

UNITED STATES NUCLEAR REGULATORY COMMISSION

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

January 28, 2013

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

SUBJECT: LASALLE COUNTY STATION, UNITS 1 AND 2 -

NRC INTEGRATED INSPECTION REPORT 05000373/2012005;

05000374/2012005

Dear Mr. Pacilio:

On December 31, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your LaSalle County Station, Units 1 and 2. The enclosed report documents the inspection results which were discussed on January 3, 2013, with the Site Vice President, Mr. P. Karaba, 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.

One NRC-identified finding of very low safety significance (Green) was identified during this inspection.

This finding was determined to involve a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector Office at the LaSalle County Station.

If you disagree with the cross-cutting aspect assignment 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 Office at LaSalle County Station.

M. Pacilio -2-

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 Agencywide Document Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading.rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Michael Kunowski, Chief Branch 5 Division of Reactor Projects

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

Enclosure: Inspection Report 05000373/2012005; 05000374/2012005

w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 05000373/2012005; 05000374/2012005

Licensee: Exelon Generation Company, LLC

Facility: LaSalle County Station, Units 1 and 2

Location: Marseilles, IL

Dates: October 1 to December 31, 2012

Inspectors: R. Ruiz, Senior Resident Inspector

M. Ziolkowski, Resident Inspector (Acting)

J. Jandovitz, Project Engineer

T. Go, Radiation Protection Inspector, DRS B. Palagi, Operator Licensing Examiner, DRS J. Laughlin, Emergency Preparedness Inspector R. Schulz, Illinois Emergency Management Agency

Approved by: Michael Kunowski, Chief

Branch 5

Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000373/2012005, 05000374/2012005; 10/01/2012 – 12/31/2012; LaSalle County Station, Units 1 and 2; Identification and Resolution of Problems.

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. The inspectors identified one Green finding. The finding was considered a non-cited violation (NCV) of U.S. Nuclear Regulatory Commission (NRC) regulations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP); the cross-cutting aspects were determined using IMC 0310, "Components Within the Cross-Cutting Areas." Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

• Green. The inspectors identified a finding of very low safety significance and associated NCV of Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to take prompt corrective actions to address the degraded condition of a safety-related component associated with the auxiliary electrical equipment room (AEER) ventilation (VE) system's "A" train emergency makeup (EMU) low flow alarm function. Specifically, the licensee failed to resolve the degraded condition of the 0FY-VE027 low flow alarm component at the earliest available opportunity and allowed the condition to persist with a scheduled correction date of 21 months after initial discovery, without any compensatory measures in place. Upon notification to the licensee of the inspectors' concern regarding the apparent lack of promptness of the corrective actions, the licensee entered the issue into the corrective action program (CAP) and put in place a number of compensatory measures. Additionally, based on the engagement of the inspectors, the licensee reprioritized the repair schedule of the 0FY-VE027 component and completed its repair on December 13, 2012, which restored compliance.

The finding was determined to be more than minor because the performance deficiency of failing to promptly correct conditions adverse to quality, if left uncorrected, could lead to a more significant safety concern. The finding was determined to be of very low safety significance (Green). This finding has a cross-cutting aspect in the area of problem identification and resolution (PI&R), CAP, for failing to appropriately evaluate problems, and failing to properly classify and prioritize them. Specifically, the licensee inappropriately assigned a very low priority to the degraded alarm component, which allowed the degraded condition to persist beyond the point of timeliness (P.1(c)). (Section 4OA2)

Licensee-Identified Violations

No violations were identified.

REPORT DETAILS

Summary of Plant Status

Unit 1

The unit began the inspection period operating at full power. On October 27, 2012, power was reduced to approximately 80 percent to return control rod 10-23 to service and perform its scram time testing. The unit was restored to full power that same day. Additionally, on December 8, power was reduced to approximately 65 percent for a rod sequence exchange and quarterly scram time testing. Unit 1 was restored to full power the next day. Finally, on December 13, power was reduced to approximately 80 percent to perform quarterly main steam isolation valve and turbine control valve testing. Unit 1 was restored to full power that same day and remained as such for the duration of the inspection period.

Unit 2

The unit began the inspection period operating at full power. On November 3, 2012, power was reduced to approximately 70 percent for a control rod sequence exchange and scram time testing. Unit 2 was restored to full power that same day. On December 1, power was reduced to approximately 65 percent for a control rod sequence exchange, scram time testing, and for control rod 42-19 to be removed from service and fully inserted. The unit was restored to full power the next day. After repairs to control rod 42-19 were complete, power was reduced to approximately 71 percent to perform scram time testing and return the rod to service. Unit 2 was restored to full achievable power that same day and remained as such for the duration of the inspection period.

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Winter Seasonal Readiness Preparations

a. <u>Inspection Scope</u>

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 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. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns

a. <u>Inspection Scope</u>

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

- Unit 1 high pressure core spray (HPCS);
- Unit Common "A" train of control room ventilation (VC) EMU;
- Unit 2 "A" train diesel generator (DG) cooling water; and
- reactor building floor drains and sump pumps.

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, Technical Specification (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 four partial system walkdown samples as defined in IP 71111.04-05.

b. Findings

No findings were identified.

1R05 <u>Fire Protection</u> (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 AEER;
- Unit 2 AEER;
- Unit 1 division 3 switchgear room; and
- Unit 2 HPCS pump corner room.

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, 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 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 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 and 2 reactor building emergency core cooling system corner rooms; and
- Unit 1 and 2 core standby cooling system pump rooms.

Documents reviewed are listed in the Attachment to this report. This inspection constituted one internal flooding sample as defined in IP 71111.06-05.

b. Findings

No findings were identified.

.2 <u>Underground Vaults</u>

a. Inspection Scope

The inspectors reviewed for possible inspection, the list of underground bunkers/manholes that could be subject to flooding and that may contain cables whose failure could disable risk-significant equipment. If through discussions with licensee engineering staff, the inspectors were informed that there were no such cable bunkers/manholes onsite and that all the underground cables are non-safety-related and non-risk-significant, the inspectors would instead focus their inspections on how those cable systems may penetrate risk-significant areas of the plant. From that standpoint, the inspectors ensured that no underground water ingress was occurring from those locations and that material conditions were sufficient to limit the likelihood of such infiltration. In those areas where dewatering devices were used, such as a sump pump, the device was operable, and level alarm circuits were set appropriately. In those areas without dewatering devices, the inspectors verified that drainage of the area was available, or that the cables were qualified for submergence conditions. 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.

Documents reviewed are listed in the Attachment to this report. This inspection constituted one underground vaults sample as defined in IP 71111.06-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Resident Inspector Quarterly Review of Licensed Operator Regualification (71111.11Q)

a. <u>Inspection Scope</u>

On Wednesday morning, December 12, 2012, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification

training 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;
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications;
- licensee ability to administer the annual operating test;
- licensee ability to assess the performance of their licensed operators; and
- simulator performance during the testing.

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 licensed operator requalification program simulator sample as defined in IP 71111.11-05.

b. Findings

No findings were identified.

.2 Resident Inspector Quarterly Observation of Heightened Activity or Risk (71111.11Q)

a. <u>Inspection Scope</u>

On November 29, 2012, the inspector observed Unit 2 turbine stop valve scram testing. This was an activity that required heightened awareness or was related to increased risk. The inspector 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 (if applicable);
- correct use and implementation of procedures;
- control board (or equipment) manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications (if applicable).

The performance in these areas was compared to pre-established operator action expectations, procedural compliance and task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator heightened activity/risk sample as defined in IP 71111.11.

b. Findings

No findings were identified.

.1 Biennial Written and Annual Operating Test Results (71111.11A)

a. <u>Inspection Scope</u>

The inspector reviewed the overall pass/fail results of the Annual Operating Test, administered by the licensee from November 14, 2012, through December 19, 2012, required by 10 CFR 55.59(a). The results were compared to the thresholds established in IMC 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process," to assess the overall adequacy of the licensee's Licensed Operator Requalification Training (LORT) program to meet the requirements of 10 CFR 55.59.

This inspection constituted one biennial licensed operator requalification inspection sample of the biennial written and annual operating test results as defined in IP 71111.11-05.

b. Findings

No findings were identified.

.2 <u>Biennial Review</u> (71111.11B)

a. <u>Inspection Scope</u>

The following inspection activities were conducted during the week of December 10, 2012, to assess: 1) the effectiveness and adequacy of the facility licensee's implementation of its systems approach to training based LORT program, put into effect to satisfy the requirements of 10 CFR 55.59; and 2) conformance with the operator license conditions specified in 10 CFR 55.53. The documents reviewed are listed in the Attachment to this report.

- <u>Licensee Requalification Examinations (10 CFR 55.59(c); Systems Approach to Training Element 4 as defined in 10 CFR 55.4)</u>: The inspectors reviewed the administration of LORT annual operating tests to assess the licensee's ability to administer examinations that are acceptable for meeting the requirements of 10 CFR 55.59(a).
 - The inspectors reviewed the annual operating test including content, level of difficulty, and general quality of the examination/test materials.
 - The inspectors observed the administration of the annual operating test to assess the licensee's effectiveness in conducting the examinations, including the conduct of pre-examination briefings, evaluations of individual operator and crew performance, and post-examination analysis. The inspectors evaluated the performance of two crews in parallel with the facility evaluators during one dynamic simulator scenario, and evaluated various licensed crew

members concurrently with facility evaluators during the administration of several job performance measures.

- Conformance with Examination Security Requirements (10 CFR 55.49): The inspectors conducted an assessment of the licensee's processes related to examination physical security and integrity (e.g., predictability and bias) to verify compliance with 10 CFR 55.49, "Integrity of Examinations and Tests." The inspectors observed the implementation of physical security controls (e.g., access restrictions and simulator I/O controls) throughout the inspection.
- Conformance with Operator License Conditions (10 CFR 55.53): The inspectors reviewed the facility licensee's program for maintaining active licensed operator medical records. The medical records for 12 licensed operators were reviewed for compliance with 10 CFR 55.53(I).

This biennial licensed operator requalification inspection activity did not constitute a completed sample as defined in IP 71111.11-05.

b. <u>Findings</u>

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations (71111.12Q)

a. <u>Inspection Scope</u>

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

- area radiation monitors (ARMs) referenced in the emergency operating procedures: and
- Unit 1 and 2 standby gas treatment (SBGT) systems.

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 two quarterly maintenance effectiveness samples as defined in IP 71111.12-05.

b. Findings

No findings were identified.

1R13 <u>Maintenance Risk Assessments and Emergent Work Control</u> (71111.13)

.1 <u>Maintenance Risk Assessments and Emergent Work Control</u>

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:

- Unit 2 yellow risk condition during planned division 3 and 2B DG work window;
- planned yellow risk windows for both units during multiple system work windows on the week of October 15, 2012;
- Unit 1 yellow risk condition during planned 1A DG cooling water pump work window; and
- emergent work activities caused by the offsite power line 0101 trip.

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.

Documents reviewed are listed in the Attachment to this report. These maintenance risk assessments and emergent work control activities constituted four samples as defined in IP 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functional Assessments (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- 1B residual heat removal (RHR) minimum flow valve unexpected closure;
- 2A RHR seal cooler flow rate degradation; and
- design basis accident loss-of-coolant-accident analysis.

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 TSs 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 three samples as defined in IP 71111.15-05.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

.1 Plant Modifications

a. <u>Inspection Scope</u>

The inspectors reviewed the Unit 1 main steam isolation valve reactor protection system (RPS) limit switch temporary modification.

The inspectors reviewed the configuration changes and associated 10 CFR 50.59 safety evaluation screening against the design basis, the UFSAR, and the TS, as applicable, to verify that the modification did not affect the operability or availability of the affected system. The inspectors, as applicable, observed ongoing and completed work activities to ensure that the modifications were installed as directed and consistent with the design control documents; the modifications operated as expected; post-modification testing adequately demonstrated continued system operability, availability, and reliability; and that operation of the modifications did not impact the operability of any interfacing systems. As applicable, the inspectors verified that relevant procedure, design, and licensing documents were properly updated. Lastly, the inspectors discussed the plant modification with operations, engineering, and training personnel to ensure that the

individuals were aware of how the operation with the plant modification in place could impact overall plant performance. Documents reviewed in the course of this inspection are listed in the Attachment to this report.

This inspection constituted one temporary modification sample as defined in IP 71111.18-05.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. <u>Inspection Scope</u>

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

- A VC breaker inspection;
- 1FC fuel pool heat exchanger;
- 2VP (primary containment ventilation) relief valve; and
- Unit 1 HPCS minimum flow differential pressure switch.

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 TSs, 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 PMT 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 PMT samples as defined in IP 71111.19-05.

b. <u>Findings</u>

No findings were identified.

