



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

February 9, 2010

EA-10-016

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: LASALLE COUNTY STATION, UNITS 1 AND 2  
NRC INTEGRATED INSPECTION REPORT 05000373/2009005;  
05000374/2009005; EXERCISE OF ENFORCEMENT DISCRETION**

Dear Mr. Pardee:

On December 31, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your LaSalle County Station, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on January 13, 2010, with the Site Vice President, Mr. Dave Wozniak, and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, one finding of very low safety significance was identified. To encourage the prompt identification and comprehensive correction of violations and in recognition of the lack of clarity in NRC guidance regarding this issue and the potentially generic aspects of the matter, I have been authorized, after consultation with the Director, Office of Enforcement, to exercise enforcement discretion pursuant to Section VII.B.6 of the NRC Enforcement Policy and not issue a Notice of Violation in this case.

If you contest the subject or severity of a Non-Cited Violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the LaSalle County Station. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at the LaSalle County Station. The information that you provide will be considered in accordance with Inspection Manual Chapter 0305.

C. Pardee

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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 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 document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

*/RA/*

Kenneth Riemer, Chief  
Branch 2  
Division of Reactor Projects

Docket Nos. 50-373; 50-374  
License Nos. NPF-11; NPF-18

Enclosure: Inspection Report 05000373/2009005; 05000374/2009005  
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 05000373; 05000374  
License Nos: NPF-11; NPF-18

Report No: 05000373/2009005; 05000374/2009005

Licensee: Exelon Generation Company, LLC

Facility: LaSalle County Station, Units 1 and 2

Location: Marseilles, IL

Dates: October 1, 2009, through December 31, 2009

Inspectors: G. Roach, Senior Resident Inspector  
F. Ramírez, Resident Inspector  
M. Mitchell, Region III Health Physics Inspector  
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Approved by: Kenneth Riemer, Chief  
Branch 2  
Division of Reactor Projects

Enclosure

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## SUMMARY OF FINDINGS

IR 05000373/2009-005, 05000374/2009-005; 10/01/2009 - 12/31/2009; LaSalle County Station, Units 1 & 2; Problem Identification and Resolution.

The report covers a 3-month period of inspection by the resident inspectors and announced inspection by a regional health physics inspector and a regional operator licensing inspector. No findings of significance were identified. The U.S. Nuclear Regulatory Commission's (NRC) program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

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

Enforcement discretion was exercised in Section 40A2. No other findings of significance were identified.

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

None.

## REPORT DETAILS

### Summary of Plant Status

#### **Unit 1**

The unit began the inspection period operating at full power. On November 22, 2009, power was reduced to 70 percent for fuel channel distortion testing, control rod sequence exchange and various turbine and steam plant surveillances. Power was restored to 100 percent on November 23, 2009. On December 20, 2009, power was reduced to 84 percent for control rod sequence exchange and was returned to 100 percent the same day, where it operated for the remainder of the inspection period.

#### **Unit 2**

The unit began the inspection period at full power. On October 12, 2009, the unit was shutdown to comply with Technical Specifications (TS) due to a change in drywell (DW) unidentified leakrate in excess of 2 gallons per minute (gpm) in a 24-hour period. The unit was brought back online following repairs on October 15, 2009, and achieved full power on October 16, 2009. On December 12, 2009, power was reduced to 65 percent for control rod drive mechanism maintenance and testing, steam plant surveillance testing, and control rod sequence exchange. The unit was returned to full power on December 13, 2009, where it operated for the remainder of the inspection period.

#### **1. REACTOR SAFETY**

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

##### 1R01 Adverse Weather Protection (71111.01)

##### .1 Winter Seasonal Readiness Preparations

##### a. Inspection Scope

The inspectors conducted a review of the licensee's preparations for winter conditions to verify that the plant's design features and implementation of procedures were sufficient to protect mitigating systems from the effects of adverse weather. Documentation for selected risk-significant systems was reviewed to ensure that these systems would remain functional when challenged by inclement weather. During the inspection, the inspectors focused on plant specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Final Safety Analysis Report (UFSAR) and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant specific procedures. Cold weather protection, such as heat tracing and area heaters, was verified to be in operation where applicable. The inspectors also reviewed corrective action program (CAP) items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station CAP procedures. Specific documents reviewed during this inspection are listed in the Attachment to this report.

The inspectors' reviews focused specifically on the following plant systems due to their risk significance or susceptibility to cold weather issues:

- control room and auxiliary electrical equipment room ventilation;
- diesel generator (DG) room ventilation;
- condensate storage tanks; and
- fire protection system.

This inspection constituted one winter seasonal readiness preparations sample as defined in Inspection Procedure (IP) 71111.01-05.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- Unit 2 standby gas treatment with Unit 1 standby gas treatment inoperable;
- Unit 2 high pressure core spray (HPCS); and
- Unit 0 DG while the 2A DG was inoperable for testing.

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, UFSAR, TS requirements, outstanding work orders (WOs), condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted three partial system walkdown samples as defined in IP 71111.04-05.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- Unit 1 cable spreading room (fire zone 4D1);
- Unit 2 cable spreading room (fire zone 4D2);
- AB 786 feet elevation (fire zone 4A); and
- AB 815 feet elevation (fire zone 4B).

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the Attachment to this report, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP. Documents reviewed are listed in the Attachment to this report.

These activities constituted four quarterly fire protection inspection samples as defined in IP 71111.05-05.

b. Findings

No findings of significance were identified.

.2 Annual Fire Protection Drill Observation (71111.05A)

a. Inspection Scope

On November 9, 2009, the inspectors observed a fire brigade activation for a simulated oil fire on the bed plate of the 2D condensate – condensate booster pump on turbine building elevation 663 feet. Based on this observation, the inspectors evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies; openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were: (1) proper wearing of turnout gear and self-contained breathing apparatus;



(2) proper use and layout of fire hoses; (3) employment of appropriate fire fighting techniques; (4) sufficient firefighting equipment brought to the scene; (5) effectiveness of fire brigade leader communications, command, and control; (6) search for victims and propagation of the fire into other plant areas; (7) smoke removal operations; (8) utilization of pre-planned strategies; (9) adherence to the pre-planned drill scenario; and (10) drill objectives. Documents reviewed are listed in the Attachment to this report.

These activities constituted one annual fire protection inspection sample as defined in IP 71111.05-05.

b. Findings

No findings of significance were identified.

1R06 Flooding (71111.06)

.1 Internal Flooding

a. Inspection Scope

The inspectors reviewed selected risk-important plant design features and licensee procedures intended to protect the plant and its safety-related equipment from internal flooding events. The inspectors reviewed flood analyses and design documents, including the UFSAR, engineering calculations, and abnormal operating procedures to identify licensee commitments. The specific documents reviewed are listed in the Attachment to this report. In addition, the inspectors reviewed licensee drawings to identify areas and equipment that may be affected by internal flooding caused by the failure or misalignment of nearby sources of water, such as the fire suppression or the circulating water systems. The inspectors also reviewed the licensee's CAP documents with respect to past flood-related items identified in the CAP to verify the adequacy of the corrective actions. The inspectors performed a walkdown of the following plant areas to assess the adequacy of watertight doors and verify drains and sumps were clear of debris and were operable, and that the licensee complied with its commitments:

- Unit 1 reactor building 673 feet elevation raceway; and
- Unit 2 reactor building 673 feet elevation raceway.

This inspection constituted one internal flooding sample as defined in IP 71111.06-05.

b. Findings

No findings of significance were identified.

.2 Underground Vaults

a. Inspection Scope

The inspectors selected underground bunkers/manholes subject to flooding that contained cables whose failure could disable risk-significant equipment. The inspectors observed that the cables were continuously submerged and that appropriate cable support structures were in place with no obvious signs of corrosion. Due to the high

water table on site, cable vaults running from the power block to the lake screenhouse and switchyard relay house were not equipped with dewatering equipment as their vaults would be subjected to a near continuous in-leakage of ground water. The inspectors reviewed the equipment controlled by the submerged cables as well as their voltage ratings and the licensee's assessment that a failure of any single cable would not lead to a significant plant transient or trip. The inspectors also reviewed the licensee's CAP documents with respect to past submerged cable issues identified in the CAP to verify the adequacy of the corrective actions. The inspectors performed a walkdown of the following underground bunkers/manholes subject to flooding:

- Unit 1 circulating water and non-essential service water (SW) power and control cable vault;
- Unit 2 circulating water and non-essential SW power and control cable vault; and
- switchyard breaker control power cable vault.

This inspection constituted one underground vaults sample as defined in IP 71111.06-05.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope

On December 7, 2009, the inspectors observed a crew of licensed operators in the plant's simulator during Licensed Operator Requalification Training (LORT) examinations to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly LORT program sample as defined in IP 71111.11.

b. Findings

No findings of significance were identified.

