need to be.

6 (Slide.)

7 MR. KIRBY: Finally, in the next the conclusions.
8 Lack of enforceable standards makes the process subjective
9 by nature. And while until we have enforceable standards,
10 we need to recognize it should be subjective and we should
11 facilitate its subjective nature. That does give you mixed
12 results.

13 Obviously enforceable standards is what we need
14 to drive for. The process identifies reliability concerns
15 as well as areas of excellence. And that's good. But the
16 reports unfortunately don't really reflect that, so there is
17 room for improvement.

18 Structured support, consistency, and objectivity
19 are good areas to focus on for improvement.

20 CHAIRMAN WOOD: These are the kind of things that
21 you all brought up when you met with the audit team at the
22 end of June?

23 MR. KIRBY: To be completely frank, the meaning
24 of the end of June, it didn't get into as much depth as it
25 probably could have.

1 CHAIRMAN WOOD: This is a lot of good follow-up
2 that was brought up with David and the others. They were
3 kind of scoping these out for the rest of the year. I do
4 worry about the falling off part.

5 I will certainly will do my part meeting with the
6 EO's that frequently come to our office to make sure that we
7 continue to get good volunteers to participate here. That's
8 how it's set up for now. And I think we can move to a brand
9 new world.

10 But it's going to take a few years to get there
11 when you have a professional team. And that expertise
12 resides within the industry. I know from my experience
13 here. So we will do our part there. Good thoughts -- I
14 hope they'll be taken to improve it for all of us.

15 David.

16 MR. HILT: Thank you again, Chairman Wood and
17 Commissioners, panelists.

18 We've seen a number of items to consider in
19 furthering the audit process. As Brendon mentioned, a lot
20 of these things. We had some of this material back in June
21 and we will pushing pretty hard to get that and get the
22 meeting scheduled so that we could move forward.

23 We've made a number of changes with the process.
24 And I think some of them have already been addressed. And
25 we may want to further refine the process.

1 Go ahead with the slides, please. And go ahead
2 to the next one.

3 MR. HILT: What have we learned in the process?
4 Well, just as some process issues, we've certainly learned
5 that everyone must follow the prescribed process. Once we
6 try to step outside of the process for whatever reason, we
7 usually run into some trouble.

8 That includes the team leaders, the legions, the
9 regional members, the volunteers, the auditors, the
10 observers, and even those being audited. If we try to
11 circumvent the process or shortcut the process or change the
12 steps in the process, we usually run into some issues.

13 Report development. We know we've extended the
14 time. Originally we had 30 business days to complete the
15 report reviewed by the audit teams. By the entity being
16 audited, there just wasn't enough time to provide adequate
17 comment. And we heard a lot about that, so we made a number
18 of changes to that.

19 As we know, the important development must allow
20 for some further comments from all the parties who have been
21 involved in the audit to get the comments in on the report.
22 If we rush to the report itself, we may have some errors in
23 it, which are just absolutely not acceptable, as we post
24 these things.

25 Certainly, as Brendon alluded to, we've had some

1 discussions about looking at small control areas versus
2 large control areas. I think we've all looked at
3 participating -- whether or not, for example, FERC needs to
4 have two participants on each one of the small control
5 areas.

6 How do we look at the teams so we don't walk in
7 and overwhelm the guy? At the control center in a small
8 300-megawatt municipal we may have more people on site than
9 they have on shift. That's one of the issues we just need
10 to be cognizant about.

11 Partly, as Brendon mentioned, because
12 particularly in the larger ones, where you're going with
13 three teams, you can split up and go look at the control
14 area. In some of the smaller entities you don't necessarily
15 need to do that because you're going to be talking to the
16 same people. You're going to have the three teams sitting
17 simultaneously in the same room dealing with the same
18 individuals just because of the operation.

19 Delegation of responsibilities. As John Kueck
20 has pointed out, you know, the functional unbundling of the
21 industry has made some significant changes in who has what
22 responsibilities. Traditionally vertically integrated
23 control areas, utilities had the full responsibility.
24 That's been moved around -- the development of ISO's, RTO's,
25 et cetera has moved that around.

1 And, of course, the functional model is looking
2 to address that and map that. And I appreciate John in
3 looking at some of the mapping. We're also looking at that,
4 trying to determine exactly how to do that.