1R22 <u>Surveillance Testing</u> (71111.22)

.1 Surveillance Testing

a. <u>Inspection Scope</u>

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:

- 2A fuel pool cooling pump (Inservice Testing IST);
- Unit 1 reactor coolant system (RCS) leak rate tracking (RCS).

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

- did preconditioning occur;
- the effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- acceptance criteria were 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 was in accordance with TSs, the UFSAR, 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 IST 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 one IST sample, and one RCS leak detection inspection sample, as defined in IP 71111.22, Sections -02 and -05.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

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

a. <u>Inspection Scope</u>

The NRC Nuclear Security and Incident Response headquarters staff performed an in-office review of the latest revisions of the Emergency Plan and various Emergency Plan Implementing Procedures, located under ADAMS accession numbers ML12066A051, ML12088A343, and ML12192A510 as listed in the Attachment to this report.

The licensee transmitted the Emergency Plan Implementing Procedures revisions to the NRC pursuant to the requirements of 10 CFR Part 50, Appendix E, Section V, "Implementing Procedures." The NRC review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection. Documents reviewed are listed in the Attachment to this report.

This emergency action level and emergency plan changes inspection constituted one sample as defined in IP 71114.04-05.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Public Radiation Safety and Occupational Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

The inspection activities supplement those documented in NRC Inspection Report 05000373(374)/2012002 and constitute one complete sample as defined in IP 71124.01-05.

.1 <u>Instructions to Workers</u> (02.03)

a. <u>Inspection Scope</u>

The inspectors selected various containers holding non-exempt licensed radioactive materials that may cause unplanned or inadvertent exposure of workers, and assessed whether the containers were labeled and controlled in accordance with 10 CFR 20.1904,

"Labeling Containers," or met the requirements of 10 CFR 20.1905(g), "Exemptions To Labeling Requirements."

For work activities that could suddenly and severely increase radiological conditions, the inspectors assessed the licensee's means to inform workers of changes that could significantly impact their occupational dose.

b. Findings

No findings were identified.

.2 <u>Contamination and Radioactive Material Control</u> (02.04)

a. Inspection Scope

The inspectors selected several sealed sources from the licensee's inventory records and assessed whether the sources were accounted for and verified to be intact.

The inspectors evaluated whether any transactions, since the last inspection, involving nationally tracked sources were reported in accordance with 10 CFR 20.2207.

b. Findings

No findings were identified.

.3 Radiological Hazards Control and Work Coverage (02.05)

a. Inspection Scope

The inspectors examined the licensee's physical and programmatic controls for highly activated or contaminated materials (nonfuel) stored within spent fuel and other storage pools. The inspectors assessed whether appropriate controls (i.e., administrative and physical controls) were in place to preclude inadvertent removal of these materials from the pool.

The inspectors examined the posting and physical controls for selected high radiation areas and very high radiation areas to verify conformance with the occupational performance indicator.

b. Findings

No findings were identified.

2RS3 <u>In-Plant Airborne Radioactivity Control and Mitigation</u> (71124.03)

This inspection constituted one complete sample as defined in IP 71124.03-05.

.1 <u>Inspection Planning</u> (02.01)

a. <u>Inspection Scope</u>

The inspectors reviewed the plant UFSAR to identify areas of the plant designed as potential airborne radiation areas and any associated ventilation systems or airborne

monitoring instrumentation. Instrumentation review included continuous air monitors (continuous air monitors and particulate-iodine-noble-gas-type instruments) used to identify changing airborne radiological conditions such that actions to prevent an overexposure may be taken. The review included an overview of the respiratory protection program and a description of the types of devices used. The inspectors reviewed the UFSAR, TSs, and emergency planning documents to identify location and quantity of respiratory protection devices stored for emergency use.

The inspectors also reviewed the licensee's procedures for maintenance, inspection, and use of respiratory protection equipment including self-contained breathing apparatus (SCBA) as well as procedures for air quality maintenance. Finally, the inspectors reviewed reported performance indicators to identify any related to unintended dose resulting from intakes of radioactive material.

b. Findings

No findings were identified.

.2 <u>Engineering Controls</u> (02.02)

a. <u>Inspection Scope</u>

The inspectors reviewed the licensee's use of permanent and temporary ventilation to determine whether the licensee uses ventilation systems as part of its engineering controls (in lieu of respiratory protection devices) to control airborne radioactivity. The inspectors reviewed procedural guidance for use of installed plant systems, such as containment purge, spent fuel pool ventilation, and auxiliary building ventilation, and assessed whether the systems are used, to the extent practicable, during high-risk activities (e.g., using containment purge during cavity floodup).

The inspectors selected installed ventilation systems used to mitigate the potential for airborne radioactivity, and evaluated whether the ventilation airflow capacity, flow path (including the alignment of the suction and discharges), and filter/charcoal unit efficiencies, as appropriate, were consistent with maintaining concentrations of airborne radioactivity in work areas below the concentrations of an airborne area to the extent practicable.

The inspectors selected temporary ventilation system setups (high-efficiency particulate air/charcoal negative pressure units, down draft tables, tents, metal "Kelly buildings," and other enclosures) used to support work in contaminated areas. The inspectors assessed whether the use of these systems was consistent with licensee procedural guidance and the as-low-as-is-reasonably-achievable concept.

The inspectors reviewed airborne monitoring protocols by selecting installed systems used to monitor and warn of changing airborne concentrations in the plant and evaluated whether the alarms and setpoints were sufficient to prompt licensee/worker action to ensure that doses were maintained within the limits of 10 CFR Part 20 and the as-low-as-is-reasonably-achievable concept.

The inspectors assessed whether the licensee had established trigger points (e.g., the Electric Power Research Institute's (EPRI) "Alpha Monitoring Guidelines for Operating

Nuclear Power Stations") for evaluating levels of airborne beta-emitting (e.g., plutonium-241) and alpha-emitting radionuclides.

b. <u>Findings</u>

No findings were identified.

.3 Use of Respiratory Protection Devices (02.03)

a. Inspection Scope

For those situations where it was impractical to employ engineering controls to minimize airborne radioactivity, the inspectors assessed whether the licensee provided respiratory protective devices such that occupational doses were as-low-as-is-reasonably-achievable. The inspectors selected work activities where respiratory protection devices were used to limit the intake of radioactive materials, and assessed whether the licensee performed an evaluation concluding that further engineering controls were not practical and that the use of respirators was as-low-as-is-reasonably-achievable. The inspectors also evaluated whether the licensee had established means (such as routine bioassay) to determine if the level of protection (protection factor) provided by the respiratory protection devices during use was at least as good as that assumed in the licensee's work controls and dose assessment.

The inspectors assessed whether respiratory protection devices used to limit the intake of radioactive materials were certified by the National Institute for Occupational Safety and Health/Mine Safety and Health Administration or have been approved by the NRC per 10 CFR 20.1703(b). The inspectors selected work activities where respiratory protection devices were used. The inspectors evaluated whether the devices were used consistent with their National Institute for Occupational Safety and Health/Mine Safety and Health Administration certification or any conditions of their NRC approval.

The inspectors reviewed records of air testing for supplied-air devices and SCBA bottles to assess whether the air used in these devices met or exceeded Grade D quality. The inspectors reviewed plant breathing air supply systems to determine whether they met the minimum pressure and airflow requirements for the devices in use.

The inspectors selected several individuals qualified to use respiratory protection devices, and assessed whether they had been deemed fit to use the devices by a physician.

The inspectors selected several individuals assigned to wear a respiratory protection device and observed them donning, doffing, and functionally checking the device as appropriate. Through interviews with these individuals, the inspectors evaluated whether they knew how to safely use the device and how to properly respond to any device malfunction or unusual occurrence (loss of power, loss of air, etc.).

The inspectors chose multiple respiratory protection devices staged and ready for use in the plant or stocked for issuance for use. The inspectors assessed the physical condition of the device components (mask or hood, harnesses, air lines, regulators, air bottles, etc.) and reviewed records of routine inspection for each. The inspectors selected several of the devices and reviewed records of maintenance on the vital components (e.g., pressure regulators, inhalation/exhalation valves, hose couplings).

The inspectors reviewed the respirator vital components maintenance program to ensure that the repairs of vital components were performed by the respirators' manufacturer.

b. Findings

No findings were identified.

.4 Self-Contained Breathing Apparatus for Emergency Use (02.04)

a. <u>Inspection Scope</u>

Based on the UFSAR, TSs, and emergency operating procedure requirements, the inspectors reviewed the status and surveillance records of SCBAs staged in-plant for use during emergencies. The inspectors reviewed the licensee's capability for refilling and transporting SCBA air bottles to and from the control room and operations support center during emergency conditions.

The inspectors selected several individuals on control room shift crews and from designated departments currently assigned emergency duties (e.g., onsite search and rescue duties) to assess whether control room operators and other emergency response and radiation protection personnel (assigned in-plant search and rescue duties or as required by emergency operating procedures or the emergency plan) were trained and qualified in the use of SCBAs (including personal bottle changeout). The inspectors evaluated whether personnel assigned to refill bottles were trained and qualified for that task.

The inspectors determined whether appropriate mask sizes and types were available for use (i.e., in-field mask size and type match what was used in fit-testing). The inspectors determined whether on-shift operators had no facial hair that would interfere with the sealing of the mask to the face and whether vision correction (e.g., glasses inserts or corrected lenses) was available as appropriate.

The inspectors reviewed the past two years of maintenance records for select SCBA units used to support operator activities during accident conditions and designated as "ready for service" to assess whether any maintenance or repairs on any SCBA unit's vital components were performed by an individual, or individuals, certified by the manufacturer of the device to perform the work. The vital components typically are the pressure-demand air regulator and the low-pressure alarm. The inspectors reviewed the onsite maintenance procedures governing vital component work to determine any inconsistencies with the SCBA manufacturer's recommended practices. For those SCBAs designated as "ready for service," the inspectors determined whether the required, periodic air cylinder hydrostatic testing was documented and up-to-date, and the retest air cylinder markings required by the U.S. Department of Transportation were in place.

b. Findings

No findings were identified.

.5 Problem Identification and Resolution (02.05)

a. <u>Inspection Scope</u>

The inspectors evaluated whether the licensee identifed problems associated with the control and mitigation of in-plant airborne radioactivity at an appropriate threshold and properly addressed the problems for resolution in the licensee CAP. The inspectors assessed whether the corrective actions were appropriate for a selected sample of problems involving airborne radioactivity and were appropriately documented by the licensee.

b. Findings

No findings were identified.

2RS4 Occupational Dose Assessment (71124.04)

This inspection constituted one complete sample as defined in IP 71124.04-05.

.1 Inspection Planning (02.01)

a. <u>Inspection Scope</u>

The inspectors reviewed the results of radiation protection program audits related to internal and external dosimetry (e.g., licensee's quality assurance audits, self-assessments, or other independent audits) to gain insights into overall licensee performance in the area of dose assessment and focus the inspection activities consistent with the principle of "smart sampling."

The inspectors reviewed the most recent National Voluntary Laboratory Accreditation Program accreditation report on the vendor's most recent results to determine the status of the contractor's accreditation.

A review was conducted of the licensee procedures associated with dosimetry operations, including issuance/use of external dosimetry (routine, multibadging, extremity, neutron, etc.), assessment of internal dose (operation of whole body counter, assignment of dose based on derived air concentration-hours, urinalysis, etc.), and evaluation of and dose assessment for radiological incidents (distributed contamination, hot particles, loss of dosimetry, etc.).

The inspectors evaluated whether the licensee had established procedural requirements for determining when external and internal dosimetry is required.

b. Findings

No findings were identified.

.2 External Dosimetry (02.02)

a. Inspection Scope

The inspectors evaluated whether the licensee's dosimetry vendor was National Voluntary Laboratory Accreditation Program accredited and if the approved irradiation test categories for each type of personnel dosimeter used were consistent with the types and energies of the radiation present and the way the dosimeter was being used (e.g., to measure deep dose equivalent, shallow dose equivalent, or lens dose equivalent).

The inspectors evaluated the onsite storage of dosimeters before their issuance, during use, and before processing/reading. The inspectors also reviewed the guidance provided to rad-workers with respect to care and storage of dosimeters.

The inspectors performed a limited assessment of non-National Voluntary Laboratory Accreditation Program accredited passive dosimeters (e.g., direct ion storage sight read dosimeters). The inspectors assessed whether they were used according to licensee procedures that provided for periodic calibration, application of calibration factors, usage, reading (dose assessment), and zeroing.

