



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

May 5, 2011

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

SUBJECT: CLINTON POWER STATION – NRC FOLLOW UP INSPECTION REPORT
05000461/2011-010

Dear Mr. Pacilio:

On April 15, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed a follow up inspection for four Severity Level (SL)-IV violations identified between November 20, 2009, and June 30, 2010, at your Clinton Power Station. The enclosed report documents the results of this inspection, which were discussed on April 15, 2011, with Mr. F. Kearney, and other members of your staff.

The objectives of this follow up inspection were to provide assurance that: (1) the cause(s) of multiple SL-IV traditional enforcement violations were understood by the licensee; (2) the extent of condition and extent of cause of multiple SL-IV traditional enforcement violations were identified; and (3) licensee corrective actions to traditional enforcement violations were sufficient to address the cause(s). The inspection consisted of examination of activities conducted under your license as they relate to safety, compliance with the Commission's rules and regulations, and the conditions of your operating license, and the objectives stated above. Based on the results of this inspection, the inspector determined that, in general, the causes of the violations were understood by the licensee, the extent of condition and extent of cause of the violations were identified to the extent required by station procedures, and corrective actions were adequate.

Based on the results of this inspection, no findings of significance were identified.

M. Pacilio

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Sincerely,

/RA/

Mark A. Ring, Chief
Branch 1
Division of Reactor Projects

Docket No. 50-461
License No. NPF-62

Enclosure: Inspection Report 05000461/2011-010;
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-461
License No: NPF-62

Report No: 05000461/2011-010

Licensee: Exelon Generation Company, LLC

Facility: Clinton Power Station

Location: Clinton, IL

Dates: April 11 through April 15, 2011

Inspector: Robert Orlikowski, Project Engineer

Approved by: Mark A. Ring, Chief
Branch 1
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000461/2011-010, 4/11/11 – 4/15/11; Clinton Power Station (CPS), Unit 1.

This report covers a one-week period of inspection by a Region III inspector. No findings of significance were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

The inspectors concluded that, in general, for these violations, the causes were understood by the licensee, the extent of condition and extent of cause were identified to the extent required by Clinton Power Station procedures, and the licensee's corrective actions were sufficient to address the identified causes. However, the inspector identified that because the cause evaluations completed for each of the Severity Level (SL)-IV violations were typically Work Group Evaluations, which is the lowest level of evaluation performed, many of the causes identified were superficial in nature and were only concerned with the obvious cause. Had a more in-depth and rigorous cause evaluation been performed, the licensee may have been better able to identify the underlying issues that led to the violations.

A. NRC-Identified and Self-Revealed Findings

No violations of significance were identified.

B. Licensee-Identified Violations

No violations of significance were identified.

REPORT DETAILS

4. OTHER ACTIVITIES

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

4OA5 Other Activities

.1 Follow Up Inspection for Three or More Severity Level IV Traditional Enforcement Violations in the Same Area in a 12-Month Period (IP 92723)

a. Inspection Scope

This inspection was conducted in accordance with Inspection Procedure (IP) 92723, "Follow Up Inspection for Three or More Severity Level (SL) IV Traditional Enforcement Violations in the Same Area in a 12-Month Period," to assess the licensee's evaluation of four SL-IV violations that occurred within the area of impeding the regulatory process from November 20, 2009, to June 30, 2010. These violations were documented in NRC Inspection Reports as: (1) non-cited violation (NCV) 05000461/2009502-01; (2) NCV 05000461/2009004-03; (3) NCV 05000461/2010003-01; and (4) 05000461/2010003-02. The inspection objectives were to:

- Provide assurance that the causes of multiple SL-IV traditional enforcement violations are understood by the licensee;
- Provide assurance that the extent of condition and extent of cause of multiple SL-IV traditional enforcement violations are identified; and
- Provide assurance that licensee corrective actions to traditional enforcement violations are sufficient to address the causes.

The inspector reviewed the licensee's cause evaluations associated with each of the NCVs. Additionally, the inspector reviewed Check in Self Assessment Report 1094472-02, "Pre-NRC Inspection Check In: NRC Inspection Procedure 92723, Follow Up Inspection for Three or More SL-IV Traditional Enforcement Violations in the Same Area in a 12-Month Period (AR 1094472)." The inspector reviewed corrective actions that were identified to address the causes. The inspector also held discussions with licensee personnel to ensure that the causes were understood and corrective actions were appropriate to address the causes.

