



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

October 30, 2017

Mr. David B. Hamilton
Site Vice President
FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant
Mail Stop A-PY-A290
P.O. Box 97, 10 Center Road
Perry, OH 44081-0097

SUBJECT: PERRY NUCLEAR POWER PLANT—NRC INTEGRATED INSPECTION REPORT
05000440/2017003

Dear Mr. Hamilton:

On September 30, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed a baseline inspection at your Perry Nuclear Power Plant. On October 4, 2017, the NRC inspectors discussed the results of this inspection with Mr. F. Payne and other members of your staff. The enclosed report represents the results of this inspection.

No findings were identified during this inspection. However, the inspectors documented a licensee-identified violation which was determined to be of very low safety significance in this report. 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 this 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; and the NRC resident inspector at the Perry Nuclear Power Plant.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Jamnes Cameron, Chief
Branch 4
Division of Reactor Projects

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

Enclosure:
Inspection Report 05000440/2017003

cc: Distribution via LISTSERV®

Letter from Jamnes Cameron to David Hamilton dated October 30, 2017

SUBJECT: PERRY NUCLEAR POWER PLANT—NRC INTEGRATED INSPECTION REPORT
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 05000440/2017003

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Perry Nuclear Power Plant

Location: North Perry, Ohio

Dates: July 1 through September 30, 2017

Inspectors: D. Krause, Acting Senior Resident Inspector
J. Nance, Resident Inspector
E. Sanchez, Acting Senior Resident Inspector
J. Mancuso, Acting Resident Inspector
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Approved by: J. Cameron, Chief
Branch 4
Division of Reactor Projects

Enclosure

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SUMMARY

Inspection Report (IR) 05000440/2017003, 07/01/2017–09/30/2017, Perry Nuclear Power Plant; Routine Integrated Inspection Report.

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. 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 April 29, 2015. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated November 1, 2016. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG–1649, "Reactor Oversight Process," Revision 6.

A. NRC-Identified and Self-Revealed Findings

No findings were identified.

B. Licensee-Identified Violations

A violation of very low safety significance was identified by the licensee and has been reviewed by the NRC. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program (CAP). This violation and CAP tracking number is listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

The plant began the inspection period at full power. On August 26, 2017, the operators reduced power to 63 percent of rated thermal power to make a routine rod pattern adjustment and returned the plant to 100 percent power early on August 27, 2017, where the plant remained through the remainder of the quarter. During the calendar quarter covered by this inspection period, minor reductions in power occurred to support routine surveillances other activities except during those periods specified above.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection (71111.01)

.1 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 Final Safety Analysis Report (UFSAR) 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, checked that the roofs did not contain obvious loose items that could clog drains in the event of heavy precipitation, and determined that barriers required to mitigate the 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 abnormal operating procedure (AOP) for mitigating the design basis flood to ensure it 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)

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

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

- Division 1 Diesel Generator;
- Emergency closed cooling B in Control Complex el 574;
- M23/24 motor control center, switchgear and miscellaneous electrical equipment area—heating and ventilation (HVAC) system; and
- 1R23 480 volt-alternating current electrical distribution 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, UFSAR, Technical Specification (TS) requirements, outstanding work orders