.2 Facility Operating History (71111.11B)

a. Inspection Scope

The inspectors reviewed the plant's operating history from January 1, 2008, through October 30, 2009, to identify operating experience that was expected to be addressed by the LORT program. The inspector verified that the identified operating experience had been addressed by the facility licensee in accordance with the station's approved Systems Approach to Training (SAT) program to satisfy the requirements of Title 10 of the Code of Federal Regulations (CFR) Chapter 55.59(c). The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

.3 Licensee Requalification Examinations

a. Inspection Scope

The inspectors performed an inspection of the licensee's LORT examination program for compliance with the station's SAT program which would satisfy the requirements of 10 CFR 55.59(c)(4). The reviewed operating examination material consisted of two operating tests, each containing two dynamic simulator scenarios and six job performance measures (JPMs). The written examinations reviewed consisted of two written examinations, consisting of approximately 30 questions for each examination. The inspectors reviewed the annual requalification operating test and biennial written examination material to evaluate general quality, construction, and difficulty level. The inspectors assessed the level of examination duplication from week-to-week for the operating test and written examination material administered in 2009. The inspectors reviewed the methodology for developing the examinations, including the LORT program two-year sample plan, probabilistic risk assessment insights, previously identified operator performance deficiencies, and plant modifications. The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

.4 Licensee Administration of Requalification Examinations

a. Inspection Scope

The inspectors observed the administration of a requalification operating test to assess the licensee's effectiveness in conducting the test to ensure compliance with 10 CFR 55.59(c)(4). The inspectors evaluated the performance of one operating crew in parallel with the facility evaluators during two dynamic simulator scenarios and evaluated

various licensed crew members concurrently with facility evaluators during the administration of several JPMs. The inspectors assessed the facility evaluators' abilities to determine adequate crew and individual performance using objective, measurable standards. The inspectors observed the training staff personnel administer the operating test, including conducting pre-examination briefings, evaluations of operator performance, and individual and crew evaluations upon completion of the operating test. The inspectors evaluated the ability of the simulator to support the examinations. A specific evaluation of simulator performance was conducted and documented in the section below titled, "Conformance with Simulator Requirements Specified in 10 CFR 55.46." The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

.5 Examination Security

a. Inspection Scope

The inspectors observed and reviewed the licensee's overall LORT examination security program related to examination physical security (e.g., access restrictions and simulator considerations) and integrity (e.g., predictability and bias) to verify compliance with 10 CFR 55.49, "Integrity of Examinations and Tests." The inspectors also reviewed the facility licensee's examination security procedure and the implementation of security and integrity measures (e.g., security agreements, sampling criteria, bank use, and test item repetition) throughout the examination process. The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

.6 Licensee Training Feedback System

a. Inspection Scope

The inspectors assessed the methods and effectiveness of the licensee's processes for revising and maintaining its LORT program up to date, including the use of feedback from plant events and industry experience information. The inspectors reviewed the licensee's quality assurance oversight activities, including licensee training department self-assessment reports. The inspectors evaluated the licensee's ability to assess the effectiveness of its LORT program and their ability to implement appropriate corrective actions. This evaluation was performed to verify compliance with 10 CFR 55.59(c) and the licensee's SAT program. The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

.7 Licensee Remedial Training Program

a. Inspection Scope

The inspectors assessed the adequacy and effectiveness of the remedial training conducted since the previous biennial requalification examinations and the training from the current examination cycle to ensure that they addressed weaknesses in licensed operator or crew performance identified during training and plant operations. The inspectors reviewed remedial training procedures and individual remedial training plans. This evaluation was performed in accordance with 10 CFR 55.59(c) and with respect to the licensee's SAT program. The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

.8 Conformance with Operator License Conditions

a. Inspection Scope

The inspectors reviewed the facility and individual operator licensees' conformance with the requirements of 10 CFR Part 55. The inspectors reviewed the facility licensee's program for maintaining active operator licenses and to assess compliance with 10 CFR 55.53(e) and (f). The inspectors reviewed the procedural guidance and the process for tracking on-shift hours for licensed operators and which control room positions were granted watch-standing credit for maintaining active operator licenses. The inspectors reviewed the facility licensee's LORT program to assess compliance with the requalification program requirements as described by 10 CFR 55.59(c). Additionally, medical records for six licensed operators were reviewed for compliance with 10 CFR 55.53(i). The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

.9 Conformance with Simulator Requirements Specified in 10 CFR 55.46

a. Inspection Scope

The inspectors assessed the adequacy of the licensee's simulation facility (simulator) for use in operator licensing examinations and for satisfying experience requirements as prescribed in 10 CFR 55.46, "Simulation Facilities." The inspectors also reviewed a sample of simulator performance test records (i.e., transient tests, malfunction tests, steady state tests, and core performance tests), simulator discrepancies, and the process for ensuring continued assurance of simulator fidelity in accordance with 10 CFR 55.46. The inspectors reviewed and evaluated the discrepancy process to ensure that simulator fidelity was maintained. Open simulator discrepancies were reviewed for importance relative to the impact on 10 CFR 55.45 and 55.59 operator actions as well as on nuclear and thermal hydraulic operating characteristics.

The inspectors conducted interviews with members of the licensee's simulator staff about the configuration control process and completed the IP 71111.11, Appendix C, checklist to evaluate whether or not the licensee's plant-referenced simulator was operating adequately as required by 10 CFR 55.46(c) and (d). The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

Completion of Sections .2 through .9 constituted one biennial LORT inspection sample as defined in IP 71111.11B.

.10 Annual Operating Test Results (71111.11B)

a. Inspection Scope

The inspectors reviewed the overall pass/fail results of the biennial written examination, the individual JPM operating tests, and the simulator operating tests (required to be given per 10 CFR 55.59(a)(2)) administered by the licensee from November 2, through December 13, 2009, as part of the licensee's operator licensing requalification cycle. These results were compared to the thresholds established in Inspection Manual Chapter 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process." The evaluations were also performed to determine if the licensee effectively implemented operator requalification guidelines established in NUREG 1021, "Operator Licensing Examination Standards for Power Reactors," and IP 71111.11, "Licensed Operator Requalification Program." The documents reviewed during this inspection are listed in the Attachment to this report.

Completion of the annual operating test results review constituted one biennial LORT inspection sample as defined in IP 71111.11B.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations (71111.12Q)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk-significant components/systems:

- primary containment electronics,
- seismic monitoring system; and
- root cause failure report for the 2B21-F016 high pressure steam drain isolation valve.

The inspectors reviewed events such as where ineffective equipment maintenance had resulted in valid or invalid automatic actuations of engineered safeguards systems and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures;
- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;
- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- verifying appropriate performance criteria for structures, systems, and components/functions classified as (a)(2) or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

This inspection constituted three quarterly maintenance effectiveness samples as defined in IP 71111.12-05.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

.1 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- walkdown of the Unit 1, Division 3 HPCS protected pathway during a work window;
- 2B21-F016 packing failure and emergent repair;
- station auxiliary transformer feed breaker relay protected equipment walkdown; and
- Unit 2 reactor core isolation cooling (RCIC) steam isolation valve proposed surveillance interval extension.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the

plant risk was promptly reassessed and managed. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

These maintenance risk assessments and emergent work control activities constituted four samples as defined in IP 71111.13-05.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- safety-related pressure switch surveillance testing methodology;
- pressure rise in off-service 2A residual heat removal (RHR) heat exchanger;
- standby liquid control (SBLC) pump discharge relief valve response during an anticipated transient without scram; and
- Unit 2 turbine bypass valve No. 5 degraded performance.

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and UFSAR to the licensee's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors reviewed a sampling of CAP documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment to this report.

This operability inspection constituted four samples as defined in IP 71111.15-05.

b. Findings

No findings of significance were identified.



1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the following post-maintenance testing activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- 0B diesel fire pump;
- 0A control room and auxiliary electrical equipment room 0VE010/011 dampers;
- 2B SBLC pump run after relief valve replacement; and
- 1B RHR/WS process radiation monitor following vent valve replacement.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion); and test documentation was properly evaluated. The inspectors evaluated the activities against TS, the UFSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed CAP documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

This inspection constituted four post-maintenance testing samples as defined in IP 71111.19-05.

b. Findings

No findings of significance were identified.

1R20 Outage Activities (71111.20)

.1 Other Outage Activities

a. Inspection Scope

The inspectors evaluated outage activities for an unscheduled Unit 2 outage that began on October 12, 2009, and continued through October 15, 2009. The inspectors reviewed activities to ensure that the licensee considered risk in developing, planning, and implementing the outage schedule.

The inspectors observed or reviewed the reactor shutdown and cooldown, outage equipment configuration and risk management, electrical lineups, selected clearances, control and monitoring of decay heat removal, control of containment activities, startup and heatup activities, and identification and resolution of problems associated with the outage. The licensee performed a controlled shutdown and cooldown of Unit 2 required by the plant TS when DW unidentified leakrate increased by more than 2 gpm in a 24 hour period due to a packing failure of the 2B21-F016.

This inspection constituted one other outage sample as defined in IP 71111.20-05.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

.1 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- secondary containment ventilation damper isolation time testing (Routine);
- 2A DG idle run (Routine);
- Unit 1 reactor pressure vessel low water level three scram trip logic testing (Routine); and
- Unit 2A DG cooling water pump (IST).

