

## La Salle 2

### 2Q/2016 Plant Inspection Findings

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## Initiating Events

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## Mitigating Systems

**Significance:**  May 13, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Monitor the Fouling Conditions of the CSCS Equipment Area Coolers (Section 1R21.3.b(1))**

The team identified a finding of very-low safety significance (Green) and an associated NCV of Title 10, Code of Federal Regulations (CFR), Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to monitor the fouling conditions of the core standby cooling system (CSCS) equipment area coolers. Specifically, the licensee did not develop performance test procedures to assess the fouling conditions of the safety-related CSCS equipment area coolers and did not have acceptance criteria that delineate when to remove accumulations. The licensee captured this issue in their Corrective Action Program (CAP) as Action Request (AR) 02665463 and established a standing order for operations to impose more restrictive service water temperature limits to reasonably assure the operability of the affected coolers until long term corrective actions were implemented to restore compliance.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating System cornerstone attribute of equipment performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance (Green) because it did not result in the loss of operability or functionality of mitigating systems. Specifically, the licensee reviewed actual service water temperature values measured during the last 12 months, performed an operability evaluation, and concluded that the historical temperatures did not exceed the operability limits established by the operability evaluation. The team did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance. Specifically, the test program for the CSCS equipment area coolers was developed in the decade of 1990s. (Section 1R21.3.b(1))

Inspection Report# : [2016007](#) (*pdf*)

**Significance:**  May 13, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Ensure that Both Feed Supply Breakers for Swing DG Components Were Closed During Normal Plant Operation (Section 1R21.3.b(2))**

The team identified a finding of very-low safety significance (Green) and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to have the capability to verify the supply breakers of both reactor units feeding the swing diesel generator (DG) components were closed during normal plant operation. Specifically, the circuit design and procedures for the swing DG room fan, fuel oil transfer pump, and fuel storage

tank room exhaust fan did not ensure the detection of the condition where one of these feeder breakers was tripped in the open position during normal plant operation. The licensee captured this issue in their CAP as AR 02668759 and created a special log to monitor the associated breakers once per day.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating System cornerstone attribute of equipment performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance (Green) because it did not result in the loss of system and/or function, represent an actual loss of function of at least a single train or two separate safety systems out-of-service for greater than its Technical Specifications (TS) allowable outage time, and represent an actual loss of function of one or more non-TS trains of equipment designated as high safety-significant for greater than 24 hours. Specifically, a historical review did not find an example where the swing DG was non functional for a period greater than the applicable TS allowable outage time as a result of this finding during the last year. The team did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency. Specifically, the mean to detect an opened breaker associated with the affected loads was established more than 3 years ago. (Section 1R21.3.b(2))

Inspection Report# : [2016007](#) (pdf)

**Significance:**  May 13, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Inadequate Procedures for Containment Debris Management (Section 1R21.4.b(1))**

The team identified a finding of very-low safety significance (Green) and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure to establish procedures that were appropriate to manage containment debris consistent with the emergency core cooling system strainer debris loading design basis and supporting design information. Specifically, the procedures did not contain instructions for evaluating containment debris sources consistent with the associated analyses and other design documents. The licensee captured the team concerns in their CAP as AR 02663076 and AR 02656299. The immediate corrective actions included an operability evaluation that reasonably determined all of the affected emergency core cooling system strainers remained operable.

The performance deficiency was determined to be more than minor because it was associated with the procedure quality attribute of the Mitigating Systems cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very-low safety significance (Green) because it did not result in the loss of operability or functionality of mitigating systems. Specifically, the licensee performed an operability review and reasonably determined that only a portion of the unqualified coatings would be available for transport to the strainers and this quantity was bounded by the associated design basis analysis. In addition, this review reasonably determined that sufficient analytical margin existed to accommodate the quantities of the other debris types found during recent inspections. The team did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency. Specifically, the associated procedures were established more than 3 years ago. (Section 1R21.4.b(1))

Inspection Report# : [2016007](#) (pdf)