5 But the delegation of responsibilities has
6 actually delayed us from getting some of the reports out
7 simply because, as was noted earlier, we go to one site. We
8 discover that they're not doing those responsibilities so
9 now you're got to reschedule and go back out to another site
10 -- a second, third, and fourth site in some cases to track
11 the entire trail all the way down.

12 It's an issue that we hope we can bring some
13 closure to as we get into the functional model.

14 Finally some things that we learned. We were
15 trying to bring consistency to the reports. We've changed
16 report formats several times. We provide the auditors, the
17 team leads at least, some guidance on what we expect and how
18 we want the report laid out.

19 And we're certainly interested in that and what
20 needs to be in those reports to make them usable for
21 everyone.

22 (Slide.)

23 MR. HILT: The process improvements that we've
24 seen, we've extended the audit. Period. Regionally we
25 started with just a little over a day on site. We're now up

1 to where we actually spend a week, a full week out with each
2 of these entities, with the first day being an audit team
3 meeting, with multiple days on site with the entity.

4 We've looked at notification and questionnaire
5 response times to try to extend those. Obviously, as we
6 ramp this program up, there was little time. And I think
7 we've heard from folks on that. We've tried to extend that
8 time. I think there's some things we can do to improve that
9 including sharing with some of the folks being audited.

10 If there are issues that come up in the
11 neighboring response, we need to share those with them ahead
12 of time so that they can be prepared to answer what is that
13 issue. It may well ultimately be resolved by the time we
14 get there.

15 As Brendon mentioned, the control room walk-
16 through has been moved forward. The tools list was
17 primarily developed because we couldn't take our laptops.
18 We usually work off of laptops in these audits and you
19 really can't take those into the control rooms.

20 So we've looked at developing some of those tools
21 and checklists for that.

22 (Slide.)

23 MR. HILT: We have revived the self-assessment
24 questionnaire and auditor's guide. We picked that up at our
25 June meeting. And maybe there's more things we can do to

1 them. But the questions have been reviewed and revised for
2 some clarity and preciseness, trying to get that better, get
3 them to where we get a better response.

4 We certainly agree we don't want to waste our
5 time trying to sort through what does the question really
6 mean? We want to be on target.

7 Discussion has encouraged both a self-assessment
8 and the neighboring questionnaires. We've also seen
9 entities that will just say see attached and send you a
10 book. That's another issue. How do you get to balancing
11 that with what you want. That's what we're working on.

12 The format of both documents have been structured
13 so that they match between the auditors guide and the self-
14 assessment questionnaire. They weren't lined up. That's
15 helped the teams with the process flow. At least it's our
16 feedback that we've had from some of the folks who have been
17 on these audits.

18 Finally, we have developed some subteam guides
19 for when you break up into the multiple teams and what types
20 of things are you looking for rather than just the general
21 auditor's guide.

22 (Slide.)

23 MR. HILT: In terms of developing some
24 consistencies, certainly we appreciate the help that FERC
25 staff has had and the consistency that they bring to it.

1 We've been using -- initially we were using some contract
2 folks. We're in the process of hiring full-time auditors.
3 And, of course, we're looking for a very serious depth of
4 experience with these people.

5 So it takes us a little time to do that. We have
6 one on staff now and there are four additional planned, and
7 we're continuing the interview process for that.

8 Certainly with some staff, permanent staff, we
9 believe it's going to bring further consistency to the
10 effort in what we're doing.

11 The program complements the compliance
12 enforcement program, where we actually monitor for
13 compliance with the standards -- with the templates. These
14 are backed up by compliance audits with the narrow regional
15 compliance programs.

16 We've separated this process with the readiness
17 audit as a forward-looking process versus with compliance.
18 Did you meet the standard? It's more looking at how you met
19 it in the past rather than how could you be prepared and how
20 could you meet it going forward.

21 As a result of that, we've separated these
22 processes, the compliance audit process and the readiness
23 audit process, into two separate processes, primarily due to
24 the potential nature of enforcement actions that would come
25 out of the compliance enforcement process.

1 The readiness audit program that we have is
2 designed to improve control area reliability coordinator.
3 And ultimately all the functional audit entities improve
4 their operations as they strive for excellence.

