

October 24, 2006

Mr. Christopher M. Crane  
President and Chief Nuclear Officer  
Exelon Nuclear  
Exelon Generation Company, LLC  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: LASALLE COUNTY STATION, UNITS 1 AND 2  
NRC INTEGRATED INSPECTION REPORT 05000373/2006005;  
05000374/2006005, AND 05000373/2006014; 05000374/2006014

Dear Mr. Crane:

On September 30, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your LaSalle County Station, Units 1 and 2. The enclosed report documents the results of this inspection, which were discussed on October 11, 2006, with the Plant Manager, Mr. Daniel Enright, and other members of your staff.

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

Based on the results of this inspection, three findings of very low safety significance were identified by NRC inspectors. All of these findings identified also involved violations of NRC requirements. However, because the findings associated with these violations were of very low safety significance and because the issues were entered into the licensee's corrective action program, the NRC is treating these issues as non-cited violations in accordance with Section VI.A.1 of the NRC Enforcement Policy. Additionally, one licensee identified violation of very low safety significance is listed in Section 4OA7 of this report.

If you contest the subject or severity of any non-cited violation in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspectors' Office at the LaSalle County Station.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document 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/**

Bruce L. Burgess, Chief  
Branch 2  
Division of Reactor Projects

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

Enclosure:

Inspection Report 05000373/2006005; 05000374/2006005  
and 05000373/2006014; 05000374/2006014

- w/Attachments:
1. Supplemental Information
  2. Confirmatory Measurements Comparison Criteria
  3. Tritium Sampling Results

cc w/encl:

- Site Vice President - LaSalle County Station
- LaSalle County Station Plant Manager
- Regulatory Assurance Manager - LaSalle County Station
- Chief Operating Officer
- Senior Vice President - Nuclear Services
- Senior Vice President - Mid-West Regional  
Operating Group
- Vice President - Mid-West Operations Support
- Vice President - Licensing and Regulatory Affairs
- Director Licensing - Mid-West Regional  
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- Manager Licensing - Clinton and LaSalle
- Senior Counsel, Nuclear, Mid-West Regional  
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- Assistant Attorney General
- Illinois Emergency Management Agency
- State Liaison Officer
- Chairman, Illinois Commerce Commission

C. Crane

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Dockets: 50-373; 50-374

Licenses: NPF-11; NPF-18

Reports: 05000373/2006005; 05000374/2006005  
05000373/2006014; 05000374/2006014

Licensee: Exelon Generation Company, LLC

Facility: LaSalle County Station, Units 1 and 2

Location: 2601 N. 21st Road  
Marseilles, IL 61341

Dates: July 1 through September 30, 2006

Inspectors: D. Kimble, Senior Resident Inspector  
D. Eskins, Resident Inspector  
C. Acosta, Region III Engineering Inspector  
M. Mitchell, Region III Radiation Protection Specialist  
N. Shah, Region III Project Engineer  
S. Sheldon, Region III Reactor Engineer  
J. Yesinowski, Illinois Dept. of Emergency Management

Observer: J. Tapp, Inspector-in-Training

Approved by: Bruce L. Burgess, Chief  
Branch 2  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

IR 05000373/2006005, 05000374/2006005 and 05000373/2006014, 05000374/2006014; 07/01/2006 - 09/30/2006; LaSalle County Station, Units 1 & 2; Fire Protection, Maintenance Effectiveness, and Identification and Resolution of Problems Report.

The inspection was conducted by resident inspectors and regional inspectors. The report covers a 3-month period of resident inspection, an announced baseline biennial heat sink inspection, and an announced baseline radiation protection inspection. Three Green findings and associated non-cited violations (NCVs) were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609 "Significance Determination Process" (SDP). 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 3, dated July 2000.

### A. Inspector-Identified and Self-Revealing Findings

#### **Cornerstone: Mitigating Systems**

- Green. A finding of very low safety significance was identified by inspectors during a quarterly fire protection zone inspection of the 2B Emergency Diesel Generator (EDG) day tank room. Specifically, the inspectors identified a section of structural steel that was missing its requisite fireproof coating and had not been repaired in a timely manner. A non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was also identified for failure to assure that a condition adverse to quality associated with the design of the day tank room structure was promptly identified and corrected.

The performance deficiency, identified during review of the event, involved the work planning for the repair of the structural steel fireproof coating. Specifically, in processing the work request, licensee work planners failed to recognize that the missing fireproof coating constituted a design deficiency for a safety-related structure, and was, therefore, required to be corrected in a prompt manner under NRC regulations. The finding was of more than minor significance in that it had a direct impact on the cornerstone objective. Specifically, the inspectors determined that the licensee's failure to enact proper corrective action and restore the structural steel fireproof coating in the 2B EDG day tank room for multiple years resulted in a reduction of the reliability and capability of the safety-related structure's ability to perform its designed function in the event of a fire. Because of the limited size and location of the missing fireproof coating, and because the EDG rooms at LaSalle Station are protected by an automatic carbon dioxide suppression system, the inspectors determined that the finding was of very low safety significance (Green) and within the licensee's response band. Licensee corrective actions included a review of all open fire protection work orders to ensure their proper coding in accordance with their significance, and scheduling the immediate repair of the structural steel fireproof coating in

the 2B EDG day tank room. The finding was also determined to involve the cross-cutting area of problem identification and resolution. (Sections 1R05 and 4OA2.1)

- Green. A finding of very low safety significance was identified by inspectors during observation of a GL 89-13 residual heat removal system heat exchanger (RHR HX) thermal performance test. Specifically, the inspectors identified that the licensee's engineering staff failed to develop and use an adequate test procedure to implement the RHR HX performance monitoring program in accordance with docketed commitments and the established NRC Generic Letter (GL) 89-13 program basis. A non-cited violation of 10 CFR 50, Appendix B, Criterion V, for an inadequate RHR HX thermal performance test procedure was also identified.

The inspectors determined that the licensee's failure to establish and maintain an adequate GL 89-13 RHR HX thermal performance testing procedure represented a performance deficiency on the part of licensee engineering personnel. The issue was determined to be of more than minor significance in that it directly affected the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. Specifically, this finding impacted one of the key attributes of this objective, which is to ensure the quality of maintenance and test procedures for systems that must respond to initiating events. The inspectors determined that the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," and conducted a Phase 1 characterization and initial screening. Despite the widespread issues the inspectors identified with the licensee's GL 89-13 program and associated bases, the licensee's engineering staff was able to provide the inspectors with sufficient maintenance and testing records to permit the inspectors to conclude that each RHR HX remained fully capable of performing its design basis and safety functions. As a result, because the finding did not represent a actual loss of operability or safety function and was not potentially risk significant with respect to a seismic, flooding, or severe weather initiating event, the inspectors determined it to be of very low safety significance (Green) and within the licensee's response band. Corrective actions by the licensee included: performing evaluations to document the basis for the 4-year HX clean and inspection interval; evaluating the material condition of the 2B RHR HX, conducting an analysis to determine how the current performance monitoring program meets the intent of GL 89-13; revising commitments to the NRC to be consistent with the current GL 89-13 program; and revising LTS-200-17, the RHR HX test procedure, per the recommendations of that analysis. (Section 1R12.2)

- Green. A finding of very low safety significance was identified by the inspectors. The inspectors determined that the licensee did not fully evaluate problems and properly prioritize corrective actions with respect to the RHR HX thermal performance test procedure and GL 89-13 HX performance monitoring program. An associated non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was also identified by the inspectors.

The inspectors determined that there was a performance deficiency associated with the corrective actions taken by the licensee. Specifically, the inspectors determined that the licensee had not thoroughly evaluated, nor given proper priority to, identified deficiencies in the RHR HX test procedure as identified in Issue Report 98176. Further, the inspectors also determined that the licensee had failed to complete the GL 89-13 bases review and revision called for under Apparent Cause Evaluation 263535 in 2004. The inspectors determined that the finding was of more than minor significance in that it directly affected the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. Specifically, this finding impacted one of the key attributes of this objective which is to ensure the quality of maintenance and test procedures for systems that must respond to initiating events. The inspectors conducted a Phase 1 characterization and initial screening in accordance with the SDP. Because the finding did not represent a actual loss of operability or safety function and was not potentially risk significant with respect to a seismic, flooding, or severe weather initiating event, it was determined to be of very low safety significance (Green) and within the licensee's response band. Licensee corrective actions planned include review of GL 89-13 program Corrective Action Program documents to determine if any other identified issues were not fully dispositioned or resolved and to confirm that all corrective actions have been implemented and documented. The finding was also determined to involve the cross-cutting area of problem identification and resolution. (Section 4OA2.3)

**B. Licensee-Identified Violations**

A violation of very low safety significance that was identified by the licensee has been reviewed by inspectors. Corrective actions planned or taken by the licensee have been entered into the licensee's corrective action program. The violation and corrective action tracking number is listed in Section 4OA7 of this report.

## REPORT DETAILS

### Summary of Plant Status

#### **Unit 1**

The unit began the inspection period operating at full power. On September 3, 2006, reactor power was reduced to approximately 66 percent to recover two control rods inserted for hydraulic control unit maintenance, to facilitate a control rod pattern adjustment, and to perform control rod scram timing and channel deformation surveillance activities. Operation at full power resumed on September 4, 2006, and the unit continued to operate at or near full power for the remainder of the inspection period.

#### **Unit 2**

The unit began the inspection period operating at full power. On September 10, 2006, reactor power was reduced to approximately 76 percent to facilitate a control rod pattern adjustment, and to perform control rod scram timing and channel deformation surveillance activities. Operation at full power resumed later that same day, and the unit continued to operate at or near full power for the remainder of the inspection period.

### **1. REACTOR SAFETY**

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

1R04 Equipment Alignment (71111.04)

.1 Semiannual Complete System Alignment Verification

a. Inspection Scope

Due to the system's risk significance, the inspectors selected the Unit 1 and 2 standby liquid control (SLC) systems for a complete alignment verification. The inspectors walked down the system to verify mechanical and electrical equipment lineups, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support systems, and to ensure that ancillary equipment or debris did not interfere with equipment operation.

This semiannual full system alignment verification constituted a single inspection sample.

b. Findings

No findings of significance were identified.

.2 Quarterly Partial System Alignment Verifications

a. Inspection Scope

The inspectors performed partial alignment verifications on the following equipment trains to verify operability and proper equipment lineup. These systems were selected based upon risk significance, plant configuration, system work or testing, or inoperable or degraded conditions:

- Unit 1 reactor core isolation cooling (RCIC) system;
- Unit 2 RCIC system;
- Unit 2 residual heat removal (RHR) system during a high pressure core spray (HPCS) system work window; and
- Unit 2 low pressure core spray (LPCS) system.

The inspectors verified the position of critical redundant equipment and looked for any discrepancies between the existing equipment lineup and the required lineup.

These quarterly partial system alignment verifications constituted four inspection samples.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Fire Protection Zone Inspections

a. Inspection Scope

The inspectors walked down the following risk significant areas looking for any fire protection issues. The inspectors selected areas containing systems, structures, or components that the licensee identified as important to reactor safety:

- Fire Zone 8B3 – Unit 2, Division 3, emergency diesel generator (EDG) day tank room, 710'6";
- Fire Zone 8B4 – Unit 2, Division 2, EDG day tank room, 710'6";
- Fire Zone 8C1 – Unit 2, Division 3, EDG fuel tank room, 674'0";
- Fire Zone 8C2 – Unit 2, Division 2, EDG fuel tank room, 674'0";
- Fire Zone 4E2 – Unit 2, auxiliary equipment room, 731'0";
- Fire Zone 4E4 – Unit 2, Division 2, essential switchgear room, 731'0";
- Fire Zone 5B13 – Balance-of-plant cable zone, 731'0";
- Fire Zone 2H1 – Unit 1, general area, 694'6";
- Fire Zone 3E – Unit 2, general area, 761'0";
- Fire Zone 4F1 – Unit 1, Division 1, essential switchgear room, 710'6"; and
- Fire Zone 5B9 – Unit 1, motor-driven reactor feed pump room, 731'0".

