UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352
October 26, 2009

EA-09-172

Mr. Charles G. Pardee
Senior Vice President, Exelon Generation Company, LLC
President and Chief Nuclear Officer (CNO), Exelon Nuclear
4300 Winfield Road
Warrenville IL 60555

SUBJECT: FINAL SIGNIFICANCE DETERMINATION FOR A WHITE FINDING AND NOTICE OF VIOLATION; NRC INSPECTION REPORT NO. 05000249/2009010; DRESDEN NUCLEAR POWER STATION, UNIT 3

Dear Mr. Pardee:

The purpose of this letter is to provide you the final results of our significance determination of the preliminary White finding identified in Inspection Report 05000249/2009009. The inspection finding was assessed using the Significance Determination Process and was preliminarily characterized as White, a finding with low to moderate increased importance to safety that may require additional U.S. Nuclear Regulatory Commission (NRC) inspections. This White finding is associated with the licensee's failure, on November 3, 2008, to prevent inadvertent and uncontrolled control rod withdrawal by non-licensed operators.

In a letter dated September 21, 2009, Mr. Tim Hanley of your staff provided a response to the NRC staff's preliminary determination regarding the finding. The response indicated that you did not dispute the significance of the event. You agreed that the significance of the event was driven by human performance of the Dresden operations personnel at the time of the event. Your letter provided your conclusion that it was not feasible that more than three control rods would drift out. Your letter further stated that based on the outage schedule, the normal reactor coolant temperature band, and the limited number of rods that could drift out, your staff concluded that it was extremely unlikely that localized criticality could have occurred. Notwithstanding this information, the NRC continues to conclude that the finding is properly characterized as a low to moderate increased importance to safety. Your letter also described corrective actions that would be taken to prevent recurrence.

After considering the information developed during the inspection, the NRC has concluded that the inspection finding is appropriately characterized as White, a finding with low to moderate increased importance to safety that may require additional NRC inspections as stated in Inspection Report 05000249/2009009.

The NRC has also determined that the finding had multiple associated violations, as cited in the enclosed Notice of Violation (Notice). The circumstances surrounding the violations were described in detail in the subject inspection report.

In accordance with the NRC Enforcement Policy, the Notice is considered escalated enforcement action because it is associated with a White finding.

The NRC has concluded that the information regarding the reason for the violations, the corrective actions taken, and the date when full compliance was achieved is already adequately addressed on the docket in the subject inspection report and in your September 21, 2009, letter. Therefore, you are not required to respond to this letter unless the description therein does not accurately reflect your corrective actions or your position.

As a result of our review of Dresden Nuclear Power Station, Unit 3's performance, including this White finding, we have assessed you to be in the Regulatory Response column of the NRC's Action Matrix. Therefore, we plan to conduct a supplemental inspection using Inspection Procedure 95001, "Inspection for One or Two White Inputs in a Strategic Performance Area," when your staff has notified us of your readiness for this inspection. This inspection procedure is conducted to provide assurance that the root cause and contributing causes of risk significant performance issues are understood, the extent of condition is identified, and the corrective actions are sufficient to prevent recurrence.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction.

Sincerely,

/RA/

Mark A. Satorius
Regional Administrator

Docket No. 50-249
License No. DPR-25

Enclosure:
Notice of Violation

cc w/encl: Distribution via Listserv

Letter to Charles G. Pardee from Mark A. Satorius dated October 26, 2009

SUBJECT: FINAL SIGNIFICANCE DETERMINATION FOR A WHITE FINDING AND NOTICE OF VIOLATION; NRC INSPECTION REPORT NO. 05000249/2009010; DRESDEN NUCLEAR POWER STATION, UNIT 3

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NOTICE OF VIOLATION

Exelon Generation Company
Dresden Nuclear Power Station, Unit 3

Docket No. 50-249
License No. DPR-25
EA-09-172

During a U.S. Nuclear Regulatory Commission (NRC) inspection conducted from May 8 to July 15, 2009, violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

A. 10 CFR 50.54(j) requires that apparatus and mechanisms other than controls, the operation of which may affect the reactivity or power level of a reactor, shall be manipulated only with the knowledge and consent of an operator or senior operator, licensed in accordance with 10 CFR Part 55 present at the controls.

Contrary to the above, on November 3, 2008, mechanisms other than controls which affected the reactivity of the reactor were manipulated without the knowledge and consent of a licensed operator or senior operator present at the controls. Specifically, non-licensed operators manipulated the control rod drive system hydraulic control unit insert riser isolation valves and the withdraw riser isolation valves, an action which affected the reactivity of the reactor in that the valve manipulations caused three control rods, D-7, E-7, and E-6 to move out of the core to positions 06, 18, and 16, respectively. The valve manipulations were accomplished without the knowledge and consent of a licensed operator or senior operator present at the controls.

B. Technical Specification 3.1.1 requires, in part, that the shutdown margin shall be ≥ 0.38 $\Delta k/k$, with the highest worth control rod analytically determined or ≥ 0.28 $\Delta k/k$, with the highest worth control rod determined by test.

Technical Specification 3.1.1, Action Statement D, requires, in part, that if the shutdown margin is not within limits in Mode 4, then initiate action to fully insert all insertable rods immediately.

Contrary to the above, on November 3, 2008, with the reactor in Mode 4, the shutdown margin was not ≥ 0.38 $\Delta k/k$ and the licensee failed to initiate immediate actions to insert control rods. Specifically, based on the defined shutdown margin conditions of xenon free, temperature of 68°F, highest worth rod fully withdrawn and accounting for the reactivity worth of the actual control rod pattern, the reactor would have been critical.

C. Technical Specification 5.4.1, “Administrative Controls,” requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide (RG) 1.33, Revision 2, Appendix A, February 1978.

RG Guide 1.33, Appendix A, Paragraph 4, “Procedure for Startup, Operation, and Shutdown of Safety-Related BWR Systems,” requires, in part, that instructions for energizing, filling, venting, draining, startup, shutdown, and changing modes of operation should be prepared, as appropriate, for systems, including the control rod drive system.

RG Guide 1.33, Appendix A, Paragraph 9, “Procedures for Performing Maintenance,” Item (a), requires, in part, that maintenance that can affect the performance of safety-related equipment should be properly preplanned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances. Item (e) requires, in part, that general procedures should be prepared which should include information on areas such as the method for obtaining permission and clearance for operation personnel to work and for logging such work.

Contrary to the above, on November 3, 2008, maintenance that affected the performance of the control rods, which are safety-related equipment, was performed in accordance with a written procedure that was not appropriate to the circumstances. Specifically, the maintenance activity informed the workers to use Procedure DOP 0500-05, “Discharging CRD Accumulators with Mode Switch in Shutdown or Refuel,” Revision 5, a procedure prepared in accordance with Regulatory Guide 1.33, Appendix A, Paragraph 4, to isolate each of the 177 hydraulic control unit (HCU) accumulators. This procedure was not appropriate to the circumstances, in that the procedure did not contain any guidance regarding monitoring of control rod drive (CRD) system pressure, did not contain any guidance for ensuring the control room operators were aware of the CRD accumulator activities, did not contain any precautions that the manipulation of HCU valves could affect reactivity, and did not specify how many HCUs could be isolated or whether a control rod drive pump should be operating. As a result, isolating all of the HCUs in accordance with the procedure caused the inadvertent withdrawal of three control rods.

D. Technical Specification 5.4.1, “Administrative Controls,” requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978.

RG Guide 1.33, Appendix A, Paragraph 1, “Administrative Procedures” lists “Authorities and Responsibilities for Safe Operation and Shutdown” as a subject which requires a written procedure.

Procedure OP-AA-103-102, “Watch Standing Practices,” Revision 8, is the implementing procedure for ensuring authorities and responsibilities for safe operation and shutdown. Section 4.3.2 of Procedure OP-AA-103-102 requires

operators to aggressively investigate annunciators and alarms to fully understand the reason for any alarm that comes in and to accept all alarms as correct until demonstrated otherwise.

Contrary to the above, on November 3, 2008, the control room operators failed to implement Section 4.3.2 of Procedure OP-AA-103-102 in that they did not aggressively investigate annunciators and alarms and did not accept the alarms as correct until demonstrated otherwise. Specifically, the control room operators did not aggressively investigate multiple rod-drift alarms to ensure they understood the reason for the alarms and failed to accept the alarms as correct until demonstrated otherwise until after three control rods had moved partially out of the full-in position.

E. Technical Specification 5.4.1, “Administrative Controls,” requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978.

RG Guide 1.33, Appendix A, Paragraph 6, “Procedures for Combating Emergencies and Other Significant Events,” lists “Inability to Drive Control Rods” as a subject which required a written procedure.

Contrary to the above, on November 3, 2008, the licensee failed to implement its written procedure which addressed the inability to drive control rods. Specifically, the control room operators verbally directed a non-licensed operator to open the affected HCU insert valve in order to cause the control rod to insert into the core, and then to re-shut the valve, without implementing a procedure.

These violations are associated with a White finding.

The NRC has concluded that information regarding the reason for the violations, the corrective actions taken and planned to be taken to correct the violations and to prevent recurrence, and the date when full compliance was achieved, is already adequately addressed on the docket in Inspection Report 05000249/20090009; dated August 19, 2009, and in your response dated September 21, 2009. However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation EA-09-172," and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Regional Administrator, Region III, 2443 Warrenville Road, Suite 210, Lisle IL 60532, and a copy to the NRC Resident Inspector at the Dresden facility, within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001.

If you choose to respond, your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html. Therefore, to the extent possible, the response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 26th day of October 2009

In accordance with the NRC Enforcement Policy, the Notice is considered escalated enforcement action because it is associated with a White finding.

The NRC has concluded that the information regarding the reason for the violations, the corrective actions taken, and the date when full compliance was achieved is already adequately addressed on the docket in the subject inspection report and in your September 21, 2009, letter. Therefore, you are not required to respond to this letter unless the description therein does not accurately reflect your corrective actions or your position.

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Sincerely,
/RA/
Mark A. Satorius
Regional Administrator

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1. OE concurrence received per G. Bowman via e-mail from G. Gulla on October 16, 2009.