5 We've not tried to include compliance enforcement
6 actions and statements of noncompliance in these reports
7 simply because that's outside. First off, it violates the
8 disclosure guidelines that our board recently approved
9 because people have to be given due process for compliance
10 violations.

11 There are several reasons why these things will
12 be kept separate.

13 Further, I agree we need sharper standards and we
14 believe the efforts are working toward that. At the same
15 time I think it's going to be difficult. You've heard a lot
16 of things here today where you can see why we need to have
17 subjective audits. And there's always going to be some
18 subjective nature to these things.

19 For example, as Brendon mentioned a while ago, we
20 can develop a standard that says you must have clear
21 authority in your control room for the operator to shed
22 load. You may even have to have something signed by a
23 corporate officer in your control room to demonstrate to the
24 employee where he can shed load.

25 But the question really is, as Brendon pointed

1 out, will they really do it? To measure that against the
2 standard is something I don't think we will ever be able to
3 do. That's something that's going to be the really
4 subjective judgment of a team of experts that's talking to
5 those particular operators.

6 CHAIRMAN WOOD: I'd rather be at that point,
7 knowing that everybody up and down the chain knew that it
8 was his call to make.

9 MR. HILT: Absolutely.

10 CHAIRMAN WOOD: I'd rather be at that point of
11 judging than back in the beginning, where we're not sure if
12 it's him we're judging or her.

13 MR. HILT: But there's certainly room for
14 improvement and we need to do that. We do find within this
15 process. And it's recently been added to the process.

16 (Slide.)

17 MR. HILT: Because of some of the reports you've
18 heard here today, we believe there are some standards
19 violations taking place that have been uncovered even
20 through this process. We've put a process in place where
21 the audit team is to notify me that there is potential
22 compliance violations to NERC standards in these audits.

23 I will then notify the regional compliance
24 enforcement program to include that as an assessment through
25 their program where they have regional due process where

1 people can object or dispute the finding of noncompliance
2 through those regional processes. And it's very important
3 even for areas where they have the R&S program where there
4 are real finds and penalties in place for some of those
5 activities.

6 Next slide, please.

7 Some of the other things -- again, we're
8 continually looking at the size and makeup of the audit team
9 being reviewed. We obviously have to look at the size,
10 particularly when it comes to smaller areas. But we also
11 want to look at the makeup of the team.

12 You heard a lot today about having the right
13 experts on the team. How do we define that? We have some
14 very minimal requirements saying we want people with five
15 years planning an operational experience on these audit
16 teams. We may need to define that even further.

17 Duration of the audit. That's being further
18 reviewed. There's some suggestions that we need to spend
19 more time even in the audit process. There are some
20 concerns.

21 Obviously if we get beyond a week, continuing to
22 have volunteers -- because if you go into a second week,
23 it's a whole other issue than having someone volunteer to
24 participate in an audit. So we need to take a hard look at
25 that; and we will be looking at that.

1 Additional audit items are being considered. We
2 think that every time we go through this process, we not
3 only want to be looking at some key change, but we also may
4 want to focus the audits and look at other key areas, look
5 in depth in some particular areas -- how do we get the most
6 out of them. But we will be looking at some of the other
7 areas that we may want to add in.

8 So the questions we're asking folks, including
9 things with a critical infrastructure protection, questions
10 that aren't in NERC standards but are related to the NRC, I
11 think we've uncovered some issues that certainly need to be
12 addressed.

13 Finally, the recommendation tracking all of the
14 recommendations coming out of these audits. We're working
15 with our regions to develop the procedure now. There will
16 be regional follow-up with NERC oversight on these
17 recommendations. And we will be tracking them very openly
18 as to what the standards of some of the implementation of
19 these recommendations are.

20 Some of them, if they are areas for improvement,
21 there are suggestions for improvement. And we may find that
22 at the time the audit team was there it was felt that it was
23 a very good suggestion to improve it.

24 When the entity takes a look at it, well, you
25 know we've looked at it; here's why this isn't ultimately a

1 good thing for us to do. We can't discount that.

2 And I think you heard from Scott Moore today
3 there was item there that he's just not going to be able to
4 check off on. And we have to recognize that.

5 Finally, we're now beginning to look at how to
6 really identify and disseminate best practices. Certainly
7 the folks on that audit team have identified some of the
8 things they believe to be best practices. Brendon has
9 articulated some that he believes are best practices. And I
10 think John has too. And I have as well.

