



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352

November 4, 2014

Mr. Ernest Harkness
Site Vice President
FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant
P. O. Box 97, 10 Center Road, A-PY-A290
Perry, OH 44081-0097

SUBJECT: PERRY NUCLEAR POWER PLANT
NRC INTEGRATED INSPECTION REPORT 05000440/2014004

Dear Mr. Harkness:

On September 30, 2014, the U.S. Nuclear Regulatory Commission (NRC) completed a baseline inspection at your Perry Nuclear Power Plant. On October 9, the NRC inspectors discussed this inspection with you and members of your staff. The inspectors documented the results of this inspection in the enclosed inspection report.

The NRC inspectors documented one finding of very low safety significance (Green) in this report. The finding involved a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV), consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violation or significance of this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Perry Nuclear Power Plant.

If you disagree with the cross-cutting aspect assigned to the finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at Perry Nuclear Power Plant.

E. Harkness

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In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Michael Kunowski, Chief
Branch 5
Division of Reactor Projects

Docket No. 50-440
License No. NPF-58

Enclosure:
Inspection Report 05000440/2014004
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-440

License No: NPF-58

Report No: 05000440/2014004

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Perry Nuclear Power Plant, Unit 1

Location: North Perry, Ohio

Dates: July 1 through September 30, 2014

Inspectors: M. Marshfield, Senior Resident Inspector
J. Nance, Resident Inspector
J. Beavers, Emergency Preparedness Inspector
T. Briley, Resident Inspector, Davis-Besse
R. Edwards, Reactor Inspector
M. Phalen, Senior Health Physicist

Approved by: M. Kunowski, Chief
Branch 5
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

Inspection Report 05000440/2014004, 07/01/2014 – 09/30/2014, Perry Nuclear Power Plant; Radiological Hazard Assessment and Exposure Controls.

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. One green finding was self-revealed. The finding was considered a non-cited violation (NCV) of NRC regulations. The significance of inspection findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," effective January 1, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated July 9, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

Cornerstone: Public Radiation Safety

Green: A self-revealed finding of very low safety significance (Green) and an associated non-cited violation (NCV) of 10 CFR 20.1501 was identified on July 14, 2014, for the failure to conduct surveys that may be necessary for the licensee to comply with the regulations in Part 20 of the *Code of Federal Regulations* (CFR). The inspectors determined that the licensee did not perform adequate surveys to assure compliance with 10 CFR 20.1802, which requires that the licensee control and maintain constant surveillance of licensed material that is in a controlled area or unrestricted areas and that is not in storage. Specifically, on July 14, licensee surveys of the service air compressor lube oil coolers were not adequate to control licensed material from being unconditionally released from the site. The inspectors determined that this was a performance deficiency, the cause of which was reasonably within the licensee's ability to foresee and correct, 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. This issue was entered into the licensee's corrective action program as Condition Report (CR) 2014-11729. Licensee corrective actions included intrusive management actions to address individual performance weaknesses, radioactive material control practices, and sharing lessons learned with applicable station staff.

The performance deficiency was determined to be more than minor because it was associated with the Public Radiation Safety Cornerstone attribute for program and process and affected the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive material released into the public domain. The finding was determined to be of very low safety significance because the finding was not a transportation issue, did not involve radioactive effluents, and did not involve the Radiological Environmental Monitoring Program. This finding has a cross-cutting aspect in the area of human performance, challenge the unknown, for the radiation protection technician's failure to stop when faced with uncertain conditions and to ensure that risks are evaluated and managed before proceeding (H.11). (2RS1)

REPORT DETAILS

Summary of Plant Status

The plant began the inspection period at 100 percent power. With the exception of minor reductions in power to support routine surveillances and required reductions for heavy atmospheric heat load days due to summer weather, the plant remained at full power for the entire quarter.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection (71111.01)

External Flooding

a. Inspection Scope

The inspectors evaluated the design, material condition, and procedures for coping with the design basis probable maximum flood. The evaluation included a review to check for deviations from the descriptions provided in the Updated Safety Analysis Report (USAR) for features intended to mitigate the potential for flooding from external factors. As part of this evaluation, the inspectors checked for obstructions that could prevent draining and determined that barriers required to mitigate the potential flood were in place and operable. Additionally, the inspectors performed a walkdown of the protected area to identify any modification to the site which would inhibit site drainage during a probable maximum precipitation event or allow water ingress past a barrier. The inspectors also walked down underground bunkers/manholes subject to flooding that contained multiple train or multiple function risk-significant cables. The inspectors also reviewed the operating procedures for mitigating the design basis flood to ensure they could be implemented as written. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one external flooding sample as defined in Inspection Procedure (IP) 71111.01–05.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

Quarterly Partial System Walkdowns

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- reactor core isolation cooling system (RCIC);

- control room heating, ventilation, and air conditioning (HVAC) emergency recirculating system; and
- Division 2 emergency diesel generator (EDG) system.

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, the USAR, Technical Specification (TS) requirements, past and outstanding work orders (WOs), condition reports (CRs), and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted three partial system walkdown samples as defined in IP 71111.04–05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05Q)

a. Inspection Scope

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- Fire Zones 0EW-1a and 0EW-1b (Emergency Service Water Pump House and Diesel Fire Pump Room);
- Fire Zones 0CC- 2A,2B,2C (Control Complex 599' Elevation);
- Fire Zones 1CC-3B & 1DG-1B (Division 3 Switchgear Room and Division 3 Diesel Generator Room);
- Fire Zone; 1AB-3B (Auxiliary Building 620' Elevation); and
- Fire Zone; 1CC-3D and 0IB-1 (Unit 1 – Remote Shutdown Panel Room and IB 574' and 585' Elevations).

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant; effectively maintained fire detection and suppression capability; maintained passive fire protection features in good material condition; and implemented adequate compensatory measures for out-of-service, degraded, or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan.

The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. The inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP. Documents reviewed are listed in the Attachment to this report.

These activities constituted five quarterly fire protection inspection samples as defined in IP 71111.05–05.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program (71111.11)

.1 Resident Inspector Quarterly Review of Licensed Operator Regualification (71111.11Q)

a. Inspection Scope

On July 7, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator regualification training to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator regualification program simulator sample as defined in IP 71111.11.

b. Findings

No findings were identified.

.2 Resident Inspector Quarterly Observation of Heightened Activity or Risk (71111.11Q)

a. Inspection Scope

On July 16 and on August 22, the inspectors observed control room activities in response to steam jet air ejector 'B' inter-condenser high / low alarms and a planned downpower to 60 percent, respectively. These were activities that required heightened awareness or were related to increased risk. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms (if applicable);
- correct use and implementation of procedures;
- control board (or equipment) manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications (evaluation indicated that none were required although a few off-normal instructions were entered because of these event/activities).

The performance in these areas was compared to pre-established operator action expectations, procedural compliance, and task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator heightened activity/risk sample as defined in IP 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving:

- vital battery maintenance programs; and
- C11 - control rod drive system.

The inspectors reviewed events, such as where ineffective equipment maintenance had resulted in valid or invalid automatic actuations of engineered safeguards systems, and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures;
- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;

- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- verifying appropriate performance criteria for structures, systems, and components/functions classified as (a)(2), or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These inspections constituted two quarterly maintenance effectiveness samples as defined in IP 71111.12–05.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the conditions or maintenance and emergent work activities listed below that involved risk-significant and safety-related equipment to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- EK-1-B1, Division 2 essential regulating transformer failure transient and repairs;
- chemical treatment of raw water systems;
- RCIC water leg pump low discharge pressure trip unit gross failure;
- Division 1 emergency closed cooling system maintenance outage; and
- Unit 1 startup transformer cooling group's backup power supply breaker.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Documents reviewed during this inspection are listed in the Attachment to this report.

These maintenance risk assessments and emergent work control activities constituted five samples as defined in IP 71111.13–05.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- prompt functionality assessment for post-Fukushima external flooding evaluation was reviewed and discussed with responsible site engineers;
- average power range monitor 'D' operability determination with the inability to calibrate three local power range monitors due to failed installed test equipment;
- plant operation with extraction steam to feedwater heater '3B' isolated; and
- Technical Support Center ventilation recirculation system functionality assessment.

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TSs and USAR to the licensee's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment to this report.