**Significance:**  May 13, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Alternate Shutdown Procedures Failed to Ensure RCIC MOVs Supply Breakers Were Closed (Section 4OA2.b**

**(1)**

The team identified a finding of very-low safety significance (Green) and associated NCV of the LaSalle County Station Operating License for the failure to ensure that procedures were in effect to implement the alternate shutdown capability. Specifically, the abnormal operating procedures (AOPs) established to respond to a fire at the main control room did not include instructions for verifying that supply breakers for three reactor core isolation cooling motor-operated valves (MOVs) were closed to ensure they could be operated from the remote shutdown panel. Fire-induced failures could result in tripping MOV power supply breakers prior to tripping the MOV control power fuses. The licensee captured the team concerns in their CAP as AR 02668854 and established compensatory actions to reset the affected breakers, if required.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of protection against external events (fire), and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very-low safety significance (Green) because it was assigned a low degradation factor. Specifically, the procedural deficiencies could be compensated by operator experience/familiarity and the fact that the AOPs included steps to verify other breakers at the same locations were closed would likely prompt operators to close the remaining breakers. The team determined that this finding had a cross cutting aspect in the area of problem identification and resolution because the licensee failed to take effective corrective actions for a similar issue identified in 2014. Specifically, the resolution of this issue included actions to revise the affected AOPs to include verifying all the reactor core isolation cooling MOVs supplied breakers were closed. However, the licensee failed to include all of the MOVs in the revised AOPs. [P.3] (Section 40A2.b(1))

Inspection Report# : [2016007](#) (pdf)

**Significance:**  Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Perform Required Monthly Fire Extinguisher Inspections per National Fire Protection Association Code**

The inspectors identified a finding of very low safety significance (Green) and an associated non-cited violation of LaSalle Unit 1 and Unit 2 operating licenses, NFP 11 section 2.C.(25) and NFP 18 section 2.C.(15), respectively, for failing to ensure that the inspection requirements of National Fire Protection Association (NFPA) 10 for portable fire extinguishers were satisfied. Specifically, on two separate occasions, the licensee failed to perform the required monthly inspection on all applicable portable fire extinguishers in the reactor building due to a deficiency in station procedure, LMS FP 21, "Monthly Inspection of Portable Fire Extinguishers." The licensee entered this issue into the corrective action program (CAP) as action request (AR) 02574270, AR 02574457, and AR 02604244.

The failure to meet the inspection requirements of NFPA 10 for portable fire extinguishers was a performance deficiency. The performance deficiency was determined to be more than minor because it is associated with the Mitigating Systems cornerstone attribute of protection against external factors, including fire, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, this performance deficiency could have led to the failure of a fire extinguisher to perform when called upon by station personnel or the fire brigade. The inspectors determined the finding was of very low safety significance (Green) in accordance with IMC 0609 Appendix F, "Fire Protection Significance Determination Process." This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Evaluation, because the licensee failed to initially evaluate the issue thoroughly in order to determine the root cause and extent of condition to prevent subsequent inspections from being missed after the issue was brought to their attention by the NRC inspectors.

Inspection Report# : [2015004](#) (pdf)

**Significance:** N/A Jul 17, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Use of an Analytical Method to Determine the Core Operating Limits without Prior NRC Approval (Section 1R17.1.b.(1))**

Severity Level IV. The inspectors identified a Severity Level IV NCV of Technical Specification (TS) Section 5.6.5, for using an analytical method that was not previously reviewed and approved by the NRC. Specifically in 2013, the licensee used TRACG04P code to determine the Oscillation Power Range Monitor setpoints prior to NRC approval. The TRACG04P code was reviewed and approved in April 24, 2015. TS Section 5.6.5.b stated, in part that the analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the TS. The licensee entered this finding into their Corrective Action Program (CAP) as IR 02528609 and IR 02528612 to correct the issue.