.2 Evaluation of the Inspection Requirements

2.01 Review of Problem Identification

a. Determine that the licensee's evaluation identifies how each of the issues were identified, how long each issue existed, and prior opportunities for identification

The inspector determined that the licensee's evaluation identified how the issues were identified, how long the issues existed, and the prior opportunities for identification.

The licensee did not perform a collective evaluation for the four NRC identified SL-IV violations. Instead, each violation was evaluated on its own by the licensee's Corrective Action Program (CAP). However, the licensee did perform a pre-NRC inspection self assessment. This self assessment identified an instance where an engineer failed to write an Issue Report (IR) for a known discrepancy between the Updated Final Safety Analysis Report (UFSAR) and the Technical Specifications (TSs). Had an IR been entered into Clinton's CAP, the discrepancy may have been identified by the licensee and not the NRC. Action Request (AR) 1166085 was initiated to document the failure to enter the known deficiency into the Clinton Power Station (CPS) CAP.

b. Findings

No findings were identified.

2.02 Evaluate Cause, Extent of Condition and Extent of Cause Evaluations

a. Determine that the group of SL-IV violations received an evaluation at an appropriate level of detail using a systematic method(s) to identify cause(s)

Each of the SL-IV violations received their own evaluation using the CAP. The group of SL-IV violations were not reviewed collectively using a systematic method to identify causes. While no collective evaluation was performed, the inspector did verify that each SL-IV violation received an evaluation in accordance with Clinton's CAP requirements.

CPS's self assessment did identify that IRs 992920 and 1015038, both of which were Level 3 IRs and related to violations 05000461/2009004-01 and 05000461/2009501-01 respectively, did not include a cause statement. This was contrary to Licensing Procedure LS-AA-120, "Issue Identification and Screening Process," which requires that all Level 1, 2, or 3 IRs shall include a known cause statement. IRs 1166053 and IR 1166036 were written to document these deficiencies, and IRs 992920 and 1015038 were revised to include a cause statement.

The inspector noted that the cause investigations performed for each of the SL-IV violations was a Work Group Evaluation (Class D). This Evaluation is required to be performed by an individual knowledgeable in the Subject and, in the case of a Level 3 IR, is approved by Management Review Committee (MRC). Per procedure LS-AA-120, the Work Group Evaluation is not considered a formal investigation. CPS lists formal investigations as a Common Cause Analysis (CCA) (Class C), Apparent Cause Evaluation (ACE) (Class B), or a Root Cause Evaluation (RCE) (Class A).

Clinton Procedure LS-AA-120 states that "if the actions to limit future failures are not known, strong consideration should be given to performing at least an Apparent Cause Evaluation for all externally identified Significance Level 3 or above issues."

The inspector noted that none of the SL-IV NCV's received a formal investigation (such as an Apparent Cause Evaluation). Due to the process of the Work Group Evaluation, the causes identified for each of the SL-IV NCVs may not be at a level of depth to prevent similar violations from recurring. As an example, the Cause Evaluation for NCV 2010003-01, "Failure to Satisfy 10 CFR 50.72 and 10 CFR 50.73 Reporting Requirements," stated:

"The cause for not reporting the design deficiency under the provisions of 10 CFR 50.72 and 10 CFR 50.73 was that the station and Corporate Licensing

reviewed the reporting requirements provided in 10 CFR 50.72 and 10 CFR 50.73 and the reporting guidance in NUREG-1022 considering the engineering evaluation of this issue and concluded that none of the reporting requirements was applicable to this issue. The reportability assessment was documented in IR 976295 and discussed in LER [Licensee Event Report] 2010-001.”

While the Work Group Evaluation identified the actual cause of the violation, the evaluation did not identify the underlying cause of why multiple organizations within CPS incorrectly concluded the issue was not reportable under 10 CFR 50.72 and 10 CFR 50.73. The licensee’s corrective actions for this violation included providing training to applicable personnel for awareness of the issue.

