

La Salle 2

2Q/2007 Plant Inspection Findings

Initiating Events

Significance:  Mar 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Use Valve Alignment Checklist When Clearing Tag Out Results in Mispositioned Valve and Low Instrument Nitrogen System Header Pressure.

A self-revealing finding of very low safety significance was identified following the removal of a safety tag out and valve realignment for the 2A instrument nitrogen (IN) compressor. Specifically, operations personnel were restoring the system valve lineup following maintenance and placed one valve, 2IN073, into the closed position when it should have been left open, which resulted in an unplanned loss of IN system header pressure. A non-cited violation of Technical Specification 5.4.1.a was also identified for failure to follow the required steps for component restoration following the removal of a safety tag out as outlined in the licensee's procedures. The performance deficiency associated with this finding was the failure on the part of plant operators to follow the provisions of their procedure for equipment clearance orders and safety tagging. The finding was determined to be of more than minor significance in that it had a direct impact on the objective for the Initiating Events Cornerstone for Reactor Safety. Specifically, the inspectors determined that the licensee's failure to properly realign the Unit 2 IN system following maintenance created an unnecessary challenge to control room personnel, who were forced to use an abnormal operating procedure to maintain Unit 2 IN system header pressure to avoid unplanned and unintended valve actuations. Because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available, the inspectors concluded that the finding was of very low safety significance and within the licensee's response band. In addition, the inspectors also determined that the finding was related primarily to the cross-cutting area of Human Performance since personnel work practices did not support human performance in that the licensee failed to define and effectively communicate expectations regarding procedural compliance and personnel did not follow procedures. Corrective actions planned and completed by the licensee included coaching and counseling of the operators involved and a next shift communication message to all operators on the incident and preliminary cause.

Inspection Report# : [2007002](#) (*pdf*)

Significance:  Mar 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Adequately Plan and Proceduralize Reactor Vessel Nozzle Flushing Activities Results in Inadvertent ECCS Injection into the Reactor Vessel.

A self-revealing finding of very low safety significance was identified following the inadvertent initiation of the Division 1 emergency core cooling system (ECCS) on Unit 2 during reactor vessel nozzle flushing from the refuel floor for radiation dose reduction. Specifically, licensee work planning personnel did not recognize the potential adverse impact on ECCS instrumentation taps from using a high-pressure flushing wand to clean out reactor vessel nozzles, and failed to provide personnel performing the flushing activities with adequate procedural instructions. A non-cited violation of 10 CFR 50, Appendix B, Criterion V, was also identified for the failure to adequately prescribe documented instructions or procedures for the work activity that were appropriate to the circumstances. The performance deficiency associated with this finding involved inadequate work planning and written instructions for the reactor vessel nozzle flushing activities. The finding was determined to be of more than minor significance in that it had a direct impact on the objective for the Initiating Events Cornerstone for Reactor Safety. Because the finding involved adequate mitigation capability and was not an event that could be characterized as a loss of control, the inspectors concluded that it was of very low safety significance and within the licensee's response band. In addition, the inspectors determined that the finding was related primarily to the cross-cutting area of Human Performance since the licensee did not appropriately plan work activities consistent with nuclear safety and failed to incorporate risk insights in accordance with the work activity being performed. Corrective actions planned and completed by the

licensee included halting all reactor vessel nozzle flushing operations until an initial investigation into the event was performed and conducting a full root cause analysis for the event.

Inspection Report# : [2007002](#) (*pdf*)

Significance:  Mar 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Procedural Instructions to Place Shutdown Cooling in Service Results in Inadvertent ECCS Injection into the Reactor Vessel.

A self-revealing finding of very low safety significance was identified following the inadvertent initiation of Unit 2 Division 2 ECCS, which occurred when operators started shutdown cooling (SDC) while reactor coolant system was pressurized. Specifically, adequate procedural instructions were not provided and as such, control room personnel did not recognize the potential consequences associated with initiating SDC with a pressurized reactor coolant system. A non-cited violation of 10 CFR 50, Appendix B, Criterion V, was also identified for the failure to adequately prescribe documented instructions or procedures for the work activity that were appropriate to the circumstances. The performance deficiency associated with this finding involved Unit 2 control room personnel not properly or thoroughly reviewing actions associated with starting SDC with the reactor vessel water system solid and pressurized prior to their performance. The finding was determined to be of more than minor significance in that it had a direct impact on the objective for the Initiating Events Cornerstone for Reactor Safety. Because the finding involved adequate mitigation capability and was not an event that could be characterized as a loss of control, the inspectors concluded that it was of very low safety significance and within the licensee's response band. In addition, the inspectors determined that the finding was related primarily to the cross-cutting area of Human Performance since the control room personnel did not use conservative assumptions in decision-making and as such, did not identify the possible unintended consequences of their actions. Corrective actions planned and completed by the licensee included performing an initial investigation into the event, performing an engineering analysis of system impact and conducting a full root cause analysis for the event.