The inspectors reviewed the control of transient combustibles and ignition sources, fire detection equipment, manual suppression capabilities, passive suppression capabilities, automatic suppression capabilities, and barriers to fire propagation.

These quarterly fire protection zone inspections constituted eleven inspection samples.

b. Findings

Introduction

A finding of very low safety significance (Green) was identified by inspectors during a quarterly fire protection zone inspection of the 2B EDG day tank room. Specifically, the inspectors identified a section of structural steel that was missing its requisite fireproof coating and had not been repaired in a timely manner. A non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was also identified for failure to assure that a condition adverse to quality, in this case a material deficiency associated with the design of the day tank room structure, was promptly identified and corrected.

Description

On July 27, 2006, inspectors conducting a quarterly fire protection zone inspection of the 2B EDG day tank room identified a section of structural steel just inside the doorway to the day tank room that was not coated with the requisite fireproof material. Following up on this issue, the inspectors found that the missing fireproof coating had previously been identified by members of the licensee's engineering staff on December 15, 2000, and entered into their corrective action program (CAP) as work request 99123692 and work order 99242235. The licensee's fire protection engineer had noted on the CAP input documents that the structural steel was not a fire rated assembly per the station's Technical Requirements Manual, and therefore, was not subject to a operating limiting condition action statement. The same engineer did note, however, that the structural steel was required to be protected by a 3-hour rated fireproof coating per plant design drawings. Additionally, the fire protection engineer noted that the repairs to the fireproof coating on the structural steel should be completed in a "timely fashion," since the 3-hour fireproof coating was required by Appendix A to NRC Branch Technical Position APCS 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants."

Although the licensee had entered the material deficiency into their CAP, further inspection revealed that licensee personnel had erroneously coded the work order as low-level facilities maintenance. Licensee work planning personnel processing the work request had focused on the fire protection engineer's discussion that the structural steel was not a fire rated assembly and that no operating limiting condition action statement applied. These same planners missed the fact that the lack of fireproof coating on the structural steel constituted a design deficiency for a 10 CFR 50, Appendix B, structural component. As a result, over the course of an almost 6 year period, the work order was rescheduled several times in order to permit work that was perceived to have been more significant to take place.

## Analysis

The inspectors determined that there was a licensee performance deficiency associated with the work planning for the repair of the structural steel fireproof coating. Specifically, in processing the work request, licensee work planners failed to recognize that the missing fireproof coating constituted a design deficiency for a safety-related structure, and was, therefore, required to be corrected in a prompt manner under NRC regulations.

The objective of the Mitigating Systems Cornerstone of Reactor Safety is “to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage).” In accordance with NRC Inspection Manual Chapter (IMC) 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” the inspectors determined that the finding was of more than minor significance in that it had a direct impact on this cornerstone objective. Specifically, the inspectors determined that the licensee’s failure to enact proper corrective action and restore the structural steel fireproof coating in the 2B EDG day tank room for almost 6 years resulted in a reduction of the reliability and capability of the safety-related structure’s ability to perform its designed function in the event of a fire.

The inspectors determined that the finding could be evaluated using the SDP in accordance with IMC 0609, “Significance Determination Process,” and conducted a Phase 1 characterization and initial screening. Because the finding was associated with fire protection, this was accomplished using IMC 0609, Appendix F, Attachment 1, “Fire Protection SDP Phase 1 Worksheet.” Based on the size and location of the missing fireproof coating, the inspectors concluded that it represented a “low” degradation rating in the fire confinement category. Additionally, because the EDG rooms at LaSalle Station are protected by an automatic carbon dioxide suppression system, the inspectors determined that the finding was of very low safety significance (Green) and within the licensee’s response band.

In addition, the inspectors also determined that the finding was related to the cross-cutting area of problem identification and resolution. Specifically, the corrective action program component of problem identification and resolution was identified because of the cross-cutting aspect whereby the licensee should take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity. Because the finding involved the cross-cutting area of problem identification and resolution, it is also noted in Section 4OA2.1 in this report.

## Enforcement

Criterion XVI of 10 CFR 50, Appendix B, “Corrective Action,” states, in part, that: “Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.” Contrary to this requirement, for a period of almost 6 years beginning in December of 2000, the licensee failed to correct a condition adverse to quality, a material deficiency associated with the 2B EDG day tank room structure.

The licensee entered this issue into their CAP as issue report (IR) 515168. Corrective actions completed by the licensee included a review of all open fire protection work orders to ensure their proper coding in accordance with their significance, and scheduling the immediate repair of the structural steel fireproof coating in the 2B EDG day tank room. Because the licensee has entered the issue into their corrective action program and the finding is of very low safety significance, this violation of 10 CFR 50, Appendix B, Criterion XVI, is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy. (NCV 05000374/2006005-01)

1R06 Flood Protection Measures (71111.06)

.1 Semiannual Internal Flooding Review

a. Inspection Scope

The inspectors reviewed the licensee's flooding mitigation plans and equipment to determine consistency with design requirements and the risk analysis assumptions related to internal flooding. The following specific plant areas particularly susceptible to internal flooding were inspected:

- Unit 1 reactor building raceway areas; and
- Unit 2 reactor building raceway areas.

Walkdowns and reviews performed considered design measures, seals, drain systems, contingency equipment condition and availability of temporary equipment and barriers, performance and surveillance tests, procedural adequacy, and compensatory measures. In particular, the inspectors focused on plausible flooding scenarios of the reactor building raceways via the reactor building ventilation (VR) system, and assumed operator mitigating actions credited in the current LaSalle probabilistic risk assessment.

This semiannual internal flooding review constituted a single inspection sample.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07B)

.1 Biennial Review of Heat Sink Performance

a. Inspection Scope

The inspectors reviewed the performance of the Unit 1 and Unit 2 HPCS pump room coolers, the Unit 1 and Unit 2 LPCS pump/RCIC pump room coolers, and the Unit 1 LPCS pump motor cooler. These heat exchangers were chosen for review based on their high risk assessment worth in the licensee's probabilistic safety analysis.

The inspectors verified that the inspection/maintenance were adequate to ensure proper heat transfer. This was done by conducting independent heat transfer capability

calculations, reviewing the methods used to inspect the heat exchangers, and verifying that the as-found results were appropriately dispositioned, such that the final conditions were acceptable. The inspectors also verified, by review of procedures and test results, that chemical treatments, ultrasonic tests, and methods used to control biological fouling corrosion and macrofouling were sufficient to ensure required heat exchanger performance.

The inspectors verified that the condition and operation of these heat exchangers were consistent with design assumptions in heat transfer calculations by conducting a service water system walkdown and reviewing related procedures and surveillances. The inspectors also verified that redundant and infrequently used heat exchangers were flow tested periodically at maximum design flow. This was performed by reviewing related procedures and surveillances.

The inspectors verified that the performance of the ultimate heat sink and its sub-components, such as piping, intake screens, intake bays, pumps, valves, etc., were acceptable by reviewing procedures, surveillances, and inspections conducted on the systems.

Lastly, the inspectors verified that the licensee had entered significant heat exchanger/heat sink problems into their corrective action program, and that the corrective actions taken were appropriate.

This biennial heat sink performance review constituted three inspection samples.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Regualification Program (71111.11)

a. Inspection Scope

The inspectors observed a training crew during an evaluated simulator scenario and reviewed licensed operator performance in mitigating the consequences of events. The scenario included multiple equipment and instrumentation failures, and the transient resulted in a complex accident that yielded the declaration of several emergency classifications. Areas observed by the inspectors included: clarity and formality of communications, timeliness of actions, prioritization of activities, procedural adequacy and implementation, control board manipulations, managerial oversight, emergency plan execution, and group dynamics.

This simulator training observation constituted a single inspection sample.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 (Closed) Unresolved Item (URI) 05000373/2006004-01; 05000374/2006004-01: Adequacy of 'B' Control Room Ventilation (VC) Compressor Operability Determinations and Post-Maintenance Tests.

a. Inspection Scope

The inspectors reviewed the licensee's handling of performance issues and the associated implementation of the Maintenance Rule (10 CFR 50.65) to evaluate maintenance effectiveness for the VC system. The VC system was selected based on being designated as risk significant under the Maintenance Rule, as well as recently identified performance issues and problems that may have potential impact on system work practices, reliability, or common cause failures.

The inspectors' reviews included verification of the licensee's categorization of specific issues, including evaluation of the performance criteria, appropriate work practices, identification of common cause errors, extent of condition, and trending of key parameters. Additionally, the inspectors reviewed the licensee's implementation of the Maintenance Rule requirements, including a review of scoping, goal-setting, performance monitoring, short-term and long-term corrective actions, functional failure determinations associated with the condition reports reviewed, and current equipment performance status.

This maintenance effectiveness review and URI closure constituted a single inspection sample.

b. Findings

The inspectors reviewed the licensee's root cause report, documented under IR 497654, which had not been completed at the end of the previous inspection quarter. No findings of significance or violations of regulatory requirements were identified.

.2 (Closed) URI 05000373/2006003-01; 05000374/2006003-01: RHR Heat Exchanger (HX) Thermal Performance Testing and NRC Generic Letter (GL) 89-13 Conformance Issues.

a. Inspection Scope

The inspectors reviewed the licensee's handling of performance issues and the associated implementation of the Maintenance Rule (10 CFR 50.65) to evaluate RHR HX maintenance effectiveness. The licensee's RHR HX maintenance program was selected based on an inspector identified issue that originated in the 1<sup>st</sup> Quarter of 2006, during observations of the licensee's RHR HX thermal performance testing program.

The inspectors' review included verification of the licensee's categorization of specific issues, including evaluation of RHR HX performance criteria, maintenance work practices, identification of potential common cause errors, extent of condition for issues

identified, and trending of key parameters. Additionally, the inspectors reviewed the licensee's implementation of the Maintenance Rule requirements, including a review of scoping, goal-setting, performance monitoring, short-term and long-term corrective actions, functional failure determinations associated with the condition reports reviewed, and current RHR HX performance status.

This maintenance effectiveness review and URI closure constituted a single inspection sample.

b. Findings

Introduction

A finding of very low safety significance (Green) was identified by inspectors during observation of a GL 89-13 RHR HX thermal performance test. Specifically, the inspectors identified that the licensee's engineering staff failed to develop and use an adequate test procedure to implement the RHR HX performance monitoring program in accordance with docketed commitments and the established GL 89-13 program basis. A non-cited violation of 10 CFR 50, Appendix B, Criterion V, for an inadequate RHR HX thermal performance test procedure was also identified.

Description

In 1998, the GL 89-13 program was revised to test one RHR HX for three consecutive outages on each unit in order to determine the best frequency for testing or periodic maintenance. The 1A and 2B RHR HXs were selected for testing and the 1B and 2A RHR HXs were selected for cleaning each cycle until this initial testing was completed. Per the program basis, this was a revised attempt to establish an initial baseline heat transfer test and a recurring heat transfer test trending program as the means for identifying the need for RHR HX cleaning.

Recurring maintenance work orders were established to perform heat transfer testing of the 1A and 2B RHR HXs once per cycle and inspections of the 1B and 2A HXs once every two cycles. No justification was documented for setting the inspection frequency at once every two cycles vice once every cycle. Furthermore, the recurring maintenance work orders established to perform eddy-current testing required cleaning of all of the HXs every other cycle. This was in conflict with the GL 89-13 programmatic requirement to perform three consecutive thermal performance tests without any intervening cleaning in order to trend HX performance.

In 1999, LTS-200-17, "RHR Heat Exchanger Test," was revised to allow performance testing of the RHR HXs in the shutdown cooling mode. During the L1R08 outage in October 1999, the 1B RHR HX was tested using this new procedure. This was contrary to the GL 89-13 program basis, which specified testing the 1A HX. In 2000, the GL 89-13 program basis document was changed to no longer specify that the same RHR HX had to be tested once per cycle. However, the program basis for RHR performance monitoring, which included establishing an initial baseline heat transfer test and recurring heat transfer test trending, remained part of the program. In November of 2000, the 2B RHR HX was thermal performance tested using LTS-200-17 and the

results from this test were indeterminate. The procedure was not revised to address this issue. In 2001, recurring maintenance work orders were created to accomplish heat transfer performance testing on each RHR HXs. However, the testing frequency for the 1A and 2B HXs within the GL 89-13 program documents was specified as “no due date,” vice every other cycle.