These operability inspections constituted four samples as defined in IP 71111.15–05.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

The inspectors reviewed the permanent modifications made for relocating the drum overspeed sensor and travel limit switches for the fuel handling building crane to support an independent spent fuel storage campaign.

The inspectors reviewed the configuration changes and associated 10 CFR 50.59 safety evaluation screening against the design basis, the USAR, and the TSs, as applicable, to verify that the modification did not affect the operability or availability of the affected system(s). The inspectors, as applicable, observed ongoing and completed work activities to ensure that the modifications were installed as directed and consistent with the design control documents; the modifications operated as expected; post-modification testing adequately demonstrated continued system operability, availability, and reliability; and that operation of the modifications did not impact the operability of any interfacing systems. As applicable, the inspectors verified that relevant procedure, design, and

licensing documents were properly updated. Lastly, the inspectors discussed the plant modification with operations, engineering, and training personnel to ensure that the individuals were aware of how the operation with the plant modification in place could impact overall plant performance. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one permanent plant modification sample as defined in IP 71111.18–05.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the following post-maintenance activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- standby liquid control 'B' pump suction valve static motor operated valve test;
- retest for replacement of RCIC high steam flow and timer channel relay;
- diesel driven fire pump battery replacement testing;
- class 1E 480-Volt bus 'EF-1-B' terminal board replacement;
- annulus exhaust gas treatment 'B' iodide verification and plenum inspection; and
- RCIC system maintenance outage post-maintenance test.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion); and test documentation was properly evaluated. The inspectors evaluated the activities against TSs, the USAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

These inspections constituted six post-maintenance testing samples as defined in IP 71111.19–05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- Surveillance Instruction (SVI)-E21-T2001; Low-Pressure Core Spray Pump and Valve Operability Test (inservice testing);
- SVI-E22-T5220; Performance Test of Battery Capacity – Division 3 (Unit 2) (routine testing);
- SVI-E51-T2001; RCIC Pump and Valve Operability Test (routine testing);
- SVI-E12-T2002; RHR (Residual Heat Removal) 'B' Pump and Valve Operability Test (routine testing);
- SVI-R43-T1318; Diesel Generator Start and Load Division 2 (routine testing);
- SVI- C51-T5351; LPRM (Local Power Range Monitor) Calibration (routine testing);
- SVI-B21-T0138-E; ECCS (Emergency Closed Cooling System) Drywell Pressure High Chamel 'E' Calibration for 1B21-N094E (routine testing); and
- SVI-C11-T1003-A; Control Rod Exercise (Part 1) (routine testing).

The inspectors observed in-plant activities and reviewed procedures and associated records to determine the following:

- did preconditioning occur;
- the effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;
- as-left setpoints were within required ranges; and the calibration frequency was in accordance with TSs, the USAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;
- where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers code, and reference values were consistent with the system design basis;
- where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;

- where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure;
- where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished;
- prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test;
- equipment was returned to a position or status required to support the performance of its safety functions; and
- all problems identified during the testing were appropriately documented and dispositioned in the CAP.

Documents reviewed are listed in the Attachment to this report.

These inspections constituted seven routine surveillance testing samples, and one inservice testing sample as defined in IP 71111.22, Sections–02 and–05.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on July 23, 2014, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the Technical Support Center and the Simulator Control Room to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the Attachment to this report.

This emergency preparedness drill inspection constituted one sample as defined in IP 71114.06–06.

b. Findings

No findings were identified.

2. OCCUPATIONAL AND PUBLIC RADIATION SAFETY

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

The inspection activities supplement those documented in NRC Inspection Report 05000440/2014003.

Documents reviewed are listed in the Attachment to this report.

Contamination and Radioactive Material Control (02.04)

a. Inspection Scope

The inspectors observed locations where the licensee monitors potentially contaminated material leaving the radiological control area and inspected the methods used for control, survey, and release from these areas. The inspectors observed the performance of personnel surveying and releasing material for unrestricted use and evaluated whether the work was performed in accordance with plant procedures and whether the procedures were sufficient to control the spread of contamination and prevent unintended release of radioactive materials from the site. The inspectors assessed whether the radiation monitoring instrumentation had appropriate sensitivity for the type(s) of radiation present.

The inspectors reviewed the licensee's criteria for the survey and release of potentially contaminated material. The inspectors evaluated whether there was guidance on how to respond to an alarm that indicated the presence of licensed radioactive material.

b. Findings

Introduction: A self-revealed finding of very low safety significance (Green) and an associated NCV of 10 CFR 20.1501 was identified for a failure to conduct an adequate radiological evaluation, in the form of surveys, of radioactive materials unconditionally released from the plant into the public domain.

Description: On July 14, 2014, personnel at Perry were notified by a local scrap metal dealer that a container (dumpster) of scrap metal received that day from Perry appeared to contain radioactive material. A follow-up investigation by the licensee's staff determined that two service air compressor lube oil coolers in the dumpster had dose rate readings above background and had caused the scrapyard radiation monitors to alarm. The surveys of the coolers and the dumpster at Perry before the dumpster was sent to the scrapyard had not been adequate to control licensed material from being unconditionally released from the site. This transport of contaminated materials to a non-licensed facility resulted from the loss of control of radioactive material.

The air compressor lube oil coolers were previously serviced by the nuclear closed cooling (NCC) water system. The NCC system was known by the station to be contaminated with low levels of radioactive materials. In May 2014, work planning began to replace the station's service air compressors. The WOs contained specific information to the workers that the NCC piping system had a low level of radiological contamination. Additionally, the workers were notified to contact the radiation protection (RP) section prior to breaching the NCC system so that the appropriate radiological controls could be established prior to the start of work. The RP section established a

temporary radiologically controlled area (RCA) around the service air compressors prior to the start of work and notified the appropriate RP staff members that all NCC piping and interfacing service air components should be considered radiologically contaminated.

When deconstruction of the old air compressors was completed, the craft field supervisor (maintenance) determined that all scrap NCC components and interfacing service air components were removed from the system and moved to a laydown area in the main RCA. The field supervisor then informed appropriate station personnel, including an RP supervisor and technicians that the deconstruction process was complete. An RP technician performed a free release survey of the temporary RCA by collecting smears counted on a frisker to detect loose radioactive contamination and used an ion chamber instrument to take area dose rate readings. The free release survey of the RCA was subsequently approved by an RP supervisor.

At this point, the work area, although free released, contained the service air compressors with the associated contaminated NCC lube oil coolers. Station laborers transported the service air compressor components from the now released RCA to an onsite dumpster. The dumpster was then placed onto a truck for delivery to a local metal scrap dealer. Prior to free release from the station, another RP technician conducted a partial radiological survey of the dumpster and the truck. This survey was not adequate to identify the radiologically contaminated NCC lube oil coolers.

On July 14, 2014, the local scrap metal dealer notified the station that radiation monitors at the entrance to the scrapyard alarmed when the dumpster arrived. The station dispatched RP personnel to the scrap metal dealer facility to perform follow-up radiological surveys.

Surveys performed by the licensee using a frisker and a microrem meter identified two oil coolers that contained radioactive material. No other contaminated metal or components were identified. Surveys of the two oil coolers with a microrem meter identified contact dose rates of up to 200 microrem/hr (0.2 mrem/hr) and dose rates at 30 cm of up to 20 microrem/hr (0.02 mrem/hr). At the time of the survey, the background dose rate was approximately five microrem/hr (0.005 mrem/hr). The licensee prepared two dose estimates; one for the truck driver who transported the container of scrap metal, and one for workers at the scrap metal dealer's facility. The maximum dose to a member of the public from this event was determined to be a nominal 0.060 mrem. This estimated maximum dose was well below the NRC's annual dose limit for individual members of the public of 100 millirem (10 CFR 20.1301(a)(1)).

Corrective actions for this event included intrusive management actions to address individual performance weaknesses, radioactive material control and work control practices, and sharing lessons learned with applicable station staff.