11 But are those really the best practices? Is our
12 opinion the one that really should be used to determine what
13 those are? Or should we have some groups of technical
14 experts sit down and look at those and say, you know, those
15 really are best practices and maybe they ultimately do need
16 to become standards within the industry? We're just now
17 beginning to formulate how we're going to identify that.

18 CHAIRMAN WOOD: That's interesting because I
19 wonder if you can't, I'd like to hear the experts, the top
20 10 percent of the country is being able to call what a spade
21 is out here.

22 I'd be surprised -- rather than go through the
23 tedious stakeholder process that we kind of dumb it down to
24 the minimum standard. I wouldn't mind you guys just putting
25 a real meaty, best practices list out there. Let's just see

1 where we go. You may get there a whole lot faster by just
2 using this peer pressure.

3 MR. HILT: The question is, is that right? We're
4 going to take a look at that.

5 CHAIRMAN WOOD: Are those the best practices? I
6 wouldn't trust you guys if you can't agree on what it is,
7 there may not be a best practice. It may be an upper
8 quartile.

9 (Laughter.)

10 MR. HILT: That's right.

11 CHAIRMAN WOOD: I think all that being out there
12 in the public domain with some context around it may be a
13 great public service in addition to the individual feedback
14 that the utilities got from this process.

15 CHAIRMAN WOOD: To further that point, because if
16 you move to a consensus, aren't you also going to move to a
17 de minimis standard.

18 MR. HILT: I don't think I'd look to a consensus.
19 What I think I would look to do is to form a panel, maybe
20 even some of the auditors, but some real technical experts
21 to take a look, to scan through the reports, pull those
22 things out and concur at least that yes, those are best
23 practices -- not just the best practice for this particular
24 entity.

25 We were looking at how to handle that. And I

1 think we need to clearly address how to identify and
2 disseminate those best practices in an efficient manner.
3 And now that we have 20-some reports, approaching 25 reports
4 out there, it's time to do that.

5 Next slide, please.

6 Finally, we previously had a reliability
7 coordinator audit process with a readiness audit process
8 focused on control areas. It was a new process. We now are
9 going to look to confine those into just a single readiness
10 audit process. This works into the functional model
11 implementation where we believe we need to have a single
12 process for auditing all of these entities for readiness,
13 each one having a module addressing the responsibilities
14 along the lines of John Kueck's responsibility matrix.

15 If you're registered to be a balancing authority
16 or a transmission operator, together we'll take those two
17 sets of questions we need to ask based on those
18 responsibilities, put them together, and that's the
19 questionnaire you'll get and that's the audit we will
20 perform.

21 We have to be real careful with some of the
22 reliability coordinator control area functions because,
23 again, questions you folks had about the independence of the
24 decisions -- we have to make sure we look at that at the
25 same time.

1 Training for auditors obviously is one of the
2 issues that we need for consistency. In fact we're
3 beginning to look at can we provide some training ahead of
4 time and some medium for some of the volunteer auditors,
5 because the first time they were exposed to the audit is
6 either they've read an audit or they show up at the on-site
7 meeting. If we can help prepare them for an audit and
8 what's expected of them coming in, I think that's going to
9 be a significant help.

10 And certainly for the future we're going to take
11 all of the constructive feedback that we've had here today
12 and give it some very serious consideration for including in
13 the process.

14 With that I thank you.

15 MR. MCCLELLAND: The best we can do is open up
16 the questions here at the table. And immediately following
17 those questions we can open up to the audience.

18 CHAIRMAN WOOD: Where can we go with this matrix
19 that John was working out? I'm troubled by that, but I know
20 there's a lot behind that matrix. That's more of a story,
21 but it's certainly crystallizing this lingering concern I've
22 had really since the last summer's blackout. The who's-in-
23 charge thing wasn't ever nailed all the way down.

24 MR. HILT: Certainly with functional unbundling,
25 the functional model's been trying to catch up with who is

1 responsible. It's been a little bit of shifting sands.

2 CHAIRMAN WOOD: Is the functional model nailed
3 down that was brought up at the last board meeting in
4 Quebec? Was that just an amendment to the model?