In 2002, the GL 89-13 program basis was revised once again. The program’s test history was not updated to reflect the indeterminate test of the 2B HX during the L2R08 outage, nor the testing of the 1A HX during the L1R09 outage. An administrative change was made to LTS-200-17, but the indeterminate test of the 2B HX was not addressed.

In February of 2005, the results of a second thermal performance test of the 2B RHR HX were indeterminate. LTS-200-17 was revised to allow a higher shell-side temperature and to caution operations to maintain steady flows. In February of 2006, the results of a thermal performance test of the 1A RHR HX were indeterminate. Inspectors questioned the engineering staff on the adequacy of the test procedure and the consequences of these indeterminate tests with respect to the implementation of the GL 89-13 program and its goals of verifying and maintaining the heat transfer capability of the RHR HXs. Inspectors also questioned the licensee’s engineering staff regarding any attempts that had been made to revise RHR HX testing procedures in order to address indeterminate testing results. Initially, the licensee’s engineering staff was unable to provide a consistent basis for their RHR HX testing program to the inspectors.

The inspectors determined that the licensee’s GL 89-13 program for the RHR HXs had been poorly maintained. Inconsistencies in program documentation and requirements, as well as weaknesses in the responsible engineering staff’s knowledge of the GL 89-13 program itself, affected the ability of the licensee to properly implement the program. For example, when questioned by the inspectors, the licensee’s engineering staff were initially not able to consistently describe the RHR HX testing methodology, basis, or program status. Additionally, engineering staff members responsible for the program did not document the basis for the current 4-year HX test interval and had difficulty retrieving past records documenting the historical program basis. Several cases were identified where the engineering staff did not follow their documented RHR HX test plan.

Inspectors also noted several problems with information provided to the NRC via commitment letters. The GL 89-13 program as described in docketed correspondence was not always consistent with the program as implemented. For example, commitment updates since 1998 did not document the change from a testing program to a maintenance program for RHR HXs, even though the licensee had, by actual practice, implemented such a change.

Additionally, inspectors determined that the procedure used to conduct RHR HX thermal performance tests was inadequate. The use of this procedure resulted in three cases in which test data was indeterminate and thus not usable for assessing the condition of the RHR HXs.

## Analysis

The inspectors determined that the licensee's failure to establish and maintain an adequate GL 89-13 RHR HX thermal performance testing procedure represented a performance deficiency on the part of licensee engineering personnel. The issue was determined to be of more than minor significance in that it directly affected the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. Specifically, this finding impacted one of the key attributes of this objective, which is to ensure the quality of maintenance and test procedures for systems that must respond to initiating events.

The inspectors determined that the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," and conducted a Phase 1 characterization and initial screening. Despite the widespread issues the inspectors identified with the licensee's GL 89-13 program and associated bases, as discussed in the Description section above, the licensee's engineering staff was able to provide the inspectors with sufficient maintenance and testing records to permit the inspectors to conclude that each RHR HX remained fully capable of performing its design basis and safety functions. As a result, because the finding did not represent an actual loss of operability or safety function and was not potentially risk significant with respect to a seismic, flooding, or severe weather initiating event, the inspectors determined it to be of very low safety significance (Green) and within the licensee's response band.

## Enforcement

Table 3.2-1 of the licensee's Updated Final Safety Analysis Report (UFSAR) indicated that the RHR system is subject to the requirements of 10 CFR 50, Appendix B. Criterion V, "Instructions, Procedures, and Drawings," of this appendix states, in part, that: "Activities affecting quality shall be proscribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." Contrary to this requirement, the licensee failed to establish and maintain a testing procedure for RHR HX thermal performance testing that was appropriate to the circumstances and provided meaningful and usable test data in all cases.

The licensee had entered this issue into their corrective action program as IRs 458571, 463253, 473455, 478852, 479741, 500835, 513814, 515613, 522479, 522487, 522493, 534870, 534872, 534875, 534877, and 534889. Corrective actions by the licensee included: performing evaluations to document the basis for the 4-year HX clean and inspection interval; evaluating the material condition of the 2B RHR HX, conducting an analysis to determine how the current performance monitoring program meets the intent of GL 89-13; revising commitments to the NRC to be consistent with the current GL 89-13 program; and revising LTS-200-17, the RHR HX test procedure, per the recommendations of that analysis. Because the licensee has entered the issue into their corrective action program and the finding is of very low safety significance, this violation of 10 CFR 50, Appendix B, Criterion V is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy. (NCV 05000373/2006005-02; 05000374/2006005-02)

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

a. Inspection Scope

The inspectors reviewed and observed emergent work, preventive maintenance, or planning for risk significant maintenance activities. The inspectors observed maintenance or planning for the following activities or risk significant systems undergoing scheduled or emergent maintenance:

- Unit 2 Division 2 core standby cooling system (CSCS) ventilation damper failure;
- Unit 2 main generator exciter alterex brush replacements;
- Unit 2 SLC suction drain valve repairs;
- Unit 2 Division 1 switchgear room temperature controller repairs;
- Unit 2 drywell equipment drain sump drain line inboard containment isolation valve solenoid repairs;
- 1B EDG maintenance during a scheduled work window; and
- Unit 1 VR system radiation monitor calibrations.

The inspectors also reviewed the licensee's evaluation of plant risk, risk management, scheduling, and configuration control for these activities in coordination with other scheduled risk significant work. The inspectors verified that the licensee's control of activities considered assessment of baseline and cumulative risk, management of plant configuration, control of maintenance, and external impacts on risk. In-plant activities were reviewed to ensure that the risk assessment of maintenance or emergent work was complete and adequate, and that the assessment included an evaluation of external factors. Additionally, the inspectors verified that the licensee entered the appropriate risk category for the evolutions.

These maintenance risk assessment and emergent work control reviews constituted seven inspection samples.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the technical adequacy of the following operability evaluations to determine the impact on Technical Specifications, the significance of the evaluations, and to ensure that adequate justifications were documented:

- IR 497765, Lead on RHR shutdown cooling piping;
- Operability evaluation (OE) 06-02, Revision 1, Instrument nitrogen system,
- OE 06-02, Revision 2, Instrument nitrogen system;
- Technical support center (TSC) operability with the TSC air conditioning compressor out-of-service;

- Operability of 1B RHR system after low pressure alarm due to system leakage; and
- Operability of Unit 2 control rods 14-35 and 26-23 following identification of slow settling time during control rod channel deformation testing.

These operability evaluations were selected based upon the relationship of the safety-related system, structure, or component to risk.

The inspectors' review of these operability evaluations and issues constituted six inspection samples.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors selected the following post-maintenance activities for review. Activities were selected based upon the structure, system, or component's ability to impact risk:

- 1A RHR seal cooler post-maintenance test;
- 1B SLC pump post-maintenance test;
- Unit 2 drywell equipment drain sump inboard containment isolation valve testing following solenoid replacement; and
- Unit 1 control rods 30-27 and 30-07 post-maintenance timing testing.

The inspectors verified by witnessing the test or reviewing the test data that post-maintenance testing activities were adequate for the above maintenance activities. The inspectors' reviews included, but were not limited to, integration of testing activities, applicability of acceptance criteria, test equipment calibration and control, procedural use and compliance, control of temporary modifications or jumpers required for test performance, documentation of test data, Technical Specification applicability, system restoration, and evaluation of test data. Also, the inspectors verified that maintenance and post-maintenance testing activities adequately ensured that the equipment met the licensing basis, Technical Specifications, and UFSAR design requirements.

The inspectors' review of these post maintenance testing activities constituted four inspection samples.

b. Findings

No findings of significance were identified.

## 1R22 Surveillance Testing (71111.22)

### .1 General Surveillance Tests

#### a. Inspection Scope

The Inspectors selected the following general surveillance test activities for review. Activities were selected based upon risk significance and the potential risk impact from an unidentified deficiency or performance degradation that a system, structure, or component could impose on the unit if the condition were left unresolved:

- 1B EDG idle start surveillance test;
- Control room and auxiliary electric equipment room pressurization surveillance test;
- Unit 1 control rod channel deformation tests; and
- Unit 2 scram time testing.

The inspectors observed the performance of surveillance testing activities, including reviews for preconditioning, integration of testing activities, applicability of acceptance criteria, test equipment calibration and control, procedural use, control of temporary modifications or jumpers required for test performance, documentation of test data, Technical Specification applicability, impact of testing relative to performance indicator reporting, and evaluation of test data.

The review of these general surveillance activities by the inspectors constituted four inspection samples.

#### b. Findings

No findings of significance were identified.

### .2 Inservice Testing (IST) Required by the American Society of Mechanical Engineers Operations and Maintenance Code

#### a. Inspection Scope

Based on the relatively high risk significance of the system, the inspectors selected the following Code pump IST activity for review:

- Quarterly IST for the 1A RHR pump

The inspectors observed the performance of the test, including reviews for preconditioning, applicability of acceptance criteria, test equipment calibration and control, procedural use, documentation of test data, Technical Specification applicability, compliance with 10 CFR 50.55a, "Codes and Standards," impact of testing relative to performance indicator reporting, and evaluation of the test data.

The review of this IST quarterly pump surveillance constituted a single inspection sample.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The resident inspectors reviewed a simulator-based training evolution to evaluate drill conduct and the adequacy of the licensee's critique of performance to identify weaknesses and deficiencies. The inspectors selected a simulator scenario that the licensee had scheduled as providing input to the Drill/Exercise Performance Indicator. The inspectors observed the classification of events, notifications to off-site agencies, protective action recommendation development, and drill critiques. Observations were compared to the licensee's observations and corrective action program entries. The inspectors verified that there were no discrepancies between observed performance and performance indicator reported statistics. The simulator scenario observed resulted in a site area emergency classification and declaration.

This simulator emergency preparedness drill observation constituted a single inspection sample.

b. Findings

No findings of significance were identified.

**2. RADIATION SAFETY**

**Cornerstones: Occupational Radiation Safety, and Public Radiation Safety**

2OS1 Access Control to Radiologically Significant Areas (71121.01)

.1 Review of Licensee Performance Indicators for the Occupational Exposure Cornerstone

a. Inspection Scope

The inspectors reviewed the licensee's occupational exposure control cornerstone performance indicators (PIs) to determine whether or not the conditions surrounding the PIs had been evaluated and whether identified problems had been entered into the corrective action program for resolution.

This review constituted one inspection sample.

b. Findings

No findings of significance were identified.

.2 Plant Walkdowns and Radiation Work Permit Reviews

a. Inspection Scope

The inspectors reviewed radiation work permits (RWPs) for airborne radioactivity areas to verify barrier integrity and engineering controls performance (e.g., high efficiency particulate air ventilation system operation, etc.) and to determine if there was a potential for individual worker internal exposures of greater than 50 millirem committed effective dose equivalent. No areas of the plant were under airborne radioactivity work controls.

The adequacy of the licensee's internal dose assessment process for internal exposures greater than 50 millirem committed effective dose equivalent was assessed. No personnel had documented committed effective dose equivalent greater than 50 millirem.

The inspectors also reviewed the licensee's physical and programmatic controls for highly activated and/or contaminated materials (non-fuel) stored within spent fuel or other storage pools.

These reviews constituted three inspection samples.

b. Findings

No findings of significance were identified.

.3 Problem Identification and Resolution

a. Inspection Scope

The inspectors reviewed licensee documentation packages for all PI events occurring since the last inspection to determine if any of these PI events involved dose rates >25 R/hr at 30 centimeters or >500 R/hr at 1 meter. No PI events occurred since the last inspection. Barriers were evaluated for failure and to determine if there were any barriers left to prevent personnel access. Unintended exposures >100 millirem total effective dose equivalent (or >5 rem shallow dose equivalent or >1.5 rem lens dose equivalent) were evaluated to determine if there were any regulatory overexposures or if there was a substantial potential for an overexposure. There were no unintended exposures of this magnitude.