The inspectors determined that this issue was a performance deficiency and because the issue had the potential to affect the NRC's ability to perform its regulatory function, the inspectors evaluated this performance deficiency in accordance with the traditional enforcement process. Using the Enforcement Manual, the inspectors characterized the violation as Severity Level IV because the underlying analytical method required NRC approval prior to use. The inspectors did not assign a cross-cutting aspect to this violation in accordance with IMC 0612, Section 07.03.c. (Section 1R17.1.b (1))

Inspection Report# : [2015009](#) (pdf)



**Significance:** G Jul 17, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Perform a Required 50.59 Evaluation (Section 1R17.1.b.(2))**

Severity Level IV/Green. The inspectors identified a Severity Level IV, NCV of Title 10, Code of Federal Regulations (CFR), Part 50.59, "Changes, Tests, and Experiments," and an associated finding of very low safety significance (Green) for the failure to perform and maintain a written evaluation to demonstrate that a calculation revision did not require a license amendment. Specifically, calculation L-003263, "Volume Requirements for ADS Back-up Compressed Gas System (Bottle Banks)," was revised and resulted in new required time critical operator manual actions, procedure changes, UFSAR changes, and an update to the TS Surveillance Requirements; however, a 10 CFR 50.59 evaluation was not performed. The licensee entered this finding into their CAP as IR 2528988.

The inspectors determined this finding was more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of design control. and affected the cornerstone objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee failed to account for new required time critical operator manual actions, procedure changes, Updated Final Safety Analysis Report (UFSAR) changes, and an update to the TS Surveillance Requirements. This finding has a cross-cutting aspect in the area of Problem, Identification, and Resolution, in the area of evaluation because the licensee did not thoroughly evaluate the extent of condition of revising the design calculation. Specifically, the licensee failed to evaluate revising design calculation L 003263 resulting in time critical operator manual actions, procedure changes, UFSAR changes, and an update to the TS Surveillance Requirements. [P.2] (Section 1R17.1.b (2))

Inspection Report# : [2015009](#) (pdf)

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## Barrier Integrity

**Significance:**  Jun 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Partial-Length Rods Exceeded Burnup Limit in Design Basis Method of Analysis**

A finding of very low safety significance and a Severity Level IV non cited violation of Title 10 of the Code of Federal Regulations 50.59, “Changes, Tests, and Experiments,” was discovered by the inspectors for the station's failure to provide a written evaluation for the determination that exceeding the peak burnup limit of 62 GWd/MTU (gigawatt days per metric ton of uranium) for fuel, did not require a license amendment. Specifically, the licensee failed to provide a basis supporting the application of alternate burnup limits to the radiological consequence analysis or alternate source term analysis.

The inspectors determined the finding could be evaluated in accordance with IMC 0609, “Significance Determination Process,” Attachment 0609.04, “Phase 1 - Initial Screening and Characterization of findings,” Table 3 for the Barrier Integrity Cornerstone. The inspectors selected this cornerstone as this issue focused on the evaluation of radiological releases postulated as a result of a fuel handling accident and Tables 2’s inclusion of fuel handling under the Barrier Integrity Cornerstone. Table 3 directed entry into 0609 Appendix A, “Significance Determination Process for Findings At-Power.” The inspectors answered “No” to all of the Barrier Integrity screening questions. Therefore, this issue screens as having very low safety significance (Green). Because violations of 10 CFR 50.59 potentially impede or impact the regulatory process, they are dispositioned using the traditional enforcement process. In accordance with Section 6.1.d.2 of the NRC Enforcement Policy, this violation was categorized as Severity Level IV because the finding screened as having very low safety significance. This finding has a cross-cutting aspect in the area of Human Performance, Design Margins because the licensee did not operate and maintain equipment within design margins.

Inspection Report# : [2016002](#) (*pdf*)

**Significance:**  Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Ensure that Painting Instructions were Appropriate to Preclude Challenging the Operability of Standby Gas Treatment and Control Room Ventilation Charcoal Filters**

The inspectors identified a finding of very low safety significance (Green) and an associated NCV of Title 10, Code of Federal Regulations (CFR), Part 50, Appendix B, Criterion V, “Instructions, Procedures and Drawings” for the licensee’s failure to have instructions or procedures that were appropriate to the circumstances for activities affecting quality. Specifically, procedure LAP-900-1, “LaSalle In Plant Painting,” Revision 22, did not contain instructions or limitations to safeguard against the potential overloading of the charcoal absorber beds of the safety related standby gas treatment (SBGT) system or the control room ventilation/auxiliary electrical equipment room (VC/VE) due to the volatile organic compounds (VOC) present in painting products (e.g., paint, primer, thinner, etc.).