5 MR. HILT: It was a second version of it. Mike
6 will correct me if I'm incorrect, but I think we really need
7 to work with the functional model, our functional model
8 experts. We have a functional model team that will be the
9 right body to go to with responsibility matrixes.

10 CHAIRMAN WOOD: Okay.

11 MR. MCCLELLAND: Are you ready to play Phil
12 Donahue? Well, let's see if we can wrap this up.

13 MR. HILT: Dave Cook just pointed out that
14 obviously I failed to do that. Just getting diversion zero
15 and some initial registration. We hope to provide some
16 clarity to this. It may provide some input into where we
17 really think things fall out in that responsibility matrix.

18 MR. MCCLELLAND: At this point -- I'm sorry,
19 Saeed.

20 MR. FARROKHPAY: Dave, a couple of questions. I
21 think I was on one of the very first audits. I was on one a
22 couple of weeks ago. The process has certainly improved
23 quite a bit. Thank you for that.

24 You have a process for taking feedback from some
25 of the team members. I think he mentioned that you've done

1 surveys of the company and the entities being audited. But
2 FERC staff has been providing feedback to you on and off.
3 But is there a formal process for audit team members to
4 provide feedback on the process?

5 MR. HILT: The only process that we had was --
6 obviously we've been incredibly busy trying to perform the
7 audits and so the meeting we held in June was the key.

8 But we have discussed having a survey of audit
9 team members in the volunteers' post-audit. We've just not
10 developed that. We're considering that, but that's a
11 possibility: just send them a survey afterwards and see if
12 they can fill it out and give us suggestions on improving
13 the process.

14 MR. FARROKHPAY: The other question I have is
15 about some of the confidentiality issues that have popped up
16 in at least one of the audits where a team felt the need
17 that some issue needed to be communicated rather quickly to
18 neighboring systems or reliability coordinators.

19 And I think confidentiality was an obstacle
20 there. I thought NERC was going to look into that and
21 develop a process to be able to get that done more quickly.
22 I was just wondering if there has been any progress in that
23 regard?

24 MR. HILT: I guess I'll let Dave talk about that.
25 We've talked about having some standard confidentiality

1 agreements we can put into play.

2 MR. COOKE: There are confidentiality agreements
3 in place that govern the conduct of the audits in dealing
4 with the materials. The incident that you talked about,
5 Saeed, is the only circumstance that I'm aware of where we
6 encountered a problem on those issues getting in the way of
7 the kind of discussion that people need to have. And we had
8 to work around for that particular one.

9 MR. FARROKHPAY: I think there have been -- at
10 least in my experience -- a couple of other instances where,
11 if there was a process, the committee would have probably
12 used it to get some information to other entities. But
13 being bound by confidentiality agreements, we were not able
14 to pursue it any further.

15 MR. COOKE: We're in a situation -- I hate to
16 keep harking back to the absence of authority behind this in
17 a sense, but the information that we get, the information
18 that participation that we have is on a voluntary basis and
19 you're sort of striking a balance between drawing out
20 sufficient participation to make it worth while and some
21 pieces of that are the confidentiality issues. I'd be happy
22 to learn more from you. This is the first I'd heard there
23 were any other problems.

24 But if there were particular issues, I'll be
25 happy to talk about those and see whether there's something

1 more we need to do.

2 MR. MCCLELLAND: Let's arrange that meeting
3 following the conference.

4 David, you had a question.

5 MR. MEYER: I want to go back to the
6 responsibility matrix for a moment. Brendon mentioned that
7 there's a real problem about adequate information,
8 sufficiently detailed information, on some of these points.
9 So what's the way to go forward with that? Do more audits
10 or do you go to a questionnaire that you would send out to
11 all parties? Would a questionnaire really get you the
12 information that you're looking for?

13 I'm not sure that would necessarily work. How do
14 you fill the information gaps that are out there?

15 MR. KIRBY: I'm very in favor of it being as open
16 as possible. So, you know, recognizing the confidentiality
17 concerns, of course, are a driver coming in -- to what
18 extent that constrains you, I don't know. Perhaps we could
19 push back on that.

20 With some of the information it's hard to see why
21 it should be, why there should be a concern about
22 confidentiality. Maybe we should try to have pushback that
23 would say we want to see more openness and try and allow
24 that. We can ask more questions. You can get more feedback
25 and it becomes more public.