The inspectors observed in plant activities and reviewed procedures and associated records to determine the following:

- did preconditioning occur;
- were the effects of the testing adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- were acceptance criteria clearly stated, demonstrated operational readiness, and consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;
- as-left setpoints were within required ranges; and the calibration frequency were in accordance with TSs, the USAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- test data and results were accurate, complete, within limits, and valid;

- test equipment was removed after testing;
- where applicable for inservice inspection (ISI) activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers code, and reference values were consistent with the system design basis;
- where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;
- where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure;
- where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished;
- prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test;
- equipment was returned to a position or status required to support the performance of its safety functions; and
- all problems identified during the testing were appropriately documented and dispositioned in the CAP.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted three routine surveillance testing samples and one IST sample as defined in IP 71111.22, Sections -02 and -05.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

.1 Emergency Action Level and Emergency Plan Changes

a. Inspection Scope

Since the last NRC inspection of this program area, Emergency Plan Annex, Revisions 26, 27, 28, and 29 were implemented based on the licensee's determination, in accordance with 10 CFR 50.54(q), that the changes resulted in no decrease in effectiveness of the Plan, and that the revised Plan as changed continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The inspectors conducted a sampling review of the Emergency Plan changes and a review of the Emergency Action Level (EAL) changes to evaluate for potential decreases in effectiveness of the plan. However, this review does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety.

This EAL and Emergency Plan changes inspection constituted one sample as defined in IP 71114.04-05.

b. Findings

(1) Unresolved Item 20090005-01 Changes to EAL HU6 Potentially Decrease the Effectiveness of the Plans without Prior NRC Approval

Introduction: The inspectors reviewed changes implemented to the LaSalle Station Radiological Emergency Plan Annex EALs and EAL Basis. In Revision 26, the licensee changed the basis of EAL HU6, "Fire not extinguished within 15 minutes of detection within the protected area boundary by adding two statements. The two changes added to the EAL basis stated that if the alarm could not be verified by redundant control room or nearby fire panel indications, notification from the field that a fire exists starts the 15-minute classification and fire extinguishment clocks. The second change stated the 15-minute period to extinguish the fire does not start until either the fire alarm is verified to be valid by additional control room or nearby fire panel instrumentation, or upon notification of a fire from the field. These statements conflict with the previous LaSalle Station Annex, Revision 25, basis statements and potentially decrease the effectiveness of the plans.

Description: LaSalle Station Radiological Emergency Plan Annex, Revision 25, EAL HU6, initiating condition stated, "Fire not extinguished within 15 minutes of detection, or explosion, within the protected area boundary." The threshold values for HU6 were, in part: 1) Fire in any Table H2 area not extinguished within 15 minutes of control room notification or verification of a control room alarm, or 2) Fire outside any Table H2 area with the potential to damage safety systems in any Table H2 area not extinguished within 15 minutes of control room notification or verification of a control room alarm. Table H2, Vital Areas, were identified as reactor building, control room, auxiliary building, DG rooms, switchgear and battery rooms, remote shutdown rooms, core standby cooling system pump rooms, and lake screenhouse. The basis defined fire as "combustion characterized by heat and light. Sources of smoke such as slipping drive belts or overheated electrical equipment do not constitute fires. Observation of flame is preferred but is not required if large quantities of smoke and heat are observed."

The basis for Revision 25, EAL HU6 thresholds one and two stated, in part, the purpose of this threshold is to address the magnitude and extent of fires that may be potentially significant precursors to damage to safety systems. As used here, notification is visual observation and report by plant personnel or sensor alarm indication. The 15-minute period begins with a credible notification that a fire is occurring or indication of a valid fire detection system alarm. A verified alarm is assumed to be an indication of a fire unless personnel dispatched to the scene disprove the alarm within the 15-minute period. The report, however, shall not be required to verify the alarm. The intent of the 15-minute period is to size the fire and discriminate against small fires that are readily extinguished (e.g., smoldering waste paper basket, etc.).

Revision 26 of the LaSalle Station Radiological Emergency Plan Annex changed the threshold basis for EAL HU6 by adding the following two statements: 1) "If the alarm cannot be verified by redundant control room or nearby fire panel indications, notification from the field that a fire exists starts the 15-minute classification and fire extinguishment clocks," and 2) "The 15-minute period to extinguish the fire does not start until either the fire alarm is verified to be valid by utilization of additional control room or nearby fire panel instrumentation, or upon notification of a fire from the field."

The two statements added to the basis in Revision 26 conflict with the Revision 25 threshold basis and initiating condition. The changed threshold basis in Revision 26 could add an indeterminate amount of time to declaring an actual emergency until a person responded to the area of the fire and made a notification to the control room of a fire in the event that redundant control room or nearby fire panel indications were not available.

Pending further review and verification by the NRC to determine if the changes to EAL HU6 threshold basis potentially decreased the effectiveness of the plans, this issue was considered an unresolved item (URI 05000373/2009005-01/ 05000374/2009005-01).

## 2. RADIATION SAFETY

### Cornerstone: Occupational Radiation Safety

#### 2PS3 Radiological Environmental Monitoring Program And Radioactive Material Control Program (71122.03)

##### .1 Inspection Planning

###### a. Inspection Scope

The inspectors reviewed the most current Annual Environmental Monitoring Report and licensee assessment results to verify that the Radiological Environmental Monitoring Program (REMP) was implemented as required by TS and the Offsite Dose Calculation Manual (ODCM). The inspectors reviewed the report for changes to the ODCM with respect to environmental monitoring, commitments in terms of sampling locations, monitoring and measurement frequencies, land use census, interlaboratory comparison program, and analysis of data. The inspectors reviewed the ODCM to identify environmental monitoring stations and reviewed licensee self-assessments, audits, licensee event reports (LERs), and interlaboratory comparison program results. The inspectors reviewed the UFSAR for information regarding REMP and meteorological monitoring instrumentation. The inspectors reviewed the scope of the licensee's audit program to verify that it met the requirements of 10 CFR 20.1101(c).

This review of the most current Annual Environmental Monitoring Report and licensee assessment results constituted one REMP sample as defined in IP 71122.03-5.

###### b. Findings

No findings of significance were identified.

##### .2 Onsite Inspection

###### a. Inspection Scope

The inspectors performed a walkdown of 30 percent of the air sampling stations and approximately five percent of the thermoluminescence dosimeter (TLD) monitoring stations to determine whether they were located as described in the ODCM and to determine the equipment material condition.

This inspection constituted one sample as defined in IP 71122.03-5.

The inspectors observed the collection and preparation of a variety of environmental samples (e.g., ground and surface water, milk, vegetation, sediment, and soil) and verified that environmental sampling was representative of the release pathways as specified in the ODCM and that sampling techniques were in accordance with procedures.

This walkdown of air sampling stations and TLD monitoring stations constituted one sample as defined in IP 71122.03-5.

The inspectors verified that the meteorological instruments were operable, calibrated, and maintained in accordance with guidance contained in the UFSAR, NRC Safety Guide 23, and licensee procedures. The inspectors verified that the meteorological data readout and recording instruments in the control room and at the tower were operable. The inspectors compared readout data (i.e., wind speed, wind direction, and delta temperature) in the control room and at the meteorological tower to identify if there were any line loss differences.

This meteorological instruments inspection constituted one sample as defined in IP 71122.03-5.

The inspectors reviewed each event documented in the Annual Environmental Monitoring Report which involved a missed sample, inoperable sampler, lost TLD, or anomalous measurement for the cause and corrective actions and conducted a review of the licensee's assessment of any positive sample results (i.e., licensed radioactive material detected above the lower limits of detection). The inspectors reviewed the associated radioactive effluent release data that was the likely source of the released material.

This inspection of the Annual Environmental Monitoring Report constituted one sample as defined in IP 71122.03-5.

The inspectors reviewed significant changes made by the licensee to the ODCM as the result of changes to the land census or sampler station modifications since the last inspection. The inspectors reviewed technical justifications for changed sampling locations. The inspectors verified that the licensee performed the reviews required to ensure that the changes did not affect its ability to monitor the impacts of radioactive effluent releases on the environment.

This ODCM changes inspection constituted one sample as defined in IP 71122.03-5.

The inspectors reviewed the calibration and maintenance records for three air samplers. The inspectors reviewed the results of the REMP sample vendor's quality control program including the interlaboratory comparison program to verify the adequacy of the vendor's program and the corrective actions for any identified deficiencies. The inspectors reviewed audits and technical evaluations the licensee performed on the vendor's program.

This calibration and maintenance records inspection constituted one sample as defined in IP 71122.03-5.

b. Findings

No findings of significance were identified.

.3 Unrestricted release of material from the Radiologically Controlled Area

a. Inspection Scope

The inspectors observed several locations where the licensee monitors potentially contaminated material leaving the radiologically controlled area and inspected the methods used for control, survey, and release from these areas. The inspectors observed the performance of personnel surveying and releasing material for unrestricted use to verify that the work was performed in accordance with plant procedures.

This inspection of the licensee monitoring materials leaving the radiologically controlled area constituted one sample as defined in IP 71122.03-5.