Analysis: The inspectors determined that this finding was a performance deficiency, in that licensee procedure Nuclear Operating Procedure (NOP)-OP-4502, "Control of Radioactive Material," requires complete surveys of potentially radioactive material prior to unconditional release from the plant. The performance deficiency was determined to be of more than minor safety significance in accordance with Inspection Manual Chapter (IMC) 0612, Appendix B, "Issue Screening," dated September 7, 2012, because it impacted the program and process attribute of the Public Radiation Safety Cornerstone

and adversely affected the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive material released into the public domain, in that inadequate surveys resulted in the failure to control radioactive material. The finding was assessed in accordance with IMC 0609, Appendix D, "Public Radiation Safety Significance Determination Process," dated February 12, 2008, and was determined to be of very low safety significance (Green). The finding was not a transportation issue (the dose rates and quantity of radioactive material were below the U.S. Department of Transportation limits of 49 CFR Parts 172 and 173), did not involve radioactive effluents, and did not involve the Radiological Environmental Monitoring Program. The radioactive material found offsite was of low activity and would not have produced a dose to a member of the public in excess of 0.005 rem (5 millirem).

This finding has a cross-cutting aspect in the area of human performance, challenge the unknown, for the failure to stop when faced with uncertain conditions and to ensure that risks are evaluated and managed before proceeding. Specifically, licensee personnel failed to stop when faced with challenges to conducting surveys of components for free release to the public domain and as a result contaminated material was released for transfer without proper controls in place (H.11).

Enforcement: Title 10 CFR 20.1501 requires, in part, that each licensee make or cause to be made surveys that may be necessary for the licensee to comply with the regulations in 10 CFR Part 20, and that are reasonable under the circumstances to evaluate the extent of radiation levels, concentrations or quantities of radioactive materials, and the potential radiological hazards that could be present. 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. 10 CFR 20.1802 requires that the licensee control and maintain constant surveillance of licensed material that is in a controlled area or unrestricted areas and that is not in storage.

Contrary to these requirements, on July 14, 2014, the licensee did not perform adequate surveys as required by 10 CFR 20.1501 to assure compliance with 10 CFR 20.1802. Specifically, on July 14, 2014, the licensee surveys of the service air compressor lube oil coolers were not adequate to control licensed material from inadvertently being unconditionally released from the site and transported to a local scrap metal dealer.

Because this violation was of very low safety significance and was entered into the licensee's corrective action program (CAP, as CR 2014-11729), this violation is being treated as an NCV consistent with Section 2.3.2.a of the NRC Enforcement Policy. Licensee corrective actions included intrusive management actions to address individual performance weaknesses, radioactive material control practices, and sharing lessons learned with applicable station staff (**NCV 05000440/2014004-01, Failure to Control the Release of Radioactive Material**).

2RS3 In-Plant Airborne Radioactivity Control and Mitigation (71124.03)

This inspection constituted one complete sample as defined IP 71124.03-05.

Documents reviewed are listed in the Attachment to this report.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed the plant USAR to identify areas of the plant designed as potential airborne radiation areas and any associated ventilation systems or airborne monitoring instrumentation. Instrumentation review included continuous air monitors (continuous air monitors and particulate-iodine-noble-gas-type instruments) used to identify changing airborne radiological conditions such that actions to prevent an overexposure could be taken. The review included an overview of the Respiratory Protection Program and a description of the types of devices used. The inspectors reviewed the USAR, TSs, and emergency planning documents to identify location and quantity of respiratory protection devices stored for emergency use.

The inspectors reviewed the licensee's procedures for maintenance, inspection, and use of respiratory protection equipment, including self-contained breathing apparatus, as well as procedures for air quality maintenance.

The inspectors reviewed any reported performance indicators related to unintended dose resulting from intakes of radioactive material.

b. Findings

No findings were identified.

.2 Engineering Controls (02.02)

a. Inspection Scope

The inspectors reviewed the licensee's use of permanent and temporary ventilation to determine whether the licensee used ventilation systems as part of its engineering controls (in lieu of respiratory protection devices) to control airborne radioactivity. The inspectors reviewed procedural guidance for use of installed plant systems, such as containment purge, spent fuel pool ventilation, and auxiliary building ventilation, and assessed whether the systems were used, to the extent practicable, during high-risk activities (e.g., using containment purge during cavity floodup).

The inspectors selected installed ventilation systems used to mitigate the potential for airborne radioactivity and evaluated whether the ventilation airflow capacity, flow path (including the alignment of the suction and discharges), and filter/charcoal unit efficiencies, as appropriate, were consistent with maintaining concentrations of airborne radioactivity in work areas below the concentrations of an airborne area to the extent practicable.

The inspectors selected temporary ventilation system setups (high-efficiency particulate air/charcoal negative pressure units, down-draft tables, tents, metal "Kelly buildings," and other enclosures) used to support work in contaminated areas. The inspectors assessed whether the use of these systems is consistent with licensee procedural guidance and the as-low-as-is-reasonably-achievable (ALARA) concept.

The inspectors reviewed airborne monitoring protocols by selecting installed systems used to monitor and warn of changing airborne concentrations in the plant and evaluated

whether the alarms and setpoints were sufficient to prompt licensee/worker action to ensure that doses were maintained within the limits of 10 CFR Part 20 and the ALARA concept.

The inspectors assessed whether the licensee established trigger points (e.g., the Electric Power Research Institute's "Alpha Monitoring Guidelines for Operating Nuclear Power Stations") for evaluating levels of airborne beta-emitting (e.g., plutonium-241) and alpha-emitting radionuclides.

b. Findings

No findings were identified.

.3 Use of Respiratory Protection Devices (02.03)

a. Inspection Scope

For those situations where it was impractical to employ engineering controls to minimize airborne radioactivity, the inspectors assessed whether the licensee provided respiratory protective devices such that occupational doses were ALARA. The inspectors selected work activities where respiratory protection devices were used to limit the intake of radioactive materials and assessed whether the licensee performed an evaluation concluding that further engineering controls were not practical and that the use of respirators was ALARA. The inspectors also evaluated whether the licensee established means (such as routine bioassay) to determine if the level of protection (protection factor) provided by the respiratory protection devices during use was at least as good as that assumed in the licensee's work controls and dose assessment.

The inspectors assessed whether respiratory protection devices used to limit the intake of radioactive materials were certified by the National Institute for Occupational Safety and Health/Mine Safety and Health Administration or had been approved by the NRC per 10 CFR 20.1703(b). The inspectors selected work activities where respiratory protection devices were used. The inspectors evaluated whether the devices were used consistent with their National Institute for Occupational Safety and Health/Mine Safety and Health Administration certification or any conditions of their NRC approval.

The inspectors reviewed records of air testing for supplied-air devices and self-contained breathing apparatus bottles to assess whether the air used in these devices met or exceeded Grade D quality. The inspectors reviewed plant breathing air supply systems to determine whether they met the minimum pressure and airflow requirements for the devices in use.

The inspectors selected several individuals qualified to use respiratory protection devices, and assessed whether they had been deemed fit to use by a physician.

Due to limited in-field observations, the inspectors reviewed training curricula for users of respiratory protection devices.

The inspectors chose multiple respiratory protection devices staged and ready for use in the plant or stocked for issuance for use. The inspectors assessed the physical condition of the device components (mask or hood, harnesses, air lines, regulators, air bottles, etc.) and reviewed records of routine inspection for each. The inspectors

selected several of the devices and reviewed records of maintenance on the vital components (e.g., pressure regulators, inhalation/exhalation valves, hose couplings). The inspectors reviewed the Respirator Vital Components Maintenance Program to ensure that the repairs of vital components were performed by the respirators' manufacturer.

b. Findings

No findings were identified.

.4 Self-Contained Breathing Apparatus for Emergency Use (02.04)

a. Inspection Scope

Based on the USAR, TSs, and emergency operating procedure requirements, the inspectors reviewed the status and surveillance records of self-contained breathing apparatuses staged in-plant for use during emergencies. The inspectors reviewed the licensee's capability for refilling and transporting self-contained breathing apparatus air bottles to and from the control room and operations support center during emergency conditions.

The inspectors selected several individuals on control room shift crews and from designated departments currently assigned emergency duties (e.g., onsite search and rescue duties) to assess whether control room operators and other emergency response and RP personnel (assigned in-plant search and rescue duties or as required by emergency operating procedures or the emergency plan) were trained and qualified in the use of self-contained breathing apparatuses (including personal bottle changeout). The inspectors evaluated whether personnel assigned to refill bottles were trained and qualified for that task.