The inspectors assessed the use of active dosimeters (electronic personal dosimeters) to determine if the licensee used a "correction factor" to address the response of the electronic personal dosimeter as compared to the passive dosimeter for situations when the electronic personal dosimeter must be used to assign dose. The inspector also assessed whether the correction factor was based on sound technical principles.

The inspectors reviewed dosimetry occurrence reports or CAP documents for adverse trends related to electronic personal dosimeters, such as interference from electromagnetic frequency, dropping or bumping, failure to hear alarms, etc. The inspectors assessed whether the licensee had identified any trends and implemented appropriate corrective actions.

b. Findings

No findings were identified.

.3 Internal Dosimetry (02.03)

Routine Bioassay (In Vivo)

a. Inspection Scope

The inspectors reviewed procedures used to assess the dose from internally deposited nuclides using whole body counting equipment. The inspectors evaluated whether the procedures addressed methods for differentiating between internal and external contamination, the release of contaminated individuals, the route of intake, and the assignment of dose.

The inspectors reviewed the whole body count process to determine if the frequency of measurements was consistent with the biological half-life of the nuclides available for intake.

The inspectors reviewed the licensee's evaluation for use of its portal radiation monitors as a passive monitoring system to determine if instrument minimum detectable activities were adequate to determine the potential for internally deposited radionuclides sufficient to prompt additional investigation.

The inspectors selected several whole body counts and evaluated whether the counting system used had sufficient counting time/low background to ensure appropriate sensitivity for the potential radionuclides of interest. The inspectors reviewed the radionuclide library used for the count system to determine its appropriateness. The inspectors evaluated whether any anomalous count peaks/nuclides indicated in each output spectra received appropriate disposition. The inspector's reviewed the licensee's 10 CFR Part 61 data analyses to determine whether the nuclide libraries included appropriate gamma-emitting nuclides. The inspectors evaluated how the licensee accounted for hard-to-detect nuclides in the dose assessment.

b. Findings

No findings were identified.

Special Bioassay (In Vitro)

a. Inspection Scope

There was no internal dose assessments obtained using in vitro monitoring for the inspectors to review. However, the inspectors reviewed and assessed the adequacy of the licensee's program for in vitro monitoring (i.e., urinalysis and fecal analysis) of radionuclides (tritium, fission products, and activation products), including collection and storage of samples.

The inspectors reviewed the vendor laboratory quality assurance program and assessed whether the laboratory participated in an industry recognized cross-check program including whether out-of-tolerance results were resolved appropriately.

b. Findings

No findings were identified.

Internal Dose Assessment – Airborne Monitoring

a. Inspection Scope

The inspectors reviewed the licensee's program for airborne radioactivity assessment and dose assessment, as applicable, based on airborne monitoring and calculations of derived air concentration. The inspectors determined whether flow rates and collection times for air sampling equipment were adequate to allow lower limits of detection to be obtained. The inspectors also reviewed the adequacy of procedural guidance to assess internal dose if respiratory protection was used.

b. Findings

No findings were identified.

Internal Dose Assessment – Whole Body Count Analyses

a. <u>Inspection Scope</u>

The inspectors reviewed several dose assessments performed by the licensee using the results of whole body count analyses. The inspectors determined whether affected personnel were properly monitored with calibrated equipment and that internal exposures were assessed consistent with the licensee's procedures.

b. Findings

No findings were identified.

.4 Special Dosimetric Situations (02.04)

Declared Pregnant Workers

a. Inspection Scope

The inspectors assessed whether the licensee informed workers, as appropriate, of the risks of radiation exposure to the embryo/fetus, the regulatory aspects of declaring a pregnancy, and the specific process to be used for (voluntarily) declaring a pregnancy.

The inspectors selected individuals who had declared pregnancy during the current assessment period and evaluated whether the licensee's radiological monitoring program (internal and external) for declared pregnant workers was technically adequate to assess the dose to the embryo/fetus. The inspectors reviewed exposure results and monitoring controls employed by the licensee and with respect to the requirements of 10 CFR Part 20.

b. Findings

No findings were identified.

<u>Dosimeter Placement and Assessment of Effective Dose Equivalent for External Exposures</u>

a. <u>Inspection Scope</u>

The inspectors reviewed the licensee's methodology for monitoring external dose in non-uniform radiation fields or where large dose gradients exist. The inspectors evaluated the licensee's criteria for determining when alternate monitoring, such as use of multi-badging, was to be implemented.

The inspectors reviewed dose assessments performed using multi-badging to evaluate whether the assessment was performed consistently with licensee procedures and dosimetric standards.

b. Findings

No findings were identified.

Shallow Dose Equivalent

a. <u>Inspection Scope</u>

The inspectors reviewed shallow dose equivalent dose assessments for adequacy. The inspectors evaluated the licensee's method (e.g., VARSKIN or similar code) for calculating shallow dose equivalent from distributed skin contamination or discrete radioactive particles.

b. Findings

No findings were identified.

Neutron Dose Assessment

a. Inspection Scope

The inspectors evaluated the licensee's neutron dosimetry program, including dosimeter types and/or survey instrumentation.

The inspectors reviewed neutron exposure situations (e.g., independent spent fuel storage installation operations or at-power containment entries) and assessed whether (a) dosimetry and/or instrumentation was appropriate for the expected neutron spectra, (b) there was sufficient sensitivity for low dose and/or dose rate measurement, and (c) neutron dosimetry was properly calibrated. The inspectors also assessed whether interference by gamma radiation had been accounted for in the calibration and whether time and motion evaluations were representative of actual neutron exposure events, as applicable.

b. Findings

No findings were identified.

Assigning Dose of Record

a. <u>Inspection Scope</u>

For the special dosimetric situations reviewed in this section, the inspectors assessed how the licensee assigned dose of record for total effective dose equivalent, shallow dose equivalent, and lens dose equivalent. This included an assessment of external and internal monitoring results, supplementary information on individual exposures (e.g., radiation incident investigation reports and skin contamination reports), and radiation surveys and/or air monitoring results when dosimetry was based on these techniques.

b. Findings

No findings were identified.

.5 <u>Problem Identification and Resolution</u> (02.05)

a. Inspection Scope

The inspectors assessed whether the licensee identified problems associated with occupational dose assessment at an appropriate threshold and properly addressed the problems for resolution in the licensee's CAP. The inspectors assessed the appropriateness of the corrective actions for a selected sample of problems documented by the licensee involving occupational dose assessment.

b. Findings

No findings were identified.

2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06)

The inspection activities supplement those documented in NRC Inspection Report 05000373(374)/2012003 and constitute one complete sample as defined in IP 71124.06-05.

.1 <u>Inspection Planning and Program Reviews</u> (02.01)

Event Report and Effluent Report Reviews

a. Inspection Scope

The inspectors reviewed the radiological effluent release reports issued since the last inspection to determine if the reports were submitted as required by the Offsite Dose Calculation Manual/TSs. The inspectors reviewed anomalous results, unexpected trends, or abnormal releases identified by the licensee for further inspection to determine if they were evaluated, were entered in the CAP, and were adequately resolved.

The inspectors identified radioactive effluent monitor operability issues reported by the licensee as provided in effluent release reports, to review these issues during the onsite inspection, as warranted, given their relative significance, and determine if the issues were entered into the CAP and adequately resolved.

b. Findings

No findings were identified.

Offsite Dose Calculation Manual and UFSAR Review

a. Inspection Scope

The inspectors reviewed UFSAR descriptions of the radioactive effluent monitoring systems, treatment systems, and effluent flow paths so they could be evaluated during inspection walkdowns.

The inspectors reviewed changes to the Offsite Dose Calculation Manual made by the licensee since the last inspection against the guidance in NUREG-1301, 1302, and 0133, and Regulatory Guides 1.109, 1.21, and 4.1. When differences were identified, the inspectors reviewed the technical basis or evaluations of the change during the

onsite inspection to determine whether they were technically justified and maintain effluent releases as-low-as-is-reasonably-achievable.

The inspectors reviewed licensee documentation to determine if the licensee has identified any non-radioactive systems that have become contaminated as disclosed either through an event report or the Offsite Dose Calculation Manual since the last inspection. This review provided an intelligent sample list for the onsite inspection of any 10 CFR 50.59 evaluations and allowed a determination if any newly contaminated systems have an unmonitored effluent discharge path to the environment, whether any required Offsite Dose Calculation Manual revisions were made to incorporate these new pathways and whether the associated effluents were reported in accordance with Regulatory Guide 1.21.

b. Findings

No findings were identified.

Groundwater Protection Initiative Program

a. <u>Inspection Scope</u>

The inspectors reviewed reported groundwater monitoring results and changes to the licensee's written program for identifying and controlling contaminated spills/leaks to groundwater.

b. Findings

No findings were identified.

Procedures, Special Reports, and Other Documents

a. <u>Inspection Scope</u>

The inspectors reviewed Licensee Event Reports, event reports, and/or special reports related to the effluent program issued since the previous inspection to identify any additional focus areas for the inspection based on the scope/breadth of problems described in these reports.

The inspectors reviewed effluent program implementing procedures, particularly those associated with effluent sampling, effluent monitor setpoint determinations, and dose calculations.

The inspectors reviewed copies of licensee and third party (independent) evaluation reports of the Effluent Monitoring Program since the last inspection to gather insights into the licensee's program and aid in selecting areas for inspection review (smart sampling).

b. Findings

No findings were identified.

.6 <u>Dose Calculations</u> (02.05)

a. Inspection Scope

Inspectors evaluated the methods used to determine the isotopes that were included in the source term to ensure all applicable radionuclides are included within detectability standards. The review included the current Part 61 analyses to ensure hard-to-detect radionuclides were included in the source term.

The inspectors reviewed, as available, records of any abnormal gaseous or liquid tank discharges (e.g., discharges resulting from misaligned valves, valve leak-by, etc) to ensure the abnormal discharge was monitored by the discharge point effluent monitor. Discharges made with inoperable effluent radiation monitors or unmonitored leakages were reviewed to ensure that an evaluation was made of the discharge to satisfy 10 CFR 20.1501 so as to account for the source term and projected doses to the public.

b. Findings

No findings were identified.

2. OTHER ACTIVITIES

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

4OA1 Performance Indicator Verification (71151)

.1 Safety System Functional Failures

a. <u>Inspection Scope</u>

The inspectors sampled licensee submittals for the Safety System Functional Failures performance indicator (PI) for Units 1 and 2 for the fourth quarter 2011 through the third quarter 2012. To determine the accuracy of the PI data reported during this period, PI definitions and guidance contained in Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, 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, event reports, and NRC Integrated Inspection Reports for October 2011 through September 2012 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report 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 safety system functional failures samples as defined in IP 71151-05.

b. Findings

No findings 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 Units 1 and 2 for the fourth quarter 2011 through the third quarter 2012. To determine the accuracy of the PI data reported during this period, PI definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, MSPI derivation reports, and NRC Integrated Inspection Reports for October 2011 through September 2012 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 issue report 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 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 Units 1 and 2 for the fourth quarter 2011 through the third quarter 2012. To determine the accuracy of the PI data reported during this period, PI definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, MSPI derivation reports, event reports, and NRC Integrated Inspection Reports for October 2011 through September 2012 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 issue report 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 were identified.

.4 Reactor Coolant System Specific Activity

a. <u>Inspection Scope</u>

The inspectors sampled licensee submittals for the RCS specific activity PI for LaSalle County Station Units 1 and 2 for the first quarter 2011 through the third quarter 2012. The inspectors used PI definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, to determine the accuracy of the PI data reported during this period. The inspectors reviewed the licensee's RCS chemistry samples, TS requirements, issue reports, event reports, and NRC Integrated Inspection Reports to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. In addition to record reviews, the inspectors observed a chemistry technician obtain and analyze a RCS sample. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two RCS specific activity samples as defined in IP 71151-05.

b. Findings

No findings were identified.

.5 Occupational Exposure Control Effectiveness

a. <u>Inspection Scope</u>

The inspectors sampled licensee submittals for the occupational radiological occurrences PI for the first quarter 2011 through the third quarter 2012. The inspectors used PI definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, to determine the accuracy of the PI data reported during this period. The inspectors reviewed the licensee's assessment of the PI for occupational radiation safety to determine if indicator related data were adequately assessed and reported. To assess the adequacy of the licensee's PI data collection and analyses, the inspectors discussed with radiation protection staff, the scope and breadth of its data review and the results of those reviews. The inspectors independently reviewed electronic personal dosimetry dose rate and accumulated dose alarms, dose reports, and the dose assignments for any intakes that occurred during the time period reviewed to determine if there were potentially unrecognized occurrences. The inspectors also conducted walkdowns of numerous locked high and very high radiation area entrances to determine the adequacy of the controls in place for these areas. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one occupational exposure control effectiveness sample as defined in IP 71151-05.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152)

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

a. <u>Inspection Scope</u>

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 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: identification of the problem was complete and accurate; timeliness was commensurate with the safety significance; 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 Attachment to this report.

