



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

January 19, 2011

Mr. Lawrence S. Criscione
1412 Dial Court
Springfield, IL 62704

Dear Mr. Criscione:

Your petition dated September 17, 2010, and addressed to William Borhardt, the Executive Director for Operations, U.S. Nuclear Regulatory Commission (NRC), was referred to the Office of Nuclear Reactor Regulation (NRR) pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 2, Section 2.206 of the Commission's regulations. You requested that the NRC issue a demand for information to Union Electric Company, the licensee for Callaway Plant, Unit 1, pursuant to 10 CFR 2.204, to obtain information related to the October 21, 2003, reactor plant shutdown event where you state that "licensed operators allowed the reactor to passively shut down," without the licensed operators inserting the control rods in a timely manner. As the basis for your request, you state that violations have occurred in that a licensee employee intentionally misled the NRC's Office of Investigations (OI) investigator, and another licensee employee was not forthcoming about his or her knowledge of the October 21, 2003, reactor shutdown. In addition, you cite several excerpts from an OI transcript where you conclude that a licensed operator "made several statements indicating that he intentionally allowed the reactor at Callaway Plant to passively shut down." Lastly, you cite OI transcript excerpts of a licensed operator regarding training, and you question whether "it was ever taught that it was acceptable to shut down a reactor by allowing passive affects. . . to cause the reactor to go subcritical."

On September 29, 2010, the petition manager (PM), Mr. Mohan Thadani, contacted you by phone to discuss the 10 CFR 2.206 process. During this exchange, you stated that you would like an opportunity to address the petition review board (PRB) in person, after an initial recommendation was made by the PRB. Following this discussion, a PRB was assembled consisting of a Chairman, a petition manager, the 2.206 coordinator, technical leads from NRC headquarters and the NRC's Region IV Office, and advisors from OI, Office of Enforcement (OE), and Office of the General Counsel (OGC).

On November 3, 2010, the PRB met internally to make an initial recommendation using the criteria in Management Directive (MD) 8.11, "Review Process for 10 CFR 2.206 Petitions," dated July 1, 1999, and revised October 25, 2000. The PRB's initial recommendation was that your submittal met rejection criterion III.C.2.b in MD 8.11. This criterion states that, unless the petitioner presents significant new information, the staff will not review a petition under 10 CFR 2.206 where the issues raised have already been the subject of NRC staff review and evaluation, the issues have been resolved, and the resolution is applicable to the facility in question. This petition rejection criterion ensures that the petition review process focuses on any new information that a petitioner may provide and is not used merely to renew claims that have been previously reviewed and resolved in other NRC proceedings. Subsequently, Mr. Thadani informed you of the PRB's initial recommendation.

You met with the PRB on December 13, 2010, during a public meeting, to discuss your petition. No decision was made by the PRB during this meeting. A copy of the transcript from this public meeting and your presentation slides are provided as Enclosures 1 and 2, respectively.

On January 5, 2011, the PRB reconvened to make a final recommendation on your petition. The PRB considered all the information that you have provided including your presentation on December 13, 2010, and previous agency actions in evaluating your request to issue a demand for information and whether or not the petition meets the criteria for review consideration pursuant to 10 CFR 2.206 and MD 8.11. Based on its review, the PRB's final recommendation is that your submittal meets rejection criterion III.C.2.b in MD 8.11 as described above. This decision was made based on the determination that no additional relevant information was provided during your presentation that had not already been previously reviewed, evaluated, and resolved by the NRC staff.

Specifically, as the basis for this determination, the PRB considered your petition as provided in your letter to Mr. Borchardt, your comments and presentation with back-up slides provided during your meeting with the PRB, and the involved NRC staff investigatory effort and actions previously documented and as summarized below:

- **March-August 2007:** NRC staff reviewed and inspected a concern noting issues with the October 21, 2003 reactor shutdown event at Callaway Plant. In response to this concern, the NRC reviewed issues related to the failure to initiate a corrective action document, the failure to log the event, potential operator dishonesty regarding the shutdown, a potentially unhealthy plant safety conscious work environment, and potential employee discrimination toward the petitioner. This concern was reviewed and inspected by NRC staff and resulted in a non-cited violation (NCV) for failing to initiate a corrective action document, as documented in Integrated Inspection Report (IIR) 05000483/2007003. Inspection and review did not identify further plant safety issues or violations of NRC requirements in the areas of event logging, operator dishonesty, plant safety environment, or employee discrimination.
- **August-December 2007:** NRC staff reviewed and evaluated a concern claiming employment discrimination toward the petitioner and a potentially chilled work environment at the Callaway Plant. The employment discrimination complaint was referred to the alternative dispute resolution process and to an OI investigation. These NRC actions were terminated prior to completion, consistent with NRC policy, due to a settlement agreement which was reached through a separate mediation process (between the licensee and the petitioner without NRC involvement). The NRC staff review did not identify further plant safety issues or violations of NRC requirements in the areas of employee discrimination or chilled work environment.
- **September 2007-February 2010:** NRC staff completed an OI investigation to specifically address the petitioner's concerns of the licensee's alleged willfulness in actions related to the October 21, 2003, reactor shutdown event at the Callaway Plant and the alleged misleading of OI investigators by plant operators as claimed by the petitioner from an OI investigation transcript obtained from a

Freedom of Information Act (FOIA) request. Additionally, the NRC staff reexamined the petitioner's previous concerns (noted above) by conducting two separate, independent reviews of the operational and control room management issues related to the shutdown event. These reviews were conducted by Senior Resident Inspectors (SRIs) with extensive Pressurized-Water Reactor (PWR) operational experience (one SRI was a licensed Senior Reactor Operator and the other SRI had extensive Naval PWR background). The NRC staff reexamination did not identify any evidence that would indicate willfulness or misleading information provided to OI. In summary, the NRC determined that operator actions on October 21, 2003 were not consistent with effective command and control and reactivity management practices encouraged by the NRC and the nuclear industry. The demonstrated weaknesses in command and control were attributable, in part, to weaknesses with management oversight, training, and procedural guidance, and these weaknesses were documented in the licensee's corrective action program.

- October 2008 and September 2009: NRC senior management traveled to Cleveland, Ohio, and conducted two separate face-to-face meetings with the petitioner to review, in detail, the outcome of the above reviews and OI investigations.
- February-July 2009: NRC staff reviewed and inspected a concern noting issues with the adequacy of the Callaway Plant Employee Concerns Program to address plant employee concerns. The NRC staff review and inspection did not identify further plant issues or inadequacies with the Employee Concerns Program.
- April 2010-present: NRC staff received two petitions from the petitioner related to the October 21, 2003, reactor shutdown event at the Callaway Plant. The petitioner requested that the NRC issue an information notice (IN) to inform the other operating reactor licensees of the shutdown event, and issue new Technical Specifications to ensure reactivity control during certain evolutions of plant operations. The NRC staff reviewed and evaluated the two requests and rejected the petitions based on the rejection criterion that the petitioner did not ask the NRC to take an enforcement-related action (criterion III.C.2.a of MD 8.11). However, the NRC staff continued evaluating the concerns that the petitioner raised in the two petition requests under routine controlled correspondence. The results of that review are expected to include issuance of an IN discussing the shutdown event and the staff's position on the proposed Technical Specification changes.

As stated earlier, the above PRB determination basis specifically compared your petition basis against the listed criterion in paragraph III.C.2.b of MD 8.11. The PRB concluded the following:

- Your assertion that a licensee employee intentionally misled the NRC's OI investigator was reviewed, evaluated, and resolved during the NRC staff's review of a concern from September 2007 (see above) for Callaway Plant, and the PRB

determined that your letter, public meeting discussion, and presentation did not present significant new information.

- Your assertion that another licensee employee was not forthcoming about the knowledge of the October 21, 2003, reactor shutdown was reviewed, evaluated, and resolved during the NRC staff's review of concerns as discussed above for Callaway Plant, and the PRB determined that your letter, public meeting discussion, and presentation did not present significant new information.
- Your assertion that a licensed operator "made several statements indicating that he intentionally allowed the reactor at Callaway Plant to passively shut down" was reviewed, evaluated, and resolved during the NRC staff's review of a concern as discussed above for Callaway Plant, and the PRB determined that your letter, public meeting discussion, and presentation did not present significant new information.
- Your assertion about licensed operator training questioning whether "it was ever taught that it was acceptable to shut down a reactor by allowing passive affects...to cause the reactor to go subcritical" was reviewed, evaluated, and resolved during the NRC staff's review of two concerns as discussed above for Callaway Plant, and the PRB determined that your letter, public meeting discussion, and presentation did not present significant new information.

In summary, the PRB concluded that the issues you raised in the petition regarding the October 21, 2003, reactor shutdown event at Callaway Plant have been reviewed, evaluated, and resolved, and that no new significant information was presented regarding the same event as confirmed in the petition, PRB presentation, and in the PRB public meeting discussion.

Lastly and on January 13, 2011, the petition manager informed you by telephone of the PRB's final recommendation and offered you a second opportunity to address the PRB to provide additional, relevant information in support of your petition. Per your email dated January 14, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML110180241), you declined a second opportunity to address the PRB.

L. Criscione

- 5 -

Although the NRC is unable to accept your petition for review, we thank you for your information on the issues addressed in your petition.

Sincerely,

A handwritten signature in black ink, appearing to read "Timothy J. McGinty". The signature is fluid and cursive, with a large initial "T" and "M".

Timothy J. McGinty, Director
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosures:

1. PRB public meeting transcript from 12/13/2010
2. Petitioner presentation slides

cc: Distribution via ListServ

ENCLOSURE 1

PRB PUBLIC MEETING TRANSCRIPT FROM 12/13/2010

Official Transcript of Proceedings
NUCLEAR REGULATORY COMMISSION

Title: 10 CFR 2.206 Petition RE
 Callaway Plant, Unit 1

Docket Number: 50-483

Location: (phone conference)

Date: Monday, December 13, 2010

Work Order No.: NRC-609

Pages 1-71

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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10 CFR 2.206 PETITION REVIEW BOARD (PRB)

PUBLIC MEETING

RE

CALLAWAY PLANT, UNIT 1

+ + + + +

MONDAY

DECEMBER 13, 2010

+ + + + +

The conference call was held, Tim McGinty, Chairperson of the Petition Review Board, presiding.

PETITIONER: LAWRENCE CRISCIONE

PETITION REVIEW BOARD MEMBERS

- TIMOTHY MCGINTY, Director
- Division of Policy and Rulemaking
- PAT JEFFERSON, Operations Officer
- Office of Investigations
- MICHAEL T. MARKLEY, Chief
- Plant Licensing Branch IV
- TANYA MENSAH, PRB Coordinator
- Nuclear Reactor Regulation
- MOHAN C. THADANI, Senior Project Manager

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Plant Licensing Branch IV

NRC HEADQUARTERS STAFF

MICHAEL CLARK, Attorney

Office of the General Counsel

ANTON VEGEL, Acting Director

Division of Reactor Safety

COUNSEL FOR AMEREN

TIMOTHY WALSH, ESQ.

Pillsbury Winthrop Shaw Pittman, LLP

2300 N Street, N.W.

Washington, D.C. 20037-1122

1
2
3 P-R-O-C-E-E-D-I-N-G-S

4 (1:31 p.m.)

5 MR. MCGINTY: Hi. Good morning.
6 We're going to -- or good afternoon. We're going
7 to start soon. This is the NRC in Headquarters.

8 MR. THADANI: Good afternoon. This
9 is Mohan Thadani. I would like to thank everybody
10 for attending this meeting. I am the Callaway
11 Plant Project Manager. We are here today to allow
12 the petitioner, Mr. Lawrence Criscione, to address
13 the Petition Review Board regarding his stance
14 here for 2.206 Petition dated September 17, 2010.

15 I am the Petition Manager for this Petition.

16 Please let me know if you're hearing
17 me alright. If there's any difficulty, let me
18 know.

19 MR. STELZER: What was your name
20 again, sir?

21 MR. THADANI: Mohan Thadani.

22 MR. STELZER: Okay. Could you spell
23 that?

24 MR. THADANI: M-O-H-A-N T-H-A-D-A-
25 N-I.

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1 MR. STELZER: Okay. Thank you.

2 MR. THADANI: The Chairman of the
3 Petition Review Board, or PRB, is Mr. Timothy
4 McGinty, Director, Division of Policy and
5 Rulemaking, Office of Nuclear Reactor Regulation.

6 As part of the PRB's preliminary review of this
7 petition, the petitioner, Mr. Lawrence Criscione,
8 has requested this opportunity to address the PRB
9 in person. This meeting is scheduled from 1:30
10 p.m. to 3:00 p.m. Eastern Time. The meeting is
11 being recorded by the NRC Operations Center and is
12 being transcribed by a court reporter. The
13 transcript will become a supplement to the
14 petition. The transcript will also become
15 publicly available and will be the PRB meeting
16 summary.

17 I'd like to open this meeting with
18 introductions. As we go around the room, please
19 be sure to clearly state for the record your name,
20 your position, and office that you work for within
21 the NRC. I'll start off.

22 My name is Mohan Thadani. I'm from
23 NRC's Office of Nuclear Reactor Regulation. We'll
24 go on the left.

25 MR. MCGINTY: I'm Timothy McGinty.

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1 I'm the PRB Chair. I'm also in the Office of
2 Nuclear Reactor Regulation, the Director of the
3 Division of Policy and Rulemaking.

4 MR. MARKLEY: Mike Markley, Chief of
5 Plant Licensing Branch IV, Divisions of Operating
6 Reactor Licensing in Office of Nuclear Reactor
7 Regulation.

8 MS. MENSAH: My name is Tanya Mensa.
9 I'm the 2.206 Coordinator in the Office of
10 Nuclear Reactor Regulation.

11 MR. JEFFERSON: Pat Jefferson,
12 Operations Officer, Office of Investigations.

13 MR. MICHAEL CLARK: Michael Clark.
14 I'm an attorney in the Office of the General
15 Counsel.

16 MR. POLICKOSKI: James Polickoski,
17 Division Operator Reactor Licensing, Project
18 Manager for the Callaway Plant.

19 MR. CRISCIONE: Lawrence Criscione.
20 I'm the petitioner.

21 MR. VEGEL: I'm Tony Vogel. I'm the
22 Acting Director, Division of Reactor Safety in
23 Region IV.

24 MR. JOE CRISCIONE: Joe Criscione, no
25 affiliation.

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1 MR. GIITTER: Joe Giitter. I'm the
2 Director of the Division of Operating Reactor
3 Licensing.

4 MR. MCGINTY: Please speak up.

5 MR. WALSH: My name is Tim Walsh.
6 I'm an associate with Pillsbury, and I'm counsel
7 for Ameren.

8 WEIL: Jenny Weil. I'm with the NRC
9 Office of Congressional Affairs.

10 MS. ROSENBERG: Stacy Rosenberg. I'm
11 Branch Chief of the Generic Communication Branch
12 in Division of Policy and Rulemaking.

13 MR. THADANI: We have completed
14 introductions at the NRC Headquarters. At this
15 time, are there any NRC participants from
16 Headquarters on the phone?

17 (No response)

18 MR. THADANI: Hearing none.

19 MR. GELFAND: Marty Gelfand,
20 Congressman Kucinich's office.

21 MR. THADANI: Are there any NRC
22 participants in the Regional Offices on the phone?

23 MR. TAYLOR: Nick Taylor, the Senior
24 Allegation Coordinator in NRC Region IV.

25 MR. DEESE: Rick Deese. I'm a Senior

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1 Project Engineer for the Callaway Plant in Region
2 IV.