1 MR. HILT: The issues I'm aware of on it relate
2 to getting very specific system protective coordination
3 device data for individual generation owners, real time data
4 typically from the transmission owners and reliability
5 coordinators.

6 We have a process in place that says essentially
7 if any reliability coordinator requests any data point off
8 the system, it is to be populated into the inter-regional
9 security networks. That's a compliance issue. If they're
10 not doing that, we'll follow through with a number of
11 others.

12 I think it's more some of the other entities that
13 are out there today and their obligations to provide data
14 even to the control areas.

15 MR. MCCLELLAND: Let me just preempt. We need to
16 wrap right now. We have some appointments. You fellows can
17 collect the information after that conference.

18 In the interest of fairness, I'll allow one
19 burning question from the audience. If you've got a
20 question, let's just have one burning and we'll conclude the
21 conference.

22 I apologize for the abruptness, but we do need to
23 wrap up.

24 MR. LIVELY: Mark Lively. I'm a utility economic
25 engineer.

1 Considering that FERC is financial regulator of
2 the utilities and considering that this panel or these
3 panels have dealt with reliability issues, I expected more
4 comments linking the reliability with the financial, such as
5 what Brendon had said where someone had raised a question as
6 to who will pay for real power.

7 When IPP is told to move its real memory active
8 power generation in response to a test, it didn't say
9 anything about who's going to pay for the reactive power.
10 It didn't say anything about how one control area provides
11 electricity to another control area on a reliability basis
12 and who pays for that.

13 And I'm trying to figure out how we handle those
14 types of issues including when a reliability coordinator
15 tells a control area to dump load, who compensates the
16 control area for dumping that load.

17 Thank you.

18 CHAIRMAN WOOD: I know we've got a number
19 approved in the last several months, a number of reactive
20 power tariffs. And I think where Brendon referred that
21 these have actually been, for example, in PJM, the reactive
22 power is uplifted.

23 The real power I think you pointed out. There
24 was no separate tariff treatment for real power because
25 those were generally procured by the market participants

1 directly?

2 MR. KIRBY: In this particular case with this
3 system there is no crossed. Reactive is provided as a
4 condition of interconnection, so within the range required
5 the system operator is free to move the reactive output of
6 the unit without there being any economics to worry about,
7 which gives the individual operator tremendous freedom.

8 In a sense no one corporately cares that he does
9 it, so he's free to do it for reliability. For real power
10 my understanding is from what we were told, we were not
11 trying to chase the dollars. But if the operator felt the
12 need to check the unit, its real power capability was
13 adequate.

14 In that case the ISO would simply buy the power.
15 It would pay for the real power shipped and dispatched, of
16 course. You would expect that the system operator would be
17 a little more reluctant to do that.

18 And in asking about that we were told, well, it
19 turns out it did not become a practical problem because, due
20 to the nature of the units in that market, they were moving
21 in real power frequently enough that the market itself
22 simply provided examples where the unit was moving, so the
23 operator didn't have any units that he felt questionable
24 about whether they would respond in real power. They moved
25 frequently.

1 CHAIRMAN WOOD: We're seeing that a lot now.
2 Particularly on the IPP side there's been a lot of tariffing
3 that has been filed here to be compensated for reactive
4 power.

5 MR. KIRBY: That would then become in this case,
6 this example, of course. And these reviews were only
7 looking at reliability issues. We're not particularly
8 looking at the economics.

9 I guess my suggestion would be that certainly
10 we've advocated that the system operator needs to have the
11 ability to move units to find out are they really capable of
12 moving.

13 And then there must be some mechanism, you know,
14 if the guy gets paid for that. There must be a way to get
15 money to pay for that. It was interesting in this
16 particular case because it was just an issue of this is
17 what's required to be interconnected. This is within the
18 market rules.

19 From what the operator said there was no pushback
20 from the units. They were more than happy to move whenever
21 they were told to. There were consequences if you did not
22 move. Then you were declared to be -- you weren't adequate
23 so you had financial consequences. So the units were happy
24 to move within the market rules.