The inspector noted that because the cause evaluations completed for each of the SL-IV violations were typically Work Group Evaluations, many of the causes identified were superficial in nature and were only concerned with the obvious cause. Had a more in depth and rigorous cause evaluation been performed, the licensee may have been better able to identify the underlying issues that led to the violations. This observation was shared with the station management at the inspection exit. The licensee wrote IR 1207487, “Depth of Investigation for NRC Findings and Violations,” to evaluate classifying IRs associated with NRC findings and violations as Level 3 IRs requiring at least an ACE be performed.

- b. Determine that the evaluation included a consideration of how prior occurrences in the same traditional enforcement area (willfulness, regulatory process, or consequences) were addressed by the licensee

The inspector determined that the licensee’s evaluation included a consideration of how prior occurrences in the area of impeding the regulatory process were addressed. The four SL-IV violations were reviewed to determine if they were due to a more fundamental concern involving weaknesses in the station’s CAP. The inspector did not identify any commonality among the four SL-IV violations that would point to a fundamental weakness with the station’s CAP.

- c. Determine that the evaluation addresses the extent of the condition and the extent of cause of the problem

The inspectors reviewed the individual CAP items for each of the four SL-IV violations as well as the self assessment. The inspector determined that only one of the four SL-IV violations had an extent of condition performed. This was also identified by the licensee’s self assessment. A review of the station’s CAP procedures identified that LS-AA-125, “Corrective Action Program (CAP) Procedure,” does not require an extent of condition review for a Class D evaluation unless it is specifically requested of the Ownership Committee or MRC. Procedure LS-AA-125 only requires an extent of condition evaluation for Class A (Root Cause) and Class B (Apparent Cause) evaluations.

The inspector determined that none of the four SL-IV violations had an extent of cause performed. This was also identified by the licensee’s self assessment. Procedure LS-AA-125 only requires extent of cause reviews for Class A and B evaluations. The inspector reviewed CPS’s procedures and verified that extent of cause evaluations were not required to be performed for these four SL-IV violations.

The licensee's self assessment identified a programmatic weakness in that the station procedures did not require extent of cause evaluations for Class D IRs. CPS wrote IR 1151591, "Guidance Needed for NRC Inspection of Level IV Violations," to document that Exelon standard procedures do not clearly require analysis of Level IV violations to the extent described in NRC Inspection Procedure 92723. Specifically, Exelon procedure LS-AA-120 only requires that NRC SL-IV violations and non-cited violations (NCVs) be classified as a Level 3 IR. In addition, extent of cause and extent of condition reviews are only required for Class A and Class B IRs, and none of the IRs written for the four SL-IV violations was classified as Class A or B. IR 1151591 was initiated "to recommend that Exelon standard processes be evaluated and revised if needed to address these issues."

d. Findings

No findings were identified.

2.03 Evaluate Corrective Actions

a. Determine that appropriate corrective action(s) are specified for each cause identified for the group of violations or that there is an evaluation indicating that no actions are necessary

The inspector determined that appropriate corrective actions were specified for the causes identified for each of the SL-IV violations. Because no cause evaluation was completed for the group of violations, no corrective action was taken to address the group of violations as a whole.

As noted in Section 2.02.a, the inspector noted that the level of cause evaluations performed for the SL-IV violations appeared superficial. Because of this, the corrective actions tended to only address the violation and focused on correcting the immediate problem. Had more rigorous evaluations been performed, additional underlying causes may have been identified that would have lead to further corrective actions to help prevent recurrence.

b. Determine that the corrective actions have been prioritized with consideration of the regulatory compliance

The inspector determined that corrective actions were adequately prioritized with the consideration of the regulatory compliance.

Procedure LS-AA-125 provides guidance for prioritizing corrective actions. A sample review conducted by the inspector indicated that corrective actions were appropriately prioritized.

c. Determine that a schedule has been established for implementing and completing the corrective actions

The inspector determined that a schedule was established for implementing and completing the corrective actions.

Procedure LS-AA-125 provides guidance for establishing due dates for corrective actions. The inspector conducted a sample review of completed and planned corrective actions and did not identify any discrepancies.