This review constituted a single inspection sample.

b. Findings

No findings of significance were identified.

.4 High Risk Significant, High Dose Rate High Radiation Area (HRA) and Very High Radiation Area (VHRA) Controls

a. Inspection Scope

The inspectors held discussions with the Radiation Protection Manager concerning high dose rate HRA and VHRA controls and procedures, including procedural changes that had occurred since the last inspection, in order to verify that any procedure modifications did not substantially reduce the effectiveness and level of worker protection. No procedural changes had been made since the last inspection.

The inspectors discussed with radiation protection (RP) supervisors the controls that were in place for special areas that had the potential to become VHRAs during certain plant operations to determine if these plant operations required communication beforehand with the RP group, so as to allow corresponding timely actions to properly post and control the radiation hazards.

The inspectors conducted plant walkdowns to verify the posting and locking of entrances to high dose rate HRAs, and VHRAs. No VHRAs are accessible in the plant.

These reviews represented three inspection samples.

b. Findings

No findings of significance were identified

.5 RP Technician Proficiency

a. Inspection Scope

During job performance observations, the inspectors evaluated RP technician performance with respect to RP work requirements and evaluated whether they were aware of the radiological conditions in their workplace, the RWP controls and limits in place, and if their performance was consistent with their training and qualifications with respect to the radiological hazards and work activities.

The inspectors reviewed two radiological problem reports which found that the cause of the event was RP technician error to determine if there was an observable pattern traceable to a similar cause, and to determine if this perspective matched the corrective action approach taken by the licensee to resolve the reported problems.

These reviews constituted two inspection samples.

b. Findings

No findings of significance were identified.

## 2OS3 Radiation Monitoring Instrumentation and Protective Equipment (71121.03)

### .1 Inspection Planning

#### a. Inspection Scope

The inspectors reviewed the UFSAR to identify applicable radiation monitors associated with measuring transient HRAs and VHRAs including those used in remote emergency assessment. The inspectors identified the types of portable radiation detection instrumentation used for job coverage of HRA work, including fixed area radiation monitors used to provide radiological information in various plant areas and continuous air monitors used to assess airborne radiological conditions and work areas with the potential for workers to receive a 50 millirem or greater committed effective dose equivalent. Contamination monitors, whole body counters, and those radiation detection instruments utilized for the release of personnel and equipment from the radiologically controlled area were also identified.

This review constituted a single inspection sample.

#### b. Findings

No findings of significance were identified.

### .2 Identification and Walkdowns of Additional Radiation Monitoring Instrumentation

#### a. Inspection Scope

The inspectors conducted walkdowns of selected area radiation monitors (ARMs) to verify that they were located as described in the UFSAR and were adequately positioned relative to the potential source(s) of radiation they were intended to monitor. Walkdowns were also conducted of those areas where portable survey instruments were calibrated/repared and maintained for RP staff use to determine if those instruments designated "ready for use" were sufficient in number to support the RP program, had current calibration stickers, were operable, and were in adequate physical condition. Additionally, the inspectors observed the licensee's instrument calibration units and the radiation sources used for instrument checks to assess their material condition and discussed their use with RP staff to determine if they were used appropriately. Licensee personnel demonstrated the methods for performing source checks of portable survey instruments.

This review constituted one inspection sample.

#### b. Findings

No findings of significance were identified.

.3 Calibration and Testing of Radiation Monitoring Instrumentation

a. Inspection Scope

The inspectors selectively reviewed calibration data for radiological instrumentation associated with monitoring transient high and/or very high radiation areas, instruments used for remote emergency assessment, and radiation monitors used to identify personnel contamination and for assessment of internal exposures to verify that the instruments had been calibrated as required by the licensee's procedures, consistent with industry and regulatory standards. The inspectors also reviewed alarm setpoints for selected ARMs to verify that they were established consistent with the UFSAR or Technical Specifications, as applicable, and were consistent with industry practices and regulatory guidance. Specifically, the inspectors reviewed calibration procedures and the most recent calibration records and/or source output verification documents for the following radiation monitoring instrumentation and instrument calibration equipment:

- Post-accident Division 1 containment gamma radiation monitor;
- Reactor building fuel pool exhaust radiation monitor;
- Calibrator used to calibrate portable survey instruments and the associated instruments used to measure calibrator output; and
- Whole body counter.

The inspectors determined what actions were taken when, during calibration or source checks, an instrument was found out of calibration or exceeded as-found acceptance criteria. When that occurred, the inspectors verified that the licensee's actions included a determination of the instruments's previous usages and the possible consequences of that use since the prior calibration. The inspectors also discussed with RP staff the plant's 10 CFR Part 61 source term (radionuclide mix) to determine if the calibration sources used were representative of the plant source term and to verify that difficult to detect nuclides were scaled into whole body count dose determinations.

This review constituted a single inspection sample.

b. Findings

No findings of significance were identified.

.4 Problem Identification and Resolution

a. Inspection Scope

The inspectors reviewed the licensee's CAP documents and any special reports that involved personnel contamination monitor alarms due to personnel internal exposures to verify that identified problems were entered into the CAP for resolution. Licensee self-assessments, audits, and associated CAP records were also reviewed to verify that problems with radiological instrumentation or self-contained breathing apparatus were identified, characterized, prioritized, and resolved effectively using the CAP.

The inspectors reviewed CAP reports related to exposure significant radiological incidents that involved radiation monitoring instrument deficiencies since the last inspection in this area; none were identified. Members of the RP staff were interviewed and corrective action documents were reviewed to verify that follow-up activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk based on the following:

- Initial problem identification, characterization, and tracking;
- Disposition of operability/reportability issues;
- Evaluation of safety significance/risk and priority for resolution;
- Identification of repetitive problems;
- Identification of contributing causes; and
- Identification and implementation of effective corrective actions.

The inspectors determined if the licensee's self-assessment and audit activities completed for the 2-year period that preceded the inspection were identifying and addressing repetitive deficiencies or significant individual deficiencies in problem identification and resolution, as applicable.

This review represented three inspection samples.

b. Findings

No findings of significance were identified.

.5 RP Technician Instrument Use

a. Inspection Scope

The inspectors selectively verified that calibrations for those radiation survey instruments recently used by the licensee and for those currently designated for use had not lapsed. The inspectors also discussed instrument calibration methods and source response check practices with radiation protection staff and observed staff complete instrument source checks prior to use.

This review constituted a single inspection sample.

b. Findings

No findings of significance were identified.

.6 Self-Contained Breathing Apparatus (SCBA) Maintenance/Inspection and User Training

a. Inspection Scope

The inspectors reviewed aspects of the licensee's respiratory protection program for compliance with the requirements of Subpart H of 10 CFR Part 20 and to determine if SCBAs were properly maintained and ready for emergency use. The inspectors reviewed records of inspection and functional tests for all SCBAs staged in the plant that

were required by the licensee's emergency plan. The inspectors verified the licensee's capabilities for refilling and transporting SCBA air bottles during emergency conditions. The inspectors verified that selected control room staff designated for the active on-shift duty roster from each shift including those individuals on the station's fire brigade were trained, respirator fit tested, and medically certified to use SCBAs. Additionally, the inspectors reviewed SCBA qualification records for members of the licensee's radiological emergency teams including the RP, chemistry, and maintenance staffs to determine if a sufficient number of staff were qualified to fulfill emergency response positions consistent with the licensee's emergency plan and the requirements of 10 CFR 50.47. The inspectors verified that personal SCBA air bottle change-out was adequately covered as part the annual retraining plan.

The inspectors walked down spare SCBA air bottle stations located outside the main control room and inspected SCBA equipment maintained in the control room and staged for emergency use in various other areas of the plant. During the walkdowns, the inspectors examined several SCBA units to assess their material condition, to verify that air bottle hydrostatic tests were current, and to verify that bottles were pressurized to meet procedural requirements. The inspectors reviewed records of SCBA equipment inspection and testing and observed a member of the licensee's staff demonstrate the methods used to conduct the inspections and functional tests to determine if these activities were performed consistent with procedure and the equipment manufacturer's recommendations. The inspectors also ensured through record reviews that the required air cylinder hydrostatic testing was documented and current, that the Department of Transportation required retest air cylinder markings were in place for three randomly selected SCBA units and spare air bottles, and that the air quality for the compressor used to fill SCBA air bottles was routinely tested to verify Grade-D quality. Additionally, the inspectors verified that licensee staff do not perform repairs of SCBA pressure regulators and maintenance on components vital to equipment function, therefore no manufacturer qualification was required.

These reviews represented two inspection samples.

b. Findings

No findings of significance were identified.

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

.1 Reviews of Radiological Environmental Monitoring Reports, Data and Quality Control

a. Inspection Scope

The NRC performed a number of confirmatory measurements of water samples to evaluate the licensee's proficiency in collecting and in analyzing water samples for tritium and other radioactive isotopes. The samples were collected independently by the inspectors and by licensee personnel and sent to the NRC's contract laboratory for the analysis of tritium. The NRC and licensee obtained these samples from surface water

and groundwater sampling points identified in the licensee's Radiological Environmental Monitoring Program and from onsite and offsite groundwater monitoring wells. In particular, samples were obtained as part of the licensee's environmental study of tritium, potential groundwater contamination, and residual onsite contamination from historical leaks (ADAMS ML062760008). While tritium was the primary radionuclide of concern, selected samples were also analyzed for gamma emitting radionuclides and for strontium. The inspectors performed these reviews to assess the licensee's analytical detection capabilities for radio-analysis of environmental samples and its ability to accurately quantify radionuclides to an acceptable level of sensitivity. The criteria used to compare the sample results is provided in Attachment 2, and the results of the comparisons between the NRC and licensee results is provided in Attachment 3.

The inspectors considered the following activities in evaluating the cause of any comparisons that did not result in an agreement:

- re-analysis by licensee or NRC's contract laboratory;
- review of licensee's interlaboratory cross check program results; and
- review of data for any apparent statistical biases.

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151)

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

.1 Initiating Events, Mitigating Systems, and Barrier Integrity Performance Indicator Verification

a. Inspection Scope

The inspectors reviewed, at a minimum, the most recent 24 months of licensee event reports, licensee data reported to the NRC, plant logs, and NRC inspection reports to verify the following performance indicators reported by the licensee for the 2<sup>nd</sup> Quarter of 2006:

- Unplanned scrams per 7000 critical hours, Units 1 and 2;
- Scrams with loss of normal heat removal, Units 1 and 2;
- Unplanned power changes per 7000 critical hours, Units 1 and 2;
- Safety system functional failures, Units 1 and 2;
- Reactor coolant system (RCS) activity, Units 1 and 2; and
- RCS leakage, Units 1 and 2.

The inspectors verified that the licensee accurately reported performance as defined by the applicable revision of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline."

These performance indicator reviews constituted twelve inspection samples.

b. Findings

No findings of significance were identified.

.2 Radiation Safety Performance Indicator Verification

a. Inspection Scope

The inspectors reviewed, at a minimum, the most recent 12 months of licensee event reports, licensee data reported to the NRC, plant logs, and NRC inspection reports to verify the following performance indicators reported by the licensee for the 2<sup>nd</sup> Quarter of 2006:

- Occupational exposure control effectiveness; and
- Radiological effluent technical specifications (RETS)/Offsite dose calculation manual (ODCM) radiological effluent occurrence.

The inspectors verified that the licensee accurately reported performance as defined by the applicable revision of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline."

These performance indicator reviews constituted two inspection samples.

b. Findings

No findings of significance were identified.

.3 Data Submission

a. Inspection Scope

The inspectors performed a review of the data submitted by the licensee for the 2<sup>nd</sup> Quarter 2006 performance indicators for any obvious inconsistencies prior to its public release in accordance with IMC 0608, "Performance Indicator Program."

This review was performed as part of the inspectors' normal plant status activities and, as such, did not constitute a separate inspection sample.

b. Findings

No findings of significance were identified.