The performance deficiency was determined to be more than minor because if left uncorrected, it had the potential to lead to a more significant safety concern. Specifically, the failure to limit the quantity or type of paint used within the ventilation boundaries of the safety related SBGT or VC/VE emergency filtration systems could have caused those systems to be unable to perform their safety function in the presence of uncontrolled quantities of VOC. In accordance with IMC 0609, Appendix H, “Containment Integrity Significance Determination Process,” the inspectors determined the finding to have very low safety significance (Green). This finding has a cross cutting aspect in the area of Human Performance, Design Margins, because design margins were not carefully guarded with special attention placed on safety related equipment. Specifically, licensee staff failed to recognize the importance of understanding the VOC loading limitations of the SBGT and VC/VE systems with respect to operability, given the large scale of the painting activities throughout the plant.

Inspection Report# : [2015004](#) (*pdf*)

**Significance:**  Feb 18, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Maintain Appropriate Work Instructions Led to Lost Parts in the Reactor Vessel**

A finding of very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures and Drawings,” was self-revealed for the licensee’s failure to verify zero differential pressure across the jet pump plug seals prior to plug removal, an activity affecting quality, in a manner that was appropriate to the circumstances regarding timeliness of the removal. The verification was required by steps 6.13.1 and 6.12 of work orders 1747359–03 and 1804383–05, respectively. The licensee entered this issue into their corrective action program as action requests 2466339 and 2508333. Corrective actions planned and completed include performed additional analysis and testing of jet pump plug tooling, revised procedures/work instructions, and planned upgrades to the jet pump plug tooling to increase the margins associated with the forces required to displace the seal from the plug.

The performance deficiency was determined to be more than minor because if left uncorrected, it had the potential to become a more significant safety concern. Specifically, the robust physical characteristics of the plugs were such that, if unrecovered and unmitigated, coolant flow through certain peripheral fuel assembly orifices could have become blocked by the plugs and potentially led to fuel melt. The inspectors evaluated the finding in accordance with IMC 0609, “Significance Determination Process,” Appendix G, Attachment 1, “Shutdown Operations Significance Determination Process Phase 1 Initial Screening and Characterization of Findings.” Under Exhibit 4, “Barrier Integrity Screening Questions,” the inspectors answered “No” to all of the screening questions. Therefore, this issue screened as having very low safety significance (Green). This finding had a cross cutting aspect in the area of human performance, work management because the licensee did not implement a process of planning, controlling, and executing work activities such that nuclear safety was the overriding priority—as evidenced by the in-field staff verifying zero differential pressure, but then delaying plug removal due to conflicting activities (e.g., shift turnover). As a result, plug removal was later recommenced without re-verifying that conditions had not changed in the intervening period.

Inspection Report# : [2016001](#) (*pdf*)

## **Emergency Preparedness**

## **Occupational Radiation Safety**

**Significance:**  Jun 30, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Implement and Maintain Written Procedures Regarding Respirator Fit Testing**

A finding of very-low safety significance and associated non-cited violation of Title 10 Code of Federal Regulations, Part 20.1703 was identified by the inspectors on May 11, 2016, for the licensee’s failure to implement and maintain written procedures regarding respirator fit testing. These issues were entered into the licensee’s corrective action program as action request 2668632. Corrective actions included invalidating the results for the observed test, removing the qualification from the technician that performed the tests, reaffirmed the procedure requirements with all technicians through a read and sign process, and requested several changes to the Fit Test Procedure RP-AA-444 “Controlled Negative Pressure Fit Testing” Revision 5 to improve alignment to requirements in 29 CFR 1910.134,

