Perry 1
3Q/2012 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2012
Identified By: NRC
Item Type: FIN Finding
FAILUR TO FOLLOW OPERATIONS PROCEDURES
The inspectors identified a finding of very low safety significance when the licensee failed to identify logged readings on the Daily Surveillance Requirements Sheets which were above Operational Decision Making Issue (ODMI) trigger points and subsequently failed to take actions in accordance with the ODMI. Specifically, from April 16 through April 26, 2012, the logged leak rate on the 5A feedwater heater drain valve line exceeded an ODMI trigger point and no action was taken by several different operating crews which were on watch over that time span. The issue was entered into the licensee's corrective action program as Condition Report 2012-06660.

The inspectors determined that the finding was more than minor because it is similar to example 4.h of Appendix E to IMC 0612 and it impacted the Human Performance attribute of the Initiating Events Cornerstone, adversely affecting the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. In addition, if left uncorrected, this issue could lead to a more significant safety concern. In accordance with IMC 0609, Attachment 4, Phase 1, "Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance (Green) by answering 'no' to the questions in the Initiating Events column of Table 4a, since the finding does not contribute to both a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding was associated with a cross-cutting aspect in the Work Planning (H.4(c)) component of the Human Performance cross cutting area because licensee supervisory personnel failed to make risk-significant decisions when faced with uncertain or unexpected plant conditions to ensure safety was maintained. Specifically, the licensee's supervisory oversight of the daily surveillance logs did not recognize readings above the ODMI trigger points and as a result, took no actions to correct an out of specification condition as logged for more than 10 days.

Inspection Report# : 2012003 *(pdf)*

Significance: G Jun 30, 2012
Identified By: Self-Revealing
Item Type: FIN Finding
INADEQUATE LIFT PLANT CAUSES LIFING RIG FAILURE
A self-revealed finding of very low safety significance was identified when a rigging evolution in the fuel handling building resulted in suspension of an approximately 10,000 pound support column by only part of the planned lift rig. Specifically, on April 19, 2012, the licensee failed to develop an adequate lift plan in accordance with the licensee procedure. While lifting an approximately 10,000 pound column to the vertical position, the load developed a rolling motion and caused a lifting strap to part. Subsequently, as the load settled, the flat side of the baseplate impacted the fuel handling building floor. The licensee entered the issue into the corrective action program as Condition Report 2012-06153.

The finding was evaluated using IMC 0612, Appendix E and was not similar to any of the examples, but was

determined to be more than minor because if left uncorrected the safety concern would become more significant. Additionally, the performance deficiency impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. In accordance with IMC 0609, Attachment 4, Phase 1, "Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance (Green) by answering 'no' to the questions in the Initiating Events column of Table 4a, since the finding does not contribute to both a reactor trip and the likelihood that mitigation equipment or functions will not be available. This finding was associated with a cross-cutting aspect in the Work Practices (H.4(a)) component of the Human Performance cross-cutting area because licensee personnel proceeded in the face of uncertainty or unexpected consequences. Specifically, the licensee continued the attempted lift of the column despite indications that the load was not reacting as would be expected for a properly designed lifting rig attached to the column.

Inspection Report# : 2012003 *(pdf)*

Significance: G Apr 13, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement Transient Combustible Program
The inspectors identified a finding of very low safety significance and associated NCV of Technical Specifications Section 5.4.1.a for the failure to control transient combustible materials in accordance with fire protection program requirements. Specifically, the licensee failed to remove transient combustibles from the plant after they were no longer required to support a work activity. Upon discovery the licensee entered the issue into their corrective action program and removed the transient combustibles from the area.

The inspectors determined that this finding was more than minor because the transient combustible materials were stored below safety-related Division 1 cables in cable trays and formed a credible fire scenario. This finding was of very low safety significance because the materials would not result in ignition of a fire from existing sources of heat or electrical energy. The finding did not have a cross-cutting aspect because it was isolated and not reflective of current performance.