The inspectors verified that the radiation monitoring instrumentation was appropriate for the radiation types present and was calibrated with appropriate radiation sources. The inspectors reviewed the licensee's criteria for the survey and release of potentially contaminated material and verified that there was guidance on how to respond to an alarm which indicates the presence of licensed radioactive material. The inspectors reviewed the licensee's equipment to ensure the radiation detection sensitivities were consistent with the NRC Office of Enforcement guidance contained in Circular 81-07 and Information Notice 85-92 for surface contamination and Health Physics Position 221 for volumetrically contaminated material. The inspectors verified that the licensee performed radiation surveys to detect radionuclides that decay via electron capture. The inspectors reviewed the licensee's procedures and records to verify that the radiation detection instrumentation was used at its typical sensitivity level based on appropriate counting parameters (i.e., counting times and background radiation levels). The inspectors verified that the licensee had not established a "release limit" by altering the instrument's typical sensitivity through such methods as raising the energy discriminator level or locating the instrument in a high radiation background area.

This radiation monitoring instrumentation inspection constituted one sample as defined in IP 71122.03-5.

b. Findings

No findings of significance were identified.

.4 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed the licensee's self-assessments, audits, LERs, and Special Reports related to the REMP since the last inspection to determine if identified problems were entered into the CAP for resolution. The inspectors also verified that the licensee's self-assessment program was capable of identifying repetitive deficiencies or significant individual deficiencies in problem identification and resolution.

The inspectors also reviewed CAP documents from the radioactive effluent treatment and monitoring program since the previous inspection, interviewed staff and reviewed documents to determine if the following activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk:

- initial problem identification, characterization, and tracking;
- disposition of operability/reportability issues;
- evaluation of safety significance/risk and priority for resolution;
- identification of repetitive problems;
- identification of contributing causes;
- identification and implementation of effective corrective actions;
- resolution of non-cited violations tracked in the CAP; and
- implementation/consideration of risk significant operational experience feedback.

This inspection of the licensee's self-assessments, audits, LERs, and Special Reports related to REMP constituted one sample as defined in IP 71122.03-5.

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES**

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

4OA1 Performance Indicator Verification (71151)

.1 Safety System Functional Failures

a. Inspection Scope

The inspectors sampled licensee submittals for the safety system functional failures (SSFF) performance indicator (PI) for Unit 1 and Unit 2 for the period from the third quarter 2008 through the third quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73" definitions and guidance, were used. The inspectors reviewed the licensee's operator narrative logs, operability assessments, maintenance rule records, maintenance WOs, issue reports (IRs), event reports and NRC Integrated Inspection Reports for the period of July 2008 through September 2009, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's IR database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two SSFF samples as defined in IP 71151-05.



b. Findings

No findings of significance were identified.

.2 Mitigating Systems Performance Index - Heat Removal System

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index (MSPI) - Heat Removal System PI for Unit 1 and Unit 2 for the period from the third quarter 2008 through the third quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's operator narrative logs, IRs, event reports, MSPI derivation reports, and NRC Integrated Inspection Reports for the period of July 2008 through September 2009, to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's IR database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two MSPI heat removal system samples as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.3 Mitigating Systems Performance Index - Cooling Water Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI - Cooling Water Systems PI for Unit 1 and Unit 2 for the period from the third quarter 2008 through the third quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's operator narrative logs, IRs, MSPI derivation reports, event reports and NRC Integrated Inspection Reports for the period of July 2008 through September 2009, to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's IR database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two MSPI cooling water system samples as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

**Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection**

.1 Routine Review of Items Entered into the Corrective Action Program

a. Inspection Scope

As part of the various baseline IPs discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's CAP at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Attributes reviewed included: the complete and accurate identification of the problem; that timeliness was commensurate with the safety significance; that evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the attached List of Documents Reviewed.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings of significance were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for followup, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished through inspection of the station's daily condition report packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings of significance were identified.

.3 Semiannual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 4OA2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the six month period of June 2009 through December 2009, although some examples expanded beyond those dates where the scope of the trend warranted.

The review also included issues documented outside the normal CAP, in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's CAP trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

This review constituted one semiannual trend inspection sample as defined in IP 71152-05.

b. Findings

No findings of significance were identified.

.4 Annual Sample: Root Cause Report Review for the Unit 2 Digital Electro-hydraulic Control Induced Reactor Scram of August 2009

a. Inspection Scope

The inspectors reviewed the root cause report and the licensee's corrective actions associated with the August 15, 2009, Unit 2 main turbine trip and subsequent reactor scram. In addition, the inspectors met with licensee engineering and operations management to discuss the site's response to this issue specifically focused on how control room operators and system managers were going to be provided a better performing digital electro-hydraulic control (DEHC) system and more detailed vendor documentation and alarm response procedures.

On August 9, 2009, the licensee received a communications failure diagnostic alarm on the Unit 2 DEHC system. Control room alarm response procedures and onsite vendor documents were not detailed enough to describe the full implications of receiving this alarm. In response, licensee staff contacted corporate experts and the vendor to determine the necessary response to the alarm. After a number of collegial discussions between the previously mentioned groups, the licensee determined that it was safe to

perform weekly DEHC turbine trip system logic testing. On August 15, 2009, while performing overspeed trip logic testing, the latent communications error and the test input satisfied the turbine trip logic resulting in the Unit scram. The licensee root cause review determined that the site's vendor operating manual did not possess adequate information for operators and engineers to determine the impacts on the plant for both normal operations and testing. In addition, the report determined that the operators were inundated with alarms on DEHC on both units that were informational only which in turn led to a lack of sensitivity to this particular communications alarm. During the month leading up to the scram, Unit 1 had experienced more than 700 DEHC alarms in the main control room and Unit 2 more than 600 DEHC alarms. These alarms were mainly due to spurious turbine valve position indication and hydraulic system pressure deviations between redundant indicators. In order to minimize these distracting alarms the licensee has modified the DEHC software on both units to spread out the required deviation between redundant sensors that would lead to a control room alarm. Most importantly, the licensee has required the vendor to update its onsite documentation so that system managers and operators are better able to respond to all possible alarming conditions on the DEHC system. In addition, the licensee has updated its alarm response procedure to incorporate the vendor provided additional information.

b. Findings

No findings of significance were identified.

.5 Selected Issue Follow-Up Inspection: Review of Rod Control Management System 50.59 Evaluation

a. Scope

The inspectors reviewed the Rod Control Management System (RCMS), installed in Unit 2 during the Spring 2009 refueling outage. The licensee installed the system under the 10 CFR 50.59 process. The inspectors reviewed Engineering Change (EC) 349628, Revision 9, "Replace U2 RMCS/RPIS/RWM with RCMS". Specifically, the inspectors reviewed the architecture, installation, and function of the RCMS. The inspectors also reviewed the associated 50.59 screening and Evaluation Number L-06-036, Revision 1. The review focused on the use of guidance documents including NEI 01-01, "Guideline on Licensing Digital Upgrades", and NEI 96-07, "Guidelines for 10 CFR 50.59 Implementation". The inspectors reviewed various documents and interviewed licensee staff.

b. Findings

Introduction: The inspectors identified a Severity Level IV Non-Cited Violation of 10 CFR 50.59 having very low safety significance (Green) for the failure to perform an adequate safety evaluation in accordance with 10 CFR 50.59. Specifically, the licensee failed to perform an adequate safety evaluation for a modification to convert the RCMS to a digital control system. However, due to the lack of clarity of NRC guidance and requirements for digital modifications, and in accordance with Section VII.B.6 of the Enforcement Policy, the NRC is exercising discretion and will not take enforcement action for this matter. This will close Unresolved Item (URI) 05000374/2009003-02.

Description: During the 2009 refueling outage, the licensee performed a digital upgrade modification to the RCMS system. The modification allowed the licensee to move gangs of up to four rods simultaneously; however, the modification was installed with the associated software disabled, so that the licensee could only move one rod at a time. The licensee also revised the operating procedures to prevent movement of more than one rod at a time.

The licensee performed a 10 CFR 50.59 evaluation which concluded that this upgrade could be performed without submitting a license amendment. The inspectors reviewed this evaluation and concluded that the licensee may not have properly evaluated the modification in accordance with the NRC endorsed guidance in NEI 01-01, "Guideline on Licensing Digital Upgrades." Specifically, the licensee did not appropriately address the questions in NEI 01-01, Appendix A, "Supplemental Questions for Addressing 10 CFR 50.59 Evaluation Criteria." These questions are used to ensure the adequacy of the safety evaluation and as stated in NEI 01-01, "should be answered in sufficient detail, either by reference to a source document or by direct statements, that an independent third party can verify judgments." This was not the case for the 10 CFR 50.59 evaluation performed by the licensee.

The inspectors determined that the licensee had not properly evaluated questions associated with software common cause failure and the potential for spurious, uncontrolled withdrawal of four control rods. The licensee had also not adequately addressed important aspects of the modification in regard to the effects of increased complexity. As stated in NEI 01-01, "for digital systems, the likelihood of software-related failure is minimized using the same basic approach of controlling the design, implementation, operation, and maintenance processes." The licensee interpreted this guidance to mean that for nonsafety-related systems, common cause failures did not have to be assumed in the safety evaluation. However, the inspectors noted that the NEI guidance also stated that "additional measures are appropriate for systems that are highly safety significant (i.e., high consequences) to achieve an acceptable level of risk. For digital upgrades to such systems, the defense-in-depth and diversity in the overall plant design are analyzed to assure that where there are vulnerabilities to common cause software failure, the plant has adequate capability to cope with these vulnerabilities." The inspectors were concerned that the RCMS, as a highly safety significant system, should have been evaluated, under 10 CFR 50.59, assuming software common cause failures, because under certain software failures the plant could potentially be placed in a condition outside its design bases by causing unanalyzed abnormal operating occurrences.

During discussions with the inspectors, the licensee technical staff stated their belief that a software common cause failure did not need to be evaluated, based upon the guidance in NEI 01-01, Section 4.4.6. The licensee interpreted this guidance to allow changes if the likelihood of a software common cause failure could be justified as sufficiently low based upon the quality of the software application. Based upon this guidance, the licensee determined that the software quality was sufficiently high such that common cause software failure was not credible and that therefore, prior NRC approval was not required.

The inspectors were concerned that the licensee had not properly evaluated questions associated with software common cause failure and the potential for spurious, uncontrolled withdrawal of four control rods. Subsequently, the licensee revised the

evaluation and addressed the supplemental questions in Revision 3 of L-06-036, and Revision 11 of EC 349628. Following questions by the inspectors, the licensee implemented compensatory actions to mitigate the consequences of a software common cause failure of the RCMS, which included performing a cycle specific core analyses to demonstrate that the core safety limits were not exceeded. The analyses was reviewed by the NRC and the NRC staff identified no concerns with this analyses.

Analysis: The inspectors determined that this failure to document an adequate safety evaluation for the RCMS digital upgrade was contrary to 10 CFR 50.59 and was a performance deficiency. Specifically, the failure to properly evaluate and document the RCMS modification in accordance with the NRC endorsed guidance in NEI 01-01 during the 10 CFR 50.59 evaluation process was a performance deficiency. Because violations of 10 CFR 50.59 are considered to be violations that may potentially impede or impact the regulatory process, they are dispositioned using the traditional enforcement process instead of the significance determination process (SDP). The finding was determined to be more than minor because the inspectors could not reasonably determine that the changes to UFSAR Section 1.3.2.8.1 would not have ultimately required NRC prior approval.

In determining the significance of a violation, the NRC will consider appropriate factors for the particular regulatory process violation. These factors may include the significance of the underlying issue. The severity level of a violation involving the failure to make a required report to the NRC will be based upon the significance of and the circumstances surrounding the matter that should have been reported. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of findings," Table 4a, but all Mitigating Systems screening questions in the Phase 1 Screening Worksheet were answered "no". Based upon this Phase 1 screening, the inspectors concluded that the issue was of very low safety significance (Green). In accordance with the Enforcement Policy, the violation was, therefore, classified as a Severity Level IV violation.

Enforcement: Title 10 CFR 50.59(d)(1) states, in part, that the licensee shall maintain records of changes in the facility, of changes in procedures, and of tests and experiments. These records must include a written evaluation which provides a basis for the determination that the change, test, or experiment does not require a license amendment.

Contrary to the above, the licensee failed to perform a safety evaluation that adequately provided a basis for the determination that the RCMS digital upgrade did not require a license amendment. Specifically, the licensee did not properly evaluate the RCMS modification in accordance with the NRC endorsed guidance in NEI 01-01, "Guideline on Licensing Digital Upgrades."

Notwithstanding the outcome of the normal enforcement process addressed in Section VI.B of the Enforcement Policy, the NRC may reduce or refrain from issuing a Notice of Violation based on the merits of the case after considering the guidance in the Enforcement Policy statement of policy, and such factors as the clarity of the requirement and other relevant circumstances. Therefore, due to the lack of clarity of the NRC requirements for common mode software failures and the potentially generic aspects of the matter, the NRC will exercise enforcement discretion in accordance with

Section VII.B.6 of the Enforcement Policy and will refrain from issuing enforcement action for this violation.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) Licensee Event Report 0500373/2009-001-00: Automatic Reactor Scram Due to Failure of Main Power Transformer Surge Arrestor

This event, which occurred on May 21, 2009, resulted in an automatic scram of Unit 1 due to a main generator lockout following the failure of a surge arrestor on the 1W main power transformer (MPT). Subsequent inspection of the surge arrestor determined that it possessed a manufacturing defect. Vendor post-manufacturing test data was not available to determine if any irregularities should have been identified prior to installation on the MPT. The arrestor failure also resulted in a voltage transient that caused a number of invalid alarms and isolations of systems on both Unit 1 and Unit 2. Licensee corrective actions included an inspection of the 1W MPT for damage, replacing the failed surge arrestor, and changing station procurement policy to require vendors to supply the licensee all surge arrestor testing data at the time of purchase. Documents reviewed as part of this inspection are listed in the Attachment to this report. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

.2 (Closed) Licensee Event Report 05000374/2009-001-00: Main Turbine Trip and Reactor Scram Due to Digital Electro-hydraulic Control Circuit Card Failure

This event, which occurred on August 15, 2009, resulted in an automatic scram of Unit 2 due to the main turbine overspeed trip logic being satisfied while testing. On August 9, 2009, the licensee received a DEHC communications diagnostic alarm. During the following week licensee staff worked with the vendor and corporate experts to determine the ramifications of the alarm on testing and operations. The staff determined that it was safe to continue with weekly overspeed testing the following weekend. During testing the latent alarming condition and the insertion of a test signal made up the necessary inputs for the overspeed logic to insert a turbine trip and reactor scram. The licensee replaced a defective card in the DEHC circuit and has worked with the vendor to improve the vendor manual and station alarm response procedures to have a more detailed explanation of all possible alarming conditions. This issue was treated as a Green finding and was documented in Section 4OA3 of Inspection Report 2009004. Documents reviewed as part of this inspection are listed in the Attachment to this report. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153-05.

.3 (Closed) Licensee Event Report 05000374/2009-002-00: Completed Plant Shutdown Due to Unidentified Leakage in Excess of Technical Specification Limits

This event, which was first identified on October 11, 2009, resulted in the TS required shutdown of Unit 2 due to a change in DW unidentified leakrate in excess of 2 gpm in a 24 hour period. Prior to the change in DW leakrate, the output voltage of the 2B reactor protection system (RPS) motor-generator (MG) set was identified as experiencing fluctuations. The licensee entered appropriate response procedures and made preparations to swap to the back-up power supply of the 2B RPS bus. One of these

precautions to be completed prior to swapping power supplies is to reposition the containment isolation valve 2B21-F016 closed as its containment isolation logic is powered by the reactor protection bus in question. This valve is a normally open high pressure steam drain isolation valve. Shortly after the operators repositioned the valve closed, they noted DW unidentified leakrate increase. Subsequent containment entry identified that the valve experienced a packing failure as its body to bonnet joint was misaligned during its last major overhaul in 2005. Corrective actions included repairing the 2B21-F016 and 2B RPS MG set, establishing an onsite valve repair expert team, and updating valve repair procedures; adding the correct method for ensuring body to bonnet valve alignment when using graphite gaskets. Documents reviewed as part of this inspection are listed in the Attachment to this report. This LER is closed.

This event followup review constituted one sample as defined in IP 71153-05.

#### 4OA6 Management Meetings

##### .1 Exit Meeting Summary

On January 13, 2010, the inspectors presented the inspection results to Mr. D. Wozniak, 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.

##### .2 Interim Exit Meetings

Interim exit meetings were conducted for:

- the results of the LORT program inspection with Mr. D. Wozniak, Site Vice President, on November 20, 2009;
- the results of the REMP and radioactive material control program inspection to the Site Operations Director, Mr. K. Tabor, on December 4, 2009;
- the licensed LORT biennial written examination and annual operating test results with Mr. M. Entwistle of Operator Training, via telephone on December 11, 2009; and
- the annual review of EAL and Emergency Plan changes with the licensee's Emergency Preparedness Coordinator, Mr. J. Hughes, via telephone on December 21, 2009.

The inspectors confirmed that none of the potential report input discussed was considered proprietary. Proprietary material received during the inspection was returned to the licensee.

#### 4OA7 Licensee-Identified Violations

None.

ATTACHMENT: SUPPLEMENTAL INFORMATION



## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee

D. Wozniak, Site Vice President  
D. Rhoades, Plant Manager  
K. Aleshire, Exelon EP Programs Manager  
D. Amezaga, GL 89-13 Program Owner  
J. Bashor, Site Engineering Director  
L. Blunk, Operations Training Manager  
D. Carpenter, Senior ISFSI Project Manager  
H. Do, Corporate ISI Manager  
P. Endress, Design Engineer  
M. Entwistle, Operation Training  
J.C. Feeney, NOS Lead Assessor  
F. Gogliotti, System Engineering Senior Manager  
D. Henly, Design Engineer  
W. Hilton, Engineering Supervisor – Mechanical/Structural  
J. Hughes, Emergency Preparedness Coordinator  
K. Ihnen, Nuclear Oversight Manager  
A. Kochis, ISI Engineer  
R. Leasure, Radiation Protection Manager  
B. Maze, ISFSI Project Manager  
J. Meyer, Exelon Nuclear Oversight Inspector  
J. Miller, NDE Level III  
J. Paczolt, Operation Training  
B. Rash, Maintenance Director  
J. Rommel, Design Engineering Senior Manager  
K. Rusley, Emergency Preparedness Manager  
J. Shields, ISI Program Supervisor  
S. Shields, Regulatory Assurance  
T. Simpkin, Regulatory Assurance Manager  
K. Taber, Operations Director  
W. Trafton, Shift Operations Superintendent  
J. Vegara, Regulatory Assurance  
H. Vinyard, Work Management Director  
J. White, Site Training Director  
G. Wilhelmsen, Design Manager  
S. Wilkinson, Chemistry Manager  
C. Wilson, Station Security Manager

#### Nuclear Regulatory Commission

K. Riemer, Chief, Reactor Projects Branch 2

## LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

### Opened

05000373/2009005-01/ 05000374/2009005-01	URI	Changes to EAL HU6 Potentially Decrease the Effectiveness of the Plans without Prior NRC Approval (1EP4)
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### Closed

05000373/2009-001-00	LER	Automatic Reactor Scram Due to Failure of Main Power Transformer Surge Arrestor (4OA3)
05000374/2009-001-00	LER	Main Turbine Trip and Reactor Scram Due to Digital Electro-hydraulic Control Circuit Card Failure (4OA3)
05000374/2009-002-00	LER	Completed Plant Shutdown Due to Unidentified Leakage in Excess of Technical Specification Limits (4OA3)
05000374/2009-003-02	URI	Failure to Perform an Adequate Safety Evaluation for a Modification to Convert the RCMS to a Digital Control System (4OA2)

## 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.

### 1R01 Adverse Weather Protection (71111.01)

#### Procedures:

- LOS-ZZ-A2; Preparation for Winter/Summer Operation; Rev. 37

#### Issue Reports:

- 995308; NOS Id: Winter Readiness Gaps

#### Working Documents:

- WO 1189274-03/TCCP 1-P036-09; TCC For Heater to Protect Fire Hose Station 0FPFB256; 10/19/2009

### 1R04 Equipment Alignment (71111.04)

#### Working Documents:

- LOP-DG-03E; Unit 0 Diesel Generator Electrical Checklist; Rev. 9
- LOP-DG-03M; Unit 0 Diesel Generator Mechanical Checklist; Rev. 8
- LOP-HP-02E; Unit 2 HPCS Electrical Checklist; Rev. 5
- LOP-HP-02M; Unit 2 HPCS Mechanical Checklist; Rev. 17
- LOP-VG-02E; Unit 2 Standby Gas Treatment System Electrical Checklist; Rev. 6
- LOP-VG-02M; Unit 2 Standby Gas Treatment System Mechanical Checklist; Rev. 7

### 1R05 Fire Protection (71111.05)

#### Miscellaneous:

- Fire Pre-Plan Aux. Bldg. 749' L13 Cable Spreading Room Unit 1; 2/2/2006
- Fire Pre-Plan Aux. Bldg. 786' 0" Aux. Building Ventilation Floor Units 1 & 2; 2/2/2006
- Fire Pre-Plan Aux. Bldg. 815; 2/2/2006
- LSCS-FPR; Fire Protection Plan; Rev. 3
- LSCS-FPR H.4-55; Fire Protection Plan Safe Shutdown Equipment Listed in Fire Subzone 4D1-2; Rev. 1
- LSCS-FPR H.4-56; Safe Shutdown Equipment Located in Fire Subzone 4D2; Rev. 1

### 1R06 Flooding (71111.06)

#### Procedures:

- ER-AA-3003; Cable Condition Monitoring Program; Rev 0
- MA-AA-723-330; Electrical Testing of AC Motors Using Baker Instrument Advanced Winding Analyzer; Rev 1

#### Issue Reports:

- 760587; OPEX Review: Shutdown Due to Underground Cable Fault; 4/8/2008

- 956848; Lessons Learned: LaSalle Assessment Deficiency – Manhole Inspections/Pump; 8/24/2009
- 983181; Unexpected Main Control Room Alarm Due to Relay House Water Level High; 10/23/2009
- 995227; Upgrade Wtr Tight door D-3 for Flooding Reasons; 11/23/2009
- 995234; Upgrade Wtr Tight Door D-4 for Flooding Concerns; 11/23/2009

Drawings:

- 1E-1-3685; Cable Routing Outdoor Area; Rev X

Miscellaneous:

- Vendor Manual J-2965; Medium Voltage Power Cable LaSalle County Station – Units 1 and 2; Rev CA
- OPEX Action Plan Form 591281-06; Response to Generic Letter 2007-01 ,LaSalle County Station Units 1 and 2

1R11 Licensed Operator Regualification Program (71111.11)

Procedures:

- JPM P-FH-01; Locate and Remove a Fuel Assembly from a Fuel Pool Rack to the Normal Up
- LaSalle Simulator Test Procedure Normal #2, Normal Unit Shutdown LGP-2-1; Revision 68
- OP-AA-105-101; Administrative Process for NRC License and Medical Requirements; Rev. 11
- OP-AA-105-102; NRC Active License Maintenance; Rev. 9
- OP-LA-108-114-1001; LaSalle Post Transient Panel Walkdown Aid; Revision 00
- TQ-AA-150; Operator Training Programs; Rev. 2
- TQ-AA-201; Examination Security and Administration; Rev. 12
- TQ-AB-303-0101; BWR Core Performance Testing; Rev. 2

Issue Reports

- 823530; Exceeded Thermal Limit during Shutdown; 9/28/2008
- 878589; Coordination Issue between Turbine Roll and Switching; 2/10/2009
- 880292; Simulator Option Did Not Function Correctly; 2/13/2009
- 882795; RMCS Simulator Issue during Scenario Validation; 2/19/2009
- 886515; Medical Prescription Not Reported to OHS; 2/27/2009
- 889003; Ops Crew #2 Clock Reset; 3/5/2009
- 890122; Crew #3 List of Challenges and Workarounds; 3/8/2009
- 912901; Scheduled Activity Not Performed; 4/28/2009
- 919731; FASA Identified ILT Screening Potential Issue; 5/14/2009
- 923335; 1B SPE 'B' Blower Turned Off When the Unit 1 Scram Occurred; 5/23/2009
- 937425; Pre-NRC 50.59 Check-In Deficiency LOA-EH-101 Screening; 6/30/2009
- 945198; Training – Delta between Simulator and Plant Response to Scram; 7/23/2009
- 983588; Simulator I/O Halted; 10/23/2009

Miscellaneous:

- 2008 Annual LSRO Exam; Test Date 12/12/08
- Crew Grading Forms for Scenarios ESG96 and 73 for 11/17/09
- LaSalle Simulator Malfunction Test; Malfunction #176; SJAЕ Suction Line Rupture; 2009
- LaSalle Simulator Malfunction Test; Malfunction #183; SJAЕ Pressure Regulator Fails Low;
- LaSalle Simulator Malfunction Test; Malfunction #225 Gross Fuel Failure; 2006

- LaSalle Simulator Malfunction Test; Malfunction #288, Hotwell Make up Valve Fails Open; 2006
- LaSalle Simulator Malfunction Test; Malfunction #320; SW Strainer Degradation; 2007
- LaSalle Simulator Malfunction Test; Malfunction #321; SW Pump Auto Trip; 2007 - 2009
- Licensed Operator Requalification Curriculum Review Committee Minutes, 1Q08, 2Q08, 2Q09
- NOS LaSalle Summary Performance Report, 2T08, 3T08, 1T09
- Nuclear Event Report LS-09-035 Position (Engage light malfunction); Rev. 3
- Root Cause Investigation Report – Unplanned Thermal Limit LCO Entry during L1M18 Shutdown; 11/11/08
- Root Cause Report for Untimely Recognition that No Steam Packing Exhauster Blower Was Running
- Simulator Evaluation Form - CREW TQ-AA-150-F09, LORT CYCLE 09-06; 11/17/09
- Simulator Evaluation Form - CREW TQ-AA-150-F09, LORT CYCLE 09-06, Crew 3 Failure 7/27/09, and Remediation Package
- Simulator Evaluation Form – Shift Manager TQ-AA-150-F06, LORT CYCLE 09-06; 11/17/09
- Simulator Evaluation Form TQ-AA-150-F08, for 11 Individuals
- Simulator/Unit 1 & 2 Control Room Differences
- Training Lesson Plan; Rod Control Management System RCMS (Unit 2)
- Training Requests, 08-773, 778, 824, 892, 989, 1006, 1052
- Unit 1/Unit 2 Differences
- Week 3, 2009 Operator Requalification Written and Operating Examinations
- Week 2, 2009 Operator Requalification Written and Operating Examinations

#### 1R12 Maintenance Effectiveness (71111.12)

##### Procedures:

- LOA-EM-001; Environmental Monitoring Abnormal Procedure; Rev. 9

##### Issue Reports:

- 751801; Trng-Inoperable Seismic Equipment Requires LOA-EM-001 Entry; 3/19/2008
- 943883; Spurious Isolation of RHR SDC Inboard Isolation; 7/20/2009
- 849319; Collect Data for Engineering While Performing LIS-MS-102; 11/25/2008
- 849327; Collect Data for Engineering While Performing LIS-MS-202; 11/25/2008
- 872211; Group 7 Isol TIP Logic Reset Lamp Did Not Lite In LES-PC-210; 1/27/2009
- 680568; Repeat Problem with Relay Logic for 2B21H-K003A; 10/5/2007
- 725911; Seismic Monitor Testing; 1/23/2008
- 739049; 2C91-R807A PCIS Panel Display No Indication; 2/21/2008
- 844283; Unexpected Group 1 MSIV Half-Isolation Signal; 11/12/2008
- 954664; Spurious Half Group 1 Isolation Signal; 8/18/2009
- 737471; 1VP114A Did Not Close as Expected During LES-PC-109; 2/17/2009
- 976785; U2 PCIS Electronics Exceeds MR Plant Level Criteria; 10/8/2009
- 980531; U1 PCIS Electronics Exceeds MR Plant Level Criteria; 10/8/2009

##### Miscellaneous:

- EC 377838 Review; Work Instruction Review: Isolating and Restoring the Seismic Monitor (WO 1266041-02); Rev. 001
- LaSalle Operations Log; 4/18/2008
- NUMARC 93-01; Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants; Rev. 2
- TS 3.3.6.1; Primary Containment Isolation Instrumentation Technical Specification; Rev. 1

## 1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

### Procedures:

- LOP-NB-03; Troubleshooting Drywell Leakage; Rev. 1
- LOP-RP-04; RPS BUS B Transfer; Rev. 25
- LOS-AA-S201; Unit 2 Shiftly Surveillance; Rev. 65

### Issue Reports:

- 977758; 2B RPS MG Set Voltage Swinging 2 Volts; 10/11/2009
- 977760; PPC Point D961 (2B21H-K003B) Intermittant; 10/11/2009
- 977773; Indications of Steam Leakage into Drywell; 10/11/2009
- 977794; OCC Staffed Due to Unit 2 Drywell Pressure Increasing; 10/11/2009
- 977817; LOP-NB-03 Needs revision; 10/12/2009
- 977872; U-2 Technical Specification Required Shutdown; 10/12/2009
- 995159; Move RCIC Steam Valve Cycling to the Refuel Outages; 11/18/2009
- 995167; Move RCIC Steam Valve Cycling to the Refuel Outages; 11/18/2009

### Event Notifications:

- EN; Event Notification Worksheet 20.72 Non-Emergency Plant Shutdown required by Technical Specifications; 10/12/2009

### Work Documents:

- Protected Equipment List – SAT (Station Auxiliary Transformer) Relay; 10/20/2009

### Drawings and Graphs:

- W9324185; ¾-1878 Socket Ends Carbon Steel Swing Check Valve with Non-Cobalt Trim; Rev. E

### Miscellaneous:

- B 3.4.5-1; Reactor Coolant System Operational Leakage Bases; Rev. 0
- LA 147/133; License Amendment for RCS Operational Leakage 3.4.5
- LaSalle Operations Log; 10/11-10/12/2009
- LS-MISC-10; Risk Assessment to Support Extending the IST Exercise Frequency of the 1(2)E51-F063; Rev. 0
- NC-09-037, Yellow NER; Technical Specification Required Shutdown due to Inboard Isolation Valve Packing Leak (AR 984340); 11/18/2009
- U-1B Diesel Generator / Div III Maintenance Window; 10/5 – 10/7/2009

## 1R15 Operability Evaluations (71111.15)

### Procedures:

- LIS-MS-201A; Unit 2 Main Steam Line Low Pressure MSIV Isolation Calibration in Run Mode; Rev. 5
- LIS-RI-109; Unit 1 RCIC Turbine Exhaust Diaphragm High Pressure Isolation Calibration; Rev. 7
- LIS-RI-114; Unit 1 RCIC Pump Suction Line High Pressure Calibration; Rev. 3
- LIS-RH-101B; Unit 1 RHR B & C (LPCI Mode) Pump Discharge Pressure Ads Permissive Calibration; Rev. 11
- LIS-RP-109BA; Unit 1 Turbine First Stage Low Pressure Scram and EOC-RPT Bypass Channels B and D Calibration in Run Mode; Rev. 3

Issue Reports:

- 972980; Elevated 2A RHR Heat Exchanger Pressure; 9/30/2009
- 979953; NRC: TIA 2009-006, Unacceptable Preconditioning; 10/15/2009
- 984453; Standby Liquid Control System Performance; 10/26/2009
- 988976; NRC: TIA 2009-006 Follow Up to IR 979953

Work Documents:

- DCP 9400115; Design Change Package: SBLC Pump Discharge Relief Valve Setpoint; 7/21/1994
- OE09-002; Operability Evaluation, Unit 2, EH Bypass Valve (IR 968713); Rev. 0

Drawings:

- 1E-1-4201AB; Schematic Diagram Automatic Depressurization System "NB" (B21C) Part 2; Rev. T
- M-99; P & ID Standby Liquid Control System; Rev. AA
- M-142; P & ID Residual Heat Removal System (R.H.R.S.); Rev. AT

Miscellaneous:

- TIA 2009-006; Letter from Gary Shear to Thomas Blount regarding Task Interface Agreement – Unacceptable Preconditioning of Safety-Related Pressure Switches During Required Surveillance Testing at Monticello; 9/30/2009

1R19 Post-Maintenance Testing (71111.19)

Procedures:

- LOP-RH-05; Operation of the RHR SW System; Rev. 31
- LOP-VC-01; Control Room HVAC Operation; Rev. 39
- LOP-VE-01; Auxiliary Electric Equipment Room HVAC Operation; Rev. 48
- LOS-FC-Q1; Fuel Pool Emergency Makeup Pump Inservice Test and RHR SW System Flush, Rev. 27
- LOS-FP-M6; Diesel Fire Pump Operational Check; Rev. 9

Issue Reports:

- 939560; Received WS Effluent Radiation Monitor Flow Low; 7/8/2009
- 941047; Unexpected U-1 WS Effluent Rad Monitor Flow Lo Alarm; 7/12/2009
- 950608; Unit 1 Service Water PRM Low Flow Alarm; 8/7/2009
- 954473; U1 DIV 2 RHR WS PRM Flowmeter Failed Low; 8/18/2009
- 980756; 2C41-F029A Lifted During LOS-SC-Q1; 10/17/2009
- 983487; Lo Flow Alarm Received on the U-1 WS PRM; 10/23/2009
- 1000566; SC Relief Valve Failures; 12/2/2009
- 1001151; Relief Valve Failed As-Found Test Following Replacement; 12/03/2009
- 1006377; U1 Div2 RHR WS PRM Deficiency Tag Removed; 12/16/2009

Work Documents:

- LOS-SC-Q1; Tech Spec Surveillance U2B SBLC Pump Quarterly LOS-SC-Q1 Att. 2B; 11/30/2009
- WO 1004838; Replace Hydramotor for 0VE11YA; 11/17/2009
- WO 1189557; 1B RHR WS PRM Air Release Valve is Leaking; 12/15/2009
- WO 1274976-01; LOS-FC-Q1 1B Fuel Pool Emerg M/U Att 1B; 12/14/2009
- WO 1280236-01; MM to Replace 2C41-F029B (SBLC) Pump Discharge Relief Valve; 12/3/2009

- WO 1280236-02; MM To Set 2C41-F029B (SBLC) Pump Discharge Relief Valve per EC; 11/24/2009
- WO 1286911-01; Rebuild / Reset SBLC Relief Valve 1C41-F029A; 11/25/2009

#### 1R20 Outage Activities (71111.20)

##### Procedures:

- LGP 1-1; Normal Unit Startup; Rev 89
- LGP 2-1; Normal Unit Shutdown; Rev 82
- LOP-DW-01; Drywell Closeout; Rev 47
- LMP-GM-52; Anchor Darling Flexible Wedge and Double Disc Pressure Seal Gate Valve Maintenance; Rev 10

##### Issue Reports:

- 871412; 2B21-F019 Inspection Results; 1/25/2009

#### 1R22 Surveillance Testing (71111.22)

##### Procedures:

- LIS-NB-101B; Unit 1 Reactor Vessel Low Water Level 3 Scram Trip Logic B1 & B2 and RHR (Shutdown Cooling Mode) Isolation Calibration; Rev. 15
- LOS-CS-Q1; Secondary Containment Damper Operability Test; Rev. 31
- LOS-DG-M2; 1A(2A) Diesel Generator Operability Test; Rev. 78
- LOS-DG-Q2; 1A(2A) Diesel Generator Auxiliaries Inservice Test; Rev. 49

##### Issue Reports:

- 986266; NRC Identified; Enhancements to LOS-DG-Q2 Needed; 10/29/2009
- 988184; Steam tunnel Temp Hi During LOS-CS-Q1; 11/3/2009
- 988284; MSL Tunnel Ambient Temp. > 130 F; 11/3/2009

##### Working Documents:

- LOS-DG-Q2; Tech Spec Surveillance 2A DG Cooling Water Pump Inservice Test, Att. B5; 10/27/2009
- WO1119168; RX Low Lvl 3 Scram Logic B1/B2 & RHR (SDC) Isol; 6/4/2009

##### Miscellaneous:

- Common HLA Briefing for Unit 1 Variable Instrument Leg (1NB07C/7B) "Potential Instrumentation Spike due to Instrument Valving and the Associated Impact on Digital Feedwater Operation, Rx Recirculation Downshift and Rx Protection System (RPS); 4/2006

#### 1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

##### Miscellaneous:

- LaSalle Station Radiological Emergency Plan Annex; Revs. 25, 26, 27, 28, and 29

#### 2PS3 Radiological Environmental Monitoring Program and Radioactive Material Control Program (71122.03)

##### Procedures:

- CY-LA-170-01; Offsite Dose Calculation Manual; Rev. 1
- RP-AA-300-1002; Electron Capture Isotope Control; Rev. 1



- RP-AA-500; Radioactive Material Control; Rev. 14
- RP-AA-500-1001; Requirements For Radioactive Materials Stored Outdoors; Rev. 2
- RP-AA-503; Unconditional Release Survey Method; Rev. 2

Issue Reports:

- 817069; L-03 REMP Air Sampler Found Without Power; 9/12/2008
- 848309; Fourth Quarter 2009 Focused Area Self-Assessment; 11/21/2008
- 936638; L-03 REMP Air Sampler Found With Low Timer Reading; Expected; 6/29/2009
- 941267; L-03 REMP Air Sampler Found With Low Timer Reading; 7/13/2009
- 950081; Confirmed Low-Level tritium in Waste Water Treatment Facility; 8/5/2009
- 968732; Check-in Self-Assessment: Radioactive Material Control Practices and Policies; 11/5/2009
- 980607; Low Levels of Tritium Confirmed in Waste Water EQ Tank; 10/16/2009
- 1001478; REMP Third Quarter Step Increase in Air Sampler Barium-140, Lanthinum-140; 12/4/2009
- 1001483; REMP Radiological Ground Water Monitoring Documentation of Baseline Groundwater Review; 12/4/2009

Miscellaneous:

- LaSalle County Station 2007 Annual Radioactive Effluent Release Report; 4/30/2008
- LaSalle County Station 2007 Annual Radiological Environmental Operating Report; 5/15/2008
- LaSalle County Station 2008 Annual Radiological Environmental Operating Report; 5/15/2009
- Monthly Report on Meteorological Monitoring Program at the LaSalle County Nuclear Station; 10/ 2008 - 9/2009

40A1 Performance Indicator Verification (71151)

Issue Reports:

- 857032; NRC Id'd: Discrepancy Between LER Submittal and SSFF Report; 12/16/2008

Working Documents:

- AR 828185-13; Perform MSPI Failure Determination Eval for 1B Diesel Failure; 11/6/2008

Miscellaneous:

- Cooling Due to Spurious Closure of the Shutdown Cooling Suction Isolation Valve; 7/20/2009
- LaSalle 1 Third Quarter 2009 Performance Indicators; 12/21/2009
- LaSalle 2 Third Quarter 2009 Performance Indicators; 12/21/2009
- LaSalle County Station MSPI Cooling Water; 3<sup>rd</sup> Quarter 2008- 3<sup>rd</sup> Quarter 2009
- LaSalle County Station MSPI Heat Removal System (RCIC); 3<sup>rd</sup> Quarter 2008- 3<sup>rd</sup> Quarter 2009
- LaSalle Operations Log; 6/22/2008
- LER 08-001-00/Docket 05000374; LaSalle Unit 2 High Pressure Core Spray System Declared Inoperable Due to Failed Room Ventilation Supply Fan; 6/11/2008
- LER 09-001-00/ Docket 05000373; Automatic Reactor Scram Due to Failure of Main Power Transformer Surge Arrestor
- LER 09-001-00/ Docket 05000374; LaSalle Unit 2 Licensee Event Report, Main Turbine Trip and Reactor Scram due to Digital Electro-hydraulic Control Circuit Card Failure; 8/15/2009
- LER 09-002-00/Docket 05000373; LaSalle Unit 1 Loss of Shutdown Cooling Due to Spurious Closure of the Shutdown Cooling Suction Isolation Valve; 7/20/2009
- NEI 99-02; Regulatory Assessment Performance Indicator Guideline; Rev. 5

#### 4OA2 Identification and Resolution of Problems (71152)

##### Procedures:

- LS-AA-125-1002; Common Cause Analysis Manual; Rev. 6

##### Issue Reports:

- 764450; Reactivity Management Performance Indicator Adverse Trend; 4/17/2008
- 848165; Check-In Self-Assessment (OP) Reactivity Management; 10/30/2009
- 923248; RM – Control Rod 14-43 Double Notch 04 to 08; 5/23/2009
- 923248; RM – Control Rod 26-39 Double Notch 22 to 26; 5/23/2009
- 923256; RM- Control Rod 38-51 Double Notch; 5/23/2009
- 923682; RM- Control Rod 26-19 Double Notched; 5/25/2009
- 930540; Perform Common Cause Analysis (CCA) on LaSalle Configuration Control Events; 7/7/2009
- 946103; U1 Rod 38-03 Double Notched; 7/27/2009
- 950222; Adverse Trend in Human Performance; 9/3/2009
- 966326; Perform CCA needed for critical component clock resets; 10/8/2009
- 967873; OIO Benchmark Prevention of Double Notch Events; 9/21/2009
- 979560; U2 Main Turb trip During Startup (Speed/Overspeed); 10/15/2009
- 988722; INPO 2009 of Performance Deficiency (PD); 11/4/2009
- 999387; Operator Fundamentals Negative Trends; 11/30/2009

##### Issue Reports Resulting from NRC/IEMA Inspection:

- 974965; IDNS Inspector Asked Drywell O2 Trend; 10/5/2009
- 979953; NRC: TIA 2009-006, Unacceptable Preconditioning; 10/15/2009
- 981971; NRC Identified Fire Protection Issues; 10/20/2009
- 986266; NRC Identified; Enhancements to LOS-DG-Q2 Needed; 10/29/2009
- 988634; NRC ID – STA Turnover Reflect the Incorrect Status of ERDS; 11/4/2009
- 994997; NRC – D/P Indicator Label is Incorrect; 11/18/2009
- 1004450; 2C41-F029B Documentation for Installation of Relief Valve; 12/11/2009

##### Miscellaneous:

- Root Cause Investigation Report: LaSalle Unit 2 Trip During Main Turbine Testing Due to a Failure of a DEHC VCMI card (IR 953784); 9/24/2009
- Nuclear Network Operating Experience: Update to OE29522 – Unit Trip Due to Failure in DEHC System

#### 4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

##### Procedures:

- LIS-NB-202; Unit 2 Reactor Vessel Water Level Post Accident Monitoring and Remote Shutdown Indication Calibration; Rev. 23

##### Issue Reports:

- 856869; ESOMS: Duplicate Log Entries could not be Deleted by NSO; 12/16/2008
- 946225; Unit 1 RCIC Water Leg Pump Discharge Pressure Reading Low; 7/27/2009

##### Event Notification:

- LER 09-001-00, Docket 050-373; Automatic Reactor Scram Due to Failure of Main Power Transformer Surge Arrestor; 5/21/2009

- LER 09-001-00, Docket 050-374; Main Turbine Trip and Reactor Scram Due to Digital Electro-hydraulic Control Circuit Card Failure; 8/15/2009
- LER 09-002-00, Docket 050-374; Completed Plant Shutdown Due to Unidentified Leakage in Excess of Technical Specification Limits; 10/12/2009

Miscellaneous:

- AR-6; Joslyn Manufacturing Co. Arresters General Information; 2004
- RCIC System Content/Skills, Activities/Notes Documentation
- MSPI RCIC Annual Failures Report; 6/2008 – 6/2009

## LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access Management System
CAP	Corrective Action Program
CFR	Code of Federal Regulations
DG	Diesel Generator
DEHC	Digital Electro-hydraulic Control
DRP	Division of Reactor Projects
DW	Drywell
EAL	Emergency Action Level
EC	Engineering Change
gpm	Gallons Per Minute
HPCS	High Pressure Core Spray
IP	Inspection Procedure
IR	Issue Report
ISI	Inservice Inspection
JPM	Job Performance Measure
LER	Licensee Event Report
LORT	Licensed Operator Requalification Training
MG	Motor-Generator
MPT	Main Power Transformer
MSIV	Main Steam Isolation Valve
MSPI	Mitigating Systems Performance Index
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PARS	Publicly Available Records System
PCIS	Primary Containment Isolation System
PI	Performance Indicator
RCIC	Reactor Core Isolation Cooling
RCMS	Rod Control Management System
REMP	Radiological Environmental Monitoring Program
RHR	Residual Heat Removal
RP	Radiation Protection
RPS	Reactor Protection System
SAT	Systems Approach to Training
SBLC	Standby Liquid Control
SDP	Significance Determination Process
SSFF	Safety System Functional Failure
SW	Service Water
TLD	Thermoluminescent Dosimeters
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
WO	Work Order

C. Pardee

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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 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 document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

**/RA/**

Kenneth Riemer, Chief  
Branch 2  
Division of Reactor Projects

Docket Nos. 50-373; 50-374  
License Nos. NPF-11; NPF-18

Enclosure: Inspection Report 05000373/2009005; 05000374/2009005  
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Letter to C. Pardee from K. Riemer dated February 9, 2010

SUBJECT: LASALLE COUNTY STATION, UNITS 1 AND 2  
NRC INTEGRATED INSPECTION REPORT 05000373/2009005;  
05000374/2009005; EXERCISE OF ENFORCEMENT DISCRETION

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