

La Salle 2

1Q/2016 Plant Inspection Findings

Initiating Events

Mitigating Systems

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:  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)

Significance:  Jun 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadvertent Operation of Breaker for Unit 2 Train A Residual Heat Removal Suppression Chamber Spray Isolation Valve

A finding of very low safety significance (Green) and associated non-cited violation of Technical Specification 5.4.1, "Procedures," was self revealed when the licensee failed to properly preplan and perform maintenance in accordance with written procedures and instructions appropriate to the circumstances. Specifically, on May 14, 2015, the Work Order (WO 1643222) for testing of the motor for the Unit 2 reactor core isolation cooling water leg pump and involving operation of the motor's breaker did not include precautions or restrictions to prevent the inadvertent operation, by bumping, of the adjacent breaker for the safety-related Unit 2 "A" residual heat removal suppression chamber spray isolation valve. Workers inadvertently bumped and opened the breaker for the residual heat removal valve and rendered the system inoperable.

The finding was determined to be more than minor because it was associated with 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. Specifically, the licensee failed to provide a work order appropriate to the circumstances of the juxtaposed breakers. The subsequent, inadvertent opening of the 2A residual heat removal suppression chamber spray isolation valve breaker, unexpectedly rendered the valve inoperable. This negatively impacted the residual heat removal suppression chamber spray system's ability to reduce suppression chamber pressure by removing one of the required two spray paths. 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, Avoid Complacency, because configuration control and error prevention techniques (robust barriers) in an existing licensee procedure were not appropriately implemented due to the failure of individuals to recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes (H.12). Specifically, licensee staff failed to implement the guidance found in procedure HU AA 101, "Human Performance Tools and Verification Practices."

Inspection Report# : [2015002](#) (pdf)

Barrier Integrity

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:  Jun 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate 10 CFR 50.59 Evaluation for Jet Pump Plugs Affecting Fuel Bundle Cooling

The inspectors identified a Severity Level IV non-cited violation of Title 10 of the Code of Federal Regulations (10 CFR) 50.59, “Changes, Tests, and Experiments,” having very low safety significance (Green), for the licensee’s failure to provide a written safety evaluation supporting the determination that a license amendment was not required for operation with jet pump seal plugs (lost in the reactor vessel in February 2015 during a refueling outage) that could negatively impact fuel bundle cooling during an anticipated operational occurrence (misplaced fuel bundle). The licensee entered this issue into the corrective action program as action report 02486215 and considered the core operable because additional testing demonstrated that with sufficient time (approximately 11 days) at operating temperature, the rubber plugs would degrade and pass through the affected flow orifices.

The finding was determined to be more than minor because the inspectors could not reasonably determine that the activity, to operate with jet pump plugs blocking peripheral fuel bundle flow, would not have required prior NRC approval. Specifically, if the licensee operated a peripheral blocked fuel bundle coincident with a misplaced fuel bundle, the minimum critical power ratio limits/margins may not have been assured. Additionally, this finding was more than minor because the underlying technical issue adversely affected the Barrier Integrity Cornerstone objective of design control and cladding performance. The finding involves the potential for a misplaced fuel bundle concurrent with complete flow blockage to a fuel assembly. Given standard refueling practices, an error that results in plant operation with a misplaced fuel bundle is very unlikely due to strict procedural controls and multiple verifications of fuel assembly placement. In addition, the misplaced fuel assembly would have to be located at a peripheral core location to be susceptible to a jet pump plug that could possibly block bundle cooling and this was very unlikely. Further, the inspectors considered the relatively short duration of time where the plug material parameters were sufficient to cause plugging of an orifice coincident with plant power levels that could challenge the fuel integrity limits. Given these factors, the inspectors determined that the likelihood of a misplaced fuel assembly combined with a blocked orifice that could result in fuel clad damage was very low. Given the very low likelihood of the event scenario to occur and the low consequences if it were to occur, the inspectors concluded that the finding was of very low safety significance (Green). The inspectors identified a cross cutting aspect associated with this finding in the area of Human Performance, Conservative Bias, because the licensee staff did not use a decision-making practice that emphasized prudent choices over those that are simply allowable.

Inspection Report# : [2015002](#) (*pdf*)

Significance:  Jun 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Include Limiting Conditions for Operation in the Technical Specifications

The inspectors identified a Severity Level IV non-cited violation of 10 CFR 50.36, “Technical Specifications,” having very low safety significance (Green), for the licensee’s failure to ensure that limiting conditions for operation were contained in the station’s Technical Specifications. Specifically, as of March 15, 2015, through the Unit 2 Core Operating Limits Report (COLR), Cycle 16, Revisions 1 and 2, the licensee introduced new “Operating Limits for Lost Jet Pump Plug Seals Mitigation Strategy,” that created new limiting conditions of operation as defined by §50.36 (c)(2) but did not incorporate these limiting conditions of operation into the Technical Specifications. The licensee incorrectly believed that because the Core Operating Limits Report was revised via the 50.59 process and the special content that accounted for the existence of the plugs was developed using NRC approved methodologies, the change was acceptable and no change to the Technical Specification was obtained from the NRC.

This finding was considered more than minor because it was associated with the design control attribute of the Barrier Integrity Cornerstone and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Specifically, the Unit 2 Core Operating Limits Report was revised in a manner that created new Limiting Condition of Operations and further, could have resulted in the operation of Unit 2 outside of its approved Technical Specification and license. Operating the unit in accordance with its NRC approved Technical

Specifications could have resulted in the plant operating in an unanalyzed condition that could have resulted in fuel failure.

The finding involves the potential for a failed safety/relief valve or turbine bypass valve concurrent with complete flow blockage to a peripheral fuel assembly, with a simultaneous breakdown of control room operator knowledge of the special steps required by the Core Operating Limits Report revision. Given standard operating practices and the significant amount of extra attention and sensitivity placed on the jet pump plugs and their potential effect, an error that results in licensed operators failing to comply with the restrictive limits of the Core Operating Limits Report would be very unlikely. Additionally, a read and sign was required of all Unit 2 control room operators and supervisors delineating the special compensatory measures to be taken in the event that a Core Operating Limits Report base case component, such as a safety/relief valve were to fail. Further, the inspectors considered the relatively short duration of time (March 15–23, 2015) where the plug material parameters were sufficient to cause plugging of an orifice coincident with plant power levels that could challenge the fuel integrity limits. Given these factors, the inspectors determined that the likelihood of a failed Core Operating Limits Report base case component, combined with the operation of the unit in an unanalyzed condition in accordance with the NRC approved Technical Specifications combined with a blocked orifice that could result in fuel clad damage was very low. Given the very low likelihood of the event scenario to occur and the low consequences if it were to occur, the inspectors concluded that the finding was of very low safety significance (Green). The inspectors determined that this finding had a cross cutting aspect in the area of Human Performance, Change Management, because the licensee leaders did not ensure the use of a systematic process for evaluating and implementing change so that nuclear safety remained the overriding priority.

Inspection Report# : [2015002](#) (*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:  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*)

Public Radiation Safety

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.

Miscellaneous

Last modified : July 11, 2016