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

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

#### .1 Routine Review of Identification and Resolution of Problems

##### a. Inspection Scope

As part of the various baseline inspection procedures conducted during the period, the inspectors verified that the licensee entered the problems identified during the inspection into their corrective action program. Additionally, the inspectors verified that the licensee was identifying issues at an appropriate threshold and entering them in the corrective action program, and verified that problems included in the licensee's corrective action program were properly addressed for resolution. Attributes reviewed included: the complete and accurate identification of the problem; that timeliness was commensurate with the safety significance; that evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue.

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

A finding documented in Section 1R05 of this report was determined by inspectors to be related to the cross-cutting area of problem identification and resolution. Specifically, the corrective action program component of problem identification and resolution was identified because of the cross-cutting aspect whereby the licensee should take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.

#### .2 Daily Corrective Action Program Reviews

##### a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for 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 did not constitute any additional inspection samples. Instead, by procedure they were considered part of the inspectors' daily plant status monitoring activities.

b. Findings

No findings of significance were identified.

.3 Selected Issue Follow-up Inspection: Generic Letter 89-13 Program Corrective Actions

Introduction

During the first Quarter of 2006, inspectors identified several issues associated with the licensee's GL 89-13 program. These issues included potential inadequacies with the RHR HX test procedure (see Section 1R12), and inconsistencies between the GL 89-13 program bases, commitments made to the NRC, and implementation of the program with respect to RHR HX testing and inspection. Since the licensee revised their GL 89-13 RHR HX program in 1998, various issues with the program were entered into the CAP that had a potential impact on the RHR HX test procedure and performance monitoring program. Inspectors selected these condition reports for an annual sample review of the licensee's problem identification and resolution program.

The inspectors' review of this issue constituted a single inspection sample.

a. Effectiveness of Problem Identification

(1) Inspection Scope

The inspectors reviewed several years of IRs generated for GL 89-13 program issues to verify that the licensee's identification of problems were complete, accurate, and timely, and that the consideration of extent of condition review, generic implications, common cause, and previous occurrences were adequate.

(2) Issues

Inspectors identified several issues with the effectiveness of problem identification. Specifically, the licensee's engineering staff did not identify underlying problems with the GL 89-13 program basis despite multiple entries in the CAP concerning the program's implementation and NRC commitment tracking. When issues were discovered, they were narrowly identified as low level independent problems and not related to other events affected by the GL 89-13 program status as a whole. For example, in 2002, IR 98176 identified that an indeterminate test of the 2B RHR HX had not been documented in the CAP. While this IR addressed why the test data was indeterminate, it missed the opportunity to identify the programmatic issue as to why an IR was not written until almost 2 years after the event. Instead, this IR was closed to a data point. In 2004, IR 232215 identified a failure of the GL 89-13 program coordinator to update commitments to the NRC dating back to the year 2000. Assignment 3 of that IR required the licensee's staff to review the GL 89-13 program basis document and verify that it accurately described current RHR HX maintenance and testing practices. Further, IR 263535 identified several discrepancies between GL 89-13 commitments made to the NRC and the established program.

The licensee's CAP assigned an apparent cause evaluation (ACE) to determine how these issues occurred and what measures should be taken to prevent these problems in the future. While the ACE did identify as the apparent cause a lack of knowledge of the GL 89-13 program administrator, both the ACE and IR 232215 assignment 3 failed to identify via extent of condition reviews the larger issues associated with the GL 89-13 program basis, including the change in the licensee's RHR HX program from a test program to a maintenance program.

b. Prioritization and Evaluation of Issues

(1) Inspection Scope

The inspectors reviewed the related CAP documents associated with the GL 89-13 program implementation, basis documents, and thermal performance test procedure. The intent of this review was to determine if the CAP adequately evaluated and prioritized actions to address these problems.

(2) Issues and Findings

Introduction

A finding of very low safety significance (Green) was identified by the inspectors. The inspectors determined that the licensee did not fully evaluate problems and properly prioritize corrective actions with respect to the RHR HX thermal performance test procedure and GL 89-13 HX performance monitoring program. An associated non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was also identified by the inspectors.

Description

In several cases, the inspectors determined that the CAP dispositioned corrective actions related to RHR HX testing and the GL 89-13 program with low priorities and inadequate evaluations. Some examples the inspectors identified included:

- In 2002, IR 98176 identified an indeterminate test of the 2B RHR HX in 2000. This IR recommended that the 2B HX should be retested at the next opportunity and that the testing procedure should be revised, yet the IR was closed to a data point. The RHR HX testing procedure was not revised to address this issue and the 2B RHR HX was not retested until 2005.
- In 2001, IR 95199 identified that a missed HX inspection indicated a breakdown in the implementation of the GL 89-13 program. This IR was closed to a data point.
- In 2004, IR 205117 identified that unqualified inspectors were performing GL 89-13 HX inspections during a review by the licensee's nuclear oversight organization. The evaluation determined the problem was due to a procedural implementation issue. However, no evaluation was done as to why the GL 89-13 program did not already require and track the qualifications of HX inspectors.

- In 2004, in response to discrepancies in GL 89-13 commitments, ACE 263535 assigned a focused area self assessment (FASA) to review, in part, commitments to GL 89-13. However, this FASA was not coded as corrective action, nor tied to ACE 263535. The FASA was assigned as IR 278122, which was later cancelled to IR 381358. IR 381358 was cancelled to IR 518151, which was not listed as due until November of 2006. Additionally, the ACE determined that the apparent cause was lack of knowledge by the program administrator, but it did not evaluate why, or to what extent, inconsistencies between commitments and the program bases may have been due to poor program documentation. Additionally, IR 232215 assignment 3 directed the review of the GL 89-13 program basis document to verify it accurately described current licensee practices. The evaluation did include the RHR HX testing program, but was not thorough, as it consisted only of a restatement of the contents of the 1998 commitment change letter and did not actually evaluate current practices with respect to RHR HX testing.
- In 2005, IR 299006 documented the disruption of the 2B RHR HX heat transfer test due to unrelated operational activities occurring coincident with the test and the length of steady state data required by the test procedure. These conditions resulted in indeterminate test results. However, the evaluation performed in response to the IR did not fully address all problems with the test procedure. Revisions were made to the test procedure based on the evaluation, but when the procedure was used to test the 1A RHR HX in 2006, the results were again indeterminate.

### Analysis

After reviewing CAP actions with respect to the RHR HX testing program, the inspectors determined that there was a performance deficiency associated with the corrective actions taken by the licensee. Specifically, the inspectors determined that the licensee had not thoroughly evaluated, nor given proper priority to, identified deficiencies in the RHR HX test procedure as identified in IR 98176. Further, the inspectors also determined that the licensee had failed to complete the GL 89-13 bases review and revision called for under ACE 263535 in 2004. The inspectors concluded that had these actions been completed in a timely manner in accordance with the licensee's CAP requirements, many of the recent GL 89-13 program issues identified by the NRC could have been avoided.

In accordance with NRC IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," the inspectors determined that the finding was of more than minor significance in that it directly affected the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. Specifically, this finding impacted one of the key attributes of this objective which is to ensure the quality of maintenance and test procedures for systems that must respond to initiating events.

The inspectors determined that the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," and conducted a Phase 1 characterization and initial screening. Because the finding did not represent a

actual loss of operability or safety function and was not potentially risk significant with respect to a seismic, flooding, or severe weather initiating event, it was determined to be of very low safety significance (Green) and within the licensee's response band.

### Enforcement

Table 3.2-1 of the licensee's UFSAR indicated that the RHR system is subject to the requirements of 10 CFR 50, Appendix B. Criterion XVI of 10 CFR 50, Appendix B, states, in part, that: "Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected."

As discussed above, from 1998 through 2006, the licensee failed to properly evaluate and prioritize a number of corrective actions associated with their RHR HX performance monitoring program. In failing to do so, the licensee did not assure that these deficiencies were promptly identified and corrected, contrary to the requirements of 10 CFR 50, Appendix B, Criterion XVI.

The licensee has entered multiple items associated with this event into their corrective action program. (IRs 458571, 463253, 473455, 478852, 479741, 500835, 513814, 515613, 522479, 522487, 522493, 524622, 534870, 534872, 534875, 534877, and 534889). In response to these issues, licensee corrective actions planned include review of GL 89-13 program CAP documents to determine if any other identified issues were not fully dispositioned or resolved and to confirm that all corrective actions have been implemented and documented. Because the licensee has entered the issue into their corrective action program and the finding is of very low safety significance, this violation of 10 CFR 50, Appendix B, Criterion XVI, is being treated as a NCV, consistent with Section VI.A of the NRC Enforcement Policy.

The finding was also determined to involve the cross-cutting area of problem identification and resolution. Specifically, the corrective action program component of problem identification and resolution was identified because of the cross cutting aspect whereby the licensee should take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity. (NCV 05000373/2006005-03; 05000374/2006005-03)

#### 40A5 Other

##### **Cornerstone: Occupational Radiation Safety**

- .1 (Closed) VIO 05000374/2006010-01: Contractor Pipefitters Enter Condenser Pit HRA Without Required Radiation Protection Brief.

The inspectors reviewed the licensee's response to the NRC letter dated March 31, 2006, delivering a Notice of Violation. The Notice of Violation was issued as a result of information developed by the Office of Investigation that established the facts surrounding willful activities that resulted in individuals entering a HRA on February 13, 2005. The licensee conducted a root cause evaluation of the event and identified:

1) that communication weakness between the work group and the RP access control personnel led to a misunderstanding of the work location; and 2) contrary to known rules, the individuals believed permission had been granted to proceed to the work area regardless of the high radiation postings. The licensee took substantial corrective actions that included enhanced dynamic learning activities for all site personnel prior to outages to assure that clear communications during work briefings was improved. Therefore, after review of these actions the NRC considers this matter closed.

#### 4OA6 Meetings

##### .1 Exit Meeting

The inspectors presented the inspection results to the Plant Manager, Mr. Daniel Enright, and other members of licensee management on October 11, 2006. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

##### .2 Interim Exit Meetings

Interim exits were conducted for:

- A biennial heat sink performance inspection with the Site Vice President, Ms. Susan Landahl, and other members of licensee management on September 1, 2006.
- A periodic radiation protection instrumentation inspection with the Plant Manager, Mr. Daniel Enright, and other members of licensee management on September 29, 2006.
- Public Radiation Safety with Mr. M. Martin on October 13, 2006

#### 4OA7 Licensee-Identified Violation

##### **Cornerstone: Mitigating Systems**

During a periodic review of temporary lead shielding packages, licensee personnel identified 10 lead blankets totaling 600 pounds hanging from a section of RHR shutdown cooling line piping in the Unit 2 reactor building. The temporary lead shielding had been installed during the February-March 2006 Unit 1 refueling outage using an informal maintenance work practice, vice approved procedural controls. Licensee procedure CC-AA-401, "Maintenance Specification: Installation and Control of Temporary Shielding and Shielding Components," requires that all temporary lead shielding be installed in the plant using an appropriate shielding permit and a procedurally specified process. Further, Criterion V of 10 CFR 50, Appendix B, "Instructions, Procedures, and Drawings," states, in part, that: "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings."

Contrary to these requirements, the licensee installed 600 pounds of lead shielding on RHR shutdown cooling line 2RH04DA during the February-March 2006 Unit 1 refueling outage without using the procedurally required temporary shielding permit or process. The inspectors determined the violation to be of more than minor significance in that if this practice were left uncorrected it would constitute a potentially more significant safety concern. However, the violation was also determined to be of very low safety significance because the licensee was able to demonstrate through engineering analysis that, in this case, the associated RHR shutdown cooling piping remained seismically qualified with the lead installed on the piping. The licensee had entered this issue into their CAP as IR 497765.