## Appendix A, "Fit Testing Procedures (Mandatory)."

The inspectors determined that not consistently performing fit tests in accordance the methods described in 29 Code of Federal Regulations 1910.134, Appendix A, was a performance deficiency, the failure of which was reasonably within the licensee's ability to foresee and prevent. This performance deficiency was determined to be more than minor, because it was associated with program and process attribute of the Occupational Radiation Safety cornerstone and affected its objective to ensure adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. Specifically, the respirator fit testing was being used to certify respirator protection factors of workers which were relied upon to provide protection of workers and any discrepancy affected the licensee's ability to control and limit radiation exposures from airborne sources. In accordance with Inspection Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," the inspectors determined that the finding had very-low safety significance (Green) because the finding did not involve: (1) as-low-as-is-reasonably- achievable planning and controls, (2) a radiological overexposure, (3) a substantial potential for an overexposure, or (4) a compromised ability to assess dose. The inspectors determined that the performance characteristic of the finding that was the most significant causal factor of the performance deficiency was associated with the cross-cutting aspect of Human Performance, Resources. Specifically, leaders ensure that personnel equipment, procedures, and other resources are available and adequate to support nuclear safety.

Inspection Report# : [2016002](#) (pdf)

**Significance:**  Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Follow Procedure Associated with Sealed Source Inventory and Leak Testing**

The inspectors identified a finding of very low safety significance (Green), and an associated non-cited violation of Technical Specification (TS) requirements for the failure to perform leak tests required by station procedures. The inspectors identified multiple discrepancies with the records that are required to demonstrate that sealed radioactive sources were leak tested to prevent the spread of radioactive contamination.

The inspectors determined that the finding was more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening." Specifically, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern, in that, the failure to ensure that the sources are free of external contamination could spread radioactive contamination, including alpha contamination that is not readily detected by personnel monitoring equipment, and result in increased exposure to radiation. The inspectors concluded that this activity was within the licensee's ability to foresee and should have been prevented. This finding was not subject to traditional enforcement since the incident did not result in a significant safety consequence, did not impact the NRC's ability to perform its regulatory function, and was not willful. The finding was assessed using the Occupational Radiation Safety Significance Determination Process, and was determined to be of very low safety significance (Green) because the problem was not an as-low-as-reasonably-achievable (ALARA) planning issue, there were no overexposures nor substantial potential for overexposures, and the licensee's ability to assess dose was not compromised. The inspectors determined that the cause of this incident involved a cross-cutting component in the area of problem identification and resolution. Specifically, the licensee did not conduct self-critical and objective assessment of the program and practice.

Inspection Report# : [2015004](#) (pdf)

**Significance:**  Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Entry into an Area with Unknown Dose Rates**

The inspectors reviewed a finding of very low safety significance (Green) with an associated non-cited violation of Technical Specification (TS) 5.7.1, that was self-revealed when a worker received a dose rate alarm from an electronic dosimeter when he entered an area with an unknown dose rate.

The inspectors determined that the finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening." Specifically, in that the finding impacted the program and process attribute of the Occupational Radiation Safety Cornerstone, and adversely affected the cornerstone objective of ensuring adequate protection of worker's health and safety from exposure to radiation, in that, the unauthorized entry into an area where the dose rates were unknown removed a barrier intended to prevent the worker from receiving unexpected dose. The inspectors concluded that this activity was within the licensee's ability to foresee and should have been prevented. This finding was not subject to traditional enforcement since the incident did not result in a significant safety consequence, did not impact the NRC's ability to perform its regulatory function, and was not willful. The finding was assessed using the Occupational Radiation Safety Significance Determination Process, and was determined to be of very low safety significance (Green) because the problem was not an as-low-as-reasonably-achievable (ALARA) planning issue, there were no overexposures nor substantial potential for overexposures, and the licensee's ability to assess dose was not compromised. The inspectors concluded that the cause of the issue involved a cross-cutting component in the human performance area of teamwork due to communication issues that were reported by the licensee during the pre-job brief for the job.

Inspection Report# : [2015004](#) (pdf)

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## Public Radiation Safety

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### Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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### Miscellaneous

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