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 were identified.

.2 Daily Corrective Action Program Reviews

a. <u>Inspection Scope</u>

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, 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 were identified.

.3 Semi-Annual 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 6-month period of July 2012 through December 2012, 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 a single semi-annual trend inspection sample as defined in IP 71152-05.

b. Findings

No findings were identified.

.4 Annual Sample: Review of Operator Workarounds

a. <u>Inspection Scope</u>

The inspectors evaluated the licensee's implementation of their process used to identify, document, track, and resolve operational challenges. Inspection activities included, but were not limited to, a review of the cumulative effects of operator workarounds (OWAs) on system availability and the potential for improper operation of the system, for potential impacts on multiple systems, and on the ability of operators to respond to plant transients or accidents.

The inspectors performed a review of the cumulative effects of OWAs. The documents listed in the Attachment to this report were reviewed to accomplish the objectives of the IP. The inspectors reviewed both current and historical operational challenge records to determine whether the licensee was identifying operator challenges at an appropriate threshold, had entered them into their CAP and proposed or implemented appropriate and timely corrective actions which addressed each issue. Reviews were conducted to determine if any operator challenge could increase the possibility of an Initiating Event, if the challenge was contrary to training, required a change from long-standing operational practices, or created the potential for inappropriate compensatory actions. Additionally, all temporary modifications were reviewed to identify any potential effect on the functionality of Mitigating Systems, impaired access to equipment, or required equipment uses for which the equipment was not designed. Daily plant and equipment status logs, degraded instrument logs, and operator aids or tools being used to compensate for material deficiencies were also assessed to identify any potential sources of unidentified OWAs.

This review constituted one OWA annual inspection sample as defined in IP 71152-05.

b. Findings

<u>Failure to Take Prompt Corrective Actions to Address a Degraded Safety-Related</u> Component

Introduction: The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to take prompt corrective actions to address the degraded condition of a safety-related component associated with the Auxiliary Electrical Equipment Room (AEER) VE system's "A" train EMU low flow alarm function. Specifically, the licensee failed to resolve the degraded condition of the 0FY-VE027 low flow alarm component at the earliest available opportunity and allowed the condition to persist with a scheduled correction date of 21 months after initial discovery without any compensatory measures in place.

<u>Description</u>: The inspectors identified a longstanding issue associated with the VE system that appeared to meet the NRC's definition of an OWA, i.e., required actions be taken to compensate for a degraded or non-conforming condition, while performing a review of records within the licensee's CAP. Specifically, inspectors noted that issue report 1276386, generated on October 13, 2011, documented an unexpected occurrence that was experienced during the performance of a monthly VC/VE surveillance test, LOS-VC-M1. Step 3 of the surveillance test directs the acknowledgment and resetting of panel 0PL42J, alarm 1-2, "Auxiliary Electrical Equipment Room Supply Air Make-up Flow Low," which is associated with the safety-related 0FY-VE027 low flow alarm component; however, after acknowledging and attempting to reset the alarm, operators could not reset it while the "A" train was still running. Local flow indication showed that the alarm was not valid since the flow at the time was 2500 cubic feet per minute, which was above the 2000 cubic feet per minute alarm setpoint.

Per design, the safety-related VC/VE EMU system maintains Control Room and AEER habitability by maintaining positive pressure to prevent intrusion of smoke or radiation into those ventilation zones. Two redundant EMU trains, "A" and "B", provide the operators the option of using either train. The low flow alarm for the "A" Train EMU annunciates in the Control Room on low air flow below the setpoint of 2000 cubic feet per minute as sensed at Panel OPL42J on the 786' elevation in the auxiliary building. With a sensed low air flow signal, the local alarm on the "A" EMU train would relay a remote alarm to the operators in the control room on panel 1PM06J annunciator A109, "AEER HVAC [heating, ventilation, and air conditioning] PNL 0PA09J Trouble", which would indicate the need to investigate the low-flow condition and promptly switch to the "B" EMU train if conditions were warranted.

During a postulated event requiring the use of VC/VE EMU, with this degraded alarm component present, the false alarm would block operators from receiving any subsequent alarms for an actual low flow condition since the initial alarm would stay in and would not be able to be reset. This condition, therefore, removed the operators' primary source of information regarding an "A" train VE EMU low flow problem, and could have potentially delayed their ability to swap to the "B" EMU train in a timely manner to ensure area habitability.

The inspectors further noted that on 11/14/12, 10/15/12, 9/13/12, 7/16/12, 5/18/12, 4/13/12, and 2/12/12, the low flow alarm continued to be unable to be reset during the monthly LOS-VC-M1 surveillance tests. Further research into the issue by the inspectors revealed that an additional degraded condition was already known by the licensee to exist on the 0FY-VE027 component. On July 20, 2011, during the latest biennial performance of procedure LIP-VE-901, "Auxiliary Electrical Equipment Room Emergency Makeup HVAC System A/B Flow Calibration," the low flow alarm component 0FY-VE027 was found out-of-tolerance and was unable to be calibrated to within its acceptance criteria. This issue was documented in issue report 1246894 but was closed out to a future WO that was supposed to replace the 0FY-VE027 component on October 4, 2011, but this did not take place. Instead, the licensee tied the resolution of this condition to the April 18, 2013, due date for replacement of the 0FY-VE027 component associated with the alarm failure issue. The inspectors therefore considered July 20, 2011, to be the time in which the licensee first became aware of the degraded condition of the 0FY-VE027 alarm component.

Since the initial discovery of this degraded condition on July 20, 2011, the licensee continued in acceptance of this problem with a management-approved due date for repair of the 0FY-VE027 component scheduled for April 18, 2013—21 months after initial discovery. Additionally, the licensee did not establish any type of compensatory measures relating to this degraded condition, e.g., a standing order or establishment of a critical parameter to monitor EMU flow, etc.

In the NRC IMC Part 9900 Technical Guidance section entitled "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety," guidance is provided relating to how inspectors will assess the adequacy of the timeliness of corrective actions. For example, there are a number of factors to consider, such as: does the plant have to be shutdown to fix the problem; are there any specialized tools or parts that have to be procured in order to fix it; does a complex modification need to be developed, etc. It comes down to the question of "is the licensee making reasonable efforts to complete corrective actions promptly, in accordance with the safety significance." If the licensee does not resolve the degraded condition at the first available opportunity or does not appropriately justify a longer completion schedule, the NRC would consider that the corrective action has not been timely and would consider taking enforcement action. The inspectors have determined that none of the extenuating circumstances outlined in the Part 9900 guidance were met, and have therefore concluded that 21 months was untimely.

<u>Analysis</u>: The inspectors determined that allowing a safety-related component to remain degraded without any compensatory measures in place was contrary to the requirements of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," as further elaborated upon in section 7.2 of NRC IMC Part 9900 Technical Guidance entitled "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety," and was a performance deficiency.

The finding was determined to be more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, because if left uncorrected, it would become a more significant safety concern. Specifically, the performance deficiency of failing to promptly correct conditions adverse to quality would become a

more significant safety concern. The inspectors concluded this finding was associated with the Mitigating Systems Cornerstone.

The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 2, dated June 19, 2012. The finding was determined to be of very low safety significance (Green) because all screening questions were answered "No."

This finding has a cross-cutting aspect in the area of PI&R, CAP, for failing to appropriately evaluate problems, and failing to properly classify and prioritize them. Specifically, the licensee inappropriately assigned a very low priority to the degraded alarm component, which allowed the degraded condition to persist beyond the point of timeliness (P.1(c)).

<u>Enforcement</u>: 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and non-conformances are promptly identified and corrected.

Contrary to the above, between July 20, 2011, and December 13, 2012, the licensee failed to promptly correct a condition adverse to quality regarding the safety-related ventilation low flow alarm component, 0FY-0VE027. Specifically, when the component was found to be out-of-tolerance and was unable to be calibrated to within specifications, and was later found to be unable to clear its alarm function when an alarm condition was not present, the licensee identified the degraded component, but did not correct it at the first available opportunity. Instead, the licensee scheduled a final correction date of April 18, 2013, 21 months after initial discovery.

Upon notification to the licensee of the inspectors' concern regarding the lack of promptness of the corrective actions, the licensee entered the issue into the CAP as issue report 1429000 and put in place a number of compensatory measures including: the posting of an informational condition tag on the affected control room annunciator; communication of the issue to all operating crews to ensure cognizance of the issue; and establishment of a critical parameter to periodically monitor VE flow whenever the "A" train of EMU is running with the alarm in to enable better recognition of an actual low air flow condition. Additionally, based on the engagement of the inspectors, the licensee reprioritized the repair schedule of the 0FY-VE027 component and completed its repair on December 13, 2012, which restored compliance. Because this violation was of very low safety significance and it was entered into the licensee's CAP (as issue report 01429000), this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (NCV 05000373/2012005-01; 05000374/2012005-01, Failure to Take Prompt Corrective Actions to Address a Degraded Safety-Related Component).

.5 <u>Selected Issue Follow-Up Inspection: Unit 2 Unplanned Power Change on June 29, 2012</u>

a. <u>Inspection Scope</u>

The inspectors elected to perform an in-depth review of the circumstances surrounding the Unit 2 unplanned power change that occurred on June 29, 2012. Specifically, the inspectors ensured that the licensee was appropriately applying the threshold for reporting of an unplanned power change of greater than 20 percent as an unplanned

downpower in the NRC's performance indicator database. The inspectors interviewed reactor engineering and operations staff, and reviewed licensee plant process computer data for the event.

This review constituted one in-depth problem identification and resolution sample as defined in IP 71152-05.

b. Findings

No findings were identified.

4OA5 Other Activities

.1 (Closed) NRC Temporary Instruction (TI) 2515/187, Inspection of Near-Term Task Force
Recommendation 2.3 Flooding Walkdowns, and NRC TI 2515/188, Inspection of
Near-Term Task Force Recommendation 2.3 Seismic Walkdowns

a. Inspection Scope

Inspectors performed independent walkdowns of flood protection features and items on the Seismic Walkdown Equipment List. Additionally, inspectors verified that the licensee's walkdown activities were conducted using the methodology endorsed by the NRC. These walkdowns are being performed at all sites in response to a letter from the NRC to licensees, entitled "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident," dated March 12, 2012 (ADAMS Accession No. ML12053A340).

Enclosure 3 of the March 12, 2012, letter requested licensees perform seismic walkdowns using an NRC-endorsed walkdown methodology. EPRI document 1025286 titled, "Seismic Walkdown Guidance" (ADAMS Accession No. ML12188A031), provided the NRC-endorsed methodology for performing seismic walkdowns to verify that plant features, credited in the current licensing basis for seismic events, are available, functional, and properly maintained.

Enclosure 4 of the letter requested licensees perform external flooding walkdowns using an NRC-endorsed walkdown methodology (ADAMS Accession No. ML12056A050). NEI document 12-07 titled, "Guidelines for Performing Verification Walkdowns of Plant Protection Features," (ADAMS Accession No. ML12173A215) provided the NRC-endorsed methodology for assessing external flood protection and mitigation capabilities to verify that plant features, credited in the current licensing basis for protection and mitigation from external flood events, are available, functional, and properly maintained.

b. Findings

No findings were identified.

33 Enclosure

.2 <u>Institute of Nuclear Power Operations (INPO)/World Association of Nuclear Operators</u> (WANO) Plant Assessment Report Review

a. <u>Inspection Scope</u>

The inspectors reviewed the final report for the WANO plant assessment conducted in May 2012. The inspectors reviewed the report to ensure that issues identified were consistent with the NRC perspectives of licensee performance and to verify if any significant safety issues were identified that required further NRC follow-up.

b. Findings

No findings were identified.

4OA6 Management Meetings

.1 <u>Interim Exit Meetings</u>

Interim exits were conducted for:

- the inspection results for the areas of radiological hazard assessment and exposure controls; in-plant airborne radioactivity control and mitigation; occupational dose assessment; radioactive gaseous and liquid effluent treatment; and RCS specific activity and occupational exposure control effectiveness performance indicator verification with Mr. H. Vinyard, Plant Manager, on December 14, 2012;
- the inspection results of the quarterly review of licensed operator requalification to Mr. J. Bauer, Training Director; and other members of the licensee staff, on December 13, 2012; and
- the licensed operator requalification training biennial operating test results with the Licensed Operator Requalification Lead Instructor, Mr. C. Brown, via telephone on December 26, 2012.