- Attachments:
1. Supplemental Information
  2. Confirmatory Measurements Comparison Criteria
  3. Tritium Sampling Results

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee

S. Landahl, Site Vice President  
D. Enright, Plant Manager  
J. Bashor, Site Engineering Director  
R. Bassett, Emergency Preparedness Manager  
R. Chrzanowski, Chemistry Manager  
T. Connor, Maintenance Director  
R. Ebright, Site Training Director  
F. Gogliotti, System Engineering Manager  
B. Kapellas, Radiation Protection Manager  
H. Madronero, Engineering Programs Manager  
S. Marik, Work Management Director  
J. Rappeport, Nuclear Oversight Manager  
D. Rhodes, Operations Director  
T. Simpkin, Regulatory Assurance Manager  
H. Vinyard, Shift Operations Superintendent  
C. Wilson, Station Security Manager

#### Nuclear Regulatory Commission

B. Burgess, Chief, Reactor Projects Branch 2

## LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

- |   |     |  |
|---|-----|--|
| 05000374/2006005-01                         | NCV | Failure to promptly repair a degraded condition associated with the 2B EDG day tank room structure. (Sections 1R05 and 4OA2.1) |
| 05000373/2006005-02;<br>05000374/2006005-02 | NCV | Inadequate procedure used for GL 89-13 Program thermal performance tests on RHR heat exchangers. (Section 1R12.2)              |
| 05000373/2006005-03;<br>05000374/2006005-03 | NCV | Failure to promptly correct identified issues associated with the GL 89-13 Program for RHR heat exchangers. (Section 4OA2.3)   |

### Closed

- |   |     |   |
|---|-----|---|
| 05000374/2006005-01                         | NCV | Failure to promptly repair a degraded condition associated with the 2B EDG day tank room structure. (Section 1R05 and 4OA2.1) |
| 05000373/2006004-01;<br>05000374/2006004-01 | URI | Adequacy of 'B' VC Compressor Operability Determinations and Post-Maintenance Tests (Section 1R12.1)                          |
| 05000373/2006003-01;<br>05000374/2006003-01 | URI | RHR Heat Exchanger Thermal Performance Testing and NRC GL 89-13 Conformance Issues (Section 1R12.2)                           |
| 05000373/2006005-02;<br>05000374/2006005-02 | NCV | Inadequate procedure used for GL 89-13 Program thermal performance tests on RHR heat exchangers. (Section 1R12.2)             |
| 05000373/2006005-03;<br>05000374/2006005-03 | NCV | Failure to promptly correct identified issues associated with the GL 89-13 Program for RHR heat exchangers. (Section 4OA2.3)  |
| 05000374/2006010-01                         | VIO | Contractor Pipefitters Enter Condenser Pit HRA Without Required Radiation Protection Brief (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.

### 1R04 Equipment Alignment

#### Issue Reports:

- 514441; NRC Identified – EOP Equipment Not Functionally Tested; 7/26/2006

#### Procedures:

- LGA-SC-101; Unit 1 Initiation of Standby Liquid Control; Revision 1
- LGA-SC-201; Unit 2 Initiation of Standby Liquid Control; Revision 1
- LGA-SC-102; Unit 1 Alternate Vessel Injection Using Standby Liquid Control System; Revision 1
- LGA-SC-202; Unit 2 Alternate Vessel Injection Using Standby Liquid Control System; Revision 1
- LGA-RT-103; Unit 1 Alternate Boron Injection Using RWCUC; Revision 6
- LGA-RT-203; Unit 2 Alternate Boron Injection Using RWCUC; Revision 6
- LAP-820-11TG; Emergency Operating Procedure Support Aids Control; Revision 27
- LOP-RI-05; Preparation for Standby Operation of the Reactor Core Isolation Cooling System; Revision 26
- LOP-RH-11; Preparation for Standby Operation of the Low Pressure Coolant Injection System; Revision 24
- LOP-LP-02; Preparation for Standby Operation of Low Pressure Core Spray System; Revision 15

#### Drawings:

- —99, Unit 1 Standby Liquid Control System; Revision AA
- —145, Unit 2 Standby Liquid Control System; Revision AC
- —101, Sheet 1; Unit 1 Reactor Core Isolation Cooling System; Revision BE
- —101, Sheet 2; Unit 1 Reactor Core Isolation Cooling System; Revision AN
- —147, Sheet 1; Unit 2 Reactor Core Isolation Cooling System; Revision BF
- —147, Sheet 2; Unit 2 Reactor Core Isolation Cooling System; Revision AK
- —142, Sheet 1; Unit 2 Residual Heat Removal System; Revision AP
- —142, Sheet 2; Unit 2 Residual Heat Removal System; Revision AT
- —142, Sheet 3; Unit 2 Residual Heat Removal System; Revision AX
- —142, Sheet 4; Unit 2 Residual Heat Removal System; Revision AA

### 1R05 Fire Protection

#### Issue Reports:

- 515168; NRC Identified – Fireproofing Not Repaired in Timely Fashion; 7/27/2006
- 530088; NRC Identified Issues During Walkdown; 9/12/2006

## 1R06 Flood Protection Measures

### Issue Report:

- 530390; Chains on Check Dampers not Shown on LaSalle Vendor Drawing; 9/13/2006

### Procedure:

- LS-PSA-013; LaSalle Probabilistic Risk Assessment Summary Document; Revision 5

### Calculation:

- Seismic Qualification of Check Dampers 1VR11Y, 1VR12Y, 1VR13Y, and 1VR14Y; by Sargent & Lundy Engineering; 12/1/1981

## 1R07 Heat Sink Performance

### Calculations:

- 97-198; VY Cooler Thermal Performance Model - 1(2)VY04A; Revision A00
- 97-200; VY Cooler Thermal Performance Model - 1(2)VY01A and 1(2)VY02A; Revision A00
- L-001024; LPCS Pump Cubicle Cooler Ventilation System; Revision 3
- L-001221; HPCS Pump Cubicle Cooler Ventilation System; Revision 2
- L-002404; CSCS Cooling Water System "Road Map" Calculation; Revision 1

### Issue Reports:

- 137664; Required Design Flow not Achieved During LTS-200-19; 12/30/2002
- 525348; NCR Identified – Repair Drain Pan Bolt on 1VY02A Cooler; 8/30/2006

### Letters:

- LaSalle County Station Units 1 and 2 Response to Generic Letter 89-13; 1/29/1990
- LaSalle Station Units 1 and 2 Supplemental Response to Generic Letter 89-13; 6/7/1991
- LaSalle Station Unit 2 Response to Generic Letter 89-13; 5/14/1992
- LaSalle County Stations Unit 1 and 2 Flow Testing Required by Generic Letter 89-13; 3/18/1993
- LaSalle County Station Units 1 and 2 Service Water System Problems Affecting Safety-Related Equipment (Supplemental Response to NRC Generic Letter 89-13); 5/18/1994
- LaSalle County Nuclear Power Station Units 1 and 2 Service Water System Problems Affecting Safety-Related Equipment (Supplemental Response to NRC Generic Letter 89-13); 7/18/1997
- Documentation of Service Water Intake Structure Inspections within LaSalle County Station Generic Letter 89-13 Program; 4/24/1998
- Generic Letter 89-13 Revised Response LaSalle County Nuclear Power Station, Units 1 and 2; 7/28/1998

### Miscellaneous Documents:

- 455081-05; Check-In Self-Assessment Report NRC Heat Sink Performance Inspection; 7/28/2006
- Generic Letter 89-13 Program Basis Document; Revision 3
- NOA-01-00-ES05; Nuclear Oversight Assessment Generic Letter 89-13 Service Water Systems Programs; 2/11/2000

Procedures:

- CC-AA-103-2001 App B: Exelon Position on the Inclusion of Instrument Accuracy in Technical Specification Surveillance Acceptance Criteria; Revision 2
- CY-AA-120-000; System Chemistry Control; Revision 5
- CY-AA-120-410; Circulating/Service Water Chemistry; Revision 1
- CY-AA-120-4110; Raw Water Chemistry Strategic Plan; Revision 0
- CY-AA-120-4200; Corrosion Monitoring Guidelines; Revision 0
- CY-LA-120-4100; LaSalle Station Lake Chemistry Control; Revision 2
- EN-MW-402-0005; Extreme Heat Implementation Plan; Revision 2
- EN-LA-402-0005; Extreme Heat Implementation Plan - La Salle; Revision 7
- ER-AA-335-004; Manual Ultrasonic Measurement of Material Thickness and Interfering Conditions; Revision 2
- ER-AA-340-1002; Service Water Heat Exchanger and Component Inspection Guide; Revision 3
- LOA-UHS-001; Operating Abnormal Procedure; Revision 0
- LCP-830-21; Circulating/Service Water Corrosion Monitoring Skid Operation; Revision 10
- LOP-RH-04; Filling, Venting and Flushing the RHR Service Water System; Revision 21

Surveillances:

- LTS-200-13; 1(2)VY02A Southwest Cubicle Area Cooler Flowrate Test, Div III; Revision 7
- LTS-200-19; ECCS Cubicle Area Cooler Air Flowrate Test; Revision 13

Work Orders:

- 950071394 01; Disassemble/Clean LPCS Motor Cooler; 1/11/1996
- 980045205 01; Disassemble/Clean LPCS Motor Cooler; 5/5/1998
- 373003 01; ES Air Side Flowrate Test; 7/7/2003
- 387992 01; Air Side Flowrate Test; 11/15/2002
- 428324 01; Clean Air Side of 2VY02A Cooling Coil; 9/6/2002
- 465669 02; Inspection of South End of WS Tunnel for Corbicula and Sedim; 6/22/2004
- 485612 01; SW CNR RM Cooler Air Side Flowrate Test; 5/10/2004
- 485949 01; ES 1VY04A Air Side Flowrate Test; 12/10/2002
- 581940 01; Air Side Flowrate Test; 4/4/2005
- 594676 01; ES 1VY04A LPCS Pump Rm Air Side Flowrate Test; 4/4/2005
- 656176 01; Clean Unit 1 A CW Inlet Bay and Bypass Line; 10/29/2004
- 661696 01; U-2 NE Cubicle Area Cooler Air Side Flowrate Test; 1/1/2005
- 673390 01; MM 2CW01PA, Inspect/Clean Circ Water Bay Per LTS-600-23; 12/28/2004
- 759096 01; SW CNR RM Cooler Air Side Flowrate Test; 5/8/2006
- 781090 01; ES 1A FC Emergency Makeup Piping NDE UT; 7/26/2005
- 781091 01; LPCS Motor Cooler Piping NDE UT; 12/1/2005
- 781092 01; LPCS Motor Cooler Piping NDE UT; 11/30/2005
- 781093 01; RHR CSCS Piping NDE UT; 6/13/2005
- 781094 01; ES B FC Emergency Makeup Piping NDE UT; 8/16/2005
- 781096 01; ES 2A FC Emergency Makeup Piping NDE UT; 8/30/2005
- 781097 01; EP RHR CSCS Piping NDE UT Pipe 1RH84BA-1.5" (1A RH Seal Clr); 6/17/2005

1R11 Licensed Operator Requalification Program

- ESG 63; Licensed Operator Requalification Scenario Guide; Revision 1

## 1R12 Maintenance Effectiveness

Control Room Narrative Logs; June 7, 2006 through June 19, 2006

### Engineering Evaluations:

- EC 353775; Evaluation of Unit 2B RHR Heat Exchanger Thermal Performance Test Data; Revision 0
- EC 361808; GL 89-13 Program for RHR Heat Exchangers; Revision 0

