



Public Meeting for Comments on Changes to Nuclear Power Plants
or NRC Regulations Related to the Northeast Blackout of August 14, 2003

Tuesday, January 6, 2004

1:30 p.m. - 4:30 p.m.

NRC Auditorium

TWFN, Rockville, MD

Name	Organization
John Boska	NRC
Ben Hutten	NR & CC
Patricia Campbell	Winston & Strawn
Anne Cottingham	Winston / Strawn
Thomas Kosity	NRC
Stacy Smith	NRC / Region I
LICATA	NRC / LPI 1
Chip Anderson	OGC
John ROGGE	NRC / Region 1
Karl Diederich	NRC / RI
CHRIS HUNTER	NRC (RES)
BILL RAUGHLEY	NRC / RES
VINCE GILBERT	NEI
Glenn Morris	DOE
Alex Marion	NEI
GREGORY TWACHTMAN	McGRAW-HILL
CHARLES DUGGER	NEI
Rich Lander	NRC
Deann Raleigh	US, Sciencetech
Althea Wyche	SERCH Licensing / Bechtel
SIM LAZEVNICK	NRC / NRC / IERB



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Name	Organization
JOHN JOLICOEUR	NRC/OEDO
CORNELIUS HOLDEN	USNRC/NRR
SHAWN R. SMITH	USNRC/STP
DAVID H. MEYER	USDOE
Bob Jasinski	NRC/OPA
Donna Skay	NRC/DLPM
Patrick Henley	CNVC

Information on the August 14, 2003, Northeast Blackout and How to Submit Comments

President Bush and Canadian Prime Minister Chretien appointed a Joint Power System Outage Task Force to investigate the causes of the blackout and how to reduce the possibility of future outages. The Joint Task Force is composed of three working groups, the Electric System Working Group, the Nuclear Working Group, and the Security Working Group.

The Joint Task Force issued an Interim Report in November 2003. This report is available on the Internet at:

<https://reports.energy.gov>

Comments on the blackout report may be emailed to blackout.report@hq.doe.gov. If the comments are related to nuclear power plants, please put in the subject line "nuclear comment" or "NWG comment" and it will be forwarded to the Nuclear Working Group for consideration. Paper submissions may be sent by mail to:

Mr. James W. Glotfelty
Director, Office of Electric Transmission
and Distribution
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, DC 20585

There is a Department of Energy web site which contains transcripts from previous public meetings held on the blackout. There are also forums here where people can comment on the blackout or the interim report. This web site is:

<http://www.electricity.doe.gov/news/blackout.cfm?section=news&level2=blackout>

UNITED STATES NUCLEAR REGULATORY COMMISSION

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PUBLIC MEETING

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MEETING FOR DISCUSSION AND COMMENTS

ON THE NORTHEAST POWER FAILURES

+ + + + +

TUESDAY, JANUARY 6, 2004

+ + + + +

NUCLEAR REGULATORY COMMISSION

TWO WHITE FLINT NORTH

ROCKVILLE, MARYLAND

+ + + + +

The above mentioned meeting was held at
1:30 p.m. in the Auditorium of 2 White Flint North.

COUNCIL MEMBERS PRESENT:

PATRICK HAWLEY	Canadian Nuclear Safety Commission
CORNELIUS HOLDEN	U.S. Nuclear Regulatory Commission
DAVID MEYER	U.S. Department of Energy

ALSO PRESENT:

JOHN BOSKA	U.S. Nuclear Regulatory Committee
CHIP CAMERON	U.S. Nuclear Regulatory Committee

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AGENDA ITEM

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Cornelius Holden 18

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

1:43 p.m.

1
2
3 MR. HOLDEN: Well, we have audio. I think
4 in the interest of starting and finishing early, it
5 looks like I'll go ahead and get started. Welcome and
6 my name is Cornelius Holden and I want to thank all of
7 you for being here today to help us with the process
8 of investigating the August 14th blackout in a
9 thorough and complete manner. Today we're holding
10 this meeting to gather comments on the interim report
11 of the Joint U.S./Canadian Power System Outage Task
12 Force on the causes of the August 14th blackout in the
13 U.S. and Canada.