Inspection Report# : 2012008 *(pdf)*

Significance: G Mar 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
REACTOR MANUAL SCRAM ASSOCIATED WITH INADEQUATE MAINTENANCE RISK EVALUATION
A self-revealed finding of very low safety significance (Green) and an associated NCV of 10 CFR 50.65(a)(4) was identified for failure to assess and manage risk associated with maintenance activities. Specifically, the licensee planned and conducted maintenance on a stator water cooling system pressure gauge on March 1, 2012, as a lower risk evolution than required, and conducted the maintenance online despite several decision points which indicated that this maintenance should have been conducted with the unit offline. When performed on line, the activity caused a reactor scram. The licensee entered the issue into the corrective action program as Condition Report 2012-03231.

The finding was evaluated using IMC 0612, Appendix E, "Examples of Minor Issues," and was determined to be more than minor because it is similar to Example 7.e and resulted in a reactor scram. Additionally, the performance deficiency impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. In accordance with IMC 0609, Appendix K, "Maintenance Risk Assessment and Risk

Management Significance Determination Process," a Region III Senior Reactor Analyst performed an analysis of the risk deficit for the unevaluated condition associated with work on a stator water system pressure gauge resulting in a reactor scram. The Perry Standardized Plant Analysis Risk (SPAR) model version 8.15 and SAPHIRE version 8.0.7.18 was used to calculate an Incremental Core Damage Probability Deficit (ICDPD). The result was an ICDPD of less than 7E-8. The dominant core damage sequences involved: (1) loss of the main condenser, failure of suppression pool cooling, failure of containment spray, failure of the power conversion system, failure of containment venting, and failure of late injection; and (2) failure of the reactor protection system to shutdown the reactor with failure of the recirculation pumps to trip. In accordance with IMC 0609, Appendix K, because the calculated ICDPD was not greater than 1E-6, the finding was determined to be of very low safety significance. This finding was associated with a cross-cutting aspect in the Work Planning (H.3(a)) component of the Human Performance cross-cutting area because the licensee did not incorporate appropriate risk insights into the development of the work package. Specifically, the licensee did not evaluate, during the planning phase of the work preparation, for the impact of re-installation of the pressure gauge and the potential for a pressure spike; a spike which caused a sustained runback of the main turbine generator with a resultant required action by the operators to manually scram the reactor.

Inspection Report# : 2012002 *(pdf)*

Significance: SL-IV Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO COMPLY WITH TS 5.5.11, TS BASES CONTROL PROGRAM
The inspectors identified a finding of very low safety significance and an associated Severity Level IV NCV of Technical Specification (TS) 5.5.11 for failure to comply with the TS Bases Control Program. Specifically, the licensee made a change to the TS Bases, which affected TS 3.8.1, without receiving prior approval from the NRC. The licensee immediately declared equipment affected by TS 3.8.1 inoperable, namely one source of offsite power, and restored it in an expeditious manner. The licensee entered the issue into their corrective action program as CR 2011-02474.

The inspectors determined that the violation was more than minor because in order to perform its regulatory function, the NRC relies on licensees to comply with their licensing basis documents and request prior approval for changes that may affect these documents. Because this issue affected the NRC's ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The inspectors determined that the underlying technical issue could be evaluated using the SDP. Specifically, the Unit 1 transformer, a source of offsite power, was unavailable for longer than allowed by TS 3.8.1. The finding was more than minor because it impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Based on the Phase 3 analysis using IMC 0609, Appendix A, for At-Power situations, the inspectors, in conjunction with a regional senior reactor analyst (SRA), determined that the finding was of very low safety significance (Green). This finding has no cross-cutting aspect as it was not representative of current performance.
Inspection Report# : 2011005 *(pdf)*

Significance: G Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO COMPLY WITH TS 5.5.11, TS BASES CONTROL PROGRAM
The inspectors identified a finding of very low safety significance and an associated Severity Level IV NCV of Technical Specification (TS) 5.5.11 for failure to comply with the TS Bases Control Program. Specifically, the licensee made a change to the TS Bases, which affected TS 3.8.1, without receiving prior approval from the NRC. The licensee immediately declared equipment affected by TS 3.8.1 inoperable, namely one source of offsite power, and restored it in an expeditious manner. The licensee entered the issue into their corrective action program as CR 2011-

02474.

