



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

January 22, 2014

Mr. Michael J. Pacilio  
Senior Vice President, Exelon Generation Co., LLC  
President and Chief Nuclear Officer, Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

**SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3  
NRC SUPPLEMENTAL INSPECTION REPORT 05000237/2013010;  
05000249/2013010 AND ASSESSMENT FOLLOW-UP LETTER**

Dear Mr. Pacilio:

During the period of February 20, 1991, to November 12, 2012, Dresden Nuclear Power Station, Units 2 and 3, failed to establish a written procedure to address the effect of an external flooding scenario on the plant. This performance deficiency resulted in Procedure DOA 0014-04, "Floods" not accounting for reactor vessel inventory make-up during an external flooding scenario up to and including the probable maximum flood event. This could result in reactor vessel water level lowering below the top of active fuel during certain flooding scenarios.

On March 30, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your plant. Based on the results of this inspection, documented in NRC Inspection Report (IR) 05000237/2013002, 05000249/2013002, dated May 7, 2013, the performance deficiency was identified as an Apparent Violation with preliminary significance of low to moderate significance (White). The final significance determination of low to moderate safety significance was documented in NRC IR 05000237/2013009, 05000249/2013009, dated July 31, 2013, and the NRC assigned a White finding Action Matrix input to the Mitigating Systems cornerstone in the first quarter of 2013.

On November 25, 2013, you informed the NRC that Dresden Nuclear Power Station was ready for the required supplemental inspection. On December 20, 2013, the NRC completed the supplemental inspection using NRC Inspection Procedure 95001, "Inspection for One or Two White Inputs in a Strategic Performance Area," and the NRC inspection team discussed the results of this inspection and the implementation of your corrective actions with Mr. S. Marik and other members of the station staff. This exit meeting also served as the Regulatory Performance Meeting. The inspection team documented the results of this inspection in the enclosed inspection report.

The NRC performed this supplemental inspection to determine whether (1) the root and contributing causes for the significant issues were understood, (2) the extent of condition and extent of cause for the identified issues were understood, and (3) your completed or planned corrective actions were sufficient to address and prevent repetition of the root and contributing causes.

The NRC determined that your staff's evaluation identified the primary root cause of the issue to be a "historical minimum compliance culture" regarding a flooding event. The Root Cause Evaluation report (RCE) also identified a contributing cause of a "knowledge gap regarding the flood licensing basis." Your station staff did contend that the station's culture was changed by the Fukushima Dai-ichi events and pointed to actions taken that go beyond, in their view, regulatory requirements as indicative of that culture change. The station staff also has planned actions that they expect will reinforce the desired culture and ongoing actions to address the knowledge gap issue.

The NRC determined that the programs and processes at Dresden Nuclear Power Station generally met the Commission's rules and regulations. The NRC has determined that completed or planned corrective actions are sufficient to address the performance that led to the White finding. Therefore, the performance issue will not be considered as an Action Matrix input after the end of the fourth quarter of 2013. As a result, the NRC determined the performance at Dresden Nuclear Power Station, Units 2 and 3, to be in the Licensee Response Column of the Reactor Oversight Process Action Matrix as of January 1, 2014.

Based on the results of this inspection, the NRC inspectors did not identify any findings or violations of more than minor significance.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Jamnes Cameron, Chief  
Branch 6  
Division of Reactor Projects

Docket Nos. 50-237; 50-249  
License Nos. DPR-19; DPR-25

Enclosure:  
IR 05000237/2013010; 05000249/2013010  
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION (NRC)

REGION III

Docket Nos: 50-237; 50-249  
License Nos: DPR-19; DPR-25

Report No: 05000237/2013010; 05000249/2013010

Licensee: Exelon Generation Company, LLC

Facility: Dresden Nuclear Power Station, Units 2 and 3

Location: Morris, IL

Dates: December 16 through December 20, 2013

Inspectors: G. Roach, Senior Resident Inspector  
D. Betancourt-Roldan, Acting Resident Inspector  
J. Rutkowski, Project Engineer and Team Lead

Observer: J. Boettcher, Reactor Engineer

Approved by: J. Cameron, Chief  
Projects Branch 6  
Division of Reactor Projects

Enclosure

## **SUMMARY OF FINDINGS**

Inspection Report (IR) 05000237/2013010, 05000249/2013010; 12/16/2013 – 12/20/2013; Dresden Nuclear Power Station, Units 2 & 3; Supplemental Inspection - Inspection Procedure (IP) 95001.

A senior resident inspector, a resident inspector, and a regional inspector performed this inspection. No findings of significance were identified during this inspection. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

### **Cornerstone: Mitigating Systems**

The NRC staff performed this supplemental inspection in accordance with IP 95001, "Inspection for One or Two White Inputs in a Strategic Performance Area," to assess the licensee's evaluation associated with the licensee's failure to establish written procedural steps to account for reactor vessel inventory make-up during an external flooding scenario up to and including the probable maximum flood during the period of February 20, 1991, to November 21, 2012. Written procedure steps to address the failure were developed by the licensee by November 21, 2012. The NRC staff previously characterized this issue as having low to moderate safety significance (White), as documented in NRC IR 05000237/2013009, 05000249/2013009, dated July 31, 2013. During this supplemental inspection, the inspectors determined that the licensee performed a comprehensive evaluation of the NRC-identified failure which was described in NRC IR 05000237/2013002, 05000249/2013002, dated May 7, 2013. The licensee identified the primary root cause of the issue to be a "historical minimum compliance culture" regarding a flooding event. The licensee also identified a contributing cause of a "knowledge gap regarding the flood licensing basis." The licensee contends that their culture was changed by the Fukushima Dai-ichi events and points to actions taken that go beyond, in the licensee's opinion, regulatory requirements as indicative of that change. The licensee also has planned actions that they expect will reinforce the desired culture and ongoing actions to address the knowledge gap issue.

Given the licensee's acceptable performance in addressing the procedural deficiency and actions to enhance flood response capability, the White finding associated with this issue will only be considered in assessing plant performance for a total of four quarters in accordance with the guidance in Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program." Inspectors will review the licensee's implementation of ongoing corrective actions and the effectiveness of those actions during a future inspection.

#### **A. NRC-Identified and Self-Revealed Findings**

No findings of significance were identified.

#### **B. Licensee-Identified Violations**

No violations were identified.

## REPORT DETAILS

### 4. OTHER ACTIVITIES

#### 4OA4 Supplemental Inspection (95001)

##### .01 Inspection Scope

This inspection was conducted in accordance with Inspection Procedure (IP) 95001, "Inspection for One or Two White Inputs in a Strategic Performance Area," to assess the licensee's evaluation of one White inspection finding in the Mitigating Systems Cornerstone. The inspection objectives were to provide assurance that:

- the root causes and contributing causes of risk significant performance issues were understood;
- the extent of condition and extent of cause of risk significant issues were identified; and
- licensee corrective actions to risk significant performance issues were or will be sufficient to address the root causes and contributing causes, and to prevent recurrence.

Dresden Nuclear Power Station, Units 2 and 3, entered the Regulatory Response column of NRC's Action Matrix in the first quarter of 2013 as a result of one inspection finding of low to moderate safety significance (White). The finding was associated with the licensee's failure to establish written procedural steps to account for reactor vessel inventory make-up during an external flooding scenario up to and including the probable maximum flood during the period of February 20, 1991, to November 21, 2012. Specifically, prior to November 21, 2012 procedure DOA 0010-04, "Floods," did not account for reactor vessel inventory make-up during an external flooding scenario up to and including the probable maximum flood event which could result in reactor vessel water level lowering below the top of active fuel. The NRC-identified finding was described in NRC IR 05000237/2013002, 05000249/2013002, dated May 7, 2013, and was considered as a Mitigating Systems Cornerstone finding. The NRC staff characterized this issue as having low to moderate safety significance and finalized this characterization in NRC IR 05000237/2013009, 05000249/2013009, dated July 31, 2013.

By letter dated November 25, 2013, the licensee notified the NRC that it had completed its evaluation of the circumstances surrounding the performance deficiency and were ready for the NRC to assess the licensee's evaluation and subsequent corrective actions. NRC IR 05000237/2013009, 05000249/2013009 stated that the immediate corrective actions taken for the finding and the date when full compliance was achieved (November 21, 2012) were adequately addressed in NRC IR 05000237/2013002, 05000249/2013002. The licensee's preparation for the inspection consisted of primarily the development of a root cause report under Action Request (AR) 1513452. "NRC: Preliminary White Finding – Flood Mitigation Procedure." The licensee also conducted a focused self-assessment under AR 1550960, "95001 Flooding Strategy Pre-NRC Inspection," to review the adequacy of the developed root cause report. The inspectors reviewed the root cause report, the focused self-assessment report, and other documents related to the root cause-identified issues.

The inspectors reviewed corrective actions that were taken or planned to address the identified causes. The inspectors also held discussions with licensee personnel to ensure that the root and contributing causes and the contribution of safety culture components were understood and corrective actions taken or planned were appropriate to address the causes and preclude repetition. Documents reviewed are listed in the Attachment to this report.

## .02 Evaluation of the Inspection Requirements

### 02.01 Problem Identification

- a. Determine whether the evaluation identified who (i.e., licensee, self revealing, or NRC), and under what conditions the issue was identified.

The inspectors determined that the root cause evaluation (RCE) adequately identified who and under what conditions the issue was identified. The RCE concluded that the finding was identified by the NRC. The inspectors determined that the RCE accurately specified who identified the issue and was consistent with the finding as described in NRC IR 05000237/2013002, 05000249/2013002 and NRC IR 05000237/2013009, 05000249/2013009.

- b. Determine whether the evaluation documented how long the issue existed, and whether there were any prior opportunities for identification.

The RCE concluded that the root cause of the event was a “historical minimum compliance culture regarding Flooding Event that allowed an unclear licensing basis to go unaddressed.” The RCE stated that the earliest opportunity to identify the issue originated in the 1982 timeframe and the issuance of Technical Evaluation Report TER-C5257-421, “Hydrological Considerations Commonwealth Edison Company Dresden Station Unit 2.” This Technical Evaluation Report evaluated Dresden Emergency Plan Implementing Procedure (EPIP) 200-11. “Probable Maximum Flood,” Revision 0 and indicated that, relating to reactor monitoring, there was no procedure identified that would enable the reactor water level to be increased if necessary. Additionally, the licensee identified a number of prior opportunities for identification that occurred after 1982, with some recent examples in reviewing items associated with response to the Japan nuclear plant flooding and seismic issues.

The inspectors determined that the evaluation properly documented how long the issue existed. However, it appears that the licensee did not identify several issues in the period of time between these two extremes (1982 and the Japan events) that may have provided an opportunity to discover the makeup issue. The evaluation did not include three previously identified NRC findings relating to the operation and testing of equipment used in external flooding strategies. The inspectors asked for the licensee to provide additional information regarding why these findings were not considered missed opportunities for identification. The licensee stated that the issues were entered into the Corrective Action Program and were addressed. However, the issues were not evaluated for extent of condition, which is consistent with their minimum compliance root cause. One NRC finding, which occurred in 2004, was identified in the root cause as a missed opportunity.

- c. Determine whether the licensee’s root cause evaluation documented the plant specific risk consequences and compliance concerns associated with the issue.

The RCE included a discussion of nuclear, radiological and environmental safety significance and stated that the licensee’s risk assessment showed the issue as having very low safety significance (Green). However, the licensee treated the issue using the risk evaluation that was performed by the NRC Senior Risk Analyst and documented in NRC IR 05000237/2013002; 05000249/2013002. The inspectors concluded that the

licensee's RCE documented the risk consequences and compliance concerns associated with the issue.

d. Findings

No findings of significance were identified.

02.02 Root Cause, Extent of Condition, and Extent of Cause Evaluation

- a. Determine whether the licensee's root cause evaluation applied systematic methods in evaluating the issue in order to identify root causes and contributing causes.

The inspector determined that the root cause evaluation adequately applied systematic methods in evaluating the issue in order to identify root causes and contributing causes. The licensee's RCE utilized Cause and Effect Analysis, Latent Organizational Weakness Evaluation (non-equipment), Causal Factor Analysis, Review of Operating Experience, Barrier Analysis, Change Analysis, and Event Timeline Development to analyze various contributors to the issues associated with identified inadequacies in the flood response procedure. The inspectors determined that the licensee's methods used to evaluate the root and contributing causes were adequate.

- b. Determine whether the licensee's root cause evaluation was conducted to a level of detail commensurate with the significance of the problem.

The inspector determined that the root cause evaluation was conducted to a level of detail commensurate with the significance of the problem. The licensee in the RCE determined that the root cause was a "Minimal Compliance Culture" and that a contributing cause was "Lack of Knowledge Licensing Bases for Flooding." While the inspectors identified some areas where additional detail could have been beneficially added, the omissions but did not invalidate the conclusions of the completed RCE.

- c. Determine whether the licensee's root cause evaluation included consideration of prior occurrences of the problem and knowledge of prior operating experience.

In its RCE, the licensee included an evaluation of internal and external Operating Experience (OE). While the licensee did not identify a specific similar prior issue at Dresden, the RCE reviewed operating experience at other reactor sites and documented whether the specific item had elements applicable to Dresden and how those elements, if applicable, were or are addressed. Based on the licensee's evaluation the inspectors determined that the licensee's RCE included a consideration of prior occurrences of the problem and knowledge of prior OE.

- d. Determine that the root cause evaluation addressed the extent of condition and the extent of cause of the problem.

The RCE addressed the extent of condition and extent of cause of the issue. However, the root cause was overly broad and the extent of cause, as viewed by the inspectors, impacts all areas of plant operation. While the inspectors did not find such a statement in the RCE, they determined through interviews that the licensee is aware that a minimal compliance culture can impact many areas of plant operation beyond the response to flooding events.

For the extent of condition, the licensee review included consideration of whether there were unrecognized vulnerabilities with respect to other environmental hazards or for internal flooding. The review included procedures related to floods, dam failure, tornados, etc. It was aimed at ensuring that the procedures could be implemented as written and actions were consistent with the licensing bases.

During the review, the inspectors questioned whether, in cases when automatic actions were required or flood barriers were needed, the licensee checked whether the equipment was being maintained appropriately. The licensee did not consider those items in their review. However, they were able to provide additional documentation to show that flood barriers were being maintained and inspected periodically. Additionally, they showed that water level indicators were being maintained.

e. Findings

No findings of significance were identified.

02.03 Corrective Actions

- a. Determine that appropriate corrective actions are specified for each root and contributing cause or that the licensee has an adequate evaluation for why no corrective actions are necessary.

While there were several corrective actions developed to reinforce or cause a change in culture, the licensee stated that their “minimal compliance culture” was changed by the Fukushima Dai-ichi events. The RCE did not specifically identify how that was determined and the inspectors, while not disagreeing with the statement, asked for some examples of why that was apparent. The licensee provided several examples of actions they said would not have occurred prior to the Fukushima Dai-ichi events. Examples included such things as the “Dresden Station Leadership Book,” published in June 2013. The licensee also pointed to their continuing efforts to enhance their flood response capabilities beyond those that would provide flood response capabilities required by the licensing bases. Additionally the licensee provided evaluations completed by external organizations that did not find issues with the licensee’s culture as it existed in 2012.

The inspectors noted that the licensee had distributed the conclusions of the RCE to managers, regulatory assurance, and engineering personnel. While not having a document, the licensee stated that the essential conclusions of the evaluation had been communicated to all station personnel. Additionally, the licensee did not have any specific document or action that demonstrated that the distribution of the RCE conclusions produced the desired effects. The inspectors, in discussions with the NRC Resident Inspector Office (RIO,) noted that the RIO had examples of where the “culture change” may not have resulted in desired actions. Recently the RIO identified that some additional equipment for responding to potential events (FLEX equipment) was still staged in “summer staging areas” and was not protected from the existing winter conditions. The licensee subsequently moved the equipment for additional protection from the winter weather.

An additional major corrective action, specified in the RCE, was to develop a case study to show and reinforce the benefits of an “Engaged Thinking Organization.” That case



study is to be developed and presented in 2014. An effectiveness review is tentatively scheduled by the licensee for about two months after the presentation of the case study.

The major contributing cause was determined to be a “knowledge gap regarding flooding licensing basis.” The corrective action associated with this item was to assign a point of contact to be the knowledgeable person (a subject matter expert) for each design/license bases accident event. The licensee created a spreadsheet that established the person tasked for each design/license basis event. However, there was no description provided as to what the responsibilities or level of knowledge of the licensing basis is expected for the assigned individuals.

The inspectors interviewed an individual assigned on the list for two potential events. Through the interview the inspectors were informed that there is an unwritten expectation that if an individual is assigned as a point of contact, the individual must be knowledgeable in the area of the assignment. The inspectors considered that, although the list intent is to address knowledge gaps by having a knowledgeable person, not defining the expectation on the level of knowledge of the individual is a weakness since there is no written standard on what are their responsibilities and the required minimum knowledge.

- b. Determine whether the licensee prioritized the corrective actions with consideration of the risk significance and regulatory compliance.

The inspector determined that the licensee adequately prioritized the corrective actions with consideration of the risk significance and regulatory compliance. The licensee’s immediate corrective actions to ensure reactor vessel makeup capability were completed prior to the RCE as documented in NRC IR 05000237/2013002, 05000249/2013002. Other specified corrective actions were associated with long term culture reinforcement or enhancements to procedures or processes used in responding to events. The inspectors concluded that the corrective actions had been prioritized with consideration of the risk significance and regulatory compliance.

- c. Determine whether the licensee established a schedule for implementing and completing the corrective actions.

The inspector determined that the licensee adequately established a schedule for implementing and completing the corrective actions. The remaining major corrective actions, as determined by the inspectors, are:

- Describe and document the training program to be implemented and the periodicity the training will be offered – scheduled completion 2/7/2014 – RCE assignment number 40.
- Revise DOA 0010-03, “Earthquakes,” to include a method to reduce releases from the spent fuel pool in the event of fuel damage – scheduled completion 2/28/2014 – RCE assignment number 34.
- Revise DOA 0010-02, “Tornado Warning-Severe Winds,” to include a method to reduce releases from the spent fuel pool in the event of fuel damage – scheduled completion 2/28/2014 – RCE assignment number 33.

- Put into existing or to-be-developed case studies the flooding licensing knowledge gap that contributed to the finding – scheduled completion 3/22/2014 – RCE assignment number 18.
- Develop and present a case study for applicable Dresden personnel showing the impact of a minimal compliance culture – scheduled completion 6/22/2014 – RCE assignment number 16.
- Perform effectiveness review of corrective actions taken – scheduled completion 8/13/2014 – RCE assignment number 20.

The corrective actions and the scheduled completion dates are as listed in the RCE (AR 01513452) as of the date of the NRC exit.

- d. Determine that quantitative or qualitative measures of success have been developed for determining the effectiveness of the corrective actions to prevent recurrence.

Measures were established for effectiveness reviews for the corrective actions to prevent recurrence (CAPR). The CAPR includes the development of a case study to reinforce the need for a questioning attitude or culture. The case study learning would be used with Dresden personnel including Operations Shift Managers, Regulatory Assurance personnel, Engineering personnel, first line supervisors, Site Ownership Committee, Management Review Committee, Work Week Managers, and Senior Managers. This action is expected to be completed by June 2014 and the effectiveness review is scheduled for completion two months later in August 2014. While the inspectors considered that a case study was one reasonable method to address the need to keep a questioning culture functioning, the effectiveness will have to be evaluated at a later date. The inspectors consider that, even though the time between completion of the corrective action and the effectiveness review appears to be in accordance with station procedures, there is not enough time elapsed to effectively gauge the success of the CAPR. The inspectors discussed this observation with the licensee and the licensee wrote AR 01599620 to either justify the current effectiveness review date or extend the due date.

- e. Findings

No findings of significance were identified.

#### 4OA6 Exit Meeting

##### .1 Exit Meeting Summary

On December 20, 2013, the inspectors presented the inspection results to Mr. S. Marik and other members of his staff, who acknowledged the findings. The inspectors asked the licensee if any of the material examined during the inspection should be considered proprietary. The licensee did not identify any proprietary information.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee

S. Marik, Site Vice President  
J. Washko, Plant Manager  
G. Graff, Nuclear Oversight Manager  
G. Morrow, Regulatory Assurance Manager  
M. McDonald, Maintenance Director  
J. Sipek, Work Control Director  
D. Walker, Regulatory Assurance – NRC Coordinator  
B. Weight, Design Engineering  
J. Feigi, Shift Operations Manager  
J. Chappell, Manager Training Support  
P. O'Brien, Corrective Action Program Manager  
P. Wojkiewicz, Senior Engineering Manager  
D. Wolverton, Engineering Manager  
T. Griffith, Senior Regulatory Engineer

#### Nuclear Regulatory Commission

J. Cameron, Chief, Branch 6, Division of Reactor Projects

## LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

### Opened

None

### Closed

05000237/2013002-02	VIO	Deficiency in Abnormal Operating Procedures for Site
05000249/2013002-02		Response to External Flooding

## LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather, that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

### PLANT PROCEDURES

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
LS-AA-125-1001	Root Cause Analysis Manual	10
TSG-3	Operational Contingency Action Guidelines	14
DOA 0010-04	Floods	41
DOP 1300-03	Manual Operation of the Isolation Condenser	35
DFPS 4114-05	Fire Hose Inspection/Service Test	37
DR-MM-6-MA- 00101	Maintenance Activities For Site Flooding	0
HR-44-501	Exelon Nuclear Knowledge Transfer and Retention (KT&R) Process	6
DOA 0040-02	Localized Flooding in Plant	24

### CORRECTIVE ACTION DOCUMENTS REVIEWED

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
AR 1519399-02	Revise Flooding Root Cause Report to Exclude Proper Extent of Condition and Extent of Cause Review	
AR 01513452	NRC: Preliminary White Finding – Flood Mitigation Procedure	5/13/2013
AR 1513452-02	Root Cause Report – Failure to Recognize Vulnerabilities with Flood Strategies Due to a Historical Minimum Compliance Culture Regarding Flooding Event	6/17/2013
AR 01519563	Historical – NRC Concern not Identified in Flood Procedure	5/30/2013
AR 01519426	Action Completions for NTS Item Requires Review	7/03/2013
AR 01576799	Ops Support Equipment in DOA 0010-02 not in Storage Area	10/25/2013
AR 01576763	DOA 0010-04 FOST Vent Extension Step Requires Revision	10/25/2013
AR 01576787	DOA 0010-01 and DOA 0010-19 need revisions	10/25/2013

### AUDITS, ASSESSMENTS AND SELF-ASSESSMENTS

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
AR 1550960	95001 Flooding Strategy Pre-NRC Inspection	10/31/2013

**WORK ORDERS**

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
WO 00854082	Unit 2 6Y PM Adjustment Cnd HW Watertight door/Repl Seals	12/01/2011
WO 01306112	Unit 2: 2Y PM Door Brgs Watertight Cond Well Fittings	11/21/2011
WO 00966998	Unit 3: 6Y PM Adjust Cond HW Watertight Doors/ Repl Seals	11/29/2011
WO 01280183	Unit 3: 2Y PM Door Brgs Watertight Cond Hotwell Fittings	2/24/2012
WO 01307754	Unit 2: 24M Tstr Cdst Pit Functional LS 2-4441-22	10/25/2011
WO 01510450	Unit 2: TS Cdrs Pit Hi/Hi Wtr Level Switch Functional Test	11/01/2012

**ARs GENERATED DURING INSPECTION**

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
AR 01599770	NRC ID: 95001 Inspection Exit Observations	12/20/2013
AR 01599620	NRC ID: Root Cause Observations During 95001 Insp.	12/19/2013

**MISCELLANEOUS**

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
DRE99-0035	Calculation: Capacity and Discharge Head for Portable Isolation Condenser Make-Up Pump to be Used During Flood Conditions	4 (3/7/2007)
ATD-0141	Calculation: Transient Pressure Analysis of the Isolation Condenser for 10CFR50 Appendix R	0 (6/8/1992)
RIS 2006-13	Information on the Changes Made to the Reactor Oversight Process to More Fully Address Safety Culture	7/31/2006
	Dresden Station Leadership Book	June 2013
EC 391643	Alternate ISCO, RPV and Spent Fuel Pool Makeup Water Source	2

## **LIST OF ACRONYMS USED**

ADAMS	Agencywide Document Access Management System
CAPR	Corrective Action to Prevent Recurrence
CFR	Code of Federal Regulations
DRP	Division of Reactor Projects
IMC	Inspection Management Chapter
IP	Inspection Procedure
IR	Inspection Report
NRC	U.S. Nuclear Regulatory Commission
OE	Operating Experience
PARS	Publicly Available Records System
RCE	Root Cause Evaluation
RIO	Resident Inspector Office

The NRC determined that your staff's evaluation identified the primary root cause of the issue to be a "historical minimum compliance culture" regarding a flooding event. The Root Cause Evaluation report (RCE) also identified a contributing cause of a "knowledge gap regarding the flood licensing basis." Your station staff did contend that the station's culture was changed by the Fukushima Dai-ichi events and pointed to actions taken that go beyond, in their view, regulatory requirements as indicative of that culture change. The station staff also has planned actions that they expect will reinforce the desired culture and ongoing actions to address the knowledge gap issue.

The NRC determined that the programs and processes at Dresden Nuclear Power Station generally met the Commission's rules and regulations. The NRC has determined that completed or planned corrective actions are sufficient to address the performance that led to the White finding. Therefore, the performance issue will not be considered as an Action Matrix input after the end of the fourth quarter of 2013. As a result, the NRC determined the performance at Dresden Nuclear Power Station, Units 2 and 3, to be in the Licensee Response Column of the Reactor Oversight Process Action Matrix as of January 1, 2014.

Based on the results of this inspection, the NRC inspectors did not identify any findings or violations of more than minor significance.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Jamnes Cameron, Chief  
Branch 6  
Division of Reactor Projects

Docket Nos. 50-237; 50-249  
License Nos. DPR-19; DPR-25

Enclosure:  
IR 05000237/2013010; 05000249/2013010  
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Letter to Michael Pacilio from Jamnes Cameron dated January 22, 2014

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3  
NRC SUPPLEMENTAL INSPECTION REPORT 05000237/2013010;  
05000249/2013010 AND ASSESSMENT FOLLOW-UP LETTER

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