Inspection Report# : [2007002](#) (*pdf*)

Mitigating Systems

Significance:  Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Licensee Relied on Operator Manual Actions for Post-fire SSD.

The inspectors identified a non-cited violation (NCV) of the LaSalle County Station Operating License for the failure to establish the required physical protection or separation of cables to ensure that one redundant train of systems necessary to achieve and maintain hot shutdown condition was free of fire damage. The licensee instead relied on operator manual actions for post-fire Safe Shutdown (SSD) in the event of a fire in non-alternate shutdown areas. The manual actions were not identified in the SSD procedures. Since the inspection in 2005, the licensee implemented appropriate procedure changes and incorporated the required manual actions.

The finding was more than minor because it affected the attribute of protection against external factors (i.e., fire) and it impacted the objective of the mitigating systems cornerstone. The failure to ensure that one redundant train of systems necessary to achieve and maintain hot shutdown condition free of fire damage and failure to provide adequate instructions for manual actions in shutdown procedures could have adversely impacted the operators's ability to promptly take appropriate actions and could have complicated safe shutdown in the event of a fire. The finding was of very low safety significance (Green) based on a Phase 1 SDP evaluation completed in accordance with IMC 0609, Appendix F, "Fire Protection Significance Determination Process."

Inspection Report# : [2007003](#) (*pdf*)

Significance:  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Incomplete Residual Heat Removal Heat Exchanger Vessel Weld Examinations.

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR 50.55a(g)4 for the licensee's failure to perform examinations of the ASME Code Section XI required weld volume for the Unit 1 and 2 'B' residual heat removal (RHR) heat exchanger shell welds. Specifically, the licensee completed only ? of the Code required weld examination volume for four shell welds on each heat exchanger vessel. The performance deficiency associated with this finding was the failure of the licensee to complete a full volumetric examination of the 1B and 2B RHR heat exchanger shell welds. This finding was of more than minor significance because it directly affected the Mitigating System Cornerstone objective of equipment performance (reliability). Because the finding did not represent a design or qualification deficiency that resulted in the loss of operability the inspectors concluded that it was of very low safety significance and within the licensee's response band. In addition, the inspectors also determined that the finding was related primarily to the cross-cutting area of Human Performance, since the licensee failed to ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported. Corrective actions planned and completed by the licensee included repeating the 'B' RHR heat exchanger shell weld examinations to ensure the required Code volume was covered.

Inspection Report# : [2007002](#) (*pdf*)

G

Significance: Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Operator Manual Actions For Maintaining EDG Availability During Surveillance Testing Not Adequately Implemented, as Required by 10 CFR 50.65(a)(4)

A finding of very low safety significance was identified by inspectors during observation of a scheduled 1A emergency diesel generator (EDG) fast start surveillance. Specifically, the inspectors identified that the licensee's manual operator actions in place to ensure EDG availability during the surveillance testing did not meet the requirements of NUMARC 93-01, Section 11. A non-cited violation of 10 CFR 50.65(a)(4) was also identified for failure to adequately assess and manage the increase in risk that result from the proposed activity.

The performance deficiency identified was associated with the licensee's planning and use of operator manual actions to ensure EDG availability during surveillance testing. Specifically, the licensee's manual restoration actions intended to maintain EDG availability during the surveillance test were not properly captured in written instructions or the licensee's procedures. In addition, the inspectors determined that diagnosis by the on-watch operations crew would have been required to successfully restore the EDG in the event of an emergency start demand. The finding was of more than minor significance in that the licensee failed to adequately implement and manage risk compensatory measures (i.e., the use of operator manual actions to ensure component availability) associated with the EDG surveillance activity. Because the Risk Deficit for the finding was calculated to have been significantly less than 1E-6, the inspectors concluded that the finding was of very low safety significance (Green) and within the licensee's response band. Corrective actions planned and completed by the licensee included a review of all procedural uses of operator manual actions to ensure component availability during testing to ensure that adequate written restoration instructions exist, as well as other NUMARC 93-01, Section 11, requirements.

Inspection Report# : [2006006](#) (*pdf*)

G

Significance: Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Promptly Repair a Degraded Condition Associated with the 2B EDG Day Tank Room Structure

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.

Inspection Report# : [2006005](#) (*pdf*)

Significance:  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Procedure Used for GL 89-13 Program Thermal Performance Tests on RHR Heat Exchangers

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.

Inspection Report# : [2006005](#) (*pdf*)

Significance:  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Promptly Correct Identified Issues Associated with the GL 89-13 Program for RHR Heat Exchangers

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 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, 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.