The inspectors determined that the violation was more than minor because in order to perform its regulatory function, the NRC relies on licensees to comply with their licensing basis documents and request prior approval for changes that may affect these documents. Because this issue affected the NRC's ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The inspectors determined that the underlying technical issue could be evaluated using the SDP. Specifically, the Unit 1 transformer, a source of offsite power, was unavailable for longer than allowed by TS 3.8.1. The finding was more than minor because it impacted the Human Performance attribute of the Initiating Events Cornerstone, and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Based on the Phase 3 analysis using IMC 0609, Appendix A, for At-Power situations, the inspectors, in conjunction with a regional senior reactor analyst (SRA), determined that the finding was of very low safety significance (Green). This finding has no cross-cutting aspect as it was not representative of current performance.
Inspection Report# : 2011005 *(pdf)*

Significance: G Dec 02, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Adequately Protect Safety Related Equipment from Internal Flooding
The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” for failure to ensure safety-related equipment would be adequately protected from internal flooding. Specifically, the licensee failed to adequately evaluate the volume of water originating from a postulated crack in service water (SW) piping within the control complex. This finding was entered into the licensee’s corrective action program. The corrective actions included performing additional analyses, establishing compensatory measures, issuing procedure orders, and revising operating procedures.

The performance deficiency was determined to be more than minor because it was associated with the Initiating Events cornerstone attribute of Equipment Performance and affected the cornerstone objective of limiting the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Based on the Phase III Analysis, the inspectors determined the finding was of very low safety significance (Green). The inspectors determined the cause of this finding did not represent current licensee performance and no cross-cutting aspect was assigned.

Inspection Report# : 2011008 *(pdf)*

Significance: SL-IV Dec 02, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Report Unanalyzed Condition Related to Internal Flooding
The inspectors identified a Severity Level IV violation of 10 CFR 50.72, “Immediate Notification Requirements for Operating Nuclear Reactors,” for failure to report within eight hours an unanalyzed condition that significantly degrades plant safety. Specifically, the licensee failed to notify NRC upon discovery of a postulated internal flood in the control complex could result in loss of single failure capability of safety-related equipment. This violation was entered into the licensee’s corrective action program.

The performance deficiency was determined to involve a traditional enforcement violation because it potentially impeded or impacted the regulatory process. The traditional enforcement violation was determined to be more than minor because the information that was not provided through the event notification had a material impact on safety and licensed activities. The traditional enforcement violation was determined to
be a Severity Level IV violation because the failure to report within eight hours an unanalyzed condition did not result

in an unacceptable change to the facility or procedures. An evaluation for cross-cutting aspect was not applicable because this was a traditional enforcement violation.

Inspection Report# : 2011008 *(pdf)*

Mitigating Systems

Significance: G Apr 13, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Ensure Design Spray Density is Achieved
The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to ensure design spray density was achieved for the Unit 1 Division 2 cable chase area. Specifically, the placement of spray nozzles for cable trays did not ensure that the design spray density specified by design calculations would be achieved. The licensee entered the issue into their corrective action program and planned to evaluate their calculation and the actual water density required.

The inspectors determined that the finding was more than minor because the failure to ensure that the design spray density would be achieved resulted in the potential that a fire involving cable trays would not be suppressed. The finding was of very low safety significance due to a combination of low ignition frequencies for the area and only one train of equipment would be affected. The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was an original design issue and not representative of current performance.
Inspection Report# : 2012008 *(pdf)*

Significance: G Apr 13, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Ensure Sprinkler Piping Could be Drained
The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to ensure that sprinkler piping could be drained. Specifically, the licensee failed to install sprinkler piping in accordance with the standard for sprinkler systems which required that all sprinkler pipe and fittings shall be so installed that the system may be drained. The licensee entered the issue into their corrective action program and planned to further assess existing conditions of the piping and determine what changes are needed to ensure piping is drained after a system actuation.