The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

34 Enclosure

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

- P. Karaba, Site Vice President
- H. Vinyard, Plant Manager
- K. Hedgspeth, Radiation Protection Manager
- J. Washko, Operations Director
- B. Hilton, Design Manager
- G. Ford, Regulatory Affairs Manager
- J. Bauer, Training Manager
- J. Houston, Nuclear Oversight Manager
- J. Miller, System Manager
- M. Sharma, Engineering Program Manager
- R. Conley, Manager, Technical Support
- T. Dean, Operations Training Manager
- A. Meyers, Engineering Manager, Balance of Plant
- A. Schierer, Engineer
- C. Brown, Licensed Operator Requalification Group Lead
- D. Amezaga, System Engineer
- J. Bendis, Engineer
- J. Feeney, LaSalle Nuclear Oversight
- J. Hughes, Emergency Preparedness Coordinator
- J. Smith, Operations Training Manager
- K. Hall, LaSalle Buried Piping Program Owner
- L. Blunk, Regulatory Affairs
- S. Shields, Regulatory Affairs Acting Manager
- S. Tanton, Engineer
- T. Hapak, Chemistry

U.S. Nuclear Regulatory Commission

Michael Kunowski, Chief, Reactor Projects Branch 5

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

<u>Opened</u>

05000373/2012005-01;	NCV	Failure to Take Prompt Corrective Actions to Address a
05000374/2012005-01		Safety-Related Degraded Component (Section 4OA2)

Closed

05000373/2012005-01; 05000374/2012005-01	NCV	Failure to Take Prompt Corrective Actions to Address a Safety-Related Degraded Component (Section 4OA2)
2515/187	TI	Inspection of Near-Term Task Force Recommendation 2.3 Flooding Walkdowns (Section 4OA5.1)
2515/188	TI	Inspection of Near-Term Task Force Recommendation 2.3 Seismic Walkdowns (Section 4OA5.1)

Discussed

None

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

Procedures:

- LOS-ZZ-A2; Preparation for Winter/Summer Operation; Rev. 42
- WC-AA-107; Seasonal Readiness; Rev. 11

Assignment Reports:

- 1341570; Winter Readiness Team Critique, 2011 2012 Period
- 1348008; LaSalle Winter Readiness Actions
- 1397778; Winter Readiness, Door 590 at Blowdown House Degraded
- 1421835; Winter Readiness WO 1530332 Re-coded Non-winter
- 1442763; WO1486483 Review to Recode for Winter Readiness 2012

Miscellaneous:

- LaSalle 2012 Certification Letter for Winter Readiness: 11/15/2012
- LaSalle Winter Execution Morning Plant Status Report; 11/16/2012

1R04 Equipment Alignment

Procedures:

- LOP-DG-09M; Unit 2 A Diesel Generator Cooling System Mechanical Checklist; Rev. 11

Assignment Reports:

- 1280838; Degraded Flow Condition in 2VY03A Area
- 1328673; HPCS Min Flow Failed to Close After LOS-DG-111
- 1397256; 2E22-F319 Would Not Close Following Backwash as Required
- 1407384I 2A DG Cooling water Strainer Backwash Outlet
- 1407376; IEMA Concern: Inspection of Lines for Min Wall Requirements

Figures and Drawings:

- M-134, Sht1; P&ID CSC Equipment Cooling Water System; Rev. AT
- M-134, Sht3; P&ID Core Standby Cooling System Equipment Cooling Water System; Rev. 0

Miscellaneous:

- LOP-HP-01E; Unit 1 High Pressure Core Spray Electrical Checklist; Rev. 10
- LOP-HP-01M; Unit 1 High Pressure Core Spray Mechanical Checklist; Rev. 17
- LOP-RF-02E; Unit 2 Reactor Building Floor Drains Electrical Checklist; Rev. 3
- LOP-RF-02M; Unit 2 Reactor Building Floor Drains Mechanical Checklist; Rev. 4
- LOP-VC-01E; Unit 0 Control Room HVAC Electrical Checklist; Rev. 10
- LOP-VC-01M; Unit 0 Control Room HVAC System Mechanical Checklist; Rev. 11

1R05 Fire Protection

Procedures:

- OP-AA-201-008; Pre-Fire Plan Manual; Rev. 3

Assignment Reports:

- 1399735; RM-2C71-S001B (B PRS MG Set) Has Slightly Elevated Noise
- 1412618; RM-Vibration Trend Increased on 2B RPS Flywheel
- 1417230; 2B RPS-MG High Vibration at Generator End
- 1419060; Develop Case Study from Lessons Learned from 2B RPS MG Set
- 1420840; Slight High Pitched Noise on 2B RPS MG Set Flywheel
- 1430223; Vibration Analyst Identified Light Squealing in Flywheel BRG
- 1430358; Issue an EACE to Determine Issues Relative to 1B PRS MG Set
- 1431366; Documentation of CMO Monitoring of 1B RPS MG Set
- 1432488; 2B RPS MG Set Has High Pitched Noise
- 1434789; 2B RPS MG Set Squealing
- 1438419; EO Identified 1B RPS MG Set Making Noise
- 1438923 CMO Long Term Recommendation for 2B RPS Flywheel Noise
- 1439598; U2 PRS MG Set, Noise at the Motor/ Inboard Bearing Area
- 1442473; 2B RPS MG Set Squealing

Figures and Drawings:

- H.201; Fire Area/Zone Locations; Rev. 5

Working Documents:

- LaSalle County Generating Station Pre-Fire Plan; FZ 3I2; 12/10/2012
- LaSalle County Generating Station Pre-Fire Plan; FZ 5D1; 10/30/2012
- LSCS FPR H.3.3.15; Unit 2 HPCS Cubicle Fire Zone 3I2; Rev. 5
- LSCS-FPR H.3-132; Fire Zone 5D1; Rev. 5
- LSCS-FPR H.3-2; Combustible Loading and Extinguishing Capability; Rev. 5
- LSCS-FPR H.3-27; Combustible Materials; Rev. 5
- LSCS-FPR Table H.3-1; Fire Zone Safety Related Equipment List; Rev. 5

1R06 Flood Protection

- Procedures:
- LOP-RF-01; Operation of Reactor Building Floor Drains; Rev. 19
- LOP-RF-01T; Reactor Building Floor Drain Sumps; Rev. 6
- LOA-FLD-001; Flooding; Rev. 15
- ER-AA-3003; Cable Condition Monitoring Program; Rev. 3
- NSWP-E-01; Electrical Cable Installation and Inspection; Rev. 4

Assignment Reports:

- 1412028; FUK: Fukushima Flooding Walkdown Conduit Rust

Figures and Drawings:

- LGA-005; RPV Flooding; Rev 11

Miscellaneous:

- LaSalle Unit 1 Walkdown Record: Conduit 2, Penetration, Heater Bay U1 680.75'; 8/14/2012

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1R11 Licensed Operator Requalification Program

Procedures:

- ESG 69; Licensed Operator Regualification Scenario; Rev. 2
- ESG 74; Licensed Operator Regualification Scenario; Rev. 2
- LOP-RP-Q2; Turbine Stop Valve Scram and EOC-RPT Functional Test; Rev. 21
- OP-AA-103-102; Watch-Standing Practices; Rev. 11
- P-DC-01; Place a Standby Battery Charger in Service; Rev. 5
- P-EP-38; Fill Out a NARS Form for an Alert; Rev. 3
- P-NB-04; Perform Alternate Rod Insertion IAW LGA-NB-01; Rev. 17
- P-VP-03; Local Start of 1C VP Chiller; Rev. 13
- S-HP-06; Startup HPCS with an Over-current Alarm; Rev. 2
- S-NR-02; Respond to an OPRM Trouble Alarm JPM; Rev. 2

Working Documents:

- LOS-RP-Q2, Att 2A; Tech Spec Surveillance, Unit 2, U2 Turbine Stop Valves; 12/6/2012

1R12 Maintenance Effectiveness

Procedures:

- ER-AA-310-1002; Maintenance Rule Functions Safety Significance Classification; Rev. 3
- ER-AA-310-1003; Maintenance Rule Performance Criteria Selection; Rev. 3
- MA-AA-716-210; Performance Centered Maintenance (PCM) Process; Rev. 14
- MA-AA-716-210-1001; Performance Centered Maintenance (PCM) Templates; Rev. 9

Assignment Reports:

- 1228070; Alarm Window B312 Didn't Alarm
- 1228096; A 45 Sec. Delay in Alarm Initiation
- 1240574; Possible FP Water Leakage into Unit 1 VG Train
- 1270586; VG WRGM Sample Conditioning Skid/Micro Switch Issue
- 1276004; On Line Risk Yellow During LIS-VG-501
- 1358368; IEMA Resident Inspector Inquiry 4/17/2012 for Rad Monitors
- 1361382; IEMA ID: Concern with LOS-VG-M1
- 1381442; OG Carbon Bed Vault Hi Rad Spike Caused MCR Alarm
- 1384660; U1 125 VDC Ground
- 1384664; OG 2A Carbon Bed Vault Rad Hi
- 1384768; 2B OG Carbon Bed Vault Radiation High Alarm
- 1384865; B/C RHR Room Temperature Indication
- 1385182; OG 2B Carbon Bed Vault Rad High Alarm
- 1409749; NRC 2nd QTR 2012 Integrated Insp. Report
- 1425406; U1 VB Train Exhibited Low System Flow (3500 scfm) on Startup

Figures and Drawings:

- 1E-1-4219AB; Schematic Diagram of Area Radiation Monitory System AR (1D21) Pt 2; Rev. J
- 1E-1-4219AD; Schematic Diagram of Area Radiation Monitory System AR (1D21) Pt 4; Rev. J

Working Documents:

- WO 0996386-01; 2D21-K603A Pwr Supply: Replace Electrolytic Caps; 8/11/2008
- WO 1012702-01; 2D21-K603B Pwr Supply: Replace Power Supply; 5/16/2008
- WO 1013105-01; ID21-K603B Pwr Supply: Replace Electrolytic Caps; 3/20/2009
- WO 1210710-01; 1D21-K603A Pwr Supply: Replace Electrolytic Caps; 4/6/2011
- WO 1296844-01; Area Rad Monitor Source Cal Associated with 1D21-K603A; 5/3/2011

- WO 1305138-01; Area Rad Monitor Source Cal Associated with 2D21-K603A; 6/7/2011
- WO 1357479-01; Area Rad Monitor Source Cal Associated with 1D21-K603B; 4/3/2012

Miscellaneous:

- 010SDL; Area Radiation Monitoring System Course Notes; 4/18/2010
- 1D21-N003A; Area Radiation Monitoring Training Document Panel 1(2)D21-P600 ARMs
- Area and Process Radiation Monitoring System Guide (EPRI); undated
- Failure Report, VG System; 10/1/2010 10/1/2012
- LaSalle ARM Geiger-Mueller Tube Replacement Installation Date List; 6/15/2012
- LaSalle Maintenance Rule SBGT (VG) Evaluation; 9/2012 and Two-Year Monitoring Period Preceding
- LaSalle Maintenance Rule Scoping/Performance Criteria; VG Standby Gas Treatment System; 10/30/2012
- List of ARM Predefines; 11/5/2012
- LSCS-FPR Table H.3-1; Fire Zone Safety Related Equipment List; Rev. 5
- Numarc 93-01; Nonsafety-Related SSCs that Are Used in Emergency Operating Procedures; Rev. 2
- Operator Logs (Search Results for SBGT, VG01C, GV001, VC003); 2010 2012
- SBGT Training Documentation; 10/2012
- System Health Report; Area Rad Monitors Executive Summary; 3rd Qtr. 2012
- System Health Report; Common Unit ARM; 10/1/2011-12/31/2011
- System Health Report; Process & Area Rad Monitors Eberline; 10/9/2012
- System Health Report; Process & Area Rad Monitors GE; 7/23/2010
- System Health Report; Process & Area Rad Monitors Other; 9/7/2012
- System Health Report; Units 1 and 2 SBGT; 7/1/2012 9/30/2012
- System Notebook Section A: VG; General System Description; 10/30/2012
- Systems Status Report; SSCs Condition Monitoring, Exceeded Performance Criteria List; undated
- VETIP VM J-0834.000; GE ARM Vendor Manual

1R13 Maintenance Risk Assessments and Emergent Work Control

Procedures:

- LOR-OPM12J-A102; 345KV OCB 1-9 Trip; 11/9/2006, Rev. 4
- LOR-OPM12J-A103; 345KV OCB 1-9 Trip; 11/9/2006, Rev. 3
- LOR-OPM12J-A205; 345KV Line 0101 Trip; 11/9/2006, Rev. 3

Assignment Reports:

- 1444730; Off Site Power Line L0101 Trip

Working Documents:

- HLA Brief for Unit 2 Load Drop 12/1 12/2/12
- Operator Log Entries: 11/27/2012 11/28/2012
- OP-LA-101-111-1002; Protected Equipment Log; Protect HWC; 7/2/2012

1R15 Operability Determinations and Functionality Assessments

Assignment Reports:

- 1424907; 1B RHR Pump Min Flow VLV Went Closed Immediately Upon Start
- 1425551; T-Shoot 1B RHR Min Flow Sensing Line For Spiking
- 1430378; Design Analysis 3C7-0781-001 & Suppression Pool Swell
- 1435575; Spurious Isolation of RCIC On High Steam Flow

Working Documents:

- OpEval 12-003; Potential to Increase Pool Swell Loads (AR 1430378); Rev. 0
- Operator Log Entries; 10/9/2012 10/11/2012
- WO 1588351-01; Troubleshoot Spurious RCIC Isolations from 1E31-N007BA / 1E51A-K032; Rev. 0

1R18 Plant Modifications

Assignment Reports:

- 1449900; 1C71A-K3B Did Not De-Energize During LOS-RP-Q3 Testing
- 1450058; LOS-RP-Q3 and LOS-RP-Q5 Not Performed as Scheduled

Figures and Drawings:

- 1E1-3516; Electrical Installation Reactor Building Plan Elevation 740'0" Columns 8.9-12 & E-J; Rev. BD
- 1E-1-3518; Electrical Installation Reactor Building Plan Elevation 740' 0" Columns 8.9-12 & A-E; Rev BA
- 1E-1-4203AB; Schematic Diagram Main Steam/Nuclear Boiler System "NB" (B21) Part 2; Rev. 0
- 1E-1-4312AW; TCCP 391664; Rev. AW/D
- 1E-1-4312BT; Int./Ext. Wiring Diagram L.V. Control "D Elect, Penetration 1VL99E; Rev. C
- 1E-1-4609AD; VLV 1B21-F022A DWG 1E-1-4618AC; Rev. AX

Calculations:

- L-003803; Cable 1NB727 Acceptability for Use in PRS B1 Trip Channel; Rev. 0

Working Documents:

- EC 391664; Temporary Substitution of LS-1 for LS-2 of Inboard MSIV 1B21-F022A (PRS B1 Scram Channel); Rev. 000

1R19 Post-Maintenance Testing

Procedures:

- LIP-GM-946; Installation Procedure for S-O-R Series 102/131/103/141 Environmentally Qualified Differential Pressure Switches; Rev. 15
- LIS-HP-105; Unit 1 High Pressure Core Spray Minimum Flow Bypass Calibration; Rev. 28
- LOS-VC M1; Control Room Emergency Makeup Unit Operability Test; Rev. 27
- MA-AA-716-012; Post Maintenance Testing; Rev. 16

Assignment Reports:

- 1328673; HPCS Min Flow Failed to Close After LOS-DG-111
- 1439500; OPL42J Alarm 1 -2, AEER Supply Air M/U Flow Low Won't Clear
- 1441471; 1WS092B Would Not Allow Water to Pass During Fill and Vent
- 1442665; U-2 FC F/D Bypass Flow Control Troubleshooting Plan

Figures and Drawings:

- M-133; P & ID Primary Containment Chilled Water Coolers; Rev. AG

Working Documents:

- EC 391566; Perform Inspection and Preventive Maintenance on Primary Containment Penetration Conductor Overcurrent Protective Devices: Rev. 001

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- VC EMU "A" Train LOS-VC-MI Att A; Tech Spec Surveillance Unit #0; 11/12/2012

- WO 1322415-01; 2AP82E-H3 and Breaker H3-RR Feed to 2VP113A Maintenance; Rev. 0
- WO 1322415-01; EMD PMT: 2VP113A; 9/25/2012
- WO 1322415-02; EMD PMT: 2VP113A; 12/18/2012
- WO 1328704-01; Cubile and Breaker Inspection for 1AP81E-C2 Feed to 0VC01AA; Rev. 0
- WO 1328704-02; OP-PMT:0VC01A BKR Closes and Carries Load; 11/12/2012
- WO 1346022-01; Replace the HPCS Min Flow Valve Press Switch 1E22-N006; Rev. 0
- WO 1366569-02; Test or Replace Relief Valve Per the IDNS / IEMA Rules; 11/6/2012
- WO 1571262-01; LIS-HP-105 U1 HPCS Min Flow Bypass Cal; 10/23/2012

1R22 Surveillance Testing

Procedures:

 LOS-FC-Q1; Fuel Pool Emergency Makeup Pump Inservice Test and RHR Service Water System Flush; Rev. 28

Working Documents:

- WO 1567352-01; LOS-FC-Q1 U2 A FC Emerg. M/U Pmp Att. 2A; 11/17/2012
- WO 1583080-01; LOS-FC-Q1 ATT 4A 2A FC and RHR WS Flush; 11/17/2012

1EP4 Emergency Action Level and Emergency Plan Changes

Procedures:

- EP-AA-1000; Standardized Radiological Emergency Plan; Rev. 21
- EP-AA-1005; Radiological Emergency Plan Annex for LaSalle Station; Rev. 33
- EP-AA-112; Emergency Response Organization (ERO) Emergency Response Facility (ERF) Activation and Operation; Rev. 16
- EP-AA-112-200; TSC Activation and Operation; Rev. 8
- EP-AA-112-400; Emergency Operations Facility Activation and Operation; Rev. 11

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

Procedures:

- RP-AA-203-1001; Personnel Exposure Investigation; Rev. 6
- RP-AA-210-1001; EDE Dosimetry Evaluation Sheet; and Evaluation Table; Rev. 7
- RP-AA-376; Radiological Posting, Labeling, and Marking; Rev. 6
- RP-AA-460; Controls for High and Locked High Radiation Areas; Rev. 23
- RP-AA-500; Radioactive Material RAM Control; Rev. 14
- RP-AA-800; Rev. 6; Source Leak Test Record of Sealed Sources; 9/7/2012 and 11/6/2012

Assignment Reports:

- 01316085; Unconditional Release of Tool From RCA; 1/20/2012
- 01330829; Individual Wore Primary DLR While Using an EDE Pack; 2/22/2012
- 01341038; Enhancement Needed for Locked High Rad Door Controls; 3/14/2012
- 01357801; Containers in Hot Shop Without Appropriate Rad Label; 4/24/2012
- 01366675; Station Exceeded Online Business Plant Personnel Contamination Event Goal; 5/15/2012

- EID BEER4195; EDE Dosimetry Evaluation on CRD Exchanges; 5/2/2012
- EID KNOTT8858; EDE Dosimetry Evaluation on CRD Exchanges; 5/6/2012
- EID SMITH3573; EDE Dosimetry Evaluation on CRD Exchanges; 5/7/2012
- EID STICK6646; EDE Dosimetry Evaluation on CRD Exchanges; 5/7/2012

- Shepherd and Associates; Shipping Document; 9/29/1997

2RS3 In-Plant Airborne Radioactivity Control and Mitigation (71124.03)

Procedures:

- LAP-900-47; Monthly EP/Hazmat Respiratory Inspection; Rev. 5
- LRP-5821-30; Startup and Operation of the Manifold Sample System Continuous Air Monitor;
 Rev. 27
- LRP-6021-9; Monthly Inspection of the Control Room Breathing Air System; Rev. 6
- RP-AA-444; Corrective Lens Verification; Rev. 4
- RP-AA-703; Startup and Operation of Single Channel Continuous Air Monitor; Rev. 0
- RP-AA-825; Maintenance, Care, and Inspection of Respiratory Protective Equipment; Rev. 5
- RP-AA-825; Monthly Respiratory Inspection and Certification Log; Rev. 5; Located at Unit 2 Egress Storage and TSC; 11/11/2012
- RP-LA-825-1002; MSA Self-Contained Breathing Apparatus Inspection; Rev. 2
- RP-LA-825-1006; Operation and Use of the MSA Firehawk Self-Contained Breathing Apparatus; Rev. 0
- RP-LA-825-1006; Operation and Use the MSA Firehawk Self Contained Breathing Apparatus; Rev. 0
- RP-LA-825-1012; Charging of SCBA Breathing Air Cylinders for Respiratory Protection; Rev. 0

Assignment Reports:

- 1312464; Cascade System Found Below Required Pressure During SCBA Fillings; 1/11/2012
- 1312478; SCBA Compressor Is Out of Service; 1/11/2012
- 1312478; SCBA Compressor Not Working to the Required 4500 PSIG; 1/11/2012
- 1318052; Unable to Perform SCBA Surveillance Due to Compressor Out of Service; 1/25/2012
- 1436146; Drywell CAM Alarms During Reactor Core Isolation Cooling Runs; 11/5/2012
- 1445970; Masks for Fit Test Exhalation Valve Issue; 11/27/2012

Miscellaneous:

- Airgas, Inc., Cylinder Identification and Markings
- Control Room and HRSS Firehawk SCBA

2RS4 Occupational Dose Assessment (71124.04)

Procedures:

- RP-AA-210: Dosimetry Issue, Usage and Control; Rev. 22
- RP-AA-220; Bioassay Program; Rev. 8
- RP-AA-270; Prenatal Radiation Exposure; Rev. 6

Assignment Reports:

- 1365046; The As Found Radioactive Source Response Was Not Documented During the Calibration of Stack Wide Range Gas Monitor; 5/10/2012
- 1365294; NRC Noted Hard to Detect Nuclides that Were Listed in Part 10 CFR Part 61 were Not Listed in the Gaseous Releases of 2011 ARERR; 5/11/2012

- Canberra; Calibration of FastScan Whole Body Counter System of LaSalle County Generating Station; 6/27/2012
- EID-137490; Intake Investigation Form on a Worker Reinstalling Thermocouple on the Reactor Head; 2/25/2010
- EID-BEATT6910; Intake Investigation Form on a Worker in the Heater Bay; 2/19/2012

- EID-BOICE7057; Intake Investigation Form on a Worker; 3/2/2012
- Intake Investigation Form on a Worker under Scorpion RWP 10012773; 2/17/2012
- Landauer, Inc. NVLAP Certification of Accreditation to ISO/IEC 17025:2005; NVLAP Lab Code; 100518-0; 1/1/2012
- LaSalle County Station 2011 Annual Radioactive Effluent Release Report; 4/20/2012
- LaSalle County Station, Level-3 alpha Controls Checklist to Ensure Program Implementation

2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06)

Assignment Reports:

- 1365046; The As Found Radioactive Source Response Was Not Documented During the Calibration of Stack Wide Range Gas Monitor; 5/10/2012
- 1365294; NRC Noted Hard to Detect Nuclides that Were Listed in Part 10 CFR Part 61 Were Not Listed in the Gaseous Releases of 2011 ARERR; 5/11/2012
- 1442265; Anomaly Discovered in Annual Radioactive Effluent Release Report Template between 2000 through 2009; 11/19/2012

Miscellaneous:

- LaSalle County Station 2008 Annual Radioactive Effluent Release Report; 4/20/2009
- LaSalle County Station 2009 Annual Radioactive Effluent Release Report; 4/20/2010
- LaSalle County Station 2010 Annual Radioactive Effluent Release Report; 4/20/2011
- LaSalle County Station 2011 Annual Radioactive Effluent Release Report; 4/20/2012

4OA1 Performance Indicator Verification

Procedures:

- 2.3; "Reactor Oversight Program", LaSalle MSPI Basis Document: Reactor Core Isolation Cooling; Rev. 13
- 2.5; "Reactor Oversight Program", LaSalle MSPI Basis Document: Reactor Core Standby Cooling System; Rev. 13
- CY-AA-130-3010; Dose Equivalent Iodine Determination; Rev. 2
- ER-AA-2008; Mitigation Systems Performance Index (MSPI) Failure Determination Evaluation; Rev. 2
- ER-AA-600-1047; Mitigating Systems Performance Index Basis Document; Rev. 7
- LS-AA-2001; Collecting and Reporting of NRC Performance Indicator Data; Rev. 14
- LS-AA-2140; Monthly Data Element for NRC Occupational Exposure Control Effective: Rev. 5
- LS-AA-2200; Mitigating System Performance Index Data Acquisition & Reporting; Rev. 5

Assignment Reports:

- 1331487; 1A DG Cooling Water Pump Control Power Fuse Blown
- 1335742; 1E51-F084 RCIC Check Valve IST Failure, Start Up Issue
- 1351938; RCIC Low Pressure
- 1377020; U-2 RCIC Pump Min Flow Valve Failed to Open When Required
- 1380713; Set Value Not Achieved for LOS DG-Q1 ATT A5. Total Pump Flow
- 1393666; RCIC Throttle Valve Will Not Open Remotely
- 1416167; OPEX Review Identifies NonConservative Atmospheric Pressure
- 1436415; Error in 3rd Quarter 2012 MSPI Unavailability Reporting