14 We're focusing this meeting on nuclear
15 power plants and nuclear regulation. I would like to
16 give you a sense for what I had planned this afternoon
17 and after a few opening remarks, I was going to
18 introduce the people at the table here and then turn
19 over to our facilitator, Chip Cameron, to go through
20 any comments that you may have. Your comments are
21 very important to us to complete our investigation.
22 This is an opportunity for the public to give us their
23 thoughts and comments on the interim report and to
24 make recommendations that would help reduce the
25 likelihood that this event could happen again.

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1 We're looking forward to the
2 recommendations for nuclear power plant issues. David
3 Meyer is here from DOE. He is a senior analyst and he
4 was a member of the electric system working group on
5 the task force, and I anticipate Patrick Hawley from
6 the Canadian Nuclear Safety Committee will be here
7 shortly. He is the director of systems engineering
8 division.

9 On August 14th, the northeast United
10 States and Canada experienced a widespread electric
11 power outage affecting approximately 50 million
12 people. Nine U.S. plants tripped as a result of that.
13 Six nuclear plants in the United States experienced
14 significant electrical disturbances. There were
15 approximately 530 individual units shut down as a
16 result of this event. Numerous other plants
17 experienced disturbances, but were able to stay on the
18 line and generate power without interruption.

19 The nuclear working group is one of three
20 working groups created to support this task group.
21 The nuclear working group was charged with identifying
22 all relevant actions by nuclear generating facilities
23 in connection with the outage. Nils Diaz, the
24 Chairman of the U.S. Nuclear Regulatory Commission and
25 Linda Keen, President and CEO of the Canadian Nuclear

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1 Safety Commission are cochairs of this working group
2 with other members appointed from various state and
3 federal agencies.

4 During Phase 1 of the investigation, the
5 nuclear working group focused on collecting and
6 analyzing data from each plant to determine what
7 happened and whether any activities at the plants
8 caused or contributed to the power outage or involved
9 a significant safety issue. Nuclear working group
10 members coordinated their efforts with the electric
11 working group and the security working group, the
12 other two working groups associated with this task
13 force.

14 Having reviewed the operating data from
15 each plant and the response of the nuclear plants and
16 their staffs to the event, the nuclear working group
17 concludes that all nuclear plants shut down or
18 disconnected from the grid responding automatically to
19 grid conditions. All the nuclear plants responded in
20 a manner consistent with their plant design. Safety
21 functions were effectively accomplished, and the
22 nuclear plants that tripped were maintained in a safe
23 condition until their restart.

24 The nuclear plants did not trigger the
25 power outage or inappropriately contribute to its

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1 spread to the extent beyond normal tripping of the
2 plants as an expected condition. Rather, they
3 responded as anticipated in order to protect equipment
4 and systems from great disturbances.

5 In the second phase, the nuclear working
6 group is developing recommendations to reduce the
7 probability of future outages and minimize the scope
8 if any occur. And that is why we're here today, to
9 seek your comments and recommendations to prevent
10 recurrence.

11 There have already been public meetings in
12 Cleveland, Ohio, New York City and Toronto, Canada to
13 seek public comments. Transcripts of those meetings
14 are available on the DOE website. The working groups
15 will be working through the month of January to
16 finalize their recommendations. There are three
17 methods for providing comments. One method is today
18 to provide oral comments here, but at the registration
19 desk we also have a list of mail, land mail addresses,
20 and email address where you can submit comments.

21 I wasn't planning to debate issues, but
22 since there is no one registered, I think we can
23 probably open it up for a discussion. We are
24 transcribing this meeting and this transcription will
25 be also available on the DOE website. We had also

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1 planned to use the overhead projector and kind of do
2 a summary of the major points we heard, so that we all
3 walked away with a common understanding.

4 We'll cover a couple of administrative
5 issues, because we're in a heightened level of
6 security. Visitors need to be escorted, so once you
7 leave here, please, we have plenty of NRC people here
8 who can provide escorts. The restrooms are located in
9 the rear of the foyer. People at the desk will
10 provide the escorts for that. And you also got a copy
11 of meeting feedback forms. If you have comments on
12 this meeting, we encourage you to mail those comments
13 in.

14 With that, I am going to turn the meeting
15 over to Chip Cameron who will facilitate the meeting.
16 As I understand it, we don't have anyone who is
17 registered to make any comments. Is that correct?