The inspectors determined whether appropriate mask sizes and types were available for use (i.e., in-field mask size and type match what was used in fit-testing). The inspectors determined whether on-shift operators had facial hair that would interfere with the sealing of the mask to the face and whether vision correction (e.g., glasses inserts or corrected lenses) was available as appropriate.

The inspectors reviewed the past 2 years of maintenance records for select self-contained breathing apparatus units used to support operator activities during accident conditions and designated as "ready for service" to assess whether any maintenance or repairs on any self-contained breathing apparatus unit's vital components were performed by an individual, or individuals, certified by the manufacturer of the device to perform the work. The vital components typically were the pressure-demand air regulator and the low-pressure alarm. The inspectors reviewed the onsite maintenance procedures governing vital component work to determine any inconsistencies with the self-contained breathing apparatus manufacturer's recommended practices. For those self-contained breathing apparatuses designated as "ready for service," the inspectors determined whether the required, periodic air cylinder hydrostatic testing was documented and up to date, and the retest air cylinder markings required by the U.S. Department of Transportation were in place.

b. Findings

No findings were identified.

.5 Problem Identification and Resolution (02.05)

a. Inspection Scope

The inspectors evaluated whether problems associated with the control and mitigation of in-plant airborne radioactivity were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee's CAP. The inspectors assessed whether the corrective actions were appropriate for a selected sample of problems involving airborne radioactivity and were appropriately documented by the licensee.

b. Findings

No findings were identified.

2RS4 Occupational Dose Assessment (71124.04)

This inspection constituted one complete sample as defined in IP 71124.04-05.

Documents reviewed are listed in the Attachment to this report.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed the results of RP program audits related to internal and external dosimetry (e.g., licensee's quality assurance audits, self-assessments, or other independent audits) to gain insights into overall licensee performance in the area of dose assessment and focus the inspection activities consistent with the principle of "smart sampling."

The inspectors reviewed the most recent National Voluntary Laboratory Accreditation Program accreditation report on the vendor's most recent results to determine the status of the contractor's accreditation.

A review was conducted of the licensee's procedures associated with dosimetry operations, including issuance/use of external dosimetry (routine, multi-badging, extremity, neutron, etc.), assessment of internal dose (operation of whole body counter, assignment of dose based on derived air concentration-hours, urinalysis, etc.), and evaluation of and dose assessment for radiological incidents (distributed contamination, hot particles, loss of dosimetry, etc.).

The inspectors evaluated whether the licensee established procedural requirements for determining when external and internal dosimetry is required.

b. Findings

No findings were identified.

.2 External Dosimetry (02.02)

a. Inspection Scope

The inspectors evaluated whether the licensee's dosimetry vendor held accreditation from the National Voluntary Laboratory Accreditation Program and if the approved irradiation test categories for each type of personnel dosimeter used were consistent with the types and energies of the radiation present and the way the dosimeter was being used (e.g., to measure deep dose equivalent, shallow dose equivalent, or lens dose equivalent).

The inspectors evaluated the onsite storage of dosimeters before their issuance, during use, and before processing/reading. The inspectors also reviewed the guidance provided to radiation workers with respect to care and storage of dosimeters.

The inspectors assessed whether non-National Voluntary Laboratory Accreditation Program accredited passive dosimeters (e.g., direct ion storage sight read dosimeters) were used according to licensee procedures that provide for periodic calibration, application of calibration factors, usage, reading (dose assessment), and zeroing.

The inspectors assessed the use of active dosimeters (electronic personal dosimeters) to determine if the licensee used a "correction factor" to address the response of the electronic personal dosimeter as compared to the passive dosimeter for situations when the electronic personal dosimeter must be used to assign dose. The inspectors also assessed whether the correction factor was based on sound technical principles.

The inspectors reviewed dosimetry occurrence reports or CAP documents for adverse trends related to electronic personal dosimeters, such as interference from electromagnetic frequency, dropping or bumping, or failure to hear alarms. The inspectors assessed whether the licensee identified any trends and implemented appropriate corrective actions.

b. Findings

No findings were identified.

.3 Internal Dosimetry (02.03)

Routine Bioassay (In Vivo)

a. Inspection Scope

The inspectors reviewed procedures used to assess the dose from internally deposited nuclides using whole body counting equipment. The inspectors evaluated whether the procedures addressed methods for differentiating between internal and external contamination, the release of contaminated individuals, the route of intake, and the assignment of dose.

The inspectors reviewed the whole body count process to determine if the frequency of measurements was consistent with the biological half-life of the nuclides available for intake.

The inspectors reviewed the licensee's evaluation for use of its portal radiation monitors as a passive monitoring system to determine if instrument minimum detectable activities were adequate to determine the potential for internally deposited radionuclides sufficient to prompt additional investigation.

The inspectors selected several whole body counts and evaluated whether the counting system used had sufficient counting time/low background to ensure appropriate sensitivity for the potential radionuclides of interest. The inspectors reviewed the radionuclide library used for the count system to determine its appropriateness. The inspectors evaluated whether any anomalous count peaks/nuclides indicated in each output spectra received appropriate disposition. The inspectors reviewed the licensee's 10 CFR Part 61 data analyses to determine whether the nuclide libraries included appropriate gamma-emitting nuclides. The inspectors evaluated how the licensee accounts for hard-to-detect nuclides in the dose assessment.

b. Findings

No findings were identified.

Special Bioassay (In Vitro)

a. Inspection Scope

There were no internal dose assessments obtained using in vitro monitoring for the inspectors to review. The inspectors reviewed and assessed the adequacy of the licensee's program for in vitro monitoring (i.e., urinalysis and fecal analysis) of radionuclides (tritium, fission products, and activation products), including collection and storage of samples.

The inspectors reviewed the vendor laboratory's quality assurance program and assessed whether the laboratory participated in an industry recognized cross-check program including whether out-of-tolerance results were resolved appropriately.

b. Findings

No findings were identified.

Internal Dose Assessment – Airborne Monitoring

a. Inspection Scope

The licensee had not performed dose assessments using airborne/derived air concentration monitoring since the last inspection.

b. Findings

No findings were identified.

Internal Dose Assessment – Whole Body Count Analyses

a. Inspection Scope

The inspectors reviewed several dose assessments performed by the licensee using the results of whole body count analyses. The inspectors determined whether affected personnel were properly monitored with calibrated equipment and that internal exposures were assessed consistent with the licensee's procedures.

b. Findings

No findings were identified.

.4 Special Dosimetric Situations (02.04)

Declared Pregnant Workers

a. Inspection Scope

The inspectors assessed whether the licensee informs workers, as appropriate, of the risks of radiation exposure to the embryo/fetus, the regulatory aspects of declaring a pregnancy, and the specific process to be used for (voluntarily) declaring a pregnancy.

The inspectors selected individuals who declared pregnancy during the current assessment period and evaluated whether the licensee's Radiological Monitoring Program (internal and external) for declared pregnant workers was technically adequate to assess the dose to the embryo/fetus. The inspectors reviewed exposure results and monitoring controls employed by the licensee and with respect to the requirements of 10 CFR Part 20.

b. Findings

No findings were identified.

Dosimeter Placement and Assessment of Effective Dose Equivalent for External Exposures

a. Inspection Scope

The inspectors reviewed the licensee's methodology for monitoring external dose in non-uniform radiation fields or where large dose gradients exist. The inspectors evaluated the licensee's criteria for determining when alternate monitoring, such as use of multi-badging, was to be implemented.

The inspectors reviewed dose assessments performed using multi-badging to evaluate whether the assessment was performed consistently with licensee procedures and dosimetric standards.

b. Findings

No findings were identified.

Shallow Dose Equivalent

a. Inspection Scope

The inspectors reviewed shallow dose equivalent dose assessments for adequacy. The inspectors evaluated the licensee's method (e.g., VARSKIN or similar code) for calculating shallow dose equivalent from distributed skin contamination or discrete radioactive particles.

b. Findings

No findings were identified.

Neutron Dose Assessment

a. Inspection Scope

The inspectors evaluated the licensee's Neutron Dosimetry Program, including dosimeter types and/or survey instrumentation.