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

The inspector determined that there were no measures of success developed for determining the effectiveness of the corrective actions to prevent recurrence.

Procedures LS-AA-125 and LS-AA-125-1004, "Effectiveness Review Manual," provide guidance for assigning and conducting effectiveness reviews. Effectiveness reviews are only required to be performed for corrective actions to prevent recurrence (CAPR) or for an individual corrective action that the Corrective Action Program Coordinators (CAPCOs) or MRC deem necessary. None of these SL-IV violations reviewed had CAPRs, and none of the corrective actions were required to have an effectiveness review completed.

The Licensee's self assessment identified that there were no effectiveness reviews established for the corrective actions associated with the four SL-IV violations. The lack of procedural requirements to perform effectiveness reviews for those corrective actions associated with NRC violations is to be evaluated as part of IR 1151591, "Guidance Needed for NRC Inspection of Level IV Violations."

e. Findings and observations

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On April 15, 2011, the inspector presented the inspection results to Mr. F. Kearney, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

K. Baker, Design Engineering Senior Manager
T. Chalmers, Operations Director
J. Cunningham, Security Manager
B. Davis, Regulatory Assurance Manager
J. Domitrovich, Work Management Director
C. Dunn, Shift Operations Superintendent
S. Fatora, Maintenance Director
R. Frantz, Regulatory Assurance
S. Gackstetter, Training Director
M. Heger, Mechanical/Structural Design Engineering Manager
N. Hightower, Radiological Engineering Manager
M. Kanavos, Plant Manager
F. Kearney, Site Vice President
D. Kemper; Plant Engineering Senior Manager
A. Khanifar, Engineering Director
S. Lakebrink, Mechanical Design Engineering
K. Leffel, Operations Support Manager
J. Peterson, Regulatory Assurance
J. Stovall, Radiation Protection Manager
R. E. Zacholski, Nuclear Oversight Manager (Acting)

Nuclear Regulatory Commission

M. Ring, Chief, Reactor Projects Branch 1
R. Orlikowski, Project Engineer
B. Kemker, Senior Resident Inspector
D. Lords, Resident Inspector

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

None

Closed

None

Discussed

05000461/2009004-01	NCV	Interconnecting Floor Drains Between the Residual Heat Removal 'A' Pump Room and Radwaste Pipe Tunnel (Section 4OA5)
05000461/2009502-01	NCV	Implementation of a Change which Decreased the Effectiveness of the Emergency Plan (Section 4OA5)
05000461/2010003-01	NCV	Failure to Satisfy 10 CFR 50.72 and 50.73 Reporting Requirements (Section 4OA5)
05000461/2010003-02	NCV	Failure to Perform an Adequate 10 CFR 50.59 Evaluation for CPS Procedure 3711.01 (Section 4OA5)

LIST OF DOCUMENTS REVIEWED

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspector 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.