3 MR. THADANI: Are there any
4 representatives for the licensee on the phone?

5 PARTICIPANT: Any representatives?

6 MR. MCGINTY: Yes. The question is
7 any representatives for the licensee, that would
8 be Callaway Plant, on the phone.

9 (No response)

10 MR. MCGINTY: Okay. Hearing none?

11 MR. THADANI: Mr. Criscione, would
12 you please introduce yourself for the record?

13 MR. CRISCIONE: I'm Lawrence
14 Criscione. I'm the Petitioner. I used to be a
15 senior reactor operator at Callaway Nuclear Plant.

16 MR. THADANI: Are there any others,
17 such as members of the public at the NRC
18 Headquarters?

19 MR. GELFAND: I wasn't sure if you
20 had acknowledged me, Marty Gelfand, Congressman
21 Kucinich's office.

22 MR. THADANI: Yes, we have - you're
23 recorded.

24 MR. DRICKS: Mohan, this is Victor
25 Dricks, the Public Affairs Officer in Region IV.

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1 MR. THADANI: Okay. Thank you.

2 MS. MOTT OXFORD: State
3 representative Jeanette Mott Oxford from the 59th
4 Missouri House District.

5 MS. MCCOLLUM: Maureen McCollum, KBAI
6 Radio in Columbia, Missouri.

7 MR. THADANI: Are there any other
8 members of the public on the phone?

9 MR. LOUIS CLARK: Louis Clark,
10 Government Accountability Project.

11 MR. TOMICH: This is Jeff Tomich.
12 I'm a reporter with the St. Louis Post-Dispatch.

13 MR. STELZER: C.D. Stelzer, a
14 reporter for FOCUS/Midwest magazine.

15 MS. DREY: Kay Drey, member of the
16 Board of Beyond Nuclear and a member of the
17 Missouri Coalition for the Environment.

18 MR. SIPOS: This is John Sipos, State
19 of New York, Office of the Attorney General.

20 MR. THADANI: I would like to
21 emphasize that we each need to speak clearly and
22 loudly to make sure the court reporter can
23 accurately transcribe this meeting. If you do
24 have something that you would like to say, please
25 first state your name for the record.

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1 MS. ROSENBERG: Mohan, I think we
2 have a few more people that joined in the room.

3 MR. BEAULIEU: I'm Dave Beaulieu,
4 Generic Communications Branch.

5 MS. XIE: I'm Yanmei with Platts
6 Nucleonics.

7 MR. THADANI: Any other people here
8 in the meeting room?

9 MR. POLICKOSKI: For those new
10 arrivals, make sure you get on the attendance
11 list, please.

12 MR. MCGINTY: Do we have any
13 questions regarding the folks that identified
14 themselves on the phone that we need to get
15 clarity on for our purposes for an attendance
16 list?

17 MR. POLICKOSKI: For the Missouri
18 State legislator, what's your district? That's
19 the only part I missed.

20 MS. MOTT OXFORD: I'm in District 59
21 which is Holding and St. Louis City.

22 MR. POLICKOSKI: And then from the
23 State of New York, Attorney General's Office, what
24 was your last name, sir?

25 MR. SIPOS: John Sipos, S as in Sam-

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1 I-P as in Paul-O-S as in Sam.

2 MR. POLICKOSKI: Sipos. Thank you,
3 sir.

4 MR. TAYLOR: This is Mike Taylor,
5 Missouri Public Service Commission staff member.

6 MR. THADANI: Okay. Now for those
7 dialing into the meeting, please remember to mute
8 your phones to minimize the background noise or
9 distractions. If you do not have a mute button,
10 this can be done by pressing star 6. To unmute,
11 press star 6 again. Thank you. I would like to
12 now turn the meeting over to the PRB Chairman, Mr.
13 Timothy McGinty.

14 MR. MCGINTY: Good afternoon. I'm
15 Tim McGinty. I'd first like to share some
16 background information on our process. Section
17 2.206 of 10 CFR describes the petition process,
18 the primary mechanism for the public to request
19 enforcement action by the NRC in a public process.

20 This process permits anyone to petition the NRC
21 to take enforcement-type action related to NRC
22 licensees or licensed activities.

23 Depending on the results of the
24 petition evaluation and consistent with the NRC
25 Safety Mission Focus, the NRC could modify,

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1 suspend, or revoke an NRC-issued license or take
2 any other appropriate enforcement action to
3 resolve a problem. The NRC staff's guidance for
4 the disposition of 2.206 petition requests is in
5 Management Directive 8.11 which is publicly
6 available.

7 After the NRC receives a petition,
8 the Executive Director for Operations, also known
9 as the EDO, assigns it to the Director of the
10 appropriate office for evaluation and response.
11 The original incoming petition is sent to that
12 office and a copy of the petition is sent to the
13 Office of the General Counsel, OGC. If the
14 petition meets the criteria for review in
15 accordance with Management Directive 8.11, the
16 petition is evaluated for safety impact and
17 significance, and the Petition Review Board, or
18 PRB, is conducted to provide the petitioner the
19 opportunity to provide comments.

20 Following the PRB and any follow-on
21 evaluation, should new information be provided,
22 the office director prepares the written decision
23 addressing the issues raised in the petition. The
24 office director can grant, partially grant, or
25 deny the petition. Afterward, the Commission, on

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1 its own initiative, may review the director's
2 decision within 25 days of the date of the
3 decision, although it will not entertain a review
4 of their review of the director's decision.

5 The petition is being reviewed
6 consistent with the above guidance as per
7 Management Directive 8.11. The purpose of today's
8 meeting is to give the petitioner an opportunity
9 to provide any additional explanation or support
10 for the petition before the PRB's initial
11 consideration and recommendation.

12 PARTICIPANT: I'm listening to an NRC
13 hearing where one of the kid's friends testified,
14 so it's an hour and a half.

15 MR. MCGINTY: Well, you're not on
16 mute, ma'am, so everybody in the meeting can hear
17 that discussion, so I'll reiterate. For those
18 dialing into the meeting, please remember to mute
19 your phones to minimize any background noise or
20 distractions. If you don't have a mute button,
21 this can be done by pressing the keys, star 6. To
22 unmute, press the star 6 keys again. So thank you
23 for that consideration for all folks.

24 This meeting is not a hearing nor is
25 it an opportunity for the petitioner to request or

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1 to question or examine the PRB on the merits or
2 the issues presented in the petition request. No
3 decisions regarding the merits of this petition
4 will be made at this meeting.

5 Following the meeting, the Petition
6 Review Board will conduct its internal
7 deliberations. The outcome of this internal
8 meeting will be discussed with the petitioner at a
9 later date. The PRB typically consists of a
10 Chairman, usually a manager at the Senior
11 Executive Service level at the NRC. It has a
12 Petition Manager and a PRB Coordinator. Other
13 members of the Board are determined by the NRC
14 staff based on the content of the information in
15 the petition request.

16 So at this point in time, I'd like to
17 introduce the Board. Again, I'm Timothy McGinty,
18 the Petition Review Board Chairman. Mohan Thadani
19 addressed us earlier. He's the Petition Manager
20 for the petition under discussion today, and Tonya
21 Mensah is the Office's PRB Coordinator. Our
22 technical staff includes many of the folks that
23 you've already heard from today: Anton Vegel from
24 NRC's Region IV, David Beaulieu, Kristy Bucholtz
25 from the Division and Incident Support, Tech Spec

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1 Branch, Greg Cwalina from the Division of
2 Engineering in NRR, Nick Taylor from Region IV;
3 he's also their Regional Allegations Coordinator,
4 Pat Jefferson represents the Office of
5 Investigations, and, of course, Michael Clark from
6 OGC.

7 As described in our process, the NRC
8 staff may ask clarifying questions in order to
9 better understand the petitioner's presentation
10 and to reach a reasoned understanding as well as a
11 decision as to whether to accept or reject the
12 petitioner's request for review under the 10 CFR
13 2.206 process.

14 So I'd like to summarize the
15 background to and the scope of the petition under
16 consideration and the NRC's activities to date.
17 Mr. Lawrence Criscione -- am I pronouncing your
18 name correctly, Criscione --

19 MR. CRISCIONE: Criscione, yes.

20 MR. MCGINTY: -- Criscione --
21 previous employee of Union Electric Company and
22 currently employed by the NRC previously submitted
23 two petitions pursuant to 10 CFR 2.206 by two
24 letters dated April 29 and 30, 2010. The
25 petitions related to an event on October 21, 2003,

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1 at Callaway Plant, Unit 1 where NRC licensed
2 operators allowed the nuclear reactor to passively
3 shut down without the licensed operators inserting
4 the control rods in a timely manner. This
5 condition went on for over 100 minutes. Mr.
6 Criscione asked that the NRC issue an information
7 notice to inform the other operating reactors
8 licensees of the event and to issue new technical
9 specifications to ensure reactivity control during
10 certain evolutions of the plant operations.

11 NRC reviewed the two requests and
12 determined that Mr. Criscione had not asked NRC to
13 take an enforcement-related action, which is one
14 of the criteria for accepting a 10 CFR 2.206
15 petition under Management Directive 8.11.
16 Consequently, the NRC staff rejected the two
17 petition requests and continued the evaluations of
18 petitioner's concerns under routine controlled
19 correspondence. The NRC staff has completed the
20 review of the petitioner's concerns and is close
21 to issuing the proposed Information Notice, IN,
22 and the NRC staff's conclusions regarding the
23 proposed technical specification changes.

24 For the current petition request, on
25 September 17, 2010, Mr. Criscione requested that

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1 the NRC issue a Demand for Information from Union
2 Electric Company, the licensee for Callaway Plant,
3 Unit 1, pursuant to 10 CFR 2.204 to obtain
4 information related to the October 21, 2003
5 shutdown for the actions that are requested by Mr.
6 Criscione.

7 The petitioner believes that violations have
8 occurred in that a licensee employee intentionally
9 misled the NRC's Office of Investigations
10 Investigator and another licensee employee was not
11 forthcoming about the knowledge of the October 21,
12 2003 reactor shutdown. Mr. Criscione cites
13 several excerpts from the Office of
14 Investigations' transcript to conclude that the
15 licensee's operators testified that they
16 intentionally allowed a passive shutdown of the
17 reactor. Mr. Criscione questions the licensees'
18 operators training that allows them to
19 intentionally allow the plant to passively shut
20 down.

21 An overview of the NRC's actions to
22 date: On September 29, 2010, Mr. Thadani, the NRC
23 Petition Manager, contacted Mr. Criscione to
24 explain the 10 CFR 2.206 petition review process.

25 During the discussions, Mr. Criscione requested

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1 an opportunity to address the PRB in person to
2 discuss the petition request after the PRB met
3 internally to make the initial recommendation.

4 On November 3, 2010, the PRB met
5 internally to discuss the petition and made an
6 initial recommendation that the petition met one
7 of the rejection criteria on the basis that the
8 issues raised by the petitioner have already been
9 reviewed by Region IV in 2007 and 2008 allegations
10 submitted by the petitioner. Those issues have
11 been resolved. Region IV staff concluded that
12 there are no significant issues raised by the
13 petitioner in his September 17, 2010 petition.

14 The petitioner was informed of the
15 PRB's initial recommendation on November 22, 2010.

16 The petitioner also was informed that the public
17 version of his 2.206 petition was redacted to
18 remove the names of other individuals mentioned in
19 the petition.

20 At the petitioner's request, we have
21 convened this public meeting so that the
22 petitioner can address the PRB. Following this
23 public meeting, the PRB will meet internally to
24 make a final recommendation on the petition.

25 Before I turn the meeting over to Mr.

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1 Criscione, I would like to remind those on the
2 phone again to please mute your phones to minimize
3 background noise and distractions. In addition,
4 since this meeting is being transcribed, if you do
5 have something that you would like to say, please
6 first state your name for the record.

7 Finally, since this is a public
8 meeting and the names and position titles of other
9 individuals mentioned in the petition have been
10 redacted to protect their privacy, I would ask
11 that the PRB members and the petitioner please
12 refrain from using the names of those other
13 individuals and their position titles mentioned in
14 the 2.206 petition.

15 At this time, I will turn the meeting
16 over to Mr. Criscione so that he can lead us
17 through his presentation. As discussed with you
18 previously, Mr. Criscione, you'll have
19 approximately 45 minutes for your presentation.

20 MR. CRISCIONE: Thank you. Good
21 afternoon. I'd like to start off by saying that
22 many of you on the phone know where I currently
23 work. As Mr. McGinty just pointed out, I've been
24 told that the rules for this meeting are that I'm
25 not allowed to state where I currently work, and I

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1 am not allowed to state the names or positions of
2 the individuals at Ameren who were involved in
3 this incident.
4

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1 With regard to where I work, in my
2 role here today I am not representing my current
3 employer, so please do not portray my remarks as
4 the official view of my employer. I have taken
5 annual leave to attend this meeting, and I am in
6 no way representing my employer in a work role.

7 At some point today, I will likely
8 use the pronoun "we". Do not take the use of the
9 word "we" for speaking for my employer. When I
10 use the word "we," I either mean "we" the "public"
11 or "we the professionals who make up the nuclear
12 industry". There are some beliefs and practices
13 that we in the nuclear industry all recognize and
14 hold dear. When I use the pronoun "we" in
15 reference to my professional peers, I am
16 expressing a belief which I believe my peers at
17 the NRC, my peers at Callaway Plant, my fellow
18 veterans from the nuclear Navy, my peers at the
19 Professional Reactor Operator Society, my peers at
20 the Institute of Nuclear Power Operations, all
21 will agree with. I am not authorized to speak for
22 any of these organizations, and if any of them
23 disagree with what I have to say, I welcome their
24 feedback.

25 With regard to the names of the

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1 individuals from Ameren who were involved in this
2 incident, I believe it is important that the
3 public know their names and their current and
4 former positions at the plant. These individuals
5 were no mere employees. In 2003, when they left
6 the control rods withdrawn to cover up the passive
7 reactor shutdown, they were in important roles of
8 significant responsibility with regard to safe
9 nuclear operations. This incident was successfully
10 covered up until 2007. Since 2007, these
11 individuals have been promoted by Ameren to even
12 more important positions of leadership, in spite
13 of the Chief Nuclear Officer being aware of the
14 allegations against them. I will, however,
15 respect the NRC's wishes and not mention them by
16 either name or position.

17 PARTICIPANT: Would you mind getting
18 closer to the microphone?

19 MR. MCGINTY: Stand by. We're going
20 to move the microphone closer.

21 MR. CRISCIONE: It is my
22 understanding that the public will not have a
23 chance to ask me questions at the end of this
24 presentation. If any of you on the phones have
25 any questions regarding the events being discussed

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1 today, please feel free to contact me. My cell
2 phone number, my home address and, my personal
3 email address can be found on just about every
4 piece of correspondence I have written. I do,
5 however, ask that you do not contact me at work.
6 And although the NRC organizers of this meeting
7 cannot give out the contact information for
8 members of the public, they can certainly point
9 you to the location of my petition. My contact
10 information is contained on the first two pages of
11 my petition.

12 It has been suggested to me that I
13 start off by discussing what I am ultimately
14 attempting to accomplish and how the meeting today
15 plays a part in it. My ultimate goal is to ensure
16 Callaway Plant is led by honest people. It is to
17 ensure that either the current men in the most
18 senior positions at Callaway Plant are replaced,
19 or that these men demonstrate that they have
20 learned from their past mistakes and are capable
21 of honestly operating a nuclear reactor plant.

22 How will they demonstrate this? By
23 honestly admitting to what occurred on October 21
24 , 2003. By admitting that the passive shutdown of
25 the reactor initially went unnoticed by their

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1 operators and by preparing a Significant Event
2 Report for the rest of the nuclear industry to
3 learn from this incident.