25 CHAIRMAN WOOD: What we've got in light of, I

1 think, a couple of recent filings -- we've got a reactive
2 power study group internally working to help inform the
3 Commission decisions on a number of pending dockets as well
4 as looking at the reactive power issue more generally
5 because it fell out of a first energy area audit after the
6 blackout that this monitoring, which I think was one of
7 John's lines --

8 Nineteen -- I think that was nuclear, but it was
9 one of those in the teens. It was monitoring the reactive
10 power visibility on the system. It's kind of the unspoken
11 commodity here because no one ever really pays for it. So
12 you don't think you need it, but you have to have it.

13 But I don't think we're all the way there, Mark.
14 I think you tee up a question that is alive and cooking in
15 this agency as we speak. But it's bubbling across the
16 entire country because I think it's a valuable consularly
17 service that people are not procuring and paying money for.
18 It's just an auxiliary to being interconnected. And maybe
19 that's not good enough anymore.

20 MS. MCKINLEY: Chairman Wood, I wanted to inform
21 the audience and the audience who are listening at home that
22 the many materials that were presented here I will be
23 posting on the FERC Web site later this afternoon.

24 CHAIRMAN WOOD: Thank you, Sarah. Thank you for
25 setting up our operations here. I'll thank Joe and the

1 reliability team for their work.

2 David, great to have you here. Tim, thanks for
3 representing our friends up north. And you did it very ably
4 with three hats. Did you have a statement?

5 MR. KUCEY: Just a brief statement from Canada.
6 As co-chair of the Canada-U.S. power system task force and
7 with an interest in promoting greater liability, Canada is
8 pleased to participate in today's conference. Thank you for
9 the invitation to do so.

10 Canada has a few general comments.

11 First of all, the power systems of several
12 provinces interconnect strongly with adjoining American
13 systems just south of our border. And much valued and
14 valuable energy trading occurs over those inter-ties.
15 Accordingly, the health and reliability of the overall
16 eastern and western interconnect is important and of
17 interest to Canada.

18 Secondly, we support the present route of
19 reliability readiness audits that FERC is undertaking. And
20 as they are an appropriate, fully proactive tool for the
21 promotion of power system reliability, we also see the need
22 for these audits to be continued on an ongoing basis.

23 Lastly, Canada shares the interest of the United
24 States and other parties in making reliability readiness
25 audits an important and effective means toward minimizing

1 and hopefully eliminating future system outages. We will
2 continue to follow and participate in the development of
3 readiness audits as additional audits are performed in
4 Canada in 2005.

5 Thank you.

6 CHAIRMAN WOOD: Thank you, Tim. I thank all our
7 panelists. And this last group was great. We appreciate
8 Brendon -- you and John and the work you all have done and
9 all the team have done for the audits and appreciate NERC
10 having -- NERC including our group with you on the last 30
11 or so audits.

12 David, you've done a yeoman's job of this. The
13 single most important step that the continent has taken
14 since the blackout to basically not fall into the same trap
15 of, well, we're going to talk about it and do nothing -- you
16 did something. And I think what you did was extremely
17 valuable for our country and for Canada as well.

18 I think the recommendations that came out of here
19 were meant to be constructive. I think they sounded
20 constructive to me from people who are part of this mix.
21 And I want to make it -- you all work as a team.

22 Richard, thanks for the board. I again sat in on
23 the board meetings for the last year and a half. You folks
24 have definitely got the view of the customer as your
25 principal role. And I appreciate how that permeates through

1 this whole organization with your leadership and all your
2 advocacy, David.

3 It's really helpful and very appreciated. And I
4 know sometimes it's not easy to hear criticism. I'm been
5 living in that role for nine years, so I get used to it.

6 (Laughter.)

7 CHAIRMAN WOOD: Not everybody does. But these
8 recommendations come from people who are on the team and
9 want to see it better. Already it is so much better than it
10 was when it started. Isn't that true of the rest of life?

11 But the consequences are just so important. I
12 think we saw last summer just how much that affected, how
13 much it cost to get it wrong and how critical it is to get
14 it right.

15 Again, consider us allies and supporters and
16 advocates for all you're trying to achieve. And we'll be
17 here by your side making it better and supporting it and
18 bringing in the brigades when we need to and fighting off
19 the dark forces if they ever show up.

20 That's actually a good line.

21 (Laughter.)

22 CHAIRMAN WOOD: I think we need to eat though.
23 Have a wonderful afternoon. Thank you all for taking the
24 time to come down here.

25 (Whereupon, at 1:30 p.m., the conference was

1 adjourned.)

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