The finding was determined to be more than minor because some corrosion of internal sprinkler piping was observed which could result in blockage of individual sprinkler heads or spray nozzles thereby reducing the effectiveness of the sprinkler system. This finding was of very low safety significance because the inspectors concluded that significantly less than 10 percent of the spray nozzles and sprinkler heads would be affected. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Operating Experience, because the licensee did not evaluate relevant external operating experience. Specifically, the licensee had reviewed operating experience relating to blockage of pre-action sprinkler systems, but did not sufficiently evaluate the operating experience to recognize that it applied to the Perry Nuclear Power Plant.
Inspection Report# : 2012008 *(pdf)*

Significance: G Apr 13, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Install Sequential Timing Device for Fire Pumps
The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to install a sequential timing device for the diesel driven fire pump. Specifically, the standard for fire pumps required that controllers for multiple pump units, such as those at the Perry Nuclear Power Plant, incorporate a sequential timing device to prevent any one pump starting simultaneously with any other pump. The licensee entered the issue into their corrective action program and initiated a modification to install a time delay for the pump.

The inspectors determined that the finding was more than minor because the failure to install a sequential timing device for the diesel driven fire pump could result in both fire pumps starting simultaneously and a significant water hammer which could damage fire protection piping or equipment. The finding was of very low safety significance due to a combination of low ignition frequencies for the affected areas and only one train of equipment would be affected for fires in those areas. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Self and Independent Assessments, because the licensee did not conduct a self-assessment of sufficient depth. Specifically, a self-assessment reviewed an Unresolved Item (URI) relating to this issue for another plant, but failed to identify that the Perry Nuclear Power Plant had the same configuration and requirements as described in the URI.
Inspection Report# : 2012008 *(pdf)*

Significance: G Apr 13, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Provide Full Area Detection
The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of License Condition 2.C(6) for the failure to provide detection throughout Fire Area 1CC-4a. Specifically, Fire Area 1CC-4a was described by the USAR as having an early warning detection system. However, the corridor area of Fire Area 1CC-4a lacked detection. The licensee entered the issue into their corrective action program and planned to evaluate a change to their detection system.

The inspectors determined that the finding was more than minor because the lack of detection in the corridor area of Fire Area 1CC-4a could result in delayed detection of a fire which, if unmitigated, could affect safety-related cables above the corridor area. The finding was of very low safety significance because the portion of Fire Area 1CC-4a which contained safety-related cables did have smoke detectors and a sprinkler/spray system. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Self-Assessments, because the licensee did not conduct a self-assessment of sufficient depth. Specifically, a self-assessment reviewed Fire Area 1CC-4a, but did not assess the design of systems in terms of the licensing basis.
Inspection Report# : 2012008 *(pdf)*

Significance: G Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ESTABLISH A PROCEDURE TO PERFORM MAINTENANCE ON SAFETY-RELATED EQUIPMENT
The inspectors identified a finding of very low safety significance and associated NCV of TS 5.4.1.a for failure to implement a maintenance procedure for safety-related equipment required by Regulatory Guide 1.33, “Quality Assurance Program Requirements (Operation).” Specifically, the licensee performed an internal inspection on the 'B'

train of the annulus exhaust gas treatment system (AEGTS) rendering the train inoperable. The inspectors determined that the licensee performed an activity that affected quality without a proper procedure in place. The licensee entered the issue into their corrective action program as condition report (CR) 2011-05530.

This performance deficiency was determined to be more than minor because it impacted 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 very low safety significance (Green) by answering 'no' to questions in the Mitigating Systems column of IMC 0609, Attachment 4, Table 4a, since the remaining train of AEGTS was operable and did not result in a loss of function for the impacted components, and the inoperable train was not inoperable for longer than allowed by TS. This finding was associated with a cross-cutting aspect in the Decision Making component of the Human Performance cross cutting area because the licensee did not use conservative assumptions to ensure the proposed action was safe. Specifically, the licensee did not evaluate the impact of performing the internal inspection on the operability of the system and utilized an operator to take action if the system was called upon to perform its design function.

Inspection Report# : 2011005 *(pdf)*

Significance: G Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
DIESEL GENERATOR ROOM'S FIRE PROTECTION SYSTEM CONCERN
The inspectors identified a finding of very low safety significance and associated NCV of License Condition 2.C.6 for the failure to install heat detectors in the emergency diesel generator (EDG) rooms in accordance with their listed approval. Specifically, the detectors were installed at a height of 24 feet, which was in excess of approved ceiling height without appropriate reduction of spacing for ceiling height. The licensee entered the issue into their corrective action program as CR 2011-06242 and planned to evaluate modifications to address the issue.

The finding was determined to be more than minor because the failure to install heat detectors in accordance with their listed approval was associated with the Mitigating Systems Cornerstone attribute of protection against external factors (fire) and adversely affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the high installation height for the detectors without appropriate reduced detector spacing would result in requiring a larger fire and a delay in carbon dioxide system actuation. This finding was of very low safety significance using IMC 0609, Appendix F, "Fire Protection Significance Determination Process," because a fire involving an EDG would only affect the EDG involved in the fire due to the substantive fire barriers between the EDG rooms. The evaluated conditions were not significant risk contributors. The inspectors did not identify a cross-cutting aspect associated with the finding because the finding was not representative of current performance.

Inspection Report# : 2011005 *(pdf)*

Significance: G Dec 02, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Control Circuit Voltage Calculation for Safety-Related Motor Starter Contactors
The inspectors identified a finding of very low safety significance and associated Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control", for failure to adequately evaluate the capability of motor control starter contactors to operate during design basis degraded voltage conditions. Specifically, the licensee did not analyze all circuit elements of resistance and failed to incorporate the latest results of calculated plant bus voltages.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating System Cornerstone attribute of equipment performance 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 the finding involved a design or qualification deficiency that did not result in a loss of operability. Specifically, the licensee performed an operability evaluation taking into account all resistances in the circuit, the latest load flow analysis and test data and concluded there was sufficient voltage available. This finding has a cross-cutting aspect in the area of Resources for failure to ensure complete, accurate, and up-to-date design documentation, procedures, work packages and correct labeling of components.
Inspection Report# : 2011008 *(pdf)*

Significance: G Dec 02, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Test Safety-Related Contactors at Degraded Voltage Conditions
The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failure to test safety-related motor starter contactors at design basis conditions. Specifically, the licensee failed to demonstrate the ability of ESW Pump 'A' discharge valve 1P45F0130A motor starter contactor to operate at minimum pickup voltage during design basis degraded voltage conditions. This finding was entered into the licensee's corrective action program.

The performance deficiency was determined to be more than minor because if left uncorrected it would have the potential to lead to a more significant safety concern. The finding screened as of very low safety significance (Green) because the finding involved a design or qualification deficiency that did not result in a loss of operability. Specifically, after further evaluation, the licensee's engineering staff concluded the issue did not impact current operability because periodic testing for other type of contactors provided validation the valve motor contactor would operate when required for the postulated degraded voltage conditions. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution Corrective Action Program for failure to take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.
Inspection Report# : 2011008 *(pdf)*

Barrier Integrity

Significance: G Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM ADEQUATE EVALUATION OF CRANE SUPPORT STRUCTURE ELEMENTS
A finding of very low safety significance and an associated NCV of Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for failure to provide adequate design control measures for crane support structure elements which included bridge crane rail, bridge crane rail clips, bridge crane rail clip studs, leveling plate and leveling plate anchors. Specifically, for evaluation of these structural elements, the licensee failed to demonstrate Seismic Category I compliance in accordance with their design and licensing basis and failed to evaluate the structural elements for resulting reaction forces from the Fuel Handling Building crane. The licensee documented these issues in CRs 11-88791; 11-90252; 10 86582; and 11-04124.

The performance deficiency was determined to be more than minor because if left uncorrected the performance deficiency could lead to a more significant safety concern if independent spent fuel storage installation (ISFSI) loading was conducted. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, “Significance Determination Process,” Attachment 0609.04, “Phase 1 - Initial Screening and Characterization of Findings,” Table 4a for the Barrier Integrity cornerstone. Based on answering “No” to all the questions in the Barrier Integrity Cornerstone column of Table 4a, the finding was determined to be of very low safety significance (Green).

The inspectors identified a Human Performance, Work Practices (H.4.c) cross-cutting aspect associated with this finding, in that the licensee did not ensure effective supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported. Specifically, the licensee failed to have adequate oversight of design calculations and documentation for establishing structural adequacy of the rail, rail clips, rail clip bolts, leveling plate and leveling plate anchors.
Inspection Report# : 2011005 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Jun 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO APPRORPRATELY CONTROL ACCESS TO A LOCKED HIGH RADIATION AREA
The inspectors identified a finding of very low safety significance and an associated NCV of Technical Specification 5.7.2 for the failure to appropriately barricade and conspicuously post an area that was accessible to personnel with radiation levels such that a major portion of the whole body could receive in 1 hour a dose greater than or equal to 1000 milliRem. Specifically, on May 7, 2012, NRC inspectors identified unposted and unbarricaded access points in the turbine building 557’ catacomb area that permitted unencumbered access to locked high radiation areas in the steam affected areas under and on the turbine deck. This issue was entered into the licensee’s corrective action program as Condition Report 2012-07583.

The inspectors reviewed the guidance in IMC 0612, Appendix E, "Examples of Minor Issues," and determined that the issue was more than minor because the performance deficiency was similar to Example 6(g) in the guidance document. Using IMC 0609, Attachment C for the Occupational Radiation Safety Significance Determination Process (SDP), the inspectors determined that the finding was of very low safety significance because the finding did not involve: (1) As-Low As-Reasonably Achievable (ALARA) planning and controls; (2) a radiological overexposure; (3) a substantial potential for an overexposure; and (4) a compromised ability to assess dose. Because this finding was of very low safety significance, was not repetitive or willful, and was entered into the Perry Nuclear Power Plant corrective action program, this violation is being treated as an NCV consistent with Section 2.3.2 of the NRC Enforcement Policy. Additionally, the primary cause of this finding was related to the cross-cutting aspect of problem identification and resolution in operating experience. Specifically, the licensee failed to implement and institutionalize operating experience through changes to station processes, procedures, equipment, and training programs (P.2 (b)).

Inspection Report# : 2012003 *(pdf)*

Significance: W May 25, 2011
Identified By: NRC
Item Type: VIO Violation
The Licensee Failed to Appropriately Identify and Assess the Radiological Hazards when retracting a Source Range Monitor. (Section 4OA5.7)
The NRC identified a finding and three apparent violations of NRC requirements associated with the removal of a source range monitor from the reactor vessel. Specifically, the inspectors identified an apparent violation of Title 10 of the Code of Federal Regulations (CFR) part 20.1501 "Surveys and Monitoring," because licensee failed to appropriately evaluate and assess the radiological hazards associated with retracting a source range monitor from the reactor vessel. The inspectors also identified examples of apparent violations of Technical Specifications requirements 5.4. "Procedures" and 5.7. "High Radiation Area" associated with this finding. Following this event, the licensee instituted several corrective actions including procuring a new shielded retrieval and transport cask, retracting the source range monitor (SRM) detector and cable into the cask from the carousel instead of the sub-pile room floor, and implementing changes to plant procedures and the plant planning process to more effectively control this work. Additionally, a root cause evaluation was initiated under condition report (CR) 11-932471.

The inspectors reviewed the guidance in NRC Inspection Manual Chapter (IMC) 0612, Appendix E, "Examples of Minor Issues," and did not identify any examples similar to the performance deficiency. However, in accordance with IMC 0612, the inspectors determined that the performance deficiency was more than minor because it could be viewed as a precursor to a significant event. Therefore, the performance deficiency was a finding. The finding did not involve "as low as reasonably achievable" (ALARA) planning or work controls and there was no overexposure. However, the inspectors determined that a substantial potential for an overexposure did exist, in that, it was fortuitous that the resulting exposure did not exceed the limits of 10 CFR Part 20. The event did not occur in a very high radiation area, nor was the licensee's ability to access dose compromised. Consequently, the inspectors concluded that the finding was preliminarily determined to be of White safety significance. The finding had a cross-cutting aspect in the area of human performance related to the cross-cutting component of decision making, in that, the licensee did not use conservative assumptions when developing the work package and authorizing the work for the removal of SRM-C (H.1.b). (Section 4OA5.7)

Final SDP Issued on August 28, 2011 (ml112371689) - with revised violation text as follows:

A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated
in-core source range monitor (SRM).

B. Technical Specification 5.7.1.b states, in part, that entry into high and locked high radiation areas be made after the dose rate levels in the area have been established and personnel are made aware of them.

Contrary to the above, on April 21, 2011, the licensee permitted entry into a high radiation area without establishing the dose rate levels in the area and without personnel being made aware of the dose rates. Specifically, the licensee did not perform a complete radiological characterization of the SRM (a radiological source of unknown magnitude),

which was being pulled toward the work area and toward the workers' escape path. Consequently, the licensee did not inform the workers of the potential dose rate levels associated with their entry into the high radiation area.

C. Technical Specification 5.4.1 requires that written procedures be established, implemented, and maintained covering the activities in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978.

Regulatory Guide 1.33, Revision 2, Appendix A Section 7 addresses, in part, procedures for control of radioactivity for limiting personnel exposure. Section 7.e(1) addresses procedures for access control to radiation areas including a radiation work permits system and Section 7.e(9) addresses procedures for implementation of an as low as is reasonably achievable (ALARA) program.

The licensee established Procedure HPI-C0015, Revision 00, "Radiological Controls for Highly Radioactive and Irradiated Components or Materials," to control highly radioactive objects and materials removed from the reactor vessel.

The licensee established Procedure NOP-OP-4107, Revision 05, "Radiation Work Permit," in part, for implementation of an ALARA program. Step 4.3.2.3 of this procedure states, in part, that ALARA plans are developed with sufficient detail on what requirements, considerations and actions are to be ALARA for the work activity.

Contrary to the above, as of April 21, 2011, the licensee:

a. Failed to establish a procedure that addressed access control to all radiation areas. Specifically, Procedure HPI-C0015 only addressed work activities on the refueling floor and did not address access control to the undervessel radiation area or control of highly radioactive objects and materials removed from the reactor vessel through the undervessel area.

b. Failed to implement Procedure NOP-OP-4107, in that the ALARA plan for work on the SRM lacked sufficient detail about the requirements, consideration, and actions to ensure that the work activity was performed in an ALARA manner. Specifically, the ALARA plan did not ensure that the work activity to retract the irradiated SRM-C contained steps to ensure that the ambient radiation field in the work area in the carousel and sub-pile room areas was being controlled and that the worker actions were in accordance with ALARA considerations.

A. Title 10 of the Code of Federal Regulations (10 CFR) Part 20 Subpart F – Surveys and Monitoring Section 20.1501 requires, in part, that licensees make surveys that may be necessary to comply with the regulations in Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels and the potential radiological hazards. Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal or presence of radioactive material or other sources of radiation.

Contrary to the above, as of April 21, 2011, the licensee failed to make surveys to evaluate the potential radiological hazards incident to work activity to assure compliance with 10 CFR 20.1201, which limits the occupational dose to individual adults. Specifically, the licensee did not perform an evaluation of the potential radiological hazards associated with the work activity prior to authorizing removal of an irradiated
in-core source range monitor (SRM).

(Also numberd as 2011-014-01, but in reality is 2011-013-02)

The associate Traditional Enforcement Item for submitting an inaccurate PI for the associated event is being tracked as item 2011-004-04.
Inspection Report# : 2011013 *(pdf)*

Inspection Report# : 2011014 *(pdf)*

Public Radiation Safety

Significance: G Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MAINTAIN THE PLANT UNDERDRAIN SYSTEM WITHIN USAR DESCRIBED CAPABILITIES
The inspectors identified a finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to maintain the plant underdrain system as described in the Updated Safety Analysis Report (USAR) using adequate design control measures. Specifically, the inspectors determined that the plant underdrain system's condition was unable to support maintaining a design underground water table level of less than 568 feet with the automatic level detection and pumping system as described the USAR. As a result of this inability to maintain the system, a postulated Chapter 15 accident associated with a possible radiation waste tank failure required recalculation to demonstrate radiation safety for the public. The issue was placed in the licensee's corrective action program as CR 2011-07169, Plant Underdrain Groundwater Level Readings Non-Conservative Acceptance Criteria. The site took immediate actions to upgrade the installed system and is utilizing temporary manually operated pumps to assist the normally installed systems.

The performance deficiency was screened in accordance with IMC 0612, Appendix B, "Issue Screening" and determined to be more than minor. None of the IMC 0612, Appendix E examples described this scenario but the inspectors determined that if left uncorrected the performance deficiency had the potential to lead to a more significant radiological safety concern by creating a liquid effluent release path that was not evaluated for radiological dose impact to the public prior to discharge and thus was more than minor. The finding was reviewed for significance in accordance with IMC 0609, Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," and determined that the finding affected the Public Radiation Safety cornerstone, Effluent Release Program. The finding was then reviewed for significance by the inspectors in accordance with IMC 0609, Appendix D, "Public Radiation Safety Significance Determination Process," and determined to be of very low safety significance. Specifically, the finding did not involve radioactive material control or the radiological environmental monitoring program. The finding was not a failure to implement the radiological effluent release program and public doses values were not greater than 10 CFR Part 50, Appendix I, criteria or 10 CFR 20.1301(e) criteria. The finding was associated with a cross-cutting aspect in the Corrective Action Program component of the Problem Identification and Resolution cross-cutting area because the licensee did not thoroughly evaluate problems such that the resolutions addressed causes and extent of conditions. Specifically, numerous deficiencies previously identified with the plant underdrain system were not addressed in enough detail to thoroughly evaluate the problem and extent of condition to allow the system to maintain the plant underground water table at USAR described levels.

Inspection Report# : 2011005 *(pdf)*

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

Significance: N/A Jan 27, 2012
Identified By: NRC
Item Type: FIN Finding
Overall Finding Perry from Nuclear Plant 2012 Problem Identification and Resolution Inspection
On the basis of the activities selected for review, the team concluded that implementation of the problem and identification process and the corrective action program (CAP) at Perry Nuclear Plant had varying elements of effectiveness. The licensee normally had a low threshold for identifying problems and entering them in the CAP with some instances of condition reports not generated until after identification by the resident inspectors. Items entered into the CAP were screened and prioritized in a timely manner using established criteria and were evaluated commensurate with their safety significance. However, the thoroughness and effectiveness of some evaluations was found deficient by the team and by licensee audits and self-assessments. The issues with the effectiveness of evaluations including the effectiveness of identifying root and contributing causes, contributed to corrective actions not consistently correcting conditions. The team concluded the licensee's overall implementation of actions that correct issues and prevent recurrence of issues was marginally effective. The team noted that the licensee reviewed Operating Experience (OE) for applicability to station activities. Audits and self assessments were determined to be performed at an appropriate level to identify deficiencies. On the basis of interviews conducted during the inspection, workers at the site expressed freedom to enter nuclear safety concerns into the CAP or to report them to supervision.
Inspection Report# : 2012007 *(pdf)*

Last modified : November 30, 2012