### Issue Reports:

- 497654; 0B VC Compressor Tripped; 6/7/2006
- 498720; 'B' VC Compressor Step Change in Oil Pressure; 6/10/2006
- 498762; Small Particle Found in 'B' VC Compressor Oil Regulator; 6/10/2006
- 498966; 0VC05CB Repetitive Maintenance; 6/12/2006
- 045786; GL 89-13 Review for Digital Upgrades Mod; 2/23/2001
- 095199; Missed Opportunity to Inspect the 2B DG Heat Exchanger SW; 2/14/2002
- 098176; 2B RHR Heat Exchanger Test (L2R08) Results are Indeterminate; 11/12/2000
- 205117; NOS Ids Unqualified Inspectors Performing 89-13 Inspections; 3/01/2004
- 232215; Historical Failure to Follow RS-AA-110; 6/29/2004
- 263535; GL 89-13 Commitment Changes are Required; 10/14/2004
- 299006; L2R10 LL- Isolation of RR Pumps Disrupted LTS-200-17 Test; 2/07/2006
- 324529; 1st Quarter 2005 Heat Exchanger Checkin Results; 4/14/2005
- 385752; GL 89-13 Program PI for 3<sup>rd</sup> Quarter is Yellow; 10/13/2005
- 455081; Check-in Design Engineering: NRC Inspection - Heat Sink; 7/28/2006
- 458571; Results of 1A RHR Thermal Performance Test Indeterminate; 2/21/2006
- 463253; ACE Needed to Evaluate RHR HX Thermal Performance Testing.; 2/21/06
- 473455; NRC Identified Discrepancies with the 89-13 Program; 3/31/2006
- 478852; 89-13 Program PI for 1<sup>st</sup> Quarter 2006 is Yellow; 4/14/2006
- 479741; LTS-200-17 RHR HX Thermal Performance Test Issues; 4/17/2006
- 500835; Clarification of GL 89-13 Program Requirements; 6/16/2006
- 513814; 89-13 Program PI for 2nd Quarter is Yellow; 7/14/2006
- 515613; GL 89-13 Issues with HX Monitoring Program; 8/01/2006
- 522479; Eval of 2B RHR Hx Indeterminate Tests Not Documented; 8/14/2006
- 522487; CA from ACE 263535 not Performed as Stated; 8/14/2006
- 522493; Inconsistencies Identified with Heat Exchanger Monitoring; 8/14/2006
- 534870; Eng Check-In Revealed Deficiencies in the GL 89-13 Program; 9/22/2006
- 534872; Eng Check-In Revealed Deficiencies in the GL 89-13 Program; 9/22/2006
- 534875; Eng Check-In Revealed Deficiencies in the GL 89-13 Program; 9/22/2006
- 534877; Eng Check-In Revealed Deficiencies in the GL 89-13 Program; 9/22/2006
- 534889; Minor Documentation Issues Discovered During 89-13 Check-In; 9/22/2006

### Procedures:

- ER-AA-340; GL 89-13 Program Implementing Procedure; Revision 3
- ER-AA-340-1002; Service Water Heat Exchanger and Component Inspection Guide; Revision 3
- LMP-SA-01; Disassembly and Assembly of Service Air Compressor; Revision 11
- LTP-300-34; Service Water System Performance Monitoring Program; Revision 7
- LTS-200-17; RHR Heat Exchanger Test; Revision 5

- LTS-200-17; RHR Heat Exchanger Test; Revision 6
- LTS-200-17; RHR Heat Exchanger Test; Revision 8

Work Orders:

- 866457; OSA01C, Repair/Rebuild Compressor
- 990068110-01; LTS-200-17; 2B RHR HX Xfer Test; 11/12/2000
- 585784-01; ES LTS-200-17; 2B RHR Heat Exchanger Test; 1/14/2005
- 703518-01; ES LTS-200-17; A RHR HX Heat Xfer Test; 1/26/2006

1R13 Maintenance Risk Assessments and Emergent Work Control

Issue Reports:

- 299716; Spurious High Temp. Alarm on 2PL29J; 2/9/2005
- 521689; Minor Damage on Unit 2 Exciter Brush No. 5; 8/19/2006
- 526028; SBLC Drain Barrel Found Overflowing; 8/31/2006
- 533475; 2TIC-VX009 Not Controlling Unit 2 Div. 1 SWG Temperature; 2/9/2006
- 533989; 2RE024 Failed the LOS-PC-Q1 and is Inoperable; 9/21/2006
- 535966; Inadvertent De-energization of Reactor Building Ventilation Power Supply; 9/25/2006

Procedures:

- LEP-GM-136; Raychem Heat Shrink Installation; Revision 8
- LES-GM-126; Generator and Alterex Preventive Maintenance; Revision 31
- LOA-VX-201; Switchgear Heat Removal System Abnormal; Revision 6

Work Orders:

- 957583-01; 2RE024 Failed the LOS-PC-Q1 and is Inoperable; 9/21/2006

1R15 Operability Evaluations

Issue Reports:

- 497765; Lead Shielding Discovered in Reactor Building Without Proper Tag; 6/7/2006
- 500023; Potentially Nonconservative Technical Specification; 6/14/2006
- 506906; Change in N2 Bottle Supplier May Have Consequences; 7/6/2006
- 510191; Assessing TSC Availability; 7/17/2006
- 529286; Control Rod 26-23 Initial Settle Time Slow; 9/11/2006
- 529153; Rod 14-35 Failed Friction Test of LOS-RD-SR7; 9/10/2006

Operability Evaluations:

- 05-004; Instrument Nitrogen 2IN043 Check Valve; Revision 2
- 06-002; Instrument Nitrogen Safety Relief Valves 1(2)B21-F013C, D, E, S, and U; Revision 0
- 06-002; Instrument Nitrogen Safety Relief Valves 1(2)B21-F013C, D, E, S, and U; Revision 1

Operations Standing Orders:

- 06-010; ADS Operability and Bottle Change Out Awareness; 6/14/2006
- 06-014; Unit 2 MFLCPR Administrative Limit due to Control Rod 14-35 Channel Distortion Testing Results; 9/10/2006

Procedures:

- CC-AA-401; Maintenance Specification: Installation and Control of Temporary Shielding and Shielding Components; Revision 6
- NF0400111; LaSalle Station Fuel Channel Bow Assessment and Monitoring Plans; Revision 11

1R19 Post-Maintenance Testing

Issue Reports:

- 521122; Unusual Flow Noise During LOS-SC-Q1; 8/17/2006
- 533989; 2RE024 Failed the LOS-PC-Q1 and is Inoperable; 9/21/2006

Procedures:

- LEP-GM-136; Raychem Heat Shrink Installation; Revision 8
- LOS-PC-Q1; Attachment 2A Unit 2 PCIS Valves Operability and Inservice Inspection Test; Revision 37
- LTS-200-9; RHR Pump Seal Cooler Service Water Side Flowrate Test; Revision 13
- LTS-1100-4; Scram Insertion Times; Revision 27

Work Orders:

- 761935-02; OP PMT; 1C11-D3007 Perform LTS-1100-4; 9/3/2006
- 878319-02; OP PMT; Operable per LTS-1100-4 1C11-D3027-125; 9/3/2006
- 918326-01; ES Eval/ Close LTS-200-9 1A RHR Pump Seal Cooler Flowrate; 7/28/2006
- 923583-01; LOS-SC-01 1B SBLC Pump Quarterly Att 1B; 8/17/2006
- 933414-01; OP LOS-PC-Q1 NOT-MSIVS Att 2A; 9/22/2006
- 957583-01; 2RE024 Failed the LOS-PC-Q1 and is Inoperable; 9/21/2006

1R22 Surveillance Testing

NF0400111; LaSalle Station Fuel Channel Bow Assessment and Monitoring Plans; Revision 11

Procedures:

- LOS-DG-M3; 1B Diesel Generator Idle Start; Revision 64
- LOS-RH-Q1; RHR (LPCI) and RHR Service Water Pump and Valve Inservice Test for Modes 1,2,3,4 and 5; Revision 64
- LTS-400-28; Control Room and Auxiliary Electronic Equipment Room HVAC Pressurization Surveillance; Revision 2
- LOS-RD-SR5; Control Rod Drive Timing; Revision 17
- LOS-RD-SR7; Channel Interference Monitoring; Revision 6

Work Orders:

- 916968-01; OP LOS-RH-Q1 1A RHR Att 1A; 7/26/2006
- 938244-01; OP LOS-DG-M3 U1 HPCS DG Surv Att 1B - Idle; 8/16/2006

1EP6 Drill Evaluation

- ESG 63; Licensed Operator Requalification Scenario Guide; Revision 1

2OS1 Access Control to Radiologically Significant Areas

Issue Reports:

- 474788; Radiation Protection Survey Program Weakness; 4/4/2006

- 508431; Radiation Survey Frequency Question; 7/1/2006
- 509976; Altering Issue Report Titles; 7/17/2006
- 510130; IR Response Inaccurate; 7/17/2006
- 513532; Radiological Conditions Differ from Radiation Protection Survey; 7/26/2006
- 475710; Radiological Posting Discrepancies; 4/6/2006
- 476707; Prompt Investigation Dose Rates in Excess of 1000 Millirem Identified in 'B' RHR Corner Room; 4/9/2006

Procedures:

- LRP-1140-1; Radiation Protection Procedure Routine Surveys; Revision 11
- RP-AA-300; Radiological Survey Program; Revision 1
- NSP-CC-3011; UFSAR/FPR Change Request of 12.5.3.2; September 5, 2000

2OS3 Radiation Monitoring Instrumentation and Protective Equipment

Issue Reports:

- 493064; NRC Identified Use of Frisker Not Per Procedure; 5/23/2006
- 502228; Portable Dose Rate Instrument Found Out of Tolerance; 6/21/2006
- 502240; Portable GM Instrument Found Out of Tolerance; 6/21/2006
- 502256; Portable Dose Rate Instrument Found Out of Tolerance; 6/21/2006
- 502272; Portable Dose Rate Instrument Found Out of Tolerance; 6/21/2006
- 516518; Survey Performed Using Survey Instrument Not Source Checked; 7/31/2006
- 519573; Receiving 1PL75J Radiation High Alarms; 8/14/2006
- 519061; Nuclear Oversight Identified Procedure Guidance Associate with Certified Calibration Standards Was Not Followed as Written; 8/9/2006
- 480357; Focus Area Self-Assessment Report Radiation Monitoring Instrumentation; 8/1/2006
- 535966; Inadvertent Component Manipulation during LIS-VR-101; 9/25/2006

Procedures:

- LIS-CM-106; Unit 1 Post-Accident Monitoring Containment Gross Gamma Radiation Monitor Calibration; Revision 11
- LIS-CM-206; Unit 2 Post-Accident Monitoring Containment Gross Gamma Radiation Monitor Calibration; Revision 10
- LIS-VR-102; Unit 1 Reactor Building Fuel Pool Vent Exhaust Radiation Monitor Calibration; Revision 11
- LIS-VR-202; Unit 2 Reactor building Fuel Pool Vent Exhaust Radiation Monitor Calibration; Revision 11
- LRP-1310-9; Charging of SCBA Breathing Air Cylinders for Respiratory Protection; Revision 22
- LRP-1310-14; Test for Internal Contamination of Supplied Air Breathing Hoses; Revision 5
- LRP-5410-11; Canberra Fastscan Whole Body Calibration; October 20, 2005
- LRP-5800-3; Radiation Monitoring Alarm/Trip Setpoint Determination; Revision 10
- LRP-5800-4; Operation and Verification of Counting Efficiencies for Geiger-Mueller Type Contamination Survey Instruments; Revision 8
- LRP-5823; Operation and Calibration of the Merlin Gerin AMP100; Revision 9
- LRP-5825-29; Operation and Use of the Instrument Calibration Facility and Deepwell; Revision 4
- RP-LA-6054-1001; 10 CFR 61 Waste Stream Sampling for 2004; November 1, 2004

#### 4OA1 Performance Indicator Verification

##### Issue Reports:

- 296616; 1E31-N010B Setpoint as Found Outside Allowable Value (LCO); 2/01/2005
- 529369; NRC Identified: RCS Leakage Data Inconsistencies; 9/07/2006

##### Procedures:

- LS-AA-2010; Monthly Data Elements for NRC/WANO Unit/ Reactor Shutdown Occurrences; Revision 4
- LS-AA-2030; Monthly Data Elements for NRC Unplanned Power Changes per 7000 Critical Hours; Revision 4
- LS-AA-2080; Monthly Data Elements for NRC Safety System Functional Failures; Revision 4
- LS-AA-2090; Monthly Data Elements for NRC Reactor Coolant System Specific Activity; Revision 4
- LS-AA-2100; Monthly Data Elements for NRC Reactor Coolant System Leakage; Revision 5
- LS-AA-2140; Monthly Data Elements for NRC Occupational Exposure Control Effectiveness; Revision 4
- LS-AA-2150; Monthly Data Elements for RETS/ODCM Radiological Effluent Occurrences; Revision 5