18 MR. CAMERON: Okay. Cornelius and I
19 thought that it might be useful, in addition, to
20 hearing from anyone who does have public comments and
21 we'll test that to see if there is anyone who wants to
22 make a comment, but it might be useful to also provide
23 you with any additional information you need on this
24 particular study and answer any questions that you
25 might have about it.

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1 And as Cornelius noted, the transcript
2 from the three previous public meetings are on the DOE
3 website. We are taking a transcript today. So if
4 anybody does have a question, I will bring you this
5 cordless mike and, please, give us your name and
6 affiliation, if appropriate. This transcript will
7 also be available on the DOE website. And is that
8 website listed in the report? I mean, is that? Do
9 people know where to go to find the transcript?

10 MR. HOLDEN: The handout in the back.

11 MR. CAMERON: Okay.

12 MR. HOLDEN: Lists that.

13 MR. CAMERON: Right.

14 MR. HOLDEN: And I think right now, there
15 are two transcripts. The third is being prepared.

16 MR. CAMERON: Okay. Thank you. Does
17 anybody have a question on the interim report, either
18 the substance of the report or the process that is
19 going to be used to finalize the report? Okay. Any
20 comments that people, anyone, would like to give on
21 the report itself at this point? I mean, we're
22 specifically focusing on the nuclear working group,
23 but I suppose you would be amenable to any comments.

24 MR. HOLDEN: Sure.

25 MR. CAMERON: That people might have about

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1 the electrical system or the security aspects. Any
2 comments on this? Okay. Well, let's move on to the
3 next issue, which I guess is final comments by
4 Cornelius. Is that where we are on this?

5 MR. HOLDEN: Yes, I think so.

6 MR. CAMERON: It's not going to be much of
7 a transcript.

8 MR. HOLDEN: No.

9 MR. CAMERON: But it will be available.

10 MR. HOLDEN: Maybe I can summarize some of
11 the comments that we heard at the other public
12 meetings. I think most of the comments and, David,
13 you were at those meetings, I think most of them, so
14 correct me if I'm wrong, but most of the comments that
15 we received were focused on the grid, on the need for
16 mandatory reliability standards. I think there were
17 some comments that offered suggestions on ways to
18 improve certain aspects, either of human factors in
19 grid control rooms or ways to model or monitor the
20 grid.

21 We also heard comments about the need to
22 diversify and use other forms of energy, including
23 solar energy and conservation. So I think those were
24 primarily the comments. We did not hear any nuclear
25 comments in those meetings, which is, I think, one of

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1 the reasons why we wanted to take the opportunity and
2 see if there were specific comments or recommendations
3 people had.

4 MR. CAMERON: Cornelius and David, you're
5 going to be looking perhaps for written comments from
6 people or are you going to get other types of input
7 that might help you with your recommendations? Do you
8 have any idea what your recommendations might be?

9 MR. HOLDEN: Okay. DOE has been
10 collecting the comments and recommendations, so the
11 working group will be interfacing with DOE to obtain
12 those that specifically apply to nuclear. I'm just
13 looking through my notes. I didn't bring that with
14 me. I will tell you that I think there are on the
15 order of six issues that we have been discussing
16 internally, and I'm not sure that these would become
17 nuclear working group issues. They may, in fact, be
18 grid. Some would be grid issues.

19 One would be standardization of the times
20 and the clocks and this investigation was hampered
21 somewhat by different time used by different entities
22 on the grid. Another would be is there a need for
23 black start capability? A third would be the under
24 voltage and under frequency trips, if those are
25 appropriate. And I think I have got about four of

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1 those right now. John, can you help me out on any of
2 those?

3 MR. CAMERON: And let's get you on the
4 record, John, if you're going to add something.

5 MR. HOLDEN: Oh, I remember another one.
6 Another is the load reject capability. Some plants,
7 especially in Canada, there were three plants in
8 Canada that have a load reject system that allows them
9 to go to 60 percent power by dumping steam, and then
10 they were able to return to the grid a few hours
11 later, and whether or not that's a desirable design
12 function. I had five and I think there was one more.

13 MR. CAMERON: John, do you have that, one
14 other potential recommendation? And, David, do you
15 want to add anything to this? This is David Meyer,
16 Department of Energy.

17 MR. MEYER: Yes, just a couple things.
18 One thing that we did here in the hearings that we
19 have had is the need for improvements in
20 identification of what I would call emergency
21 conditions or pre emergency conditions, near emergency
22 conditions, so that the operators can recognize those
23 kinds of conditions when they arise and have a clear
24 sense of what they are to do, what their
25 responsibilities are. We need to be very clear on

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1 what the responsibilities are for RTOs and regional
2 reliability coordinators, and all of the affected
3 players have to have a very clear sense of what their
4 particular responsibilities are and what the other
5 folks are supposed to do as well.

6 And also, there is a need to improve the
7 communications protocols between these people, so that
8 when critical information has to be conveyed from one
9 party to another, that they have crisp language to use
10 that is readily understood. So these things need to
11 be developed sort of conceptually and then a lot of
12 training is going to be required to make sure that the
13 people are ready to respond to emergency conditions
14 when they do arise.

15 And it is, I think, becoming -- one of the
16 comments that was made to us was that the only way to
17 be adequately prepared for emergencies is through
18 training, because you don't get that much real time on
19 the job experience, fortunately. And so it's kind of
20 a no brainer to say that well, you have to have very
21 thorough training programs in order to be ready for
22 this thing when it actually is in front of you. So
23 those are some of the things that we're going to be
24 focusing on in the more general grid related stuff
25 that we're doing.

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1 MR. CAMERON: Okay. Thank you, David.
2 John, do you have anything else to add here?

3 MR. BOSKA: Okay. Yes, I'm John Boska.
4 I'm a senior project manager here at NRC. Some of the
5 other items which have been discussed as potential
6 recommendations have to do with perhaps improving the
7 restart capability of nuclear plants following the
8 loss of the grid. In this event, most of the nuclear
9 plants restarted two to four or five days after the
10 event, and that has to do a lot with the technical
11 requirements in their license that have to be met for
12 restart. So it would be a fairly complex project to
13 look back and see what license changes could be made
14 in order to improve restart times, but that has been
15 debated a little bit.

16 Cornelius had mentioned the black start
17 capability for nuclear plants. That would mean
18 starting up a nuclear plant with no power on the grid
19 and using the nuclear plant to help bring up the grid.
20 That is not currently done, because the technical
21 specifications for nuclear plants require that the
22 grid be stable and energized in order to restart the
23 nuclear plant. A black start would be a pretty
24 complex undertaking, because it would probably mean
25 installation of large gas turbine generators at the

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1 nuclear plants to provide the necessary auxiliary
2 power for restarting big motors and things like that
3 as part of the restart of the plant. So that is also
4 a complex type of undertaking.

5 One other thing that has been discussed
6 has to do with mechanisms between the nuclear plants
7 and the transmission system operators to coordinate in
8 the event of power system outages. The nuclear plants
9 are designed to withstand power system outages by
10 using their emergency diesel generators to supply
11 their safety loads, but if there ever is a problem
12 with the emergency diesel generators at the nuclear
13 plants, it would be especially important for them to
14 get fast restoration from whatever power sources are
15 available on the grid.

16 One method to enhance this would be to use
17 contracts between the transmission system operators
18 and the nuclear plant operators to enforce the
19 requirement for fast assistance to nuclear power
20 plants in the event the grid does go down. So that is
21 just an example of some of the recommendations that
22 have been discussed. Some are very complex and they
23 have to be thought of in terms of future designs for
24 future nuclear power plants instead of refitting the
25 current nuclear power plants.

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1 MR. HOLDEN: I guess I just wanted to --

2 MR. CAMERON: Thank you, John.

3 MR. HOLDEN: I wanted to point out that is
4 just kind of a brief discussion of the type of things
5 we're considering. The purpose of this meeting was to
6 kind of go outside, see if we could gather comments.
7 We have some work to do on those comments. There are
8 things that interface with the grid and we need to
9 work with the electric system working group on those.
10 Others of those may not meet a threshold to go forward
11 as a recommendation, but as a way to try to spur
12 discussion here, we're just kind of opening it up a
13 little bit to give you a sense of the type of things
14 we're doing.

15 Pat Hawley is here from the Canadian
16 Nuclear Safety Commission and we have not received any
17 comments today. We're just kind of opening it up for
18 a discussion right now.

19 MR. CAMERON: Let's see if there is any.
20 Pat, maybe you want to join your colleagues up there
21 even though it might be a little bit anticlimactic, at
22 this point, you might as well do that. And I think
23 it's useful that you and David and John shared some of
24 the things you're thinking about, useful for people to
25 know the types of things you're thinking about going

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1 forward with. Are there any questions about some of
2 those ideas that you just heard?

3 Okay. Anybody? You still have no formal
4 comment or as I'm assuming, and maybe, Pat, Cornelius
5 gave us an introduction, overview. David has offered
6 a few things about the committees' work. Since you
7 have come all the way down here, do you have anything
8 that you would like to say at this point?

9 MR. HAWLEY: Well, first of all, do I have
10 to press a button or anything?

11 MR. HOLDEN: No, I think you're on.

12 MR. HAWLEY: First off, I would like to
13 apologize for being a little bit late. For no good
14 reason I could see, my plane was delayed an hour.
15 Thanks, Cornelius, for inviting me down to the public
16 forum. I was interested to see mainly how the process
17 worked here in the U.S. NRC and to see if we could do
18 something similar in Canada or if it was required.

19 We are working on Phase 2 of the follow-up
20 to come up with the final recommendations for the
21 report. We're on a tight schedule and we're trying to
22 provide our input to Natural Resources Canada by the
23 end of the month. And we have a few things we're
24 following up on on the way the nuclear reactors
25 operate and respond in Canada. I don't know if you're

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1 interesting in details, but looking at how well they
2 responded, why some of them recovered easily, some
3 took longer to recover to get back on line.

4 We're looking at the way the grid was
5 operated and the way the, it's called the Independent
6 Market Operator up in Ontario, how it responded and
7 what they were able to do and what priority they were
8 able to get to the stations. That's the sort of thing
9 we're following up on. I have this meeting today. I
10 have a meeting tomorrow in Ontario with the IMO and I
11 have a meeting with all our licensees, representatives
12 of the licensees, on Friday to discuss the Phase 2
13 part of the report. So that's where we are right now.

14 MR. CAMERON: Okay. Thank you. Usually,
15 our meetings are -- I don't want to say they are --
16 they are a little livelier than this. If you wanted
17 to see what the process is like, this may not be an
18 accurate snapshot.

19 MR. BOSKA: Cornelius better invite you
20 back for another meeting.

21 MR. CAMERON: Sometimes it's nice to have
22 a public meeting like this. But I guess does anybody
23 on the panel have any specific questions that they
24 wanted to address to the audience or anything else
25 that the audience, anything, not else, but anything

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1 that the audience wants to ask the panel. I mean, can
2 we get some work out of this guy from Canada? He flew
3 all the way down here. Anything, Cornelius, David?

4 MR. HOLDEN: No.

5 MR. MEYER: Just a comment. That is the
6 schedule that we have set at least for the electricity
7 system working group part of it, we have set January
8 12 as the deadline for filing comments or
9 recommendations. That doesn't mean that we would not
10 accept something that came in later, but we wouldn't
11 promise necessarily that we would give it the kind of
12 attention that we're going to be giving to the things
13 that we have already received.

14 Obviously, we would try to accommodate
15 additional material if it comes in, but we are going
16 to start focusing very intensively on the stuff that
17 we have received in preparing our final report. So
18 January 12th is our working deadline.

19 MR. CAMERON: Okay. Cornelius, with that
20 I guess I'll just turn it over to you.

21 MR. HOLDEN: All right. Well, once again,
22 I want to thank everyone for your interest, if not
23 your comments, but I think that the report, the
24 nuclear working group report on the nuclear response
25 to August 14th was a positive response. I want to

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1 thank you for your interest. I think rather than try
2 to stretch this out any more and try to see if there
3 is any comments, I think, we have received none, so I
4 think in the interest of timeliness, we'll go ahead
5 and close the meeting. And once again, I want to
6 thank everyone for coming.

7 (Whereupon, at 2:10 p.m. the meeting was
8 concluded.)

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CERTIFICATE

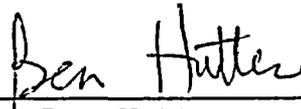
This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of:

Name of Proceeding: Discussion and Comments on
The Northeast Power Failure
Public Meeting

Docket Number: n/a

Location: Rockville, MD

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and, thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.



Ben Hutten
Official Reporter
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