- Clearance Order (Search for CSCS) 10/25/2012
- Clearance Order (Search for RHRSW Pump): 10/25/2012
- DG Unavailability and Unreliability Data; 10/28/2012 10/31/2012

- IR (Search for CSCS Failure); 10/25/2012
- IR (Search for ER C300); 10/25/2012
- Monthly Data Elements for Dose Equivalent Iodine Determination; from January 2011 through September 2012
- Monthly Data Elements for Occupational Exposure Control Effective; from January 2011 through September 2012
- NEI 99-02; Mitigating Systems Cornerstone; Rev. 6
- Operator Logs (Search for Cooling Water); 2012
- Operator Logs (Search for RCIC); 10/2011 10/2012
- Units 1 and 2 MSPI Data; 9/2010 9/2012
- Units 1 and 2 Performance Indicator Data; 9/2010 9/2012

4OA2 Problem Identification and Resolution

Procedures:

- LES-RP-101; Inspection of Reactor Protection Motor-Generator Sets; Rev. 21
- LOR-1N62-P600-B408; Off Gas Charcoal Adsorber Vault A/B Radiation High; Rev. 5
- OP-AA-102-104; Pertinent Information Program; Rev. 2

Assignment Reports Resulting from NRC/IEMA Inspection:

- 1333295; 1.95 Hours of Missed Unavailability on U1 VG System in 2011
- 1358368; IEMA Resident Inspector Inquiry 4/17/2012 for Rad Monitors
- 1361382; IEMA Id: Concern with LOS-VG-M1
- 1391366; IEMA Id: Fire Door 380 is Degraded
- 1399327; IEMA Concern: RCIC Underground Suction Line Pressure Test
- 1415258; NRC Id'd Incorrect UFSAR Change Package Transmitted to RA
- 1421781; NRC Id'd Water Tight Door Inspection Procedure Inadequate
- 1422108; NRC Identified Slight Air Leakage From Watertight Door 17
- 1422606; NRC Identified Potential Issue With Door 255
- 1427139; NRC Question
- 1427320: NRC Question
- 1429000; IEMA Inspector Identified Long Standing "A" VC Work Order
- 1429795; IEMA Inspector Id'd Procedure Enhancement for LOA-EM-001
- 1431393; IEMA Id'd: Pages Not Retained from Completed Surveillance
- 1431739; IEMA Concern: GM Detector Tubes Calibration
- 1432665; TRM Completion Time Requirement Questioned
- 1433291; IEMA Concern for SBLC Test Tank Rounds Data
- 1433765; IEMA Questions: LPCS Cooling Water Flow
- 1433783; NRC Id'd Potential Discrepancy in NRC Performance Indicator
- 1434552; NRC Observations ISFSI Pad Calcs
- 1434964; IEMA Identified Issue
- 1435086; IEMA Concern: Repeat IR Generation Process
- 1435919; IEMA Id'd Surveillance Documentation Enhancement
- 1437109: IEMA Question on OP EVAL 12-002 LOS-DG-SR5 Flow Test
- 1438144; NRC Identified Issues During Walkdown
- 1438892; IEMA Inspector Questions
- 1442222; NRC Id HRA Swing Gate Not Fast
- 1442291; Secured HRA Swing Gate Not Latched
- 1445609; IEMA Identified Seismic LOR Procedure Revision
- 1451116; NRC Identified Typographical Error in EC #362991

Assignment Reports:

- 1246894; Schedule WO 1084139-01 with WO 1300332 on 10-3-11
- 1274762; Indicator 0PI-VC135 Would Not Respond to Test Inputs
- 1277207; U-2 Offgas Sampling Results Required Resampling and Analysis
- 1299852; Leaks Found on "B" VC System
- 1315194; 'A' VC & 'A' VE Panel Trouble Alarms
- 1330689; 'A' VC/VE Compressors Require Pump Down After LOP-AP-142Y
- 1353486; Deferral of Three A VC/VE Train PM's
- 1357274; U-2 Post Treat Alarm
- 1359600; B VC Compressor Tripped
- 1365845; Pretreat Monitor Spiked and Caused Hi Rad Alarm
- 1366835; U-2 Off Gas Pretreat Rad Monitor Spike
- 1383864; Rise in Post Treat Rad Levels
- 1387910; Delayed Start of 'A' VC Compressor During Swap
- 1393744; Found Fault 30 Displayed During LIP-VC-903
- 1398286; BWROG SFRC New Recommendation #38
- 1399735; RM-2C71-S001B (B RPS MG Set) Has Slightly Elevated Noise
- 1411785; 'A' VC Supply Fan Start Delay Time Excessive
- 1412618; RM-Vibration Trend Increased on 2B RPS Flywheel
- 1412909; Reevaluate ORA Activity
- 1415385; OG SMPL PNL Press Ind Reading 0"HG
- 1417230; 2B RPS –MG High Vibration at Generator End
- 1418668; 0VC16YB Did Not Respond During PMT
- 1419060; Develop Case Study from Lessons Learned from 2B RPS MG Set
- 1420603; TSC UPS Sync Failure Alarm
- 1420635; TSC UPS Sync failure Alarm
- 1420840; Slight High Pitched Noise on 2B RPS MG Set Flywheel
- 1422114; U1 OG Charcoal Adsorber Vessel High Temperature Alarm
- 1423371; ALT AC Supply Reading 35 Amps While on Normal Feed
- 1423374; Sync Fail & Static SW Output Fail Lights Lit U2 TSC UPS
- 1428123; Generate Troubleshooting Work Order for TSC UPS
- 1429000; IEMA Inspector Identified-Long Standing "A" VC Work Order
- 1429176; Intermittant "Rectifier Failure" Alarms Causing MCR Alarms
- 1430223; Vibration Analyst Identified Light Squealing in Flywheel BRG
- 1430358; Issue an EACE to Determine Issues Relative to 1B RPS MG Set
- 1431366; Documentation of CMO Monitoring of 1B RPS MG Set
- 14334789; 2B RPS MG Set Squealing
- 1436808; TSC UPS Alarm in MCR (Rectifier Failure)
- 1437193; Numerous Unit 1 TSC UPS Trouble Alarms "Rectifier Failure"
- 1438419; EO Identified 1B RPS MG Set Making Noise
- 1438923; CMO Long Term Recommendation for 2B RPS Flywheel Noise
- 1439598; U2 RPS MG Set, Noise at the Motor/ Inboard Bearing Area
- 1442149; NOS ID. Op Eval Comp Actions Not Taken to Work Around Board
- 1442473; 2B RPS MG Set Squealing
- 1443757; Secured TSC UPS During Confidence Run Due to Nuisance Alarms
- 1445928; B OG Char Adsorber Vault Rad Hi Alarm
- 1446341; 2B Carbon Bed Vault Rad Hi Alarm
- 1446551; received 2N62-P600-B408 2B OG Carbon Bed Vault Radiation HIG
- 1446635; B OG Carbon Bed Vault Radiation High Alarm
- 1447052; OG 2B Carbon Bed Vault Rad High Alarm
- 1447632; 3rd Quarter Degraded Equipment Challenge Call Actions

- 1450945; B VC Receiver Level Low
- 1451116; NRC Identified Typographical Error in EC #362991
- 1451542; 1A DG CWP Strainer Will Not Auto Backwash
- 1452115; 1A DG Cooling Strainer Tripping
- 1453368; Off Gas Pre-Treatment Alarm Due to High Sample Flow
- 1453372; 2N62-P600-B408, 2A OG Carbon Bed Vault Radiation High Alarm
- 1453387; Unexpected Carbon Vault Alarm, U2
- 1454195; 2B RPS MG Set Squealing

Working Documents:

- EC 362991; Control Room Envelope; Rev. 3
- WO 1454801-01; AUX Equip RM Emer Air MU Flow; 7/19/2011
- WO 1471606-01; LOS-VC-M1 VC EMU "A" Train Att A; 10/11/2011
- WO 1481067-01; LOS-VC-M1 VC EMU "A" Train Att A; 11/15/2011
- WO 1491819-01; LOS-VC-M1 VC EMU "A" Train Att A; 12/13/2011
- WO 1499697-01; LOS-VC-M1 VC EMU "A" Train Att A; 1/9/2012

Miscellaneous:

- Common Degraded Equipment List, Records Not Started; 12/10/2012
- Common Degraded Equipment List, Records Prepared; 12/10/2012
- Email Memo Verifying Safety-Related Status of 0FY-VE027, Elizabeth Zacharias; 12/10/2012
- List of Operational Decision Making Items; 12/10/2012
- LS-AA-2030; Monthly Data Elements; Unplanned Power Changes per 7000 Critical Hours; June 2012
- NEI 99-02; Regulatory Assessment Performance Indicator Guideline; Rev. 6
- OP-AA-102-104; Standing Order Master Log; 2012
- Operator Logs; 11/29/2012 11/30/2012
- Operator Logs; 6/29/2012
- Power TR81 Graph; 6/29/2012 6/30/2012
- Review Status Report for RP; 12/27/2012
- Review Status Report for VC; 12/27/2012
- Selected Series of Power Graphs; June 2012
- Summary of Open Work Arounds and Challenges: undated
- System Health Review for Reactor Protection System Q4 2012; 12/27/2012
- System Matrix for Control Room Ventilation, Q3 and Q4 2012; 12/27/2012
- Unit 1 Degraded Equipment List, Records Not Started: 12/10/2012
- Unit 1 Degraded Equipment List, Records Prepared: 12/10/2012
- Unit 2 Degraded Equipment List, Records Not Started; 12/10/2012
- Unit 2 Degraded Equipment List, Records Prepared; 12/10/2012
- Units 1 and 2 Instantaneous CTP C302 and C303 Data; 6/29/2012

4OA5 Other Activities

Procedures:

- CY-AB-120-300; Spent Fuel Pool; Rev. 11
- DBD-LS-M11; Topical Design Basis Document Flood Protection; 10/28/2002
- EC 391184 / LS-AA-107-1001; Change Request Form for UFSAR; 12/19/2012
- ER-AA-3003; Cable Condition Monitoring Program; Rev. 3
- LES-LS-01; Sump/Sump Pump Design Information; Aux Building Floor Drain Sump 50gpm, L-15: Rev. 15
- LGA-002; Secondary Containment Control; Rev. 6

- LOA-DIKE-001; Lake Dike Damage/Failure; Rev. 8
- LOA-FLD-001; Flooding; Rev. 15
- LOA-FLD-001; Flooding; Rev. 15
- LOA-FLD-001; Flooding; Revs. 13 & 14
- LOP-DF-01T; Diesel Building Floor Drain, Sump Locations for Units 1 and 2; Rev. 3
- LOP-RE-01; Startup and Operation of the Reactor Building Equipment Drains; Rev. 10
- LOP-RE-01T; Reactor Building Equipment Drain Sumps; Rev. 13
- LOP-RF-01; Operation of Reactor Building Floor Drains; Rev. 19
- LOP-RF-01T; Reactor Building Floor Drain Sumps; Rev. 6
- LOR-1PM01J-B307; 0 DG Fuel Strg Room Sump Level Hi-Hi; Rev. 1
- LOR-1PM01J-B407; 1A DG Fuel Strg Room Sump Level Hi-Hi; Rev. 1
- LOR-1PM10J-B305; Off Gas Bldg FLOR DRN Sump LVL Hi-Hi; Rev 1
- LOR-1PM10J-B306; Aux Bldg FLOR DRN Sump LVL Hi-Hi; Rev. 1
- LOR-2PM01J-B407; 2A DG Fuel STRG Room Sump Level Hi-Hi; Rev. 1
- LOR-2PM13J-A302; RB North/DW FLR Sump Trouble; Rev. 6
- LOR-2PM13J-A304; RB NE/NW Equip DRN Sump Trouble; Rev. 2
- LOR-2PM13J-B303; DW Equip DRN Sump Trouble; Rev. 4
- LOR-2PM13J-B304; RB SE-SW Equip DRN Sump Trouble; Rev. 2
- LOR-2PM13J-B402; RB South Floor DRN Sump Trouble; Rev. 2
- LOR-2PM13J-B403; RB Tendon Tunnel Floor DRN Sump Trouble; Rev. 2
- LS-PSA-012; LaSalle PRA Internal Flood Analysis; Rev. 0
- NSWP-E-01; Electrical Cable Installation and Inspection; Rev. 4

Assignment Reports:

- 1193540; SWGR Below Grade, Door Should Be Watertight
- 1399525; FUK: Fukushima Flooding Walkdown U-1 Div III CSCS Room
- 1399536; FUK: Fukushima Flooding Walkdown U-1 Div I CSCS Room
- 1399598; FUK: Observation During Fukushima Flood Walkdowns on 1DR-27
- 1399685; 2PM13J-B402, RB South Floor Drain Sump Pump Trouble Alarm
- 1400223; FUK: Fukushima Flooding Walkdown U-2 Div I/Div III Rooms
- 1400252; FUK: Fukushima Flooding Walkdown U-1 Turbine Bldg 663' Elev.
- 1400268; FUK: Fukushima Flooding Walkdown U-2 Division I CSCS Room
- 1400272; FUK: Minor Indication on DG Building Lower Wall
- 1400278; FUK: Fukushima Flooding Walkdown U-2 Division III CSCS Rm
- 1400635; FUK: Fukushima Flooding Walkdown Muds Room Area
- 1400652; FUK: Fukushima Flooding Walkdown Muds Room Area
- 1400662; FUK: Fukushima Flooding Walkdown U-2 Heater Drain VLV Room
- 1400673; FUK: Fukushima Flooding Walkdown Mud's Room Area
- 1400720; FUK: Fukushima Flooding Walkdown Mud's Area Floor
- 1401001; FUK: Fukushima Flooding Walkdown Make-Up Demin Area
- 1401010; FUK: Fukushima Flooding Walkdown Make-Up Demin Area
- 1401068; FUK: Fukushima Flooding Walkdown Make-Up Demins Area
- 1401463; FUK: Fukushima Flooding Walkdown U1 Condenser Tube Pull Area
- 1401610; FUK: Fukushima Flooding Walkdown AUX Bldg/RX Bldg Interface
- 1401884; FUK: Fukushima Flooding Walkdown U1 "D" HTR DRN PP Room
- 1401906; FUK: Fukushima Flooding Walkdown U-2 Amertap Room TB 663'
- 1402075; FUK: Fukushima Flooding Walkdown U-2 2WF04TB Room
- 1402098; FUK: Fukushima Flooding Walkdown U-1 D/G Penthouse Roof Plugged Roof Drains

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- 1405542: FUK: Fukushima Seismic Walkdown Transformer 236X
- 1405563; FUK: Seismic Walkdown U-2 D/G Penthouse 736' Elev. Lighting

- 1405600; FUK: Missing Nut on One Anchor Bolt of 2DG01K
- 1406061; FUK: Seismic Walkdown U-2 2B RHR WS Strainer Bolts
- 1406114; Thread Engagement on Anchor Bolt for 2DG01K
- 1406885; FUK: Housekeeping Issue in U-2 "B" RHR HX'er Rm 694' Elev.
- 1406922; FUK: Seismic Walkdowns Identifies Lighting "S" Hook Issues
- 1410135; Flange Bolts Do Not Have Full Thread Engagement
- 1410137; Flange Bolts Do Not Have Full Thread Engagement
- 1410139; Flange Bolts Do Not Have Full Thread Engagement
- 1410959; FUK: Seismic Walkdowns Identifies a Floor Plug Needing Seal
- 1411336; FUK: Lighting Repair Required U-2 RX Bldg 761' Northwest
- 1411614; FUK: Seismic Interaction Between Panel 1H22-P021 and Support
- 1411647; U1 B/C RHR PP RM Water Tight DR Alarm Limit Switch Degraded
- 1412024; FUK: Fukushima Flooding Walkdown Conduit Rust
- 1412039; FUK: Fukushima Flooding Walkdown Conduits
- 1412069; FUK: Missing Clamp on 1H22-P021 Instrument Panel Piping
- 1412094; FUK: 1E12-F051B AOV Hairline Crack on Instrument Gauge
- 1412157; FUK: Penetration Shown on Drawing That Is Not There
- 1413252; FUK: Fukushima Flooding Walkdown Elevation Surveys Doors 20 and 164
- 1414865; FUK: 1B33-S001B 1B RR LFMG Set Junction Box Loose Bolt
- 1414874; FUK: 2B44-S001B 2B RR LFMG Set Junction Box Missing Bolt
- 1414894; FUK: 1AP61E Two Back Panel Doors Lower Hold Bolts Engage
- 1415966; FUK: Fukushima Flooding Walkdown Elevation Survey Door 508
- 1416084; FUK: Fukushima Flooding Walkdown Elevation Survey 0ISDR479
- 1416138; FUK: Fukushima Flooding Walkdown Elevation Survey Results
- 1419068; FUK: Missing Clamp on HPCS Panel 2H22-P024
- 1419071; FUK: 1VY05C Cooling Fan Base Grout Condition
- 1419245; FUK: Low Available Physical Margin (APM) For Site Flooding
- 1419529; FUK: Undocumented Conduit Found During Flooding Walkdown
- 1422314; FUK: NRC RFI 2.3 Flooding Walkdowns Deferred to L1R15
- 1422323; FUK: NRC RFI 2.3 Flooding Walkdowns Deferred to L2R14
- 1424373; FUK: NRC RFI 2.3 U-1 Tendon Tunnel Flooding Inspection
- 1424384; FUK: NRC FRI 2.3 U-2 Tendon Tunnel Flooding Inspection
- 1424707; FUK: Aux Building Bathroom Vent Heights
- 1426636; FUK: Fukushima Flooding Walkdown U-1 Muds Room
- 1426637; FUK: Fukushima Flooding Walkdown U-1 RX Bldg
- 1428087; FUK: NRC FRI 2.3 Seismeic Walkdowns Deferred to L1R15
- 1428102; FUK: NRC FRI 2.3 Seismic Walkdowns Deferred to L2R14
- 1444878; Seismic Vulnerability Main Control Room
- 1452201; Open S-Hooks Located on Overhead Light Fixtures
- 1452239; Need Restraints Simular(sic) to DIV 1/2, For Div 3 SWGR Room
- 1452242; Need Restraints Simular(sic) to DIV 1/2, For Div 3 SWGR Room
- 1452480; Relay House Light Fixtures Need "S" Hooks Closed

Figures and Drawings:

- 1E-1-3685; Cable Routing Outdoor Area; Rev. Z
- A-065; Typical Masonry Wall Details; Rev. H
- A-184; Auxiliary Building Ground Floor Plan; Rev. AY
- A-245; Fuel Storage Floor Plan East Area; Rev. P
- A-246; Fuel Storage Floor Plan West Area; Rev. G
- A-247: Fuel Storage Floor Plan East Area: Rev. T
- A-248; Fuel Storage Floor Plan West Area; Rev. H

- A-270; Block Wall Support Post Schedule Sheet 1; Rev. AF
- A-428; Lintel Schedule Sht. 5; Rev. 1
- A-446; Door Schedule Sheet 6; Rev. V
- A-832-A-6; Door Schedule & Door Details; Rev. B
- LGA-005; RPV Flooding; Rev. 11
- M-1568; Reactor B Aux Bldg. Equip. FDN. Arrgt's. El 710'6"; Rev. M
- M-1591; Equipment Foundations Auxiliary Building; Rev. H
- M-98; P & ID Fuel Pool Cooling Filter & Demineralizing System; Rev. AD
- UFSAR 9.5-1; Fire Protection System; Rev. 17

Working Documents:

- PMRQ 171167-01; Online Inspection of RX Bldg Strainers & Screens for Cleanliness
- Walkdown Record Form Heater Bay Unit 1 680.75'; 8/14/2012
- Walkdown Record Form Off Gas; 705.4', 704.5', 703.9'; 8/15/2012
- Walkdown Record Form Off Gas; 707.5', 707', 706.5', 705.5; 8/15/2012
- Walkdown Record Form Turbine Bldg Unit 2 680.75'; 8/14/2012
- Walkdown Record Form Unit 1 Diesel Generator Bldg., 674'; 8/10/2012
- Walkdown Record Form Unit 1 Diesel Generator Bldg., 687'; 8/10/2012
- Walkdown Record Form Unit 2 Diesel Generator Bldg 710.48'; 9/14/2012
- Walkdown Record Form; Unit 1 Diesel Generator Bldg Door D479; 710.41'
- WO 1235278-01, -02; Floor Drain Program; 2/28/2012
- WO 1396708-01; MM Inspect and Clean Floor Drains in Unit 1 Reactor Bldg; 12/21/2010
- WP 01554766-01; U1-RCIC U2-Div 2; 8/27/2012

- 12Q0108.50-R-001; Seismic Walkdown Report in Response to the 50.54(f) Information Request Regarding Fukushima Near-Term Task Force Recommendation 2.3: Seismic for LaSalle Unit 1, Prepared by Stevenson & Associates; Rev. 1
- 12Q0108.50-R-002; Seismic Walkdown Report in Response to the 50.54(f) Information Request Regarding Fukushima Near-Term Task Force Recommendation 2.3: Seismic for LaSalle Unit 2, Prepared by Stevenson & Associates; Rev. 1
- 1DC03E; Seismic Walkdown Checklist; 8/28/2012
- AMEC Flooding Walkdown Package for LaSalle (and Attachments): 9/9/2012
- AWC AB; Area Walk-By Checklist Div 1 250 Battery VDC Rm, A0, 710' Elev., Draft 7
- Detailed Walkdown List for HRA, LHRA/CA, HRA and CA, Deffered (*sic*) for Unit Outage; undated
- EPRI Draft 7 1025286; Seismic Walkdown Guidance For Resolution of Fukushima Near-Term Task Force Recommendation 2.3: Seismic; 5/2012
- Exelon APM Measurement Clarification from Public Meeting on Flooding Walkdowns; 8/21/2012
- Exelon NTFF Recommendation 2.3 (Walkdowns): Flooding; 11/6/2012
- Fig 29-10; Reactor Flood Up and Drain Down Training Diagram; 10/1999
- Fig 29-3; Refueling Bellows Seal Training Diagram; 10/1999
- Fig 29-8; Fuel Pool Cooling Assist Mode of RHR Training Diagram; 10/1999
- Fig. 29-01; Refuel Floor Training Diagram; 10/1999
- Fig. 29-2; Fuel Pool Cooling and Cleanup Training Diagram; 10/1999
- Fig. 29-2A; Fuel Pool Cooling and Cleanup Training Diagram; 10/1999
- Fig. 29-4; Weir Plate Training Diagram; 10/1999
- Fig. 29-5; Scupper Arrangement Training Diagram; 10/1999
- Fig. 29-6; Skimmer Surge Tank Training Diagram; 10/1999
- Fig. 29-7; Filter Demineralizer Training Diagram; 10/1999

- Fig. 29-9; Fuel Pool Emergency Make-Up Training Diagram; 11/2000
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- TRM Table T3.3.o-1; Seismic Monitoring Instrumentation; Rev. 2
- U1 250V DC Battery Room Crack Design Engineering Write-up; undated
- UFSAR Fig. 2.4 6; Site Grading and Drainage Plan Zones for Local Intense Precipitation; Rev. 4
- UFSAR Fig. 2.5 59; CSCS Cooling Pond and Pipelines; Rev. 13
- UFSAR Fig. 3.4-1; Flood Control Basement Floor Plan; Rev. 16

LIST OF ACRONYMS USED

AC Alternating Current

ADAMS Agencywide Document Access Management System

AEER Auxiliary Electrical Equipment Room
ALARA As-Low-As-Is-Reasonably-Achievable

ARM Area Radiation Monitor
CAP Corrective Action Program
CFR Code of Federal Regulations

DG Diesel Generator

DRS Division of Reactor Services

EMU Emergency Makeup

EPRI Electric Power Research Institute

HPCS High Pressure Core Spray

HVAC Heating, Ventilation, and Air Conditioning

IMC Inspection Manual Chapter

INPO Institute of Nuclear Power Operations

IP Inspection Procedure
IR Inspection Report
IST Inservice Testing

LORT Licensed Operator Requalification Training
MSPI Mitigating Systems Performance Index

NCV Non-Cited Violation
NEI Nuclear Energy Institute

NRC U.S. Nuclear Regulatory Commission

OWA Operator Workaround

PARS Publicly Available Records System

PI Performance Indicator

PI&R Problem Identification and Resolution

PMT Post-Maintenance Testing
RCIC Reactor Core Isolation Cooling

RCS Reactor Coolant System
RHR Residual Heat Removal
RPS Reactor Protection System
SBGT Standby Gas Treatment

SCBA Self-Contained Breathing Apparatus SDP Significance Determination Process

TS Technical Specification

UFSAR Updated Final Safety Analysis Report

VC Control Room Ventilation

VE Ventilation

WANO World Association of Nuclear Operators

WO Work Order

M. Pacilio -2-

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Sincerely,

/RA/

Michael Kunowski, Chief Branch 5 Division of Reactor Projects

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

1/28/13

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