#### 4OA2 Identification and Resolution of Problems

##### Engineering Evaluations:

- EC 353775; Evaluation of Unit 2B RHR Heat Exchanger Thermal Performance Test Data; Revision 0
- EC 361808; GL 89-13 Program for RHR Heat Exchangers; Revision 0

##### Issue Reports:

- 045786; GL 89-13 Review for Digital Upgrades Mod; 2/23/2001
- 095199; Missed Opportunity to Inspect the 2B DG Heat Exchanger SW; 2/14/2002
- 098176; 2B RHR Heat Exchanger Test (L2R08) Results are Indeterminate; 11/12/2000
- 205117; NOS Ids Unqualified Inspectors Performing 89-13 Inspections; 3/01/2004
- 232215; Historical Failure to Follow RS-AA-110; 6/29/2004
- 263535; GL 89-13 Commitment Changes are Required; 10/14/2004
- 299006; L2R10 LL- Isolation of RR Pumps Disrupted LTS-200-17 Test; 2/07/2006
- 324529; 1st Quarter 2005 Heat Exchanger Checkin Results; 4/14/2005
- 385752; GL 89-13 Program PI for 3<sup>rd</sup> Quarter is Yellow; 10/13/2005
- 455081; Check-in Design Engineering: NRC Inspection - Heat Sink; 7/28/2006
- 458571; Results of 1A RHR Thermal Performance Test Indeterminate; 2/21/2006
- 463253; ACE Needed to Evaluate RHR HX Thermal Performance Testing; 2/21/06
- 473455; NRC Identified Discrepancies with the 89-13 Program; 3/31/2006
- 478852; 89-13 Program PI for 1<sup>st</sup> Quarter 2006 is Yellow; 4/14/2006
- 479741; LTS-200-17 RHR HX Thermal Performance Test Issues; 4/17/2006
- 500835; Clarification of GL 89-13 Program Requirements; 6/16/2006
- 513814; 89-13 Program PI for 2nd Quarter is Yellow; 7/14/2006
- 515613; GL 89-13 Issues with HX Monitoring Program; 8/01/2006
- 522479; Eval of 2B RHR Hx Indeterminate Tests Not Documented; 8/14/2006
- 522487; CA from ACE 263535 not Performed as Stated; 8/14/2006
- 522493; Inconsistencies Identified with Heat Exchanger Monitoring; 8/14/2006

- 534870; Eng Check-In Revealed Deficiencies in the GL 89-13 Program; 9/22/2006
- 534872; Eng Check-In Revealed Deficiencies in the GL 89-13 Program; 9/22/2006
- 534875; Eng Check-In Revealed Deficiencies in the GL 89-13 Program; 9/22/2006
- 534877; Eng Check-In Revealed Deficiencies in the GL 89-13 Program; 9/22/2006
- 534889; Minor Documentation Issues Discovered During 89-13 Check-In; 9/22/2006

Procedures:

- ER-AA-340; GL 89-13 Program Implementing Procedure; Revision 3
- ER-AA-340-1002; Service Water Heat Exchanger and Component Inspection Guide; Revision 3
- LTP-300-34; Service Water System Performance Monitoring Program; Revision 7
- LTS-200-17; RHR Heat Exchanger Test; Revision 5
- LTS-200-17; RHR Heat Exchanger Test; Revision 6
- LTS-200-17; RHR Heat Exchanger Test; Revision 8

Work Orders:

- 990068110-01; LTS-200-17; 2B RHR HX Xfer Test; 11/12/2000
- 585784-01; ES LTS-200-17; 2B RHR Heat Exchanger Test; 1/14/2005
- 703518-01; ES LTS-200-17; A RHR HX Heat Xfer Test; 1/26/2006

## LIST OF ACRONYMS USED

ACE	Apparent Cause Evaluation
ARM	Area Radiation Monitor
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CSCS	Core Standby Cooling System
EDG	Emergency Diesel Generator
FASA	Focused Area Self Assessment
GL	Generic Letter
HPCS	High Pressure Core Spray
HRA	High Radiation Area
IMC	Inspection Manual Chapter
IR	Inspection Report or Issue Report
IST	Inservice Testing
LPCS	Low Pressure Core Spray
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
OE	Operability Evaluation
PI	Performance Indicator
RCIC	Reactor Core Isolation Cooling
RCS	Reactor Coolant System
RETS	Radiological Effluent Technical Specification
RHR	Residual Heat Removal
RP	Radiation Protection
RWP	Radiation Work Permit
SCBA	Self-Contained Breathing Apparatus
SDP	Significance Determination Process
SLC	Standby Liquid Control
TSC	Technical Support Center
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
VC	Control Room Ventilation
VHRA	Very High Radiation Area
VR	Reactor Building Ventilation

Attachment 2  
Confirmatory Measurements Comparison Criteria

The NRC applied the comparison criteria contained in NRC Inspection Procedure (IP) 84750, "Radioactive Waste Treatment, and Effluent and Environmental Monitoring," dated March 15, 1994, to determine if the licensee's measurement results were in statistical agreement with the NRC measurement results. For the purposes of this comparison, the NRC result is divided by its associated uncertainty to obtain the resolution. (Note: For purposes of this process, the uncertainty is defined as the relative standard deviation, one sigma, of the NRC's contract laboratory's analysis.) The licensee's result is then divided by the corresponding NRC result to obtain the ratio (licensee result/NRC). The licensee's measurement is in agreement if the value of the ratio fall within the limits shown in the following table for the corresponding resolution.

<b>Resolution</b>	<b>Acceptance Range (Licensee Result/NRC Result)</b>
<4	Technical Judgement <sup>1</sup>
4-7	0.5-2.0
8-15	0.6-1.66
16-50	0.75-1.33
51-200	0.80-1.25
>200	0.85-1.18

For analyses that are below the minimum detectable concentration (either for the licensee or NRC's contract laboratory), the measurements are determined to be in agreement if both are below the minimum detectable concentration or if one has an uncertainty that is within the minimum detectable concentration.

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<sup>1</sup>The inspectors used technical judgement in reviewing results having a relative 1 sigma uncertainty greater than 25 percent (i.e., resolution less than 4). In these cases, the values were typically very close to the laboratory's detection capabilities, and greater variability was expected. Consequently, these sample comparisons were made based on the inspectors' qualitative review of the analytical results.

Attachment 3

Tritium Sampling Results  
LaSalle Generating Station

#	Collection Date	NRC		Licensee		Ratio: Licensee to NRC	Result	
		Sample ID	Tritium pCi/L $\pm$ uncertainty	MDC	Sample ID			Tritium
1	04/13/06	L-06-1-01	< MDC	180	*L-21	< MDC	n/a	Agreement
2	04/13/06	L-06-1-02	< MDC	180	*L-27	< MDC	n/a	Agreement
3	04/13/06	L-06-1-03	< MDC	180	*L-28	< MDC	n/a	Agreement
4	04/13/06	L-06-1-04	< MDC	180	*L-40	< MDC	n/a	Agreement
5	05/04/06	L-06-2-01	< MDC	180	TS-LS-101S	< MDC	n/a	Agreement
6	05/05/06	L-06-2-02	< MDC	180	TS-LS-102S	< MDC	n/a	Agreement
7	05/05/06	L-06-2-03	< MDC	180	TS-LS-103S	< MDC	n/a	Agreement
8	05/05/06	L-06-2-04	< MDC	180	TS-LS-104S	< MDC	n/a	Agreement
9	05/09/06	L-06-2-05	< MDC	200	TS-LS-105S	< MDC	n/a	Agreement
10	05/24/06	L-06-2-06	< MDC	180	MW-LS-101S	< MDC	n/a	Agreement
11	05/23/06	L-06-2-07	< MDC	180	MW-LS-103S	< MDC	n/a	Agreement
12	05/26/06	L-06-2-08	< MDC	180	MW-LS-104S	< MDC	n/a	Agreement
13	05/26/06	L-06-2-09	1240	140	MW-LS-105S	1280	1.03	Agreement
14	05/26/06	L-06-2-11	< MDC	180	MW-LS-107S	< MDC	n/a	Agreement
15	05/25/06	L-06-2-12	< MDC	180	MW-LS-108S	< MDC	n/a	Agreement

16	05/26/06	L-06-2-13	< MDC		180	MW-LS-109S	< MDC		n/a	Agreement
17	05/25/06	L-06-2-14	< MDC		180	MW-LS-110S	< MDC		n/a	Agreement
18	05/30/06	L-06-2-15	< MDC		200	MW-LS-111S	< MDC		n/a	Agreement
19	05/30/06	L-06-2-16	< MDC		180	MW-LS-112S	< MDC		n/a	Agreement
20	05/24/06	L-06-2-17	< MDC		180	HP-2	< MDC		n/a	Agreement
21	05/24/06	L-06-2-20	< MDC		200	HP-10	< MDC		n/a	Agreement
22	05/23/06	L-06-2-21	< MDC		180	SW-LS-101	232	116	n/a	Agreement
23	05/25/06	L-06-2-24	< MDC		180	SW-LS-104	< MDC		n/a	Agreement
24	05/25/06	L-06-2-25	< MDC		200	SW-LS-105	< MDC		n/a	Agreement
25	05/24/06	L-06-2-26	220	110	180	SW-LS-106	219	113	1.00	Agreement
26	04/12/06	L-06-2-27	< MDC		180	Blowdown Structure	< MDC		n/a	Agreement
27	04/12/06	L-06-2-28	< MDC		180	B2	< MDC		n/a	Agreement
28	04/12/06	L-06-2-29	< MDC		180	B3	< MDC		n/a	Agreement
29	04/12/06	L-06-2-30	< MDC		200	B4	< MDC		n/a	Agreement
30	04/12/06	L-06-2-31	< MDC		200	B5	< MDC		n/a	Agreement
31	04/12/06	L-06-2-32	< MDC		200	B6	< MDC		n/a	Agreement
32	04/12/06	L-06-2-33	< MDC		200	B7	< MDC		n/a	Agreement
33	04/12/06	L-06-2-34	< MDC		200	B8	< MDC		n/a	Agreement
34	04/12/06	L-06-2-35	< MDC		200	B9	< MDC		n/a	Agreement
35	04/12/06	L-06-2-36	< MDC		200	B10	< MDC		n/a	Agreement
36	04/12/06	L-06-2-37	< MDC		200	B11	< MDC		n/a	Agreement
37	04/12/06	L-06-2-38	< MDC		200	B12	< MDC		n/a	Agreement
38	04/12/06	L-06-2-39	< MDC		200	B13	< MDC		n/a	Agreement
39	04/12/06	L-06-2-40	< MDC		200	B14	< MDC		n/a	Agreement
40	04/12/06	L-06-2-41	< MDC		200	B15	< MDC		n/a	Agreement

41	04/12/06	L-06-2-42	< MDC		200	B16	< MDC		n/a	Agreement
42	07/13/06	L-06-3-01	< MDC		180	*L-21	+		n/a	n/a
43	07/13/06	L-06-3-02	< MDC		180	*L-40	+		n/a	n/a
44	07/13/06	L-06-3-03	< MDC		180	*L-28	< MDC		n/a	Agreement
45	07/13/06	L-06-3-04	< MDC		180	*L-27	< MDC		n/a	Agreement
46	05/25/06	L-06-4-01	< MDC		190	MW-LS-106S	< MDC		n/a	Agreement
47	05/24/06	L-06-4-02	< MDC		190	HP-5	< MDC		n/a	Agreement
48	05/24/06	L-06-4-03	< MDC		190	HP-7	< MDC		n/a	Agreement
49	05/23/06	L-06-4-04	< MDC		190	SW-LS-102	< MDC		n/a	Agreement
50	05/23/06	L-06-4-05	< MDC		190	SW-LS-103	< MDC		n/a	Agreement

MDC - Minimum Detectable Concentration

\* REMP Sample Locations

+ Licensee quarterly composites of weekly grab samples that had not been analyzed.

Samples L-06-2-10, -18, -19, -22 and -23 were damaged in shipment and returned to the licensee.

NRC sample uncertainties are based on two sigma counting statistics.