The inspectors reviewed neutron exposure situations (e.g., independent spent fuel storage installation operations or at-power containment entries) and assessed whether: (a) dosimetry and/or instrumentation was appropriate for the expected neutron spectra; (b) there was sufficient sensitivity for low dose and/or dose rate measurement; and (c) neutron dosimetry was properly calibrated. The inspectors also assessed whether interference by gamma radiation had been accounted for in the calibration and whether time and motion evaluations were representative of actual neutron exposure events, as applicable.

b. Findings

No findings were identified.

Assigning Dose of Record

a. Inspection Scope

For the special dosimetric situations reviewed in this section, the inspectors assessed how the licensee assigns dose of record for total effective dose equivalent, shallow dose equivalent, and lens dose equivalent. This included an assessment of external and internal monitoring results, supplementary information on individual exposures (e.g., radiation incident investigation reports and skin contamination reports), and radiation surveys and/or air monitoring results when dosimetry was based on these techniques.

b. Findings

No findings were identified.

.5 Problem Identification and Resolution (02.05)

a. Inspection Scope

The inspectors assessed whether problems associated with occupational dose assessment were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee's CAP. The inspectors assessed the appropriateness of the corrective actions for a selected sample of problems documented by the licensee involving occupational dose assessment.

b. Findings

No findings were identified.

2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06)

This inspection constituted a partial sample as defined in IP 71124.06-05.

Documents reviewed are listed in the Attachment to this report.

.1 Inspection Planning and Program Reviews (02.01)

Event Report and Effluent Report Reviews

a. Inspection Scope

The inspectors reviewed the radiological effluent release reports issued since the last inspection to determine if the reports were submitted as required by the Offsite Dose Calculation Manual/Technical Specifications. The inspectors reviewed anomalous results, unexpected trends, or abnormal releases identified by the licensee for further inspection to determine if they were evaluated, were entered in the CAP, and were adequately resolved.

The inspectors selected radioactive effluent monitor operability issues reported by the licensee as provided in effluent release reports, to review these issues during the onsite inspection, as warranted, given their relative significance, and determine if the issues were entered into the CAP and adequately resolved.

b. Findings

No findings were identified.

Offsite Dose Calculation Manual and USAR Review

a. Inspection Scope

The inspectors reviewed USAR descriptions of the radioactive effluent monitoring systems, treatment systems, and effluent flow paths so they could be evaluated during inspection walkdowns.

The inspectors reviewed changes to the Offsite Dose Calculation Manual made by the licensee since the last inspection against the guidance in NUREG-1301, 1302, and 0133, and Regulatory Guides 1.109, 1.21, and 4.1. When differences were identified,

the inspectors reviewed the technical basis or evaluations of the change during the onsite inspection to determine whether they were technically justified and maintained effluent releases ALARA.

The inspectors reviewed licensee documentation to determine if the licensee had identified any non-radioactive systems that had become contaminated as disclosed either through an event report or the Offsite Dose Calculation Manual since the last inspection. This review provided an intelligent sample list for the onsite inspection of any 10 CFR 50.59 evaluations and allowed a determination if any newly contaminated systems had an unmonitored effluent discharge path to the environment, whether any required Offsite Dose Calculation Manual revisions were made to incorporate these new pathways, and whether the associated effluents were reported in accordance with Regulatory Guide 1.21.

b. Findings

No findings were identified.

Groundwater Protection Initiative Program

a. Inspection Scope

The inspectors reviewed reported groundwater monitoring results and changes to the licensee's written program for identifying and controlling contaminated spills/leaks to groundwater.

b. Findings

No findings were identified.

Procedures, Special Reports, and Other Documents

a. Inspection Scope

The inspectors reviewed licensee event reports, event reports and/or special reports related to the Effluent Program issued since the previous inspection to identify any additional focus areas for the inspection based on the scope/breadth of problems described in these reports.

The inspectors reviewed Effluent Program implementing procedures, particularly those associated with effluent sampling, effluent monitor set-point determinations, and dose calculations.

The inspectors reviewed copies of licensee and third party (independent) evaluation reports of the Effluent Monitoring Program since the last inspection to gather insights into the licensee's program and aid in selecting areas for inspection review (smart sampling).

b. Findings

No findings were identified.

.2 Instrumentation and Equipment (02.04)

Air Cleaning Systems

a. Inspection Scope

The inspectors assessed whether surveillance test results since the previous inspection for Technical Specification required ventilation effluent discharge systems (high-efficiency particulate air and charcoal filtration), such as the standby gas treatment system and the containment/auxiliary building ventilation system, met TS acceptance criteria.

b. Findings

No findings were identified.

4. **OTHER ACTIVITIES**

Cornerstones: Initiating Events and Mitigating Systems

4OA1 Performance Indicator Verification (71151)

.1 Mitigating Systems Performance Index - Heat Removal System

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index (MSPI) - Heat Removal System performance indicator (PI) for the third quarter 2013 through the second quarter 2014. To determine the accuracy of the PI data reported, PI definitions and guidance in Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revisions 6 and 7, were used. The inspectors reviewed the licensee's operator logs, issue reports, event reports, MSPI derivation reports, and NRC IRs to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one MSPI heat removal system (MS08) sample as defined in IP 71151.05.

b. Findings

No findings were identified.

.2 Mitigating Systems Performance Index - Residual Heat Removal System

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI - Residual Heat Removal System PI for the third quarter 2013 through the second quarter 2014. To determine the

accuracy of the PI data reported, PI definitions and guidance in NEI Document 99-02, Revisions 6 and 7, were used. The inspectors reviewed the licensee's operator logs, issue reports, event reports, MSPI derivation reports, and NRC inspection reports (IRs) to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one MSPI residual heat removal system (MS09) sample as defined in IP 71151.05.

b. Findings

No findings were identified.

.3 Mitigating Systems Performance Index - Cooling Water Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI - Cooling Water Systems for the third quarter 2013 through the second quarter 2014. To determine the accuracy of the PI data reported, PI definitions and guidance in NEI Document 99-02, Revisions 6 and 7, were used. The inspectors reviewed the licensee's operator logs, issue reports, event reports, MSPI derivation reports, and NRC IRs to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one MSPI cooling water system (MS10) sample as defined in IP 71151.05.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review of Items Entered into the Corrective Action Program

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify they were being entered into the licensee's CAP at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Attributes reviewed

included: identification of the problem was complete and accurate; timeliness was commensurate with the safety significance; evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrence reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the Attachment to this report.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

To assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished through inspection of the station's daily condition report packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 4OA2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the 6-month period of January 1, 2014 through June 30, 2014, although some examples expanded beyond those dates where the scope of the trend warranted.

The review included issues that were documented outside of the normal CAP, in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and Maintenance Rule assessments. The inspectors

compared and contrasted their results with the results contained in the licensee's CAP trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

This review constituted one semi-annual trend inspection sample as defined in IP 71152-05.

b. Findings

No findings were identified.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) Licensee Event Report (LER) 050004402014-002-00: Division 2 Diesel Generator Inoperability Results in Loss of Safety Function and Condition Prohibited by Technical Specifications

This event was the result of a lube oil system leak on the right bank turbocharger of the Division 2 diesel generator. The licensee identified that the leak originated from a cracked ½" to ¼" Swagelok coupling which began during a previous monthly surveillance run. It was determined that the licensee failed to correct the lube oil leak that was observed during the April 12, 2014, surveillance run, which was a condition adverse to quality. A finding, documenting this, with an associated NCV was previously identified in Perry IR 05000440/2014003. The licensee determined that the root cause of the event was cyclical fatigue of a tube fitting resulting from tubing misalignment and that the tubing misalignment was the result of not providing adequate maintenance and installation guidance. The root cause and corrective actions taken by the licensee were documented in CR 2014-08487. No additional findings were identified by the inspectors following review of the LER. Documents reviewed as part of this inspection are listed in the Attachment to this report. This LER is closed.

.2 (Closed) License Event Report (LER) 050004402014-003-00: Unanalyzed Condition Resulting From Unfused Direct Current Control Circuits

This event was initially reported on June 19, 2014, by the licensee based on a review of industry operating experience. Unfused direct current control circuits that ran from various pieces of equipment through multiple areas of the plant, including the control room, division cable spreading room, and the division cable chase, had the potential to cause secondary fires in multiple plant areas where the circuits were routed which may then challenge the ability to achieve and maintain safe shutdown. The licensee immediately implemented compensatory fire watches for the affected areas in the turbine building, turbine power complex, heater bay, control complex, intermediate building, and auxiliary building. A permanent plant modification was being designed to install overcurrent protection in the affected DC control circuitry. No findings were identified by the inspectors following the review of the LER. This LER is closed.

4OA6 Management Meetings

.1 Exit Meeting Summary

On October 9, 2014, the inspectors presented the inspection results to Mr. E. Harkness, the Site Vice-President, and other members of the licensee staff. The licensee

acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

.2 Interim Exit Meetings

On September 18, 2014, inspection results for the areas of radiological hazard assessment and exposure controls, in-plant airborne radioactivity control and mitigation, occupational dose assessment, radioactive gaseous and liquid effluent treatment, and occupational exposure control effectiveness were discussed with Mr. D. Hamilton, Director of Site Operations. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

E. Harkness, Site Vice-President
D. Hamilton, Site Operations Director
T. Brown, Performance Improvement Director
J. Ellis, Maintenance Director
D. Reeves, Site Engineering Director

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened and Closed

05000440/2014004-01	NCV	Radioactive Material Found Off-Site at a Scrap Metal Vendor Facility (Section 2RS1)
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Closed

050004402014-002-00	LER	Division 2 Diesel Generator Inoperability Results in Loss of Safety Function and Condition Prohibited by Technical Specifications (4OA3.1)
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050004402014-003-00	LER	Unanalyzed Condition Resulting from Unfused Direct Current Control Circuits (4OA3.2)
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Discussed

None

LIST OF DOCUMENTS REVIEWED

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspector reviewed the documents in their entirety, but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

1R01 Adverse Weather Protection

- PMP Flooding Assessment Report for Perry Nuclear Power Plant; Enercon Services Report Number: FNOCPP177-PR-001; January 12, 2012
- CR 2011-01898; Review of Site Flooding Due to Recent Changes in the Yard; September 14, 2011
- CR 2013-05625; Calculation for Minor Stream Cannot be Located; April 11, 2013
- CR 2012-17868; The Site PMP Event Evaluation Requires Updating, Identified During External Flooding Walkdowns for NRC 10CFR50.54f Letter; December 12, 2012
- CR 2012-02692; Spoils Piles on East Side of Plant Needs (sic) Removed; March 21, 2012
- CR 2012-18354; CA 2011-11898-3 Needs Extended on Its Due Date; November 21, 2012
- CR 2013-07852; Closure Items Not Addressed in CR 2013-05625 Investigation Problem Statement; May 20, 2013
- Apparent Cause Analysis Report for CR 2013-05625; Calculation for Minor Stream Cannot Be Located; May 11, 2013
- GCI-0014; Instruction for Excavation and Backfill Operation; Revision 9

1R04 Equipment Alignment

- SOI-E51; Reactor Core Isolation Cooling System; Revision 31
- VLI-E51; Reactor Core Isolation Cooling System; Revision 8
- DW 302-0631; Reactor Core Isolation Cooling System; Revision EE
- DW 302-0632; Reactor Core Isolation Cooling System; Revision LL
- SOI-M25/26; Control Room HVAC & Emergency Recirculation System; Revision 23
- VLI-M25/26; Control Room HVAC and Emergency Recirculation System; Revision 0
- DW 912-0610; Control Room HVAC and Emergency Recirculation System; Revision FF
- CR 2014-12481; Div. 2 DG Jacket Water Circulating Pump has 3 dpm Shaft Leak
- CR 2014-14411; Div 2 DC Fuel Oil Booster Pump Blown Fuse at Local Starter
- DWG 302-0351-00000; Standby Diesel Generator Starting Air; Revision GG
- DWG 302-0352-00000; Standby Diesel Generator Fuel Oil System; Revision KK
- DWG 302-0353-00000; Standby Diesel Generator Lube Oil; Revision S
- DWG 302-0354-00000; Standby Diesel Generator Jacket Water; Revision V
- SOI-R43; Division 1 and 2 Diesel Generator System; Revision 43
- SOI-R44; Division 1 and 2 Diesel Generator Starting Air System; Revision 44
- SOI-R47; Division 1 and 2 Diesel Generator Lube Oil Systems; Revision 8
- VLI-R44; Division 1 and 2 Diesel Generator Starting Air System; Revision 6
- VLI-R45; Division 1 and 2 Diesel Generator Fuel Oil System (Unit 1); Revision 5
- VLI-R46; Division 1 and 2 Diesel Generator Jacket Water Systems; Revision 4
- VLI-R47; Division 1 and 2 Diesel Generator Lube Oil; Revision 7
- VLI-R48; Division 1 and 2 Diesel Generator Exhaust, Intake, and Crankcase Systems; Revision 6

1R05 Fire Protection

- FPI-A-C01; Fire Protection Program Control Process (Hot Work Permits, Transient Combustible Permits, Impairment Permits, and Fire Watches); Revision 14
- FPI-A-I01; Fire Rated Assemblies and Detector Inspection Guidelines; Revision 2
- FPI-A-I02; Fire Suppression Equipment Inspection Guidelines; Revision 2
- FPI-OEW; Pre-Fire Plan Instruction; Emergency Service Water Pump House; Revision 5
- PAP-1910; Fire Protection Program; Revision 31
- FPI-1AB; Pre-Fire Plan Instruction; Auxiliary Building; Revision 3
- FPI-OIB; Pre-Fire Plan Instruction; Intermediate Building; Revision 7
- FPI-OCC; Pre-Fire Plan Instruction; Control Complex; Revision 9
- FPI-1DG; Pre-Fire Plan Instruction; Diesel Generator Building; Revision 6

1R11 Licensed Operator Regualification Program

- OTLC-3058201409-PY-SGC1; Cycle 9 2014 Evaluated Scenario C1; Revision 0
- NOBP-TR-1112; FENOC Conduct of Simulator Training and Evaluation; Revision 2
- PYBP-POS-0030; Transient Strategies and Mitigating Actions; July 17, 2013
- ARI-H13-P870-0007; Air Removal and Seals; Revision 11
- IOI-3; Power Changes; Revision 52

1R12 Maintenance Effectiveness

- SVI-E22-T5520; Performance Test of Battery Capacity – Division 3 (Unit 2); Revision 6
- WO 200279346; Performance Test of Battery Capacity – Division 3 (Unit 1); August 5, 2013
- WO 200348511; Performance Test of Battery Capacity – Division 2 (Unit 2); August 23, 2010
- WO 200424800; Performance Test of Battery Capacity – Division 1 (Unit 2); May 17, 2012
- WO 200344737; Performance Test of Battery Capacity – Division 2 (Unit 1); December 18, 2009
- WO 200406858; Performance Test of Battery Capacity – Division 1 (Unit 1); April 24, 2012
- CR 2014-04868; 2014 CDBI NRC ID: Potential Non Conformance with IEEE Standard 450 Requirements; March 13, 2014
- CR 2014-15101; Critique Grades for P6W1; September 30, 2014
- CR 2014-09853; Inhibit Rod Motion “RCIS OOS” Locked-in with RCIS Not Locked-Up; June 2, 2014
- CR 2014-00097; Increasing Dissolved Oxygen Trend in Control Rod Drive System; January 2, 2014
- CR 2013-09261; Perry Drywell Unidentified Leakage Inspection Results 6/15/2013; June 15, 2013
- CR 2014-11672; CRD Charging Water Header Pressure Degrading with CRD Pump A in Service; July 13, 2014
- CR 2014-03571; Control Rod 30-03 Was Slow to Settle; February 22, 2014
- CR 2014-05130; Multiple Indications of Channel Bow Interference with Control Rods; March 18, 2014
- CR 2013-20208; 1C11F010 and 1C11F011 Failed Initial Stroke Time Closed During SVI-C11-T2004; December 29, 2013
- CR 2013-18836; Control Rod 46-55 Slow to Settle; November 24, 2013
- OE 2013-1564; Control Rod Unexpectedly Scrammed During Surveillance Testing from Columbia Station; August 7, 2013

1R13 Maintenance Risk Assessments and Emergent Work Control

- CR 2014-12243; Partial Div 2 BOP Isolation from Apparent Power Supply Perturbation; July 26, 2014
- CR 2014-12259; Lost Time During Recovery of EK-1-B1 (Div 2 Essential Regulating Transformer; July 27, 2014
- CR 2014-12260; Lost Time During Recovery of EK-1-B1 (Div 2 Essential Regulating Transformer; July 27, 2014
- CR 2014-12266; Crew Critique – Division 2 120 VAC EK-1-B1 Electrical System Transient; July 27, 2014
- PTI-GEN-P0024; Mussel Treatment; Revision 19
- CR 2014-13232; RCIC Water Leg Pump Discharge Lo Trip Unit Gross Failure; August 19, 2014
- NOP-OP-1007; Risk Management; Revision 19
- Management Alignment and Ownership Meeting Packet – Tuesday – September 30, 2014
- Perry Work Implementation Schedule; Week 02, Period 6, Division 1; From 1200 Monday, 09/29/14 to 1200 Tuesday, 09/30/14
- CR 2014-13273; Power Supply to U1 Startup Transformer Backup Cooling Group Is Not Correct as Shown in ELI and Electrical Drawing; August 20, 2014
- NOP-OP-1009; Operability Determination and Functionality Assessments; Revision 3

1R15 Operability Determinations and Functionality Assessments

- Prompt Functionality Assessment for Post-Fukushima Flooding Evaluation Associated with CR 2013-05625; April 26, 2013
- eSOMS Narrative Logs; August 6, 2014
- CR 2014-12719; Monitor Pushbutton Is Not Working on 1C51-K05D; August 6, 2014
- SVI-C51-T5351; LPRM Calibration; August 7, 2014
- SOI-C51 (APRM); Average Power Range Monitoring System; Revision 13
- CR 2013-15019; Offline 3B Feedwater Heater Unusual Trending Parameters; September 26, 2013
- CR 2014-11691; Lack of Technical Rigor ODMI for Isolation of 3B Feedwater Heater; July 14, 2014
- CR 2014-11954; Continued Operation with Isolation of 3B Feedwater Heater; July 19, 2014
- SOI-N21; Condensate System; Revision 23
- CR 2014-14347; TSC Ventilation in Recirc for Extended Period Due to Rad Monitor Spiking; October 14, 2014

1R18 Plant Modifications

- CR 2014-12816; Work Performed on FHB Crane Stub Shaft Exceeded Scope and Intent of Minor Maintenance Order and Caused Excessive Damage; August 7, 2014
- CR 2014-13093; FHB Crane ECP 13-0649 Loss of Configuration Control; August 14, 2014
- CR 2014-13385; FHB Crane 0L51E0003 Shows Spurious Overspeed Fault; September 20, 2014
- ECP No. 14-0552-001; Modify the Fuel Handling Building Crane HDE, HTLS, and HDLS Configuration; August 19, 2014
- ECP No. 13-0649-000; Fuel Handling Building Crane Upgrade; February 19, 2014
- ECP No. 04-0278-001; FHB Crane Upgrade; March 13, 2010
- G58-S-R-L-006; NUREG-554; Conformance Matrix for Fuel Handling Area Crane; Revision 1

1R19 Post-Maintenance Testing

- WO 200310348; Perform Static MOV Test, SLC Pump Suction Valve 'B' SMB-000 on a 4" Rockwell Globe; July 9, 2014
- SVI-C41-T2001-B; Standby Liquid Control B Pump and Valve Operability Test; July 9, 2014
- SVI-E22-T5220; Performance Test of Battery Capacity – Division 3 (Unit 2); Revision 6
- WO 200549593; Retest for Relay Replacement of RCIC Steam Line Flow High and Timer Channel Functional for 1E31-N638A; July 28, 2014
- WO 200514306; Replace Diesel Fire Pump 2A/2B Batteries; August 6, 2014
- WO 200514305; Replace Diesel Fire Pump 1A/1B Batteries; August 6, 2014
- WO 200594881; Terminal Board Replacement on EF-1-B; February 29, 2014
- SVI-P47-T2001-A; Control Complex Chilled Water A Pump and Valve Operability Test; Revision 10
- WO 200572601; Canister Sample Method AEGT 'B' Methyl Iodide Verification; August 22, 2014
- SVI-E51-T2001; RCIC Pump and Valve Operability Test; Revision 37; September 20, 2014

1R22 Surveillance Testing

- WO 200548693; Low Pressure Core Spray Pump and Valve Operability Test; July 2, 2014
- SVI-E21-T2001; Low Pressure Core Spray Pump and Valve Operability Test; Revision 26
- SVI-E51-T2001; RCIC Pump and Valve Operability Test; Revision 37
- SVI-E12-T2002; RHR 'B' Pump and Valve Operability Test; Revision 33; August 5, 2014
- SVI-R43-T1318; Diesel Generator Start and Load Division 2; Revision 15; August 6, 2014
- SVI-C51-T5351; LPRM Calibration; Revision 15; August 7, 2014
- SVI-B21-T0138-E; ECCS Drywell Pressure High Channel 'E' Calibration for 1B21-N094E; Revision 6
- SVI-C11-T1003-A; Control Rod Exercise (Part 1); Revision 18; August 23, 2014

1EP6 Drill Evaluation

- PNPP ERO Drill Scenario Guide; July 23, 2014
- EPI-A-0001; Emergency Action Levels; Revision 26
- CR 2014-12134; EOP-04-2 for Emergency Depressurization Steps Don't Match the Basis; July 23, 2014
- CR 2014-12239; Inappropriate Interaction by Quality Assessor With a Controller During the 7/23/14 E-Plan Drill; July 25, 2014
- CR 2014-12237; ERO Drill: Objective J2 – Radiation Protection First Aid Response; July 25, 2014
- CR 2014-12234; ERO Drill: Availability of Radiation Protection (RP) Technicians for Operational Support Center (OSC) Support; July 25, 2014
- CR 2014-12236; ERO Drill: Objective F2 – Use of RMT Equipment; July 25, 2014
- CR 2014-12139; Emergency Depressurization Step ED-7 Does Not Reflect Guidance of PSTG Revision 20; July 23, 2014
- CR 2014-12153; Current Drill Practice Creates a Safety Concern; July 24, 2014

2RS1 Radiological Hazard Assessment and Exposure Controls

- CR-2014-10268; Shortfall Found During Review of Orders 200590554 and 2005590555 for Replacement of the Unit 1 Instrument and Service Air Compressors; June 11, 2014
- CR RWP Required Boundary at the Unit 1 Air Compressor Work; July 1, 2014

- CR-2014-11729; Full Apparent Cause; Perry Nuclear Plant Personnel Were Notified by a Local Scrap Metal Dealer Appeared to Contain Radioactive Material July 14, 2014
- RWP Required Boundary at the Unit 1 Air Compressor Work; Draft September 17, 2014
- NOP-OP-4502; Control of Radioactive Material; Revision 02
- NOP-OP-5201; Shipment of Radioactive Material – Waste; Revision 04
- NOP-WM-1001; Order Planning Process; Revision 21
- RPI-1204; Equipment and Area Decontamination; Revision 11

2RS3 In-Plant Radioactivity Control and Mitigation

- American Analytical Laboratory Inc.; Breathing Air Quality Sample Results; 2014
- HPI-G0007; Maintenance of Respiratory Protective Equipment and Operation of the Respirator Cleaning/Issue Facilities; Revision 22
- HPI-G0008; Requalification of Respirators; Revision 07
- NOP-LP-1020; Health Assessment; Revision 04
- NOP-OP-4301; Respiratory Protection Program; Revision 05
- NOP-OP-4302; Issuing Respiratory Protection; Revision 04
- NOP-OP-4303; Respirator Quantitative Fit Test Portacount PRO 8030; Revision 02
- NOP-OP-4310; Firehawk M7 Self Contained Breathing Apparatus; Revision 07
- NOP-OP-4331; Use of Powered Air-Purifying Respirators; Revision 01
- NOP-OP-4401; Equipment History; Revision 01
- NOP-OP-4702; Air Sampling; Revision 04
- NOP-OP-4703; Determination of Alpha Monitoring Levels; Revision 02
- NVLAP Certificate of Accreditation to ISO/IEC 17025:2005; Effective Dates July 1, 2014 through June 30, 2015
- PAP-1910; Fire Protection Program; Revision 31
- SCBA Respirator Qualification Records; Selected Personnel; 2014
- SCBA Vendor Maintenance Records; dated 2013
- SN-SA-2014-0472; Radiation Protection Performance During an Emergency Drill; June 06, 2014
- SN-SA-2014-0528; Radiation Protection Compliance to 10 CFR 20.1101c; August 13, 2014
- SN-SA-2014-0581; Radiation Protection Response to the ONI-D17 Entry on May 21, 2014; August 21, 2014

2RS4 Occupational Dose Assessment

- Declared Pregnant Worker; Selected Radiological Exposure Records; dated 2013
- Dosimetry Investigation/Dose Assessment Records; Selected Personnel; dated 2013 and 2014
- HPI-B0003; Processing Personnel Dosimetry; Revision 27
- HPI-B0015; Operation of the ABACOS 2000 Whole Body Counting System; Revision 08
- Internal Dose Assessments; Selected Workers; April and May 2014
- Lesson Plan for General Respirator Training and Staff Completion Records; September 2014
- Lesson Plan for FireHawk M7 SCBA Training and Staff Completion Records; September 2014
- Neutron Surveys; Selected VSDS Records; Selected dates 2013 and 2014
- NOP-OP-4201; Routine External Exposure Monitoring; Revision 02
- NOP-OP-4202; Declared Pregnant Workers; Revision 00
- NOP-OP-4204; Special External Exposure Monitoring; Revision 06
- NOP-OP-4205; Dose Assessment; Revision 04
- NOP-OP-4206; Bioassay Program; Revision 01
- NOP-OP-4207; Occupational Exposure Reporting; Revision 01

- NOP-OP-4503; Personnel Contamination Monitoring; Revision 09

2RS6 Radioactive Gaseous and Liquid Effluent Treatment

- PY-PTI-GENP0018; TSC Laboratory Carbon Sampling; October 2013
- PY-PTI-GENP0019; TSC In-Place HEPA and Charcoal Testing; October 2013
- PY-SVI-M15T1239B; "B" Annulus Exhaust Gas Treatment Operability Test; July 2014
- PY-SVI-M15T1240A; "A" Annulus Exhaust Gas Treatment System Train A Flow and Filter Operability Test; July 2014
- PY-SVI-M15T1240B; "B" Annulus Exhaust Gas Treatment System Train A Flow and Filter Operability Test; October 2013
- PY-SVI-M26T1260A; "A" Control Room Emergency Recirculation Flow and Filter Operability Test; November 2013
- PY-SVI-M26T1260B; "B" Control Room Emergency Recirculation Flow and Filter Operability Test; January 2014
- PY-SVI-M15T3015; Canister Sample Method AEGT A Methyl Iodide Verification; August 2014
- PY-SVI-M26T3020A; "A" Control Room Emergency Recirculation Charcoal Adsorber Operability Test and Plenum Inspection; December 2013
- PY-SVI-M26T3020B; "B" Control Room Emergency Recirculation Charcoal Adsorber Operability Test and Plenum Inspection; January 2014

4OA1 Performance Indicator Verification

- Mitigating Systems Performance Index Basis Document; Revision 8
- Mitigating Systems Performance Index Basis Document; Revision 7
- NEI 99-02; Regulatory Assessment Performance Indicator Guideline; Revision 7
- NEI 99-02; Regulatory Assessment Performance Indicator Guideline; Revision 6
- NOBP-LP-4012-06; Mitigating Systems Performance Index (MSPI) Unavailability Index (UAI) and Unreliability Index (URI) for Heat Removal System (RCIC); July 2013 to June 2014; Revision 2
- NOBP-LP-4012-07; MSPI UAI and URI for Residual Heat Removal (RHR); July 2013 to June 2014; Revision 3
- NOBP-LP-4012-19; MSPI UAI and URI for Emergency Service Water (ESW); July 2013 to June 2014; Revision 2
- NOBP-LP-4012; NRC Performance Indicators; Revision 4
- PYBP-DES-0011; Mitigating Systems Performance Index; Revision 3
- PRA Applications Analysis/Assessment Sequence Number PRA-PY1-13-006-R00; April 1, 2013
- PRA Applications Analysis/Assessment Sequence Number PRA-PY1-13-007-R00; July 8, 2013

4OA2 Problem Identification and Resolution

- CR 2014-00893; Reactor Water Clean Up Valve Remote Operator Broken; January 18, 2014
- CR 2014-00066; Communication Manhole 9 Has Not Been Inspected or Dewatered in Over Two Years Due to Security Changes; January 3, 2014
- CR 2014-00069; Second Deferral of Manhole 3&4 Inspection PM; January 3, 2014
- CR 2014-00076; SVI-E12-T3073 Could Not Be Performed as Scheduled; January 3, 2014
- CR 2014-00095; LH-2-C Has Low Oil Level Alarm Locked In; January 3, 2014

- CR 2014-00104; Received "RCIC A Bearing Oil Level Dec" Alarm; January 4, 2014
- CR 2014-00129; Cold Weather Alert Issued by PJM for 1/3/14 Was Not Communicated to the Site; January 6, 2014
- CR 2014-00148; Observed FME Issues on the FHB Floor During Leader in the Field Activities; January 6, 2014
- CR 2014-00195; Document Actions Not Performed for ONI-R36-2 per PAP-0528 and NOP-LP-2601; January 7, 2014
- CR 2014-00261; Summary for 50.59 Evaluation Completed in 2003 not Reported to the NRC; January 8, 2014
- CR 2014-00294; American Flag Displayed in Front of the Admin/Engineering Building is Worn and Tattered; January 8, 2014
- CR 2014-00400; Coatings Surface Prep Performed per GCI-0005 by Maintenance Services was Rejected During QC Inspection; January 10, 2014
- CR 2014-00481; CA&MEA Train A Supply and Return Fans Did Not Stop During Train Swap from A to B; January 12, 2014
- CR 2014-00568; ECP 12-0557-001 Required Revision When It Could Not Be Implemented as Written; January 13, 2014
- CR 2014-00571; Undetected Blown Fuse May Have Caused CA&MEA (M21) Cooling Coil Rupture; January 14, 2014
- CR 2014-00628; Request Engineering Evaluation to Install Shielding to F11 Bridge; January 14, 2014
- CR 2014-00700; Identified Degraded Condition of Cooling Coils; January 15, 2014
- CR 2014-00855; Fuel Bundle in the Spent Fuel Pool While Being Sipped, LY0148, Showed Indications of Having a Fuel Defect; January 17, 2014
- CR 2014-01046; An Adverse Trend Has Been Identified in the Quality of Engineering Documents Completed in the Last Trimester of 2013; January 22, 2014
- CR 2014-04295; Communication of Transmission System Emergency Declarations are Not as Consistent or Timely as Needed; March 4, 2014
- CR 2014-07408; PA-PY-14-01 Corrective Actions for CR-2013-16562, in Response to AFI Were Not Closed per the Requirements of NOP-LP-2001; April 23, 2014

40A3 Follow-Up of Events and Notices of Enforcement Discretion

- LER 05000440/2014-002-00; Division 2 Diesel Generator Inoperability Results in Loss of Safety Function and Condition Prohibited By Technical Specifications; July 7, 2014
- CR 2014-08487; Division 2 Diesel Generator Lube Oil Leak; May 7, 2014
- LER 05000440/2014-003-00; Unanalyzed Condition Resulting from Unfused Direct Current Control Circuits; August 15, 2014

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
ALARA	As-Low-As-Is-Reasonably-Achievable
CAP	Corrective Action Program
CFR	<i>Code of Federal Regulations</i>
CR	Condition Report
DG	Diesel Generator
EDG	Emergency Diesel Generator
HVAC	Heating, Ventilation, and Air Conditioning
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
LER	Licensee Event Report
MSPI	Mitigating Systems Performance Index
NCC	Nuclear Closed Cooling
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NOP	Nuclear Operating Procedure
NRC	Nuclear Regulatory Commission
PI	Performance Indicator
RCA	Radiologically Controlled Area
RCIC	Reactor Core Isolation Cooling
RP	Radiation Protection
TS	Technical Specification
USAR	Updated Safety Analysis Report
WO	Work Order

E. Harkness

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Sincerely,

/RA/

Michael Kunowski, Chief
Branch 5
Division of Reactor Projects

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