Inspection Report# : [2006005](#) (*pdf*)

Barrier Integrity

Significance:  May 18, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Procedure for Removal of Drywell Head Bolts

Green. The inspectors identified a finding having very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," involving an inadequate maintenance procedure used to remove drywell head bolts. Specifically, in maintenance procedure MA-AB-756-600 "Reactor Disassembly," the licensee failed to provide instructions to remove only "every other bolt" to ensure that the drywell head assembly configuration remained within the analyzed configuration for operating Modes 1 through 3. As a corrective action, the licensee intended to provide additional procedure instructions to restrict bolt removal to every other bolt, or delete the procedure option for early bolt removal with the plant in Modes 1 through 3.

The finding was determined to be greater than minor because absent NRC intervention the inadequate procedure could lead to a more significant problem. Specifically, procedure MA-AB-756-600 would have allowed removal of bolts from adjacent locations on the drywell head assembly which could affect the structural and/or leakage integrity of the containment. The finding was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," because it did not represent an actual open pathway for containment, and did not involve a reduction in defense in depth for the atmospheric control or hydrogen control function of containment. The primary cause of this finding was related to the cross-cutting area of human performance because the licensee did not provide complete, accurate, and up to date design documentation to plant personnel. (Section 1R17)

Inspection Report# : [2007007](#) (*pdf*)

Significance:  May 18, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Lack of Calibrated Air Wrench for Drywell Head Assembly Bolt Installation

Green. The inspectors identified a finding having very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion XII, "Control of Measuring and Test Equipment," involving lack of calibrated tools used to establish torque for the drywell head assembly bolts. Specifically, for five air hammer wrenches used to install drywell head assembly bolts on Unit 1 and Unit 2, the licensee failed to ensure these tools were properly calibrated to confirm the accuracy of the torque applied. The licensee entered this issue into the corrective action program, performed an operability evaluation, and concluded that sufficient torque had been applied to the drywell head bolts. The licensee operability conclusion was based upon the vendor advertised torque wrench specifications, torque

margins available in the design analysis, and periodic air hammer wrench maintenance.

The finding was determined to be greater than minor because absent NRC intervention the lack of calibration testing for these wrenches could lead to a more significant problem. Specifically, the drywell head assembly bolts may not receive sufficient torque to establish a preload which assures containment leakage and structural integrity. The finding was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," because it did not represent an actual open pathway for containment, and did not involve a reduction in defense in depth for the atmospheric control or hydrogen control function of containment. This finding had a cross-cutting aspect in the area of human performance because the licensee did not provide adequate and available facilities and equipment (e.g. calibrated equipment) for personnel reassembling the drywell head. (Section 1R17)

Inspection Report# : [2007007](#) (*pdf*)

Significance:  Mar 31, 2007

Identified By: NRC

Item Type: FIN Finding

De-Tensioning Drywell Head in Mode 3 Has Unanticipated Impact on Technical Specifications.

A finding of very low safety significance was identified by the inspectors during review of the licensee's activities associated with de-tensioning the drywell head in preparation for scheduled reactor refueling operations. Specifically, the inspectors identified that the licensee had not performed a current Technical Specification required Type 'B' local leak rate test (LLRT) with half of the drywell head closure bolts de-tensioned, such that when they performed the de-tensioning activity in Mode 3 the surveillance requirement was no longer met. Because the licensee took action in response to the inspectors' questions and completed a Type 'B' LLRT on the drywell head with half of the closure bolts de-tensioned within the allowed outage time provided in the Technical Specifications, no violation of regulatory requirements was identified in conjunction with the finding. The performance deficiency associated with this finding was the licensee's failure to recognize the impact on the Technical Specifications from this activity until questioned by the inspectors. The finding was determined to be of more than minor significance in that if left uncorrected it would have represented a more significant safety concern. Specifically, absent NRC intervention, the licensee would have not performed a Type 'B' LLRT within the Technical Specification action statement time limit and a Technical Specification violation would have resulted. Because the finding involved adequate mitigation capability, did not impact primary containment availability, and was not an event that could be characterized as a loss of control, the inspectors concluded that it was of very low safety significance and within the licensee's response band. In addition, the inspectors determined that the finding was related primarily to the cross-cutting area of Human Performance since licensee personnel did not use conservative assumptions in decision-making and as such, did not identify the possible unintended consequences their actions. Corrective actions planned and completed by the licensee included the performance of an apparent cause evaluation, and actions for the licensee outage organization to flag any departures from normal practices and discuss these items at weekly pre-outage planning meetings. Other corrective actions included the performance of a 10 CFR 50.59 screening and/or evaluation to support the change to the reactor vessel disassembly procedure allowing the partial de-tensioning of the drywell head in Mode 3, and an action to evaluate potential changes to procedure LTS-100-15.

Inspection Report# : [2007002](#) (*pdf*)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

Last modified : August 24, 2007