- AR 00974191; Perform CCA of Operability Evaluation Related IR's
- AR 00992920; NRC NCV 2009004-03: VC [Main Control Room Ventilation System] 'B' Positive Pressure in Normal Mode
- AR 00950377; NOS IR 945313 Operability Process not per Procedure
- AR 00965450; NRC ID Positive Pressure Safety Function in USAR for VC
- AR 01015038; NRC NCV 2009501-01; Changed ERO Staff Level W/O NRC Approval
- AR 00921726; NRC Notification of Potential Violation for Emergency Plan
- AR 00783717; NRC URI 2008002-05; Changes to ERO Staffing Levels and Titles
- AR 01051306; NRC Concerns with the 50.59 for the New OPDRV [Operation with Potential to Drain the Reactor Vessel] Procedure
- AR 01080117; Review RHR [Residual Heat Removal] 'A' Pump Potential Flooding Issue for Reporting
- AR 01150811; NRC NCV 2010003-01: Reportability of Interconnecting Drains
- AR 01067457; NRC NCV 2010002-03: Unanalyzed Interconnecting Floor Drains
- AR 00976295; ECCS [Emergency Core Cooling System] Room Floor Drain Connected to RW [Radwaste] Pipe Tunnel
- AR 01098887; NRC NCV 2010003-01: Reportability for Pot RHR Pump Room Flood
- AR 01185469; Cross-reference IRs Related to NRC NCV 2010003-01
- AR 01154358; Evaluate Potential use of CPS 3711.01 for Reportability
- AR 01051306; NRC Concerns with the 50.59 for the New OPDRV Procedure
- AR 01149427; NRC NCV 2010003-02: Defined OPDRV without Prior NRC Approval
- AR 10634405; NRC Review of 50.59 for OPDRV Procedure
- AR 01098890; NRC NCV 2010003-01:10 CFR 50.59 Review of OPDRV Procedure
- AR 010944472-02; Pre-NRC Inspection Check In: NRC Inspection Procedure 92723, Follow Up Inspection for Three or More Severity Level IV (SLIV) Traditional Enforcement Violations in the Same Area in a 12-Month Period (AR 1094472)
- AR 01207487; Depth of Investigation for NRC Findings and Violations
- AR 01166052; Level 3 IR Does not have a Cause Statement
- AR 0115191; Guidance Needed for NRC Inspection of Level IV Violations
- AR 01166085; Deficiency Identified but no Corrective Action Taken
- AR 01151598; Tracking of NRC Inspection for Level IV Violations
- NOL-11-006; Clinton Power Station Nuclear Oversight Readiness Letter for the Upcoming NRC Follow-up Inspections for Three or More Severity Level IV Traditional Enforcement Violations in the Same Area in a 12 Month Period
- Tracer Activity 2009-09-0044A; Training Request for LORT CRC – Functionality Assessments GAP – Cycle 10-2
- Tracer Activity 2009-09-0045A; Training Request for ENG CRC – Functionality Assessments GAP
- TQQ-AA-210-3105; Non-Exelon Training Material/Course Review and Approval: Response to Conditions Adverse to Quality; Course Code N-NRCAQ
- TQ-AA-223-F020; Non-Exelon Training Material/Course Review and Approval; Response to Adverse Quality; Course Code N-NRCAQ
- LS-AA-120; Issue Identification and Screening Process; Revision 12

- LS-AA-125; Corrective Action Program (CAP) Procedure; Revision 15
- LS-AA-1003; NRC Inspection Preparation and Response; Revision 12
- LS-AA-126-1006; Benchmarking Program; Revision 2
- LS-AA-1004; NRC Case Management Guideline; Revision 5
- LS-AA-1040; Performance of Regulatory Analysis; Revision 5
- Policy Statement 001; Corrective Action Program Expectations and Standards; Revision 3
- LS-AA0-107; UFSAR Update Procedure; Revision 7
- LS-AA-107-1001; UFSAR Update T&RM; Revision 1
- LS-AA-125-1001; Root Cause Analysis Manual; Revision 8
- LS-AA-125-1002; Common Cause Analysis Manual; Revision 7
- LS-AA-125-1003; Apparent Cause Evaluation Manual; Revision 9
- LS-AA-125-1004; Effectiveness Review Manual; Revision 5
- LS-AA-126-1001; Focused Area Self Assessment; Revision 6
- LS-AA-126-1005; Check In Self Assessments
- LS-AA-126; Self Assessment Program; Revision 6

LIST OF ACRONYMS USED

ACE	Apparent Cause Evaluation
ADAMS	Agencywide Document Access Management System
AR	Action Request
CAP	Corrective Action Program
CAPCO	Corrective Action Program Coordinator
CAPR	Corrective action to Prevent Recurrence
CCA	Common Cause Analysis
CFR	Code of Federal Regulations
CPS	Clinton Power Station
DRP	Division of Reactor Projects
ECCS	Emergency Core Cooling System
IP	Inspection Procedure
IR	Issue Report
LER	Licensee Event Report
MRC	Management Review Committee
NCV	Non-Cited Violation
NRC	U.S. Nuclear Regulatory Commission
PARS	Publicly Available Records System
RCE	Root Cause Evaluation
RHR	Residual Heat Removal
SL	Severity Level
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item

M. Pacilio

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Sincerely,

/RA/

Mark A. Ring, Chief
Branch 1
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SUBJECT: CLINTON POWER STATION – NRC FOLLOW UP INSPECTION REPORT
05000461/2011-010

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