4 How does my petition fit into that
5 ultimate goal? I believe there are serious
6 discrepancies in the sworn testimony that Ameren
7 personnel made to the NRC Office of
8 Investigations. I believe that if Ameren is
9 forced to account for those discrepancies via a 10
10 CFR 2.204 Demand for Information, then the senior
11 managers at Callaway Plant who were involved in
12 this incident in 2003, and who have covered up
13 this incident for the past 7 years, will no longer
14 be able to succeed in keeping it from being
15 investigated.

16 My purpose here today is to convince
17 the Petition Review Board to incorporate my
18 petition into their review process. I have been
19 told that the Petition Review Board has already
20 made a preliminary decision to reject my petition
21 based on their belief that my concerns were
22 already investigated through the allegation
23 process and I am presenting no new information.
24 Although I agree that all the information I am
25 presenting was already presented to the NRC

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1 through the allegation process, I strongly
2 disagree that the allegation process adequately
3 investigated this information.

4 When I say that the allegation
5 process did not adequately investigate the
6 information I provided to them, be aware my
7 standard for adequacy is not their bureaucratic
8 policies. My standard for adequacy is that of a
9 member of the public and that of a nuclear
10 professional. I understand that by the NRC's
11 bureaucratic policies, my concerns were, quote,
12 "adequately", unquote, investigated, because these
13 processes allow dishonesty to be ignored as long
14 as the perpetrators were lucky and did not create
15 an incident which immediately jeopardized public
16 safety. We cannot accept dishonesty regardless of
17 whether or not luck prevented an accident from
18 occurring.

19 I do not expect to succeed today. My
20 expected outcome is that the NRC will insincerely
21 thank me for bringing forth my concerns, and then
22 the Office of Public Affairs will issue a
23 statement downplaying my concerns and overplaying
24 the thoroughness and vigilance of the NRC's
25 investigations of my concerns. But I am here

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1 today to try. As a professional engineer, as a
2 former NRC licensed senior reactor operator, and
3 as a former nuclear Navy officer, I am expected to
4 not turn my back on significant incidents which I
5 know about, and which have not yet been resolved.

6 At this point, I will give a brief
7 synopsis of what occurred at Callaway Plant on the
8 morning of October 21, 2003. I apologize to those
9 on the phone who cannot see the graphical data,
10 but please bear with me as this is the only
11 graphic in my presentation today. This is going
12 to be very brief. Those wanting the details
13 should contact the Union of Concerned Scientists
14 and ask them for a copy of their issue brief on
15 the incident.

16 Prominent on this graph is the trace
17 of the intermediate range nuclear instruments. As
18 you can see, the nuclear fission reaction started
19 to shut down at 10:13 a.m., in response to a
20 temperature spike which occurred when the
21 operators tripped the turbine. And for those of
22 you in the room, that's where that graph -- 10:13
23 is marked on there, but it's no longer horizontal.

24 It starts to drop off. By 10:39 a.m., all the
25 delayed neutron precursors were gone, and the

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1 reactor was in the Source Range without any Source
2 Range Nuclear Instruments energized. And on the
3 graph, it's where it starts to level off at the
4 lower part.

5 Over the next 45 minutes, the passive
6 build up of transient Xenon-135 caused subcritical
7 multiplication to lower, resulting in the Source
8 Range Nuclear Instruments automatically energizing
9 at 1:25. What I'm talking about is that
10 horizontal part, the second part. It does have a
11 slight slope to it. That's the subcritical
12 multiplication lowering due to Xenon building up.

13 It is my belief that the NRC licensed
14 reactor operators did not recognize the reactor
15 was subcritical between 10:13 and 10:25 am. I
16 state this because there is no logical reason why,
17 had they known the reactor was shut down, they
18 would not immediately insert the control rods.
19 There was no regulatory or commercial advantage to
20 be had by leaving the control rods withdrawn. All
21 of you on the Petition Review Board who have ever
22 operated a nuclear reactor realize this. You all
23 realize that there was no reason not to insert the
24 control rods.

25 At 10:34 a.m., the reactor operators

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1 placed cooling tower blowdown in service. This
2 activity was in no way emergently necessary. It
3 is done for the long-term health of the cooling
4 tower. It does not take precedence over actively
5 controlling the nuclear fission reaction. NRC
6 licensed operators would have never prioritize
7 this activity over inserting the control rods had
8 they recognized the reactor was subcritical.

9 Also at 10:34 a.m., the reactor
10 operators coordinated taking one of the intake
11 pumps out of service.

12 (Audio interference from
13 telephone/Pause.)

14 MR. CRISCIONE: We're getting a
15 feedback on the PSC website.

16 MR. POLICKOSKI: Again, can you all
17 please hit star 6 to mute out your phone if you
18 don't actually have a mute feature on your phone.

19 There's a recording playing there, folks. Thank
20 you.

21 PARTICIPANT: We just muted that
22 particular line.

23 MR. CRISCIONE: Thank you.

24 MR. VEGEL: Larry, if I may? I think
25 in the context of making sure that the PRB

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1 understands the facts of the issue, maybe back up
2 a little bit about how the plant got into this
3 situation? You know, this is on October 21st,
4 just a little bit of background to it, your
5 understanding of the event, you know, where they
6 got to their lower power, you know, from a bigger
7 scheme, if you wouldn't mind?

8 MR. CRISCIONE: Yes. I can do that
9 now if that's a better time to do it.

10 MR. VEGEL: Would be of benefit.

11 MR. CRISCIONE: Okay. Just a little
12 bit of a background. For those in the room, you
13 can go to Slide 38 -- or 37. Okay. What happened
14 was on October 20, 2003, at 7:21 a.m., a safety-
15 related inverter failed at Callaway Plant. And by
16 the Plant's technical specifications, they had 24
17 hours to fix the inverter or shut down. So that
18 24-hour clock expired at 7:21 a.m. on October 21,
19 2003.

20 At 1 in the morning on October 21st,
21 the Plant started to down-power, which is the
22 preliminary steps you take to do a complete plant
23 shutdown. So over the next 10 hours, they lowered
24 power at a rate of 10 percent per hour. At 9:35
25 a.m. on October 21, 2003 -- and I should mention

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1 that at 7:21 a.m., their Tech Spec expired because
2 they didn't fix the inverter. They didn't have to
3 be down at that time. They now had another 6
4 hours to go down. So at 9:35 a.m., they were at
5 10 percent reactor power, and they were about 3
6 hours ahead of schedule. So they quit lowering
7 reactor power, stabilized the turbine at, I think
8 it was, 9 percent power.

9 And I do not know for certain why
10 they did that, but I believe they did it to allow
11 their electricians to have some more time to fix
12 the broke inverter. If they were able to fix the
13 inverter, they could shut down. It's not my place
14 to speak for the NRC, but it was always my
15 understanding as a licensed operator that the NRC
16 was okay with that pursuit as long as you could
17 safely shut down in your timeframe allotted.
18 There is advantage to the public to avoid an
19 unnecessary shutdown if you are able to fix that
20 inverter. So that's what they were doing.

21 However, they failed to account for
22 the radioactive isotope Xenon-135, which builds up
23 when you're doing a downpower. And Xenon-135 does
24 what we in the industry call add negative
25 reactivity. It makes the -- it kind of brakes the

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1 nuclear fission reaction. So as this builds up,
2 the reactor has a tendency to want to continue to
3 shut down. Normally, you have to account for that
4 isotope by diluting or pulling control rods.
5 However, when you're actively downpowering, you
6 are taking that isotope to your advantage, because
7 it's allowing you -- when you downpower, you would
8 normally have to borate if it wasn't for Xenon
9 building up. So the fact that Xenon was building,
10 it helped them out on the downpower.

11 However, once they stabilized power
12 at 9 percent, they were no longer downpowering,
13 and they failed to adequately compensate for
14 Xenon. And as a result, the average coolant
15 temperature of the reactor began to lower. It
16 lowered 9 degrees over the next 25 minutes. It
17 lowered below the minimum temperature for critical
18 operations. It exceeded that level, which is 551
19 degrees, at 10 a.m. Also at 10 a.m., the letdown
20 system isolated, and it isolated on low
21 pressurizer level. When you lower reactor coolant
22 temperature, the water in the plant takes up less
23 volume, cause the level in the pressurizer to go
24 down. The circuitry sensed it as a loss of
25 coolant accident, so it -- or it sensed it -- it

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1 gave a signal to shut off the letdown system,
2 basically, because if there had been a loss of
3 coolant accident. If they had to lowering for
4 other reasons, that's one of the engineered
5 responses that would be taken.

6 So this is a confusing time for the
7 crew. They do not recognize that it's Xenon
8 that's causing the temperature transient.
9 Coincident with them -- at 9:35, with the crew
10 ceasing the downpower, they also put some
11 steamline drains in service. And these steamline
12 drains didn't cause the reactor to cool off, but
13 since the crew did it coincident with stopping the
14 downpower, they kind of thought that that's what
15 was happening, so they were troubleshooting those
16 steamline drains. Some weren't indicating
17 properly. They were below the minimum temperature
18 for criticality. They had a letdown isolation.

19 It was a very confusing time in the
20 control room, and at 10:13 a.m., the shift
21 manager gave the order to the reactor operators to
22 trip the turbine to help them recover temperature
23 and get back above the minimum temperature for
24 critical operations. And this was a wise step to
25 take. They tripped the turbine at 10:13.

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1 Tripping the turbine caused reactor coolant
2 temperature to raise, which is what they wanted to
3 do. They wanted to recover above the minimum
4 temperature for critical operations. But that 4
5 degree temperature spike ended up shutting the
6 reactor down. And that's just kind of how, in the
7 United States, commercial pressurized water
8 reactors are designed. You get a spike in
9 temperature like that, it tends to want to, insert
10 negative reactivity, shut you down.

11 Now everything I just talked about,
12 you know, in response to Mr. Vogel's question, I
13 don't think was done wrong at this point. I mean
14 I think that there are those who would judge the
15 operators, say they should have been able to hold
16 the plant. I'm not one of them. I think they
17 were given a very difficult situation, and, yes,
18 I'd like to think that I, as an operator, would
19 have recognized I needed to compensate for Xenon,
20 but that's not what this is about. It's not about
21 human errors made by them.

22 But now after they tripped the
23 reactor, reactor power started to decay into the
24 Source Range, and it takes about 25 minutes for
25 that to occur.

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1 MR. VEGEL: The reactor -- I think
2 you meant the turbine, right?

3 MR. CRISCIONE: I'm sorry, yes.
4 Thank you, Tony.

5 MR. VEGEL: You're welcome.

6 MR. CRISCIONE: After they tripped
7 the turbine, reactor power started to decay into
8 the source range. Now once your turbine is
9 tripped, you are no longer making electricity.
10 There is really no reason to maintain the reactor
11 critical. You're going to have to shut down
12 anyways because of this inverter. It is true that
13 you could remain critical without the turbine
14 online, give the electricians some more time to
15 fix the inverter which is, I believe, what they
16 thought they were doing. But once you know that
17 you're shutting down, that you're headed to the
18 source range, that you can't recover, there's no
19 reason to leave those control rods out.

20 And those of you in the room can see
21 on this graph that's displayed, one of the traces
22 on that graph, the green one, is what we call
23 Delta T. It's the primary calorimetric. It gives
24 you a reading of the power coming out of the
25 reactor core. Well, that measures gross thermal

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1 power. It doesn't necessarily measure fission
2 power. And you get to the point around 2 percent
3 power where there's 2 percent power coming the
4 decay -- from the decay of the nuclear waste
5 products that are stored in the reactor core. And
6 so that temperature -- or that power trace is
7 going to stabilize out at around 2 percent power.

8 And it's my opinion, because that's
9 the instrument you normally look at to measure
10 reactor power, it's my opinion that they thought
11 they were still at 2 percent power. They didn't
12 recognize that they were heading to the source
13 range. The only instrument in the control room
14 that would tell you that is the Intermediate Range
15 Nuclear Instruments, which on this graph, you can
16 see decaying off, which you normally do not look
17 at when you're doing a shutdown. Those are
18 instruments that are human factored to conduct a
19 reactor startup and measure out ion chamber amps.

20 I don't know how many of you know
21 what an ion chamber amp is. Most people don't. I
22 don't. I know what percent reactor power is
23 though. And so that's the meters they use, the
24 ones that read percent reactor power. But those
25 meters were telling them that they had 2 percent

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1 power because those meters are effected by decay
2 gammas and decay heat.

3 So what happened was as the reactor
4 was -- as reactor power was decaying into the
5 source range, the crew was doing ancillary tasks.

6 They were manipulating equipment on the cooling
7 tower. They were manipulating equipment down at
8 the intake. All these tasks take reactor
9 operators to do. They were manipulating equipment
10 in steam plant related tasks, not that any of
11 these tasks aren't important.

12 You know, it's important to --
13 Callaway Plant has 3 condensate pumps. At 11:01,
14 they shut off the second running condensate pump.

15 You know, it's important to save electricity,
16 save the rate payers a little bit of money, but it
17 does not take precedence over actively controlling
18 the fission reaction in the reactor core.

19 And I don't believe that had those
20 operators known that they were subcritical, that
21 they would have done those tasks over inserting
22 the control rod, because inserting the control
23 rods takes about a dozen minutes or less. I mean
24 on that day, I think it took 10 minutes, from
25 12:05 to 12:15 when they finally got around to

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1 doing it. When you coordinate shutting down an
2 intake pump, that takes about 10 minutes. When
3 you coordinate putting cooling tower blowdown in
4 service, that takes about 15 minutes. When you
5 raise letdown flow form 75 gallons per minute to
6 120 gallons per minute, that takes about 30
7 minutes. No reactor operator is going to do those
8 tasks before he inserts control rods if he had
9 known the reactor was shut down.

10 So where I disagree with the
11 operators at Callaway is when they told the Office
12 of Investigations that they knew the reactor was
13 going to shut down before tripping the turbine, I
14 think they told them that because they don't want
15 to admit that it took them 67 minutes to recognize
16 that the reactor had shut down, and they don't
17 want to admit that after they recognized the
18 reactor had shut down at 11:25 a.m. when the
19 Source Range Nuclear Instruments energized, that
20 they dragged their feet and left the control rods
21 withdrawn for an extra 40 minutes to cover up that
22 inadvertent shutdown, because when they ended up
23 inserting the control rods, it was 12:04 p.m.

24 The upper management of the plant
25 expected the reactor to shut down at noon. By

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1 dragging their feet that extra 40 minutes, they
2 were able to hide that inadvertent reactor
3 shutdown from the upper management at the plant.
4 The way you normally shut down the plant -- the
5 only way you shut down the plant per the procedure
6 is to insert the control rods. So when the upper
7 management found out at 12:04 that the control
8 rods were being inserted, they naturally assumed
9 that the reactor was shutting down. Noone outside
10 the control room knew that the reactor had
11 actually shut down 106 minutes earlier.

12 And I agree with Region IV that when
13 it comes to risk to the public, this is a very
14 minor incident compared to, you know, a lot of
15 risks out there. I mean the reactor was shut down
16 on Xenon.

17 Where I disagree with Region IV is
18 that we can accept operators who cover up
19 mistakes, who lie to their upper management, who
20 lie to the NRC Office of Investigations. And I
21 think when it comes to lying, when it comes to
22 your honesty, the probabilistic risk assessment
23 does not matter. There's no risk threshold for
24 which it is okay to lie to the NRC, okay to lie to
25 the public.

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1 MR. VEGEL: Thank you for providing
2 that extra insight and background to -- into how
3 the Plant got to the position and things. Thank
4 you.

5 MR. CRISCIONE: Let me just review my
6 notes real quick, because I -- if I just go by my
7 speaking notes, I'll re-cover a lot of stuff I
8 just talked about. Yes, why don't we go to Slide
9 3. Okay. I'll show you the slide anyways, but
10 it's a reiteration of what I just said.

11 It is not disputed that the reactor
12 at Callaway Plant was allowed to passively shut
13 down on October 21, 2003. What is in dispute is
14 whether or not the operators consciously allowed
15 the passive reactor shutdown to occur or the
16 operators inadvertently allowed the passive
17 reactor shutdown to occur.

18 The following slides contain facts
19 necessary to my argument. If the NRC rejects my
20 petition, I ask that they include in their letter
21 to me documentation of which, if any, of the
22 following facts they disagree with and why.
23 Please do not answer this request with vague
24 phrases like "not substantiated." If an item is
25 unknown, please explain why the NRC does not need

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1 to know the answer to it. For those of you on the
2 phones who cannot see these slides, they are
3 essentially the text which I am reading.

4 In the procedure for conducting a
5 normal reactor shutdown at Callaway Plant, the
6 only method provided for ceasing the nuclear
7 fission reaction is to insert the control banks.
8 The procedure assumes the reactor is critical
9 prior to inserting the control banks and assumes
10 the control banks are used to shut down the
11 nuclear fission reaction.

12 The Reactor Shutdown procedure at
13 Callaway Plant does not contain any provisions for
14 intentionally shutting down the nuclear fission
15 reaction by removing steam demand and relying on
16 passive effects such as temperature increases and
17 Xenon-135 buildup to cause the reactor to go
18 subcritical and enter the source range.

19 In his testimony, the licensed
20 operator, whose name I have been instructed I
21 cannot mention, claims he was aware that shortly
22 after tripping the main turbine, the reactor would
23 passively shut down, quote, "because of the
24 continual buildup of poisons and not having a
25 steam demand on the reactor anymore", unquote.

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1 The claims made by the licensed
2 operator amount to a claim that the passive
3 reactor shutdown was intentionally conducted.
4 That is, the operator is claiming he was
5 consciously aware that his actions would cause the
6 reactor to passively shut down, and, since he
7 could actively drive the shutdown by either
8 inserting or tripping the control rods, but he
9 chose instead to allow the reactor to passively
10 shutdown, that the passive shutdown was
11 intentionally allowed to occur.

12 Intentionally allowing the reactor to
13 shut down is a procedural violation, since the
14 only method for shutting down the reactor per the
15 reactor shutdown procedure is to shut it down by
16 actively inserting the control banks. Since
17 operators at Callaway Plant violated their
18 procedures, enforcement action may be warranted.
19 An acceptable enforcement action is to issue a
20 Demand for Information to gain a better
21 understanding of why the operators violated their
22 procedures by intentionally allowing the reactor
23 to shut down. And that is why I'm here today --
24 to ask for that Demand for Information.

25 In his April 1, 2008 sworn testimony

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1 regarding off-normal procedures OTO-BG-00001 and
2 OTO-NN-00001, the Ameren licensed operator, whose
3 name I have been instructed I cannot mention,
4 stated, quote "Again, so now we're in two
5 off-normal procedures and responding to those, and
6 that's preventing us from going out through
7 reactor shutdown procedures. So that's the
8 biggest delay." End quote.

9 With regard to the contributions to
10 the delay caused by OTO-BG-00001 and OTO-NN-00001,
11 investigators from Region IV have stated, quote,
12 "The NRC did not find that the implementation of
13 either off-normal procedure prevented the control
14 room operator from inserting the control rods at
15 any time during the shutdown." End quote.

16 So those of you in the room, on this
17 slide, you can compare the two statements. The
18 statement made by the licensed operator regarding
19 the off-normal procedure being the biggest delay,
20 this statement made during his sworn testimony to
21 the Office of Investigations, was misleading.

22 Since an operator at Callaway Plant
23 made misleading statements during sworn testimony,
24 enforcement action may be warranted. An acceptable
25 enforcement action is to issue a Demand for

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1 Information to gain a better understanding of why
2 the operator claimed that OTO-NN-00001 was "the
3 biggest delay" that was "preventing us from going
4 on with the reactor shutdown procedure." And
5 again, that's why we're here -- I'm here to ask
6 for that Demand for information.

7 Some in the NRC have told me that
8 this incident has been thoroughly investigated by
9 Region IV and the Office of Investigations. I
10 disagree. Although Region IV spent three years
11 looking into this issue, that in and of itself
12 does not make it thorough. Many questions were
13 left unanswered. "Not substantiated" does not
14 mean an issue was resolved. It means that the
15 level of investigation assigned to it was unable
16 to produce the evidence required to cite a
17 violation. Answers still need to be had to put
18 this issue to rest.

19 The following slides contain
20 unanswered questions concerning this incident and
21 its investigation which I believe should be
22 answered. I request that if my petition is
23 rejected, the Petition Review Board provide
24 answers to the questions on the subsequent slides.

25 Does the NRC believe that the

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1 operators were aware the reactor was subcritical
2 and below the point of adding heat when, at 10:34
3 a.m. on October 21, 2003, the operators placed
4 cooling tower blowdown in service? If it is not
5 important to know the answer to this question, why
6 not?

7 If U.S. NRC licensed operators
8 prioritized this activity over inserting the
9 control rods, does that point to deficiencies in
10 the way Region IV licenses control room operators?

11 Does the NRC believe that the crew
12 was aware the reactor was subcritical and below
13 the point of adding heat when, at 10:34 a.m. on
14 October 21, 2003, the control room supervisor
15 assigned reactor operators to coordinate taking an
16 intake pump out of service instead of using those
17 reactor operators to insert the control banks?
18 Again, if it is not important to know the answer
19 to this question, why not? Does it point to
20 deficiencies in the way Region IV licenses
21 operators?

22 Does the NRC believe that the crew
23 was aware that reactor power was in the source
24 range with no Source Range Nuclear Instruments
25 energized and with control rods still at their

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1 last critical rod heights when, at 10:48 a.m. on
2 October 21, 2003, the operators raised letdown
3 flow from 75 to 120 gallons per minute?

4 Does the NRC believe that the crew
5 was aware that reactor power was in the source
6 range with no Source Range Nuclear Instruments
7 energized and with control rods still at their
8 last critical rod heights when, at 11:01 a.m. on
9 October 21, 2003, the operators secured a
10 condensate pump?

11 Does the NRC believe that the
12 performance of OTO-NN-00001 contributed
13 substantially to the 106-minute delay in inserting
14 the control banks? If so, exactly what steps
15 contributed to the delay, and which crew members
16 were encumbered by those steps, and in what
17 manner?

18 Do the Office of Investigations and
19 Region IV believe that the NRC licensed operator,
20 whose name I have been instructed I cannot
21 mention, intentionally misled investigators when
22 he claimed in his sworn testimony, quote, "Again,
23 so now we're in two off-normal procedures and
24 responding to those, so that's preventing us from
25 going on with the reactor shutdown procedure. So

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1 that's the biggest delay." Unquote.

2 Does the risk significance of an
3 event come into account when misleading statements
4 are made to the NRC during sworn testimony? If
5 so, how is the risk significance determined, and
6 below what risk threshold does misleading NRC
7 investigators no longer become a concern?

8 Some in the NRC have told me this
9 event is of low safety significance, so an
10 enforcement action such as a Demand for
11 Information is not warranted. Although I agree
12 that in terms of increasing core damage frequency,
13 this event was of low significance, I believe
14 there is more to regulating the nuclear power
15 industry than probabilistic risk assessment. Our
16 regulations are risk informed, not risk based.

17 Like Commissioner Ostendorff, I am a
18 firm believer in predictable and stable
19 regulation. Like Commissioner Apostolakis, I
20 believe we increase our regulatory effectiveness
21 by focusing on what is risk significant, but I
22 also believe that our normal processes are risk
23 informed, predictable and stable processes --
24 assume honesty.

25 The NRC assumes honesty. We assume

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1 the licensee will honestly answer our questions.
2 We assume the licensee will honestly report their
3 risks. We assume the licensee will honestly
4 report incidents. Our risk informed processes
5 rely on honesty. Dishonesty throws a wrench into
6 the process.

7 To adequately ensure the health and
8 safety of the public, the NRC must have the
9 regulatory agility to deal with dishonesty. The
10 regulations are not risk based. They are risk
11 informed. The NRC can and must take enforcement
12 action to deal with dishonesty even if the risk
13 significance of the underlying incident was low.

14 This is not merely an event that
15 occurred 7 years ago. This event was covered up
16 until 2007 and is still not acknowledge by the
17 utility today. Today the utility continues to
18 make no mention of the October 21, 2003 passive
19 reactor shutdown in its licensed operator training
20 materials. I will admit that they talk about, in
21 training, how the operators failed to log the
22 reactor going below the minimum temperature for
23 critical operations and that how they failed to
24 write a condition report on the letdown isolation.

25 Those are minor ancillary issues. All right?

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1 Although the shutdown is referred to in training,
2 the relevant facts are not mentioned. The fact
3 that the reactor passively shut down, the 106
4 minute delay in inserting the control banks, and
5 the ancillary activities which received priority
6 over control bank insertion, none of those are
7 mentioned,

8 The failure of Ameren, after being
9 aware of the passive shutdown for over 3 years, to
10 incorporate it into their own operator training is
11 significant. The failure of Ameren to even admit
12 that a passive reactor shutdown occurred is
13 significant. It demonstrates that the utility,
14 today, is still unwilling to acknowledge mistakes
15 and properly investigate incidents.

16 In a February 26, 2010 letter to me,
17 Region IV stated the following: quote, "There
18 were essentially no safety implications from the
19 plant configuration, and adequate shutdown margin
20 was maintained throughout the 90- to 111-minute
21 period from the turbine trip to the insertion of
22 the control rods." Unquote.

23 This is not about plant
24 configuration. It is about integrity, competency,
25 and safety culture. Poor management and ill-

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1 trained operators have, in the past, annulled the
2 engineered safety features designed to prevent
3 nuclear plant accidents. This event has
4 significant safety implications. The fact that
5 luck and plant design prevented an adverse
6 condition from occurring does not absolve the fact
7 that the plant was operated in a manner outside of
8 its procedures and after 7 years, plant management
9 has still not addressed it. Can the public trust
10 Ameren to be open and honest?

11 If you believe me, that while under
12 oath, Ameren employees intentionally misled the
13 agents from the NRC Office of Investigations, then
14 this event is significant. Regardless of whatever
15 the plant configuration happened to be during the
16 incident, integrity and honesty matter.

17 If you believe Ameren that the
18 operators deliberately allowed the reactor to
19 passively shut down and then took 106 minutes to
20 insert the control banks because they believed
21 other activities were more important, then this
22 event is still significant. Active control of the
23 nuclear fission reaction is important. The
24 ancillary activities the NRC licensed operators
25 allegedly prioritized above inserting the control

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1 banks demonstrated gross incompetence. This
2 incompetence must be acknowledged and its source
3 must be addressed. Additional barriers must be
4 considered if such incompetence might actually
5 exist in our licensed operator ranks.

6 Error is not sin. Operating a large
7 commercial reactor at low power levels, with
8 malfunctioning equipment and with a significant
9 Xenon transient is a difficult endeavor. The
10 technical mistakes made in 2003 were addressed by
11 procedure changes in 2007. My petition is not
12 about punishing individuals for honest mistakes.
13 It is about gaining answers to unresolved
14 questions.

15 In nuclear power, covering up
16 mistakes is unacceptable. We, the public, expect
17 openness and honesty from the utilities we entrust
18 with the responsibility of operating a nuclear
19 reactor plant.

20 My petition is about ensuring that
21 openness and honesty is present. Ameren needs to
22 openly and honestly share with the industry, the
23 NRC, and concerned members of the public why its
24 reactor plant was allowed to passively shut down
25 and why it took nearly two hours for the operators

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1 to insert the control banks. This request is
2 about getting clear answers from Ameren.

3 The NRC does have regulatory agility.

4 All that is required to utilize it is the desire
5 to be
6 vigilant regulators vice bureaucrats. Bureaucrats
7 are able to deal with honest licensees, but only
8 regulators can deal with dishonest licensees.
9 Bureaucrats follow stable and predictable
10 processes. Regulators seek answers.

11 I believe that the decision has
12 already been made that this petition will be
13 bureaucratically closed to investigation's already
14 performed by Region IV and the Office of
15 Investigations, in spite of the fact that
16 significant questions concerning the honesty and
17 integrity of the upper most management of a
18 commercial nuclear power plant are still
19 unanswered. I ask that the Petition Review Board
20 approach this issue from the standpoint of
21 vigilant regulators willing to pursue answers and
22 to follow through on details which do not add up.

23 It is well known within the NRC that
24 in 2007, I was paid to leave Ameren as a result of
25 my investigation of the October 21, 2003 shutdown.

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1 I ask that you not let that prejudice your
2 decision on whether or not further investigation
3 of this incident is warranted. This is not about
4 settling old scores. This is about ensuring the
5 current leadership of a nuclear utility has the
6 honesty and character to admit to past mistakes,
7 because the continued willingness to
8 downplay past mistakes is an indication that
9 future mistakes will not be openly and honestly
10 dealt with.

11 Although my past history with Ameren
12 is what has given me the perseverance to continue
13 to pursue this issue in spite of all the
14 bureaucratic obstacles along the way, it is not
15 why I am continuing to pursue resolution to this
16 issue. The first lesson I learned in Naval
17 Nuclear Power School 17 years ago was the
18 importance of integrity and accountability in
19 nuclear power. As a "navy nuke" and as a licensed
20 professional engineer, I cannot walk away from an
21 ongoing problem that I know about.

22 When you live in Springfield,
23 Illinois and you work in the nuclear industry,
24 it's not hard to
25 identify with Homer, so I leave you with this

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1 quote: "I hate that man like the very Gates of
2 Death who says one thing but hides another in his
3 heart."

4 I hesitated to use this quotation
5 because of the first verse. It was written in the
6 8th century Before Christ when expressing your
7 frustration as hating something "like the very
8 Gates of Death" was fitting for a hero in an epic
9 saga, but in today's context it is a little over
10 the top. However, I included the quotation
11 because I believe the second verse is very
12 relevant to the conversation we're having today.
13 Those of you on the phone can't see the slide, but
14 the title of the slide is "Open and Collaborative
15 Work Environment." The second verse cuts to the
16 heart of an open and collaborative work
17 environment.

18 A poem doesn't survive for 27
19 centuries unless it has some important insights
20 worthy of preserving. The Greek army in 1200 B.C.
21 did not have a safety conscious work environment,
22 and early in the poem, a seer, who had advice
23 which he knew the Greek king would not appreciate,
24 appealed to Achilles for protection during a
25 tribal council. Achilles agreed to protect the

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1 man, and when the king got the distasteful advice,
2 he took out his anger on Achilles by stealing some
3 of his war prizes. In retaliation, Achilles
4 refused to continue fighting the Trojans. Without
5 Achilles, the tide of battle began to turn, and it
6 began to look like the Greeks would lose the war.

7 In Book IX of the Iliad, the Greek king sends a
8 mission to Achilles' tent to persuade him to
9 rejoin the fight. Achilles' friend, Odysseus, is
10 one of the emissaries, and it is to Odysseus that
11 Achilles is speaking in the quote.

12 Now Achilles doesn't really hate his
13 friend, Odysseus, like the "very Gates of Death,"
14 just like I do not hate those of you who have kept
15 silent on this incident. Achilles is expressing a
16 frustration that he has. He is frustrated that
17 his friend, Odysseus, is playing the role of "that
18 man". "That man," the one who "says one thing but
19 hides another in his heart." "That man" who is
20 too timid to state what he truly believes. "That
21 man" who, in order not to upset his superiors,
22 keeps his mouth shut and lets the organization
23 head down the wrong path. Achilles knows that
24 Odysseus and all the other Greek lieutenants
25 disagree with what the king did, yet they keep

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1 their mouths shut in order to protect their
2 standing with the king, to protect their careers.

3 Like me, some of you on this Board
4 were lieutenants in the nuclear navy, so you know
5 what Achilles is speaking about. You can identify
6 with the frustration Achilles feels when his
7 fellow lieutenant hides what is in his heart in
8 order to not upset his superior.

9 As civilians and as sailors, some of
10 you on this Petition Review Board have operated
11 reactor plants. Some have even held senior
12 reactor operator licenses issued by the U.S. NRC.

13 Don't hide what is in your heart. Don't be "that
14 man". Give your honest assessment to your fellow
15 Board members.

16 This petition is not requesting that
17 action be taken to punish a licensee. It is
18 requesting that action be taken to gather
19 additional information. If, as a former operator,
20 you do not fully understand why Ameren operators
21 would intentionally passively shut down the
22 reactor when active means of shutting it down were
23 available, then like me you, should be desiring
24 additional information from Ameren.

25 The deliberations of the Petition

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1 Review Board are closed to the public so that
2 honest debate can occur. At this point, the issue
3 isn't regulations and violations. The issue is
4 understanding, understanding the incident. If you
5 don't understand the incident, then please speak
6 up. I am not asking any of you to agree with my
7 version of events. I am asking that you admit
8 that you are not satisfied with Ameren's version
9 of events. Ask the utility for more information.
10 Be regulators. Seek answers. Don't say one thing
11 to please your superiors yet hide what is in your
12 heart. Don't let the NRC continue to go down the
13 wrong path.

14 We, the nuclear community, need to
15 put this issue to bed. The only way to do that is
16 with answers from Ameren. We do not want this
17 issue to continue to fester. We do not want more
18 public meetings. We do not want more allegations.

19 We want Ameren to do what we expect them to do:
20 honestly admit to mistakes and not dishonestly
21 cover things up.

22 How do we get Ameren to honestly
23 address what happened on October 21, 2003? I
24 believe the best way to do that is to send them a
25 Demand for Information.

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1 Most allegations do not end up as 10
2 CFR 2.206 petitions. We are in an abnormal
3 situation here. It is abnormal to address these
4 concerns outside of the allegation process. Yet
5 it is also abnormal for the upper most manager of
6 a nuclear plant to be directly involved in the
7 cover up of a gross reactivity mismanagement
8 incident. To address this, you need to be
9 vigilant regulators. Due to Ameren's dishonesty,
10 our normal processes have broken down. But this
11 petition process still gives us the regulatory
12 agility to address the issues.

13 You on the Board are integral pieces
14 in that process. When you go back to your closed
15 door "tribal council" to discuss what was said
16 here today, I hope that each of you, as
17 individuals, do not hide what is in your heart to
18 please your superiors. Bureaucratically closing
19 this petition will only allow this issue to
20 continue to fester.

21 Last Tuesday, Commissioner Ostendorff
22 gave a speech in Hong Kong concerning "Regulatory
23 Perspectives on Nuclear Safety". For those of you
24 interested, the speech is still being linked to on
25 the NRC's home page. He spends half his speech

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1 speaking of the need for a strong safety culture.

2 Safety culture is not easily defined. I like to
3 think of it in the same way Supreme Court Justice
4 Potter Stewart viewed something else that was not
5 easily defined: "I know it when I see it." Those
6 of you who have worked in the industry know safety
7 culture when you see it, and you know that this
8 case is not that. Leaving the control rods
9 withdrawn for nearly 2 hours to cover up an
10 inadvertent passive shutdown is the antithesis of
11 safety culture.

12 Commissioner Ostendorff also spent
13 some time in his speech discussing the "importance
14 of
15 a credible regulator", in which he noted: "At the
16 end of the day, we have to be willing to make hard
17 decisions that may not be popular with the
18 regulated industry." And later in the speech, he
19 noted "Building public confidence in the regulator
20 is essential." He was speaking to the Chinese.
21 To us he might say "maintaining public confidence
22 in the regulator is essential."

23 On the phones today, you have Kay
24 Drey, and Representative Jeanette Mott Oxford from
25 Missouri. Since Callaway Plant is located in

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1 Missouri, it is obvious why they are concerned
2 about events there.

3 However, on the phone you also have
4 Marty Gelfand from Congressman Dennis Kucinich's
5 office in Ohio, and you have John Sipos from the
6 New York Attorney General's Office. These men are
7 on the phone today not because they are concerned
8 about Missouri, but because they are concerned
9 about how the Nuclear Regulatory Commission
10 handles dishonesty. They want to have confidence
11 that the NRC has the regulatory agility to deal
12 with dishonesty.

13 This Petition Review Board must be
14 willing to make a decision which will not be
15 popular with Ameren, because maintaining public
16 confidence in the regulator is essential. You on
17 the Board have a duty to the NRC not to hide what
18 is in your heart. You must be vocal and stand up
19 to the pressure to bureaucratically close this
20 petition. Continuing to ignore what occurred on
21 October 21, 2003 will not make it go away. For
22 the sake of the public's confidence in both the
23 NRC and Ameren, this incident needs to be openly
24 addressed. Issuing a Demand for Information and
25 demonstrating that the NRC is willing to confront

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1 and address dishonesty will build public trust.
2 Bureaucratically closing this petition will erode
3 public trust.

4 This is the end of my diatribe. I
5 have another 28 slides which were written prior to
6 the Petition Review Board informing me of their
7 preliminary decision and prior to informing me
8 that I could not, in any way, refer to the names
9 or positions of the Ameren employees involved in
10 this incident. I have submitted these slides to
11 the Board and asked the Board to take them into
12 consideration in their decision making.

13 I thank the Petition Review Board for
14 considering what I had to say. I encourage any
15 member of the public who has questions of me
16 regarding this incident to contact me at home and
17 not through work. As I said at the beginning, my
18 personal contact information is contained on the
19 first two pages of my petition which can be
20 obtained through the NRC. I wish you all a Merry
21 Christmas.

22 MR. MCGINTY: Okay. Thank you, Mr.
23 Criscione.

24 MR. CRISCIONE: Thank you.

25 MR. MCGINTY: I'm going to take that

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1 back if I may. This is Tim McGinty, the PRB
2 Chair, again. If you can hear me, thanks, Mr.
3 Criscione. Does anybody here at headquarters, any
4 of our staff have any questions of Mr. Criscione
5 based on the presentation?

6 MR. VEGEL: I do have one. You know,
7 Larry, when you're through -- I appreciate the
8 detailed review that you've done and the
9 information that you know. And I do understand
10 you'll be -- you know, you're requesting the
11 Petition Review Board to put a Demand for
12 Information out. Is there any new information or
13 what evidence, you know, do you have that says
14 that there was a cover up of that shutdown?

15 MR. CRISCIONE: Well, I had mentioned
16 this to Crystal Holland in November of 2007, and I
17 appreciate the fact that OI can't consider it as
18 evidence, but, you know, I did have personal
19 conversations with a member, a high-up member who
20 was at Callaway Plant who was involved in this
21 incident, who -- and I can't really tell you who
22 that was -- I mean I can tell you but I can't say
23 it publicly.

24 MR. VEGEL: Yes, please, don't.

25 MR. CRISCIONE: So -- and I think you

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1 know. So, you know, that's personally convinced
2 me. But aside from that, we --

3 MR. VEGEL: We're moving the speaker.
4 I apologize.

5 MR. CRISCIONE: Yes, I'm sorry. We
6 at the NRC have a lot of technical expertise. We
7 have a lot of people who have operated reactors.
8 And we, I believe, can say with our judgment, we
9 can look at what went on that day, and we can do
10 one of two things. We do know that they did not
11 violate the letter of their licensing, but we also
12 know that they did not in any way operate that
13 reactor conservatively if they intentionally
14 allowed it to passively shut down. All right?

15 And we can choose to believe their
16 story, and we can address the gross incompetence
17 that was displayed that day. We can write an
18 information notice that states what Ameren claims,
19 that they knew the reactor was going to passively
20 shut down prior to tripping the turbine, they
21 intentionally allowed it to happen, they relied on
22 an informal estimation of Xenon-135 levels for 106
23 minutes while they did all those ancillary
24 activities I talked about. We can write an
25 information notice about that. We can believe

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1 their story, write an information notice about
2 that, and let the industry know that, "hey, you
3 might not have violated anything in your
4 licensing, but we at the NRC do not believe that's
5 the way to operate a reactor." We can do that. I
6 would be happy if we do that.

7 But the other thing we could do is we
8 could use our expertise. We as an agency can say,
9 "You know, we don't really believe you that you
10 intentionally allowed that reactor to shut down.
11 We cannot believe that operators who we license,
12 that the NRC licenses, would prioritize placing
13 cooling tower blowdown in service, lowering intake
14 flow, raising letdown flow, any of these
15 activities over inserting the control rods. We
16 can tell them "We do not believe that. We think
17 you intentionally mislead our Office of
18 Investigations inspectors when you claimed that
19 you knew the reactor would shut down and that you
20 were doing these activities."

21 And we can say "Because we believe
22 you're being misleading, we're going to issue a
23 Demand for Information to you, and we are going to
24 ask on this sworn document that you account for
25 some of these discrepancies in your testimony to

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1 us."

2 And when we get that document back,
3 OI and OGC can decide if there's a basis for
4 taking legal action against people who mislead the
5 NRC, and maybe there won't be, but what you will
6 now have is you'll now have a public testimony
7 from Ameren accounting for what happened that day,
8 something that a member of the public, like the
9 people on the phone today, can go and look at, and
10 something that hopefully, maybe the Institute of
11 Nuclear Power Operations will ask Ameren to
12 address, because there's more to ensuring nuclear
13 safety than just the Nuclear Regulatory
14 Commission.

15 And I realize that, officially, the
16 NRC doesn't, you know, doesn't count what INPO
17 does, but we also all recognize that they can have
18 a profound influence on the safety culture of
19 Ameren. So if you give them the tools to do it
20 like a Demand for Information, it becomes public
21 to them as well as everyone else, you know, you're
22 helping out the whole industry.

23 And the other thing is Ameren can't
24 ignore a Demand for Information. All right?
25 These sworn testimonies that were given to the

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1 Office of Investigations, no one in the upper
2 chain of commands outside Nuclear at Ameren even
3 know they existed. I got my hands on them from
4 FOIA, or I -- but they don't they exist. But
5 believe me, if Tom Voss, the CEO of Ameren, gets a
6 Demand for Information from the NRC, he is not
7 going to ignore that. His Chief Nuclear Officer
8 is going to have to answer to him about that. And
9 the people below that Chief Nuclear Officer, whose
10 name I can't mention, will no longer be able to
11 cover up this incident.

12 Now as far as proving that that
13 individual was in the control room the day that
14 the incident occurred, I believe there are things
15 that the allegation process did not look at. The
16 door records were deleted. I asked for the door
17 records in 2007 and was told they'd been deleted.

18 However, at the time, we had a database at
19 Callaway Plant for recording control room
20 observations. He more than likely recorded a
21 control room observation that day. You could go
22 into that database, and you can prove that he was
23 in the control room.

24 You can also ask him. He hasn't been
25 asked that. He wasn't one of the people

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1 interviewed, not the most senior person, person
2 right below him was. But you can ask him under
3 oath "Were you in the control room when the Source
4 Range Nuclear Instruments energized? Why didn't
5 suggest to the operators that they immediately
6 insert the control rods? Why didn't you see that
7 the incident was recorded in the correct reaction
8 database?" You can ask these questions.

9 And I admit that what you find in the
10 allegation process is not enough to take anyone's
11 license away, and that's really not what I'm
12 after. I'm just after Callaway admitting to their
13 mistakes and their most senior people learning the
14 lesson that you do not cover up mistakes. Most of
15 us in the nuclear industry have to live under
16 that. All of us should have to live under that.
17 Thank you.

18 MR. MCGINTY: Okay. We may be
19 playing pass this, but -- so thank you, Mr.
20 Criscione. Any other questions from folks here in
21 the NRC staff in Headquarters?

22 MR. MARKLEY: I have one. This is
23 Mike Markley. Most of your description of this
24 event was in a normal shutdown procedure. They
25 never really got into the emergency operating

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1 procedures, correct?

2 MR. CRISCIONE: That is correct.

3 MR. MARKLEY: And they could have
4 dropped the rods then at any point in time during
5 that 106-minute period?

6 MR. CRISCIONE: That's correct.

7 MR. MARKLEY: And they could have
8 also emergency borated had they needed to? Is
9 that --

10 MR. CRISCIONE: That's correct.

11 MR. MARKLEY: Okay. That's all.

12 MR. MCGINTY: Are there any NRC staff
13 out in the Regions, on the phone, do you have any
14 questions of Mr. Criscione?

15 (No response)

16 MR. MCGINTY: Okay. With that said,
17 any further questions here? For me, I don't have
18 any questions, because you have been crystal
19 clear.

20 MR. CRISCIONE: Thank you.

21 MR. MCGINTY: You really have and
22 you've been respectful of the process and what we
23 asked, and I'm very appreciative of that.

24 MR. CRISCIONE: Thank you.

25 MR. MCGINTY: Before I conclude the

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1 meeting, members of the public may provide
2 comments regarding the petition and ask questions
3 about the 2.206 petition process. As I stated at
4 the opening, the purpose is not to provide an
5 opportunity for the petitioner or the public to
6 question or examine the PRB regarding the merits
7 of the request. So with that stated, there are
8 some folks on the phone, and there are some folks
9 here in this room, so first, I'm going to ask the
10 folks that are in the meeting location here, does
11 anybody have any comments, questions that they
12 would like to ask regarding the process?

13 MS. XIE: I have a question. Yanmie
14 with Earlier --

15 COURT REPORTER: Excuse me, could you
16 come forward.

17 MS. XIE: Yanmie with Nucleonics
18 Platts. Earlier, Mr. McGinty, you said this is
19 not a hearing, so I just wonder how I can
20 characterize it, to characterize this meeting.
21 It's not a hearing --

22 MR. MCGINTY: It's not a hearing.
23 It's a formal process that allows the NRC to
24 gather additional information from a petitioner
25 who has asked the NRC to take a particular

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1 enforcement action against a licensee.

2 MS. XIE: Thank you.

3 MR. MCGINTY: You're welcome. Any
4 other questions from folks here in Headquarters,
5 in this room? Are there any questions of any
6 individuals that are on the phone regarding the
7 petition or regarding the process? This is open
8 to anybody that has a question.

9 MR. LOUIS CLARK: Louis Clark from
10 the Government Accountability Project. Could you
11 give us any kind of forecast of decision, the
12 timeframe of the decision?

13 MR. MCGINTY: The timeframe for
14 decision, well, we're going to get together
15 discuss probably within a week.

16 MS. MENSAH: Three --

17 MR. THADANI: Mid-January.

18 MR. MCGINTY: So I don't know the
19 process as well as some others. So we get
20 together within three weeks to a month to discuss
21 what -- the information that was provided today,
22 and at that point, we make a final determination.

23 MS. MENSAH: That's correct.

24 MR. MCGINTY: So at this point, I
25 would characterize that as by the middle of

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1 January.

2 MR. LOUIS CLARK: Thank you.

3 MR. MCGINTY: You're welcome. Any
4 other questions?

5 MS. DREY: Can I make a comment?

6 MR. MCGINTY: By all means.

7 MS. DREY: My name is Kay Drey and
8 I'm an Ameren customer. I just want to thank Mr.
9 Criscione for his incredible persistence and
10 brilliance and for his statement today.

11 MR. MCGINTY: Thank you for the
12 comment.

13 MR. CRISCIONE: Thank you.

14 MR. LOUIS CLARK: Louis Clark from
15 the Government Accountability Project would echo
16 that comment as well. I think it was a very clear
17 and great statement.

18 MR. MCGINTY: Thank you. And I
19 believe although you may not have been able to
20 hear it, Mr. Criscione also indicated thank you.
21 Any further comments or questions?

22 (No response)

23 MR. MCGINTY: Okay. Thank you for
24 taking the time to provide the NRC staff with
25 clarifying information on the petition that you've

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1 submitted, Mr. Criscione. Before we close, does
2 the court reporter need any information regarding
3 the meeting transcript?

4 COURT REPORTER: (Off mic)

5 MR. MCGINTY: You'll be able to get
6 it afterward. Okay. Thank you very much for all
7 those that called in and helped us conduct a
8 respectful meeting.

9 MR. POLICKOSKI: One more thing, Mr.
10 McGinty. We do have feedback forms if anybody has
11 additional feedback either here locally at
12 Headquarters or you can email those names on the
13 public meeting notice if you have feedback
14 comments on the conduct of the meeting. We can
15 provide those via email.

16 MR. MCGINTY: Okay. With that said,
17 this meeting is adjourned. Thank you.

18 (Whereupon, at 2:54 p.m., the
19 foregoing meeting is adjourned.)
20
21
22
23
24
25

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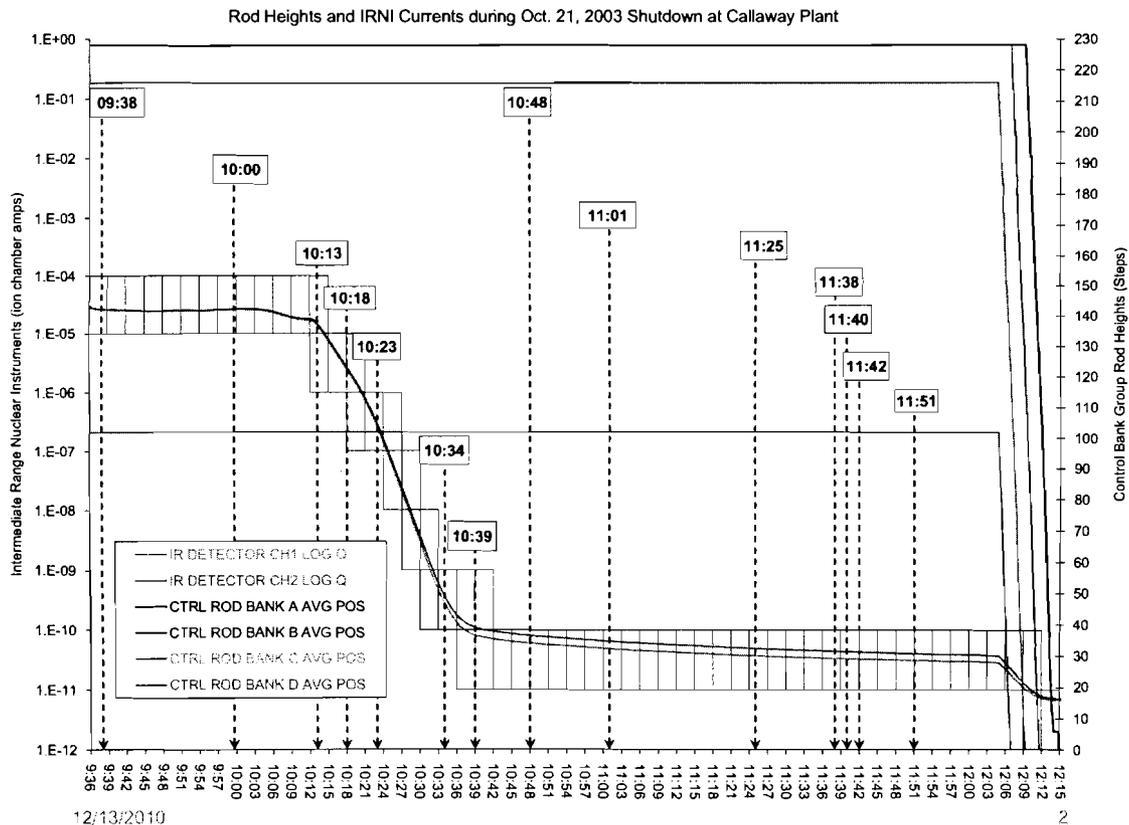
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ENCLOSURE 2
PETITIONER PRESENTATION SLIDES

Presentation to the Petition Review Board regarding the October 21, 2003 Passive Reactor Shutdown at Callaway Plant

12/13/2010

1



2

Unresolved Question

It is not disputed that the reactor at Callaway Plant was allowed to passively shut down on October 21, 2003. What is in dispute is whether or not:

- the operators consciously allowed the passive reactor shutdown to occur (Ameren's version)
- the operators inadvertently allowed the passive shutdown to occur (my version).

Facts

The following slides contain facts necessary to my argument. If the NRC rejects my petition, I ask that they include in their letter to me documentation of which, if any, of the following facts they disagree with and why. Please do not answer this request with vague phrases like "not substantiated". If an item is unknown, please explain why the NRC does not need to know the answer to it.

Facts (con't)

Fact: In the procedure for conducting a normal reactor shutdown at Callaway Plant, the only method provided for ceasing the nuclear fission reaction is to insert the control banks. The procedure assumes the reactor is critical prior to inserting the control banks AND assumes the control banks are used to shut down the nuclear fission reaction.

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5

Facts (con't)

Fact: The Reactor Shutdown procedure at Callaway Plant does not contain any provisions for intentionally shutting down the nuclear fission reaction by removing steam demand and relying on passive effects such as temperature increases and Xenon-135 buildup to cause the reactor to go subcritical and enter the source range.

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Facts (con't)

Fact: In his testimony the licensed operator (whose name I have been instructed I cannot mention) claims he was aware that shortly after tripping the main turbine the reactor would passively shut down *“because of the continual buildup of poisons and not having a steam demand on the reactor anymore.”*

Facts (con't)

Fact: The claims made by the licensed operator (mentioned in the previous slide) amount to a claim that the passive reactor shutdown was intentionally conducted. That is, the operator was consciously aware that his actions would cause the reactor to passively shut down and, since he could actively drive the shutdown by either inserting or tripping the control rods but instead chose not to, the passive shutdown was intentionally allowed to occur.

Facts (con't)

Fact: Intentionally allowing the reactor to shut down is a procedural violation since the only method for shutting down the reactor per the Reactor Shutdown procedure is to shut it down by actively inserting the control banks.

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Facts (con't)

Fact: Since operators at Callaway Plant violated their procedures, enforcement action may be warranted. An acceptable enforcement action is to issue a Demand for Information to gain a better understanding of why the operators violated their procedures by intentionally allowing the reactor to shut down.

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Facts (con't)

Fact:

In his April 1, 2008 sworn testimony, regarding off-normal procedures OTO-BG-00001 and OTO-NN-00001 the Ameren licensed operator (whose name I have been instructed I cannot mention) stated:

Again, so now we're in two off-normal procedures and responding to those. So that's preventing us from going on with the reactor shutdown procedure. So that's the biggest delay.

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Facts (con't)

Fact:

With regard to the contributions to the delay caused by OTO-BG-00001 and OTO-NN-00001, investigators from Region IV have stated:

The NRC did not find that the implementation of either off-normal procedure prevented the control room operators from inserting the control rods at any time during the shutdown.

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Facts (con't)

Fact: The statements made by the licensed operator (that is, the statement referred to in the past two slides) during his sworn testimony to the Office of Investigations were misleading.

Facts (con't)

Fact: Since an operator at Callaway Plant made misleading statements during sworn testimony, enforcement action may be warranted. An acceptable enforcement action is to issue a Demand for Information to gain a better understanding of why the operator claimed that OTO-NN-00001 was *“the biggest delay”* that was *“preventing us from going on with the reactor shutdown procedure.”*

Region IV and OI investigations

Some in the NRC have told me that this incident has been thoroughly investigated by Region IV and the Office of Investigations. I disagree. Although Region IV spent three years looking into this issue, that in and of itself does not make it thorough. Many questions were left unanswered. "Unsubstantiated" does not mean an issue was resolved – it means that the level of investigation assigned to it was unable to produce the evidence required to cite a violation.

Answers still need to be had to put this issue to rest.

Questions

The follow slides contain unanswered questions concerning this incident and its investigation which I believe should be answered. I request that if my petition is rejected, the PRB provide answers to the questions on the subsequent slides.

Questions (con't)

Does the NRC believe that the operators were aware the reactor was subcritical and below the Point of Adding Heat when, at 10:34 on October 21, 2003, the operators placed cooling tower blowdown in service? If it is not important to know the answer to this question, why not? If US NRC licensed operators prioritized this activity over inserting the control rods, does that point to deficiencies in the way Region IV licenses control room operators?

Questions (con't)

Does the NRC believe that the crew was aware the reactor was subcritical and below the Point of Adding Heat when, at 10:34 on October 21, 2003, the operators secured an intake pump? If it is not important to know the answer to this question, why not? If US NRC licensed operators prioritized this activity over inserting the control rods, does that point to deficiencies in the way Region IV licenses operators?

Questions (con't)

Does the NRC believe that the crew was aware that reactor power was in the source range with no Source Range Nuclear Instruments energized and with control rods still at their last critical rod heights when, at 10:48 on October 21, 2003, the operators raised letdown flow from 75 to 120 gpm? If it is not important to know the answer to this question, why not? If US NRC licensed operators prioritized this activity over inserting the control rods, does that point to deficiencies in the way Region IV licenses operators?

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Questions (con't)

Does the NRC believe that the crew was aware that reactor power was in the source range with no Source Range Nuclear Instruments energized and with control rods still at their last critical rod heights when, at 11:01 on October 21, 2003, the operators secured a condensate pump? If it is not important to know the answer to this question, why not? If US NRC licensed operators prioritized this activity over inserting the control rods, does that point to deficiencies in the way Region IV licenses operators?

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20

Questions (con't)

Does the NRC believe that the performance of OTO-NN-00001 contributed substantially to the 106 minute delay in inserting the control banks? If so, exactly what steps contributed to the delay and which crew members were encumbered by those steps and in what manner?

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21

Questions (con't)

Do the Office of Investigations and Region IV believe that the NRC licensed operator (whose name I have been instructed I cannot mention), intentionally misled the inspectors when he claimed in his sworn testimony:

Again, so now we're in two off-normal procedures and responding to those. So that's preventing us from going on with the reactor shutdown procedure. So that's the biggest delay.

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Questions (con't)

Does the risk significance of an event come into account when misleading statements are made to the NRC during sworn testimony? If so, how is the risk significance determined and below what risk threshold does misleading NRC investigators no longer become a concern?

Safety Significance

Some in the NRC have told me this event is of low safety significance so an enforcement actions (such as a demand for information) is not warranted.

I agree that, in terms of increasing core damage frequency, this event was of low significance. But there is more to regulating the nuclear power industry than probabilistic risk assessment. Our regulations are risk informed, not risk based.

Safety Significance (con't)

Like Commissioner Ostendorff, I am a firm believer in predictable and stable regulation. Like Commissioner Apostolakis I believe we increase our regulatory effectiveness by focusing on what is risk significant. But I also believe that our normal processes – our risk informed, predictable and stable processes – ASSUME HONESTY.

Safety Significance (con't)

The NRC assumes honesty. We assume the licensee will honestly answer our questions. We assume the licensee will honestly report their risks. We assume the licensee will honestly report incidents (discharges of radioactivity, equipment failures, human errors, etc.). Our risk informed processes rely on honesty. Dishonesty throws a wrench into the process.

Safety Significance (con't)

To adequately ensure the health and safety of the public, the NRC must have the Regulatory Agility to deal with dishonesty. The regulations are NOT risk based, they are risk informed. The NRC can, and must, take enforcement action to deal with dishonesty even if the risk significance of the underlying incident was low.

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Significance

This is not merely an event that occurred seven years ago. This event was covered up until 2007 and is still not acknowledge by the utility today.

Today (2010) the utility continues to make no mention of the October 21, 2003 passive reactor shutdown in its licensed operator training materials. Although the shutdown is referred to in training, the relevant facts are not mentioned:

- The fact that the reactor passively shut down
- The 106 minute delay in inserting the control rods
- The ancillary activities (e.g. containment mini-purge) which received priority over control bank insertion

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Significance (continued)

The failure of Ameren, after being aware of the passive shutdown for over three years, to incorporate it into their own operator training is significant.

The failure of Ameren to even admit that a passive reactor shutdown occurred is significant. It demonstrates that the utility, today, is still unwilling to acknowledge mistakes and to properly investigate incidents.

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Significance (continued)

“There were essentially no safety implications from the plant configuration and adequate shutdown margin was maintained throughout the 90- to 100-minute period from the turbine trip to the insertion of the control rods.”

-Region IV, February 26, 2010

This is not about the “*plant configuration*”. It is about integrity, competency and safety culture. Poor management and ill-trained operators have, in the past, annulled the engineered safety features designed to prevent nuclear plant accidents. This event has significant “*safety implications*”. The fact that luck and plant design prevented an adverse condition from occurring does not absolve the fact that the plant was operated in a manner outside of its procedures and after seven years plant management has still not addressed it. Can the public trust Ameren to be open and honest?

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30

Significance (continued)

If you believe me, that while under oath Ameren employees intentionally misled the agents from the NRC Office of Investigation, then this event is significant. Regardless of whatever the “*plant configuration*” happened to be during the incident, integrity and honesty matter.

If you believe Ameren, that the operators deliberately allowed the reactor to passively shut down and then took 106 minutes to insert the control banks because they believed other activities were more important, then this event is still significant. Active control of the nuclear fission reaction is important. The ancillary activities the NRC licensed operators allegedly prioritized above inserting the control banks demonstrate gross incompetence. This incompetence must be acknowledge and its source must be addressed. Additional barriers (such as Technical Specification changes for MODE 2) must be considered if such incompetence might actually exist in our licensed operator ranks.

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Justification

Error is not sin. Operating a large commercial reactor at low power levels, with malfunctioning equipment and with a significant xenon transient is a difficult endeavor. The technical mistakes made in 2003 were addressed by procedure changes in 2007. This 10CFR2.206 request is not about punishing individuals for honest mistakes. It is about gaining answers to unresolved questions.

In nuclear power, covering up mistakes is unacceptable. We (the public) expect openness and honesty from the utilities we entrust with the responsibility of operating a nuclear reactor plant. This 10CFR2.206 request is about ensuring that openness and honesty is present. Ameren needs to openly and honestly share with the industry, the NRC and concerned members of the public why its reactor plant was allowed to passively shut down and why it took nearly two hours for the operators to insert the control banks. This request is about getting clear answers from Ameren.

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Regulatory Agility

The NRC does have Regulatory Agility. All that is required to utilize it is the desire to be vigilant regulators vice bureaucrats.

Bureaucrats are able to deal with HONEST licensees, but only Regulators can deal with DISHONEST licensees. Bureaucrats follow stable and predictable processes – Regulators seek answers.

12/13/2010

33

Regulatory Vigilance

I believe that the decision has already been made that this petition will be bureaucratically closed to the investigations already performed by Region IV and the Office of Inspection, despite the fact that significant questions, concerning the honesty and integrity of the upper most management of a commercial nuclear power plant, are still unanswered. I ask that the PRB approach this issue from the stand point of vigilant regulators willing to pursue answers and to follow through on details which do not add up.

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Unprejudiced Assessment

It is well known within the NRC that in 2007 I was paid to leave Ameren as a result of my investigation of the October 21, 2003 shutdown. I ask that you not let that prejudice your decision on whether or not further investigation of this incident is warranted. This is not about settling old scores. This is about ensuring the current leadership of a nuclear utility has the honesty and character to admit to past mistakes – because the continued willingness to downplay past mistakes is an indication that future mistakes will not be openly and honestly dealt with. Although my past history with Ameren is what has given me the perseverance to continue to pursue this issue in spite of all the bureaucratic obstacles along the way, it is not why I am continuing to pursue resolution to this issue. The first lesson I learned in naval nuclear power school 17 years ago was the importance of integrity and accountability in nuclear power. As a “navy nuke” and as a licensed professional engineer, I cannot walk away from an ongoing problem that I know about.

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Open and Collaborative Work Environment

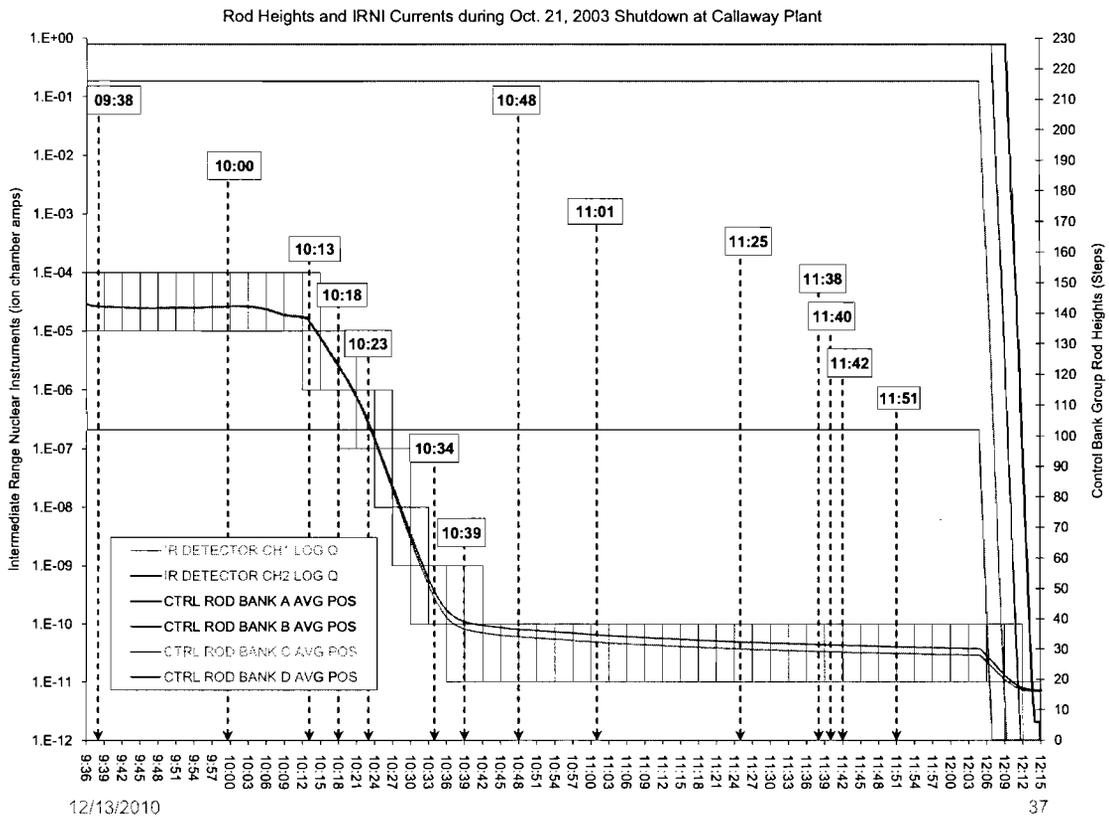
*I hate that man like the very Gates of Death who says one thing but
hides another in his heart.*

~ Achilles

Some of you on this Petition Review Board have operated reactor plants in the navy. Some have also operated reactor plants in the commercial industry. Don't hide what is in your heart. Give your honest assessment to your fellow board members. This petition isn't requesting that action be taken to punish a licensee; it is requesting that action be taken to gather additional information. If, as a former operator, you do not fully understand why Ameren operators would intentionally passively shut down the reactor when active means of shutting it down were available, then like me you should be desiring additional information from Ameren. The deliberations of the PRB are closed so that honest debate can occur. At this point, the issue isn't regulations and violations; the issue is understanding. Understanding the incident. If you don't understand the incident, then please speak up. Ask the utility for more information.

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Mohan/Jim:

The first 37 slides are what I intend to present at the meeting on December 13th. I would like the PRB to consider the information contained on the remainder of the slides, but I no longer intend to present these slides at the meeting so I did not redact them. If all these slides must be released to the public, then please make the appropriate redactions.

If there is time on Monday, I do intend to present the information contained on the slides below, HOWEVER I do not intend to use the slides other than as my own notes. While presenting the information I intend to have the graph on slide 37 displayed. When presenting this information, I will not mention [REDACTED] or [REDACTED] by name of position, but I may describe their relevance to the leadership of Callaway Plant. I believe it is important that any member of the public interested enough in this issue to call in to the public meeting know that the operators being mentioned are not average plant employees – they are the most senior leadership of the organization. If I have time to convey that message, I will convey it in a manner that does not specifically identify [REDACTED] or [REDACTED].

I mention [REDACTED] of INPO in one of the last few slides. I mention him by name because it draws emphasis to the fact that an individual at INPO was specifically requesting information on reactivity mismanagement incidents, but I see no need to retain his name in any version of this document released to the public.

This should be my final revision, however if you find any typos or grammatical errors during your review, I would appreciate the opportunity to fix them prior to this becoming an ADAMS record.

I am attending a workshop today and will have limited access to email. Please call me on my cell phone at 573-230-3959 if you have any questions.

Thanks,
Larry

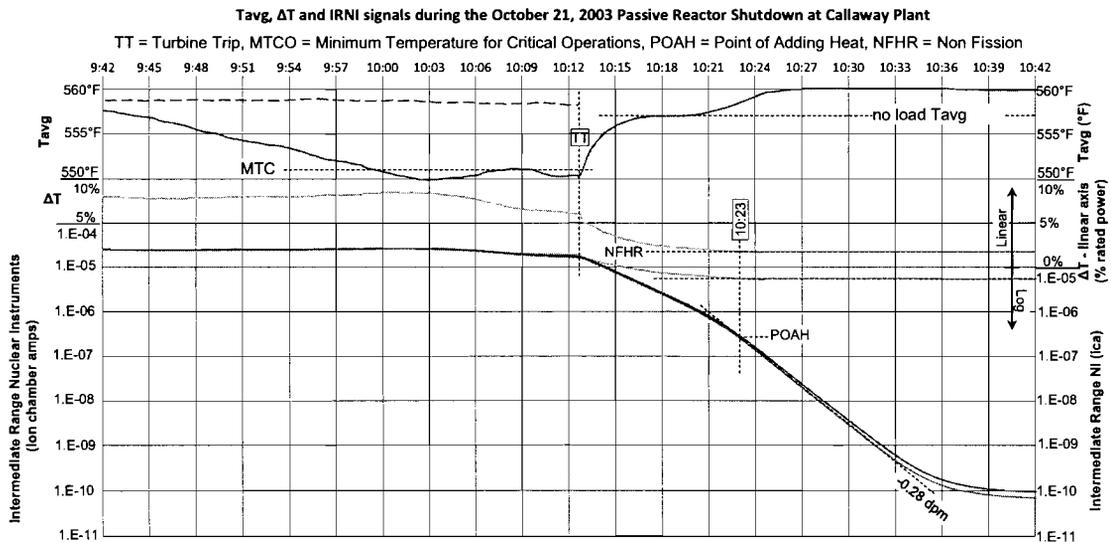
Background

It is my understanding that Ameren, Region IV, and I agree on the following “Undisputed Facts”:

1. Around 10:18 am on October 21, 2003 the reactor at Callaway Plant passively shut down due to a combination of Xenon-135 buildup and a sharp rise in reactor coolant temperature near the Point of Adding Heat

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Undisputed Facts (continued)

2. Reactor power entered the source range around 10:39 am. While the reactor's power transited from the power range to the source range, licensed reactor operators were available to insert the control banks but instead were assigned to other tasks such as: reducing intake flow, placing cooling tower blowdown in service, raising letdown flow from 75 to 120 gpm per a normal operating procedure.

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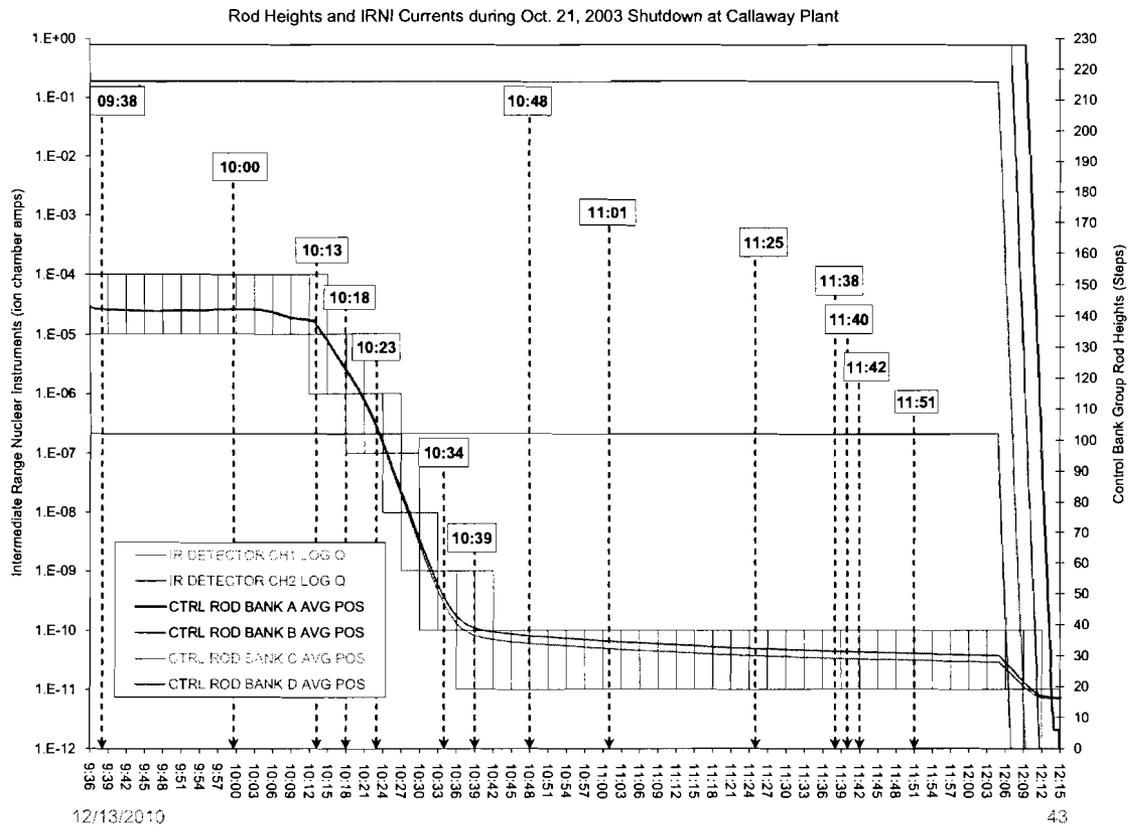
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Undisputed Facts (continued)

3. Because of the subcritical multiplication afforded by the control rods remaining at their critical rod heights, the SRNIs did not initially energize upon entering the source range.
4. For approximately 45 minutes (between 10:39 and 11:25 am), reactor power was in the source range with the control rods still at their prior critical rod heights and with no Source Range Nuclear Instruments (SRNIs) energized. During these 45 minutes licensed reactor operators were available to insert the control banks but instead were assigned to other tasks such as: raising letdown flow to optimize primary plant chemistry control and stopping an unnecessary condensate pump.

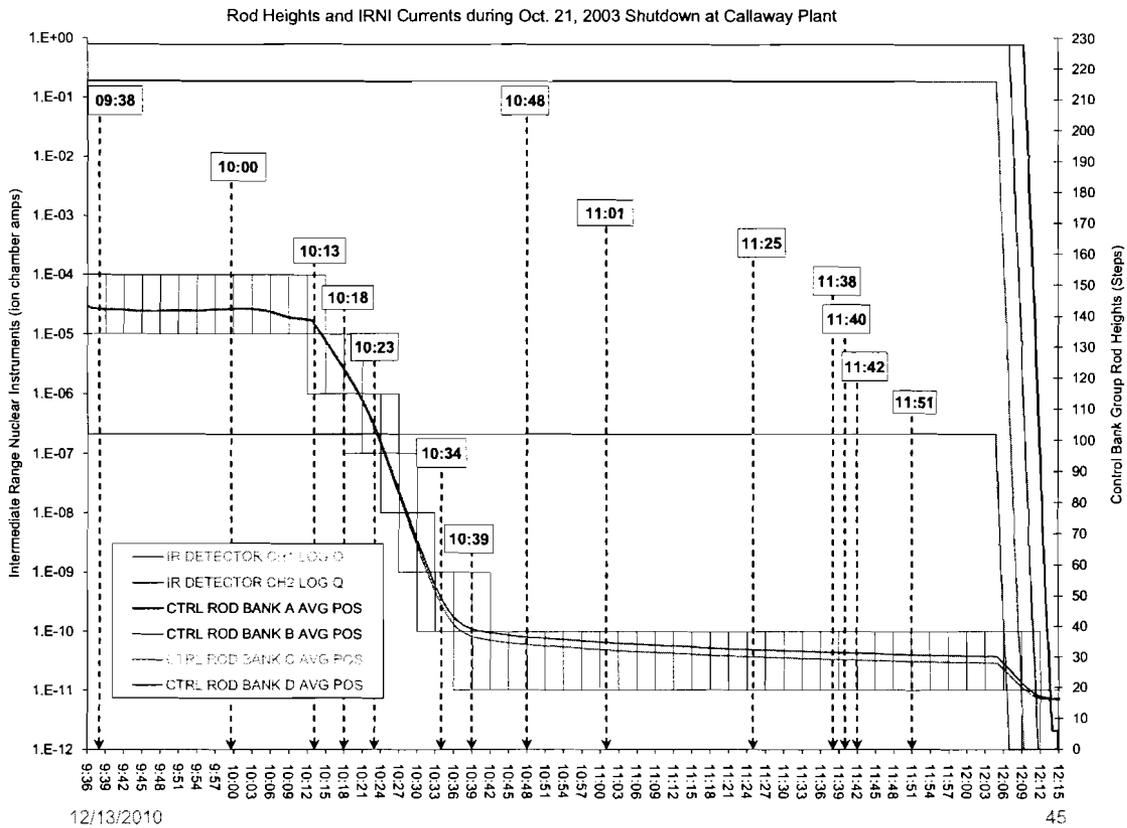
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Undisputed Facts (continued)

5. At 11:25 am the channel 2 SRNI energized, causing a Main Control Board alarm to annunciate. By this time, all licensed operators on watch in the control room were aware that the reactor had passively entered the source range.
6. The control room operators did not actively insert negative reactivity until 39 minutes after the first SRNI channel energized. During this time (between 11:25 am and 12:04 pm) licensed reactor operators were available to insert the control banks but instead were assigned to other tasks such as: initiating Containment Mini-purge, swapping feed flow from a turbine driven pump to a motor driven pump. While performing these activities, the licensed operators were aware that reactor power was in the source range and the control rods were still at their prior critical rod heights.



Undisputed Facts (continued)

7. Until February 2007, no one other than the personnel present in the Main Control Room was aware that when the control banks were inserted at 12:04 pm on October 21, 2003 they were not being used to actively shut down the reactor but instead were being inserted into a reactor that had passively shut down over 100 minutes earlier and had been in the source range for over 80 minutes.
8. The Xenon Prediction procedure and program at Callaway Plant does not do a complete reactivity balance, so the Xenon Prediction calculation alone is not adequate to predict that a shutdown reactor will not passively return to power as temperature and xenon conditions change.
9. At 11:42 am the Shift Technical Advisor began a Shutdown Margin calculation. This calculation was not completed until 12:55 pm. In 2003 at Callaway Plant, the Shutdown Margin calculation was the only formal calculation available to verify that the reactor would remain subcritical.

Undisputed Facts (continued)

10. The off-normal procedure for Loss of Letdown was entered around 10:00 am and exited at 10:18 am once letdown flow had been restored to 75 gpm.
11. In his April 1, 2008 testimony to the NRC, [REDACTED] mentioned the Loss of Letdown off-normal procedure as one of the items that contributed to the 106 minute delay in inserting the control banks.
12. On October 20, 2003 at 7:21 am the operating crew had to unexpectedly perform off-normal procedure OTO-NN-00001 in response to a loss of safety related inverter NN11. At the completion of this procedure plant equipment was aligned such that no equipment controlling important plant parameters was powered by NN11.

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Undisputed Facts (continued)

13. On October 21, 2003 at 8:21 am the operating crew entered off-normal procedure OTO-NN-00001 in response to safety related inverter NN11 failing its retest. By the time the reactor passively shut down (10:18 am) the only action that prevented the crew from exiting OTO-NN-00001 was the need to perform a line up of valves in the auxiliary feedwater system. From 10:18 to 11:34 am the control room operators were not actively performing steps in OTO-NN-00001.
14. OTO-NN-00001 was exited at 11:37 am. It is likely that for 3 minutes (from 11:34 to 11:37 am) the administrative work associated with exiting OTO-NN-00001 placed a burden on the [REDACTED].

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Undisputed Facts (continued)

15. In his April 1, 2008 sworn testimony, regarding off-normal procedures OTO-BG-00001 and OTO-NN-00001 [REDACTED] stated:

Again, so now we're in two off-normal procedures and responding to those. So that's preventing us from going on with the reactor shutdown procedure. So that's the biggest delay.

16. Investigators from Region IV have stated:

The NRC did not find that the implementation of either off-normal procedure prevented the control room operators from inserting the control rods at any time during the shutdown.

Undisputed Facts (continued)

17. OTG-ZZ-00005, the Reactor Shutdown procedure at Callaway Plant, does not, and never has, contained any provisions for intentionally shutting down the reactor by removing steam demand and allowing passive effects (e.g. Xenon-135 buildup or decay heat driven rise in reactor coolant temperature) to cause the reactor to become subcritical.
18. In 2003 the only method provided for shutting down the reactor in OTG-ZZ-00005 was to actively add negative reactivity by inserting control banks.
19. In his April 1, 2008 testimony to the NRC, [REDACTED] states that prior to giving the order to trip the turbine he was aware that once the turbine was tripped the reactor would shortly shut down due to lack of steam demand and the buildup of xenon.

Items of Dispute

Inadvertent or Deliberate:

- Was the shutdown at 10:13 am inadvertent?
- When did the operators notice the reactor was shutdown?
- Why were the control rods left withdrawn for so long?
- Is a passive reactor shutdown a procedure violation?

Misleading Statements:

- Were misleading statements made during the OI interviews?
- Were the operators being intentionally misleading?

Safety Culture:

- Was [REDACTED] in the control room while reactor power was in the source range with the rods still at their Critical Rod Heights?
- Why was the atypical nature of the shutdown not documented in Callaway's corrective action program?
- Why was this passive reactor shutdown not reported to the Institute of Nuclear Power Operations in 2007?

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Inadvertent or Deliberate

Was the passive shutdown around 10:18 am inadvertent or deliberate?

Undisputed: From 01:00 am to 12:55 pm the operators were conducting a plant shutdown. Ceasing the nuclear fission reaction occurring in the reactor was something that needed to occur as part of the process of taking the plant to MODE 3.

My version: I believe that when the reactor went subcritical around 10:18 am it was inadvertent and unnoticed. That is, the operators planned to maintain the reactor critical for another hour or so while electricians continued to attempt repairs to NN11. I do believe that the operators did not notice the reactor was shutdown until the channel 2 SRNI energized at 11:25 am.

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Inadvertent or Deliberate (continued)

Ameren's version: Ameren claims there was never any intention to maintain the reactor critical following the turbine trip at 10:13 am. According to Ameren, the licensed operators were aware that shortly after tripping the main turbine the reactor would passively shut down "*because of the continual buildup of poisons and not having a steam demand on the reactor anymore.*"

To me, Ameren's claims amount to the operators deliberately relying on passive methods (i.e. xenon and decay heat) to shut down the reactor and maintain it in a shutdown condition. Region IV refuses to view this as a violation of the plant's Reactor Shutdown procedure and refuses to even use the term "passive" to describe the manner in which reactor power was lowered from near the Point of Adding Heat into the source range.

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Inadvertent or Deliberate (continued)

When did the operators notice the reactor was shutdown?

Undisputed: When the channel 2 SRNI energized at 11:25 am, a Main Control Board annunciator alarmed. Sometime after 11:42 am, the operators noted in the control room logs that the SRNIs had energized at 11:34 am (the actual times were 11:25 for channel 2 and 11:38 for channel 1).

My version: The licensed operators were unaware the reactor was no longer critical until receiving a Main Control Board alarm at 11:25 am. That is, until 11:25 am the operators believed they were maintaining ~2% rated reactor power as was being indicated by the ΔT meters, the PRNIs and the secondary calorimetric computer point.

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Inadvertent or Deliberate (continued)

Ameren's Version: The licensed operators were aware that shortly following the turbine trip at 10:13 am the reactor was substantially subcritical and headed towards the source range.

To me, Ameren's version amounts to the operators consciously prioritizing ancillary tasks (e.g. placing cooling tower blowdown in service, raising letdown flow, lowering Intake flow) over the active control of the nuclear fission reaction occurring in the reactor core. Allowing these ancillary tasks to delay actively controlling core reactivity is gross incompetence: every NRC licensed operator should understand that definitively shutting down the reactor takes precedence over optimizing cooling tower and reactor plant chemistry.

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Inadvertent or Deliberate (continued)

Why were the control rods left withdrawn for so long?

Undisputed: No action was taken to actively insert negative reactivity until approximately 106 minutes following the passive shutdown of the reactor.

My version: The first 67 minutes (from 10:18 to 11:25 am) were due to the operators not recognizing that the reactor was shutdown. The next 39 minutes (from 11:25 am to 12:04 pm) were due to the operators "dragging their feet" so as not to have to admit to upper management that they had inadvertently allowed the reactor to passively shut down.

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Inadvertent or Deliberate (continued)

My version (continued): If inverter NN11 was not repaired the reactor had to be in MODE 3 by 1:21 pm. At 11:25 am when the reactor operators became aware that reactor power was in the source range, the Outage Control Center was expecting the reactor to be shut down around noon. With reactor power unexpectedly in the source range, everyone in the control room knew that the control rods should be immediately inserted and a condition report should be written. However, no one took action to do the right thing. They all knew that xenon would keep the reactor from restarting and they all hoped the guy next to them would not write a condition report. They continued on with the ancillary steps of their procedures and, when they inserted the control rods at 12:04 pm, no one outside of the main control room suspected that instead of using the rods to shut down the reactor, the rods were being inserted on a reactor that had been in the source range for 85 minutes.

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Inadvertent or Deliberate (continued)

Ameren's Version: The 106 minute delay was caused primarily by the two off-normal procedures but also by other tasks required by the shutdown procedure.

To me, Ameren's version amounts to gross incompetence. It is grossly incompetent to place any action above actively controlling the nuclear fission reaction in the reactor core. Even during the most extreme plant emergencies, the highest priority is ensuring the reactor is subcritical and remains subcritical. To assign reactor operators to ancillary tasks (e.g. starting containment mini-purge) over inserting the control rods is grossly incompetent.

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Inadvertent or Deliberate (continued)

Is a passive reactor shutdown a procedure violation?

Undisputed: The **unintentional** passive shutdown of a reactor is not a procedure violation. While aggressively descending in power (e.g. at 10%/hour) large commercial reactors are difficult to control at low reactor power levels and inherently want to shut down due to the build up of xenon. There is nothing unsafe with a reactor inadvertently shutting down assuming it is noticed by the operators.

My version: The only way to conduct a normal reactor shutdown in accordance with the Reactor Shutdown procedure is to insert the control rods. To **deliberately** use solely passive effects (e.g. xenon and decay heat) to shut down the reactor is not in accordance with procedure.

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Inadvertent or Deliberate (continued)

Region IV's version: "The inspectors verified that no procedural guidance existed with respect to timeliness as to how fast the control rods needed to be inserted."

To me, Region IV is sidestepping the issue. If the only way to shut down the reactor is by inserting the control rods, does not the procedure assume that the control rods are already inserted if the reactor is shutdown? Since there is no provision in the procedure for deliberately allowing passive effects to shut down the reactor, why would Region IV expect the procedure to have timeliness guidance for inserting the control rods following a passive reactor shutdown? The NRC needs to decide whether or not the passive reactor shutdown was inadvertent or deliberate. If it was inadvertent, then OI was intentionally misled. If it was deliberate, then plant procedures were violated.

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Misleading Statements

Were misleading statements made during the OI interview?

Undisputed: To my knowledge, the transcripts of [REDACTED] April 1, 2008 interview with the Region IV Office of Investigation are not disputed by Ameren. Ameren Corporation had an attorney present during the interview and to my knowledge views and explanations provided by [REDACTED] [REDACTED] are accepted by Ameren as an accurate account of what happened on October 21, 2003.

My version: During his April 1, 2008 interview, [REDACTED] intentionally misled the NRC investigators. The particulars are too numerous to discuss here, but are the main point of my 10CFR2.206 request.

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Misleading Statements (continued)

Region IV's Version: "The inspectors' review of the associated transcripts did not identify any other issues requiring additional investigation."

To me, this is lack of vigilance. Some of the activities which the operators claim added to the delay in inserting the control banks (e.g. placing cooling tower blowdown in service) instead demonstrate that there was sufficient manpower available to insert the control banks (i.e. if despite everything else going on you can spare a Reactor Operator to place cooling tower blowdown in service, then you can spare a Reactor Operator to manually insert the control banks). The statements made by the operators were not challenged during their initial interview because the investigators were successfully misled. Now, with further analysis we (the NRC) know the right questions to ask and should be asking them.

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Misleading Statements (continued)

Were the misleading statements made intentionally?

At this point in time, it is premature for the NRC to speculate as to whether or not the agents from the Office of Investigations were intentionally misled. The intent of this 10CFR2.206 Request is to **get clarification** of Ameren's version of events. The pointed questions which the OI agents were not able to ask must now be asked (e.g. did the operators deliberately allow the reactor to passively shut down and, if so, why?). Based on whether or not we (the NRC) believe the answers, we can decide whether to pursue an additional OI investigation into failing to provide complete and accurate information or we can decide to address why NRC licensed operators would deliberately allow passive effects to shut down a large commercial reactor.

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Safety Culture

There are several unresolved questions, concerning the October 21, 2003 passive reactor shutdown and the way Callaway Plant has handled its investigation of it since 2007, the answers to which might provide important insights into Ameren's Safety Culture:

Was [REDACTED] in the control room while reactor power was in the source range with the rods still at their Critical Rod Heights?

Why was the atypical nature of the shutdown not documented in Callaway's corrective action program?

Why was this passive reactor shutdown not reported to the Institute of Nuclear Power Operations in 2007?

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Safety Culture (continued)

Was the [REDACTED] in the control room while reactor power was in the source range with the rods still at their Critical Rod Heights?

My version:

[REDACTED] was the [REDACTED] in 2003 and was present in the control room at 11:25 am when the channel 2 Source Range Nuclear Instrument energized and the crew first became aware that reactor power was in the source range. He knew the incident should have been reported to the Outage Control Center. He knew the control rods should be immediately inserted. He knew the incident should have been documented in a condition report. He failed to ensure the operators did the right thing and instead played along with the operators as they continued with the ancillary steps of the shutdown procedure.

[REDACTED] was still the [REDACTED] in 2007 when data concerning the October 21, 2003 passive reactor shutdown was accidentally uncovered and was documented in Callaway Action Request 200701278. He had ample opportunity to ensure the incident was properly investigated in 2007 but instead pressured the individuals investigating the incident to focus solely on corrective actions. [REDACTED] is currently [REDACTED] for Callaway Plant.

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Safety Culture (continued)

Why was the atypical nature of the shutdown not documented in Callaway's corrective action program?

While I was still a Callaway Plant employee, [REDACTED] told me in 2007 that the passive reactor shutdown was not documented because "*our standards were different then*". I believe the real reason the passive shutdown went undocument is because [REDACTED] did not wish the incident to be known to plant upper management because he feared it would bring unwanted scrutiny upon the [REDACTED]

A review of the Callaway Action Request database from 2003 will show you that, for many employees who took the time to write condition reports, the highly atypical nature of the October 21, 2003 passive reactor shutdown clearly met the accepted standards. A review of Callaway Plant communications from 2003 will also show you that the threshold for writing a condition report were pretty low.

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Safety Culture (continued)

Why was this passive reactor shutdown not reported to the Institute of Nuclear Power Operations in 2007?

In 2007 the World Association of Nuclear Operators (WANO) released a Significant Operating Experience Report (SOER 07-1) on reactivity events. In the front matter of this report, there was a request that utilities share similar Operating Experience with Steven Hill of INPO. Ameren chose not to share the October 21, 2003 passive reactor shutdown with INPO even though compared to most of the events in SOER 07-1 it clearly met the threshold.

Since the current management at Callaway Plant has not even shared the significant details of the October 21, 2003 passive reactor shutdown with their own licensed operators, it is unlikely they will ever be sharing it with INPO or WANO.

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Safety Culture (continued)

“I know it when I see it, and ... this case is not that.”

-Supreme Court Justice Potter Stewart

The quote above wasn't about Safety Culture, but it applies just the same. Safety Culture is hard to define in regulatory terms, but I know it when I see it. And, with regard to Ameren's past and current handling of the October 21, 2003 passive reactor shutdown, I recognize “this case is not that.” Region IV will point you to anonymous surveys performed by the licensee, but I ask you to believe your own eyes.

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Safety Culture (continued)

What's not Safety Culture?

- NRC licensed operators covering up mistakes
- An Operations Manager looking the other way
- Utility Management not aggressively investigating concerns
- Not incorporating noteworthy events into operator training
- Not sharing noteworthy events with the broader industry

L. Criscione

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Although the NRC is unable to accept your petition for review, we thank you for your information on the issues addressed in your petition.

Sincerely,

/RA/

Timothy J. McGinty, Director
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-483

Enclosures:

1. PRB public meeting transcript from 12/13/2010
2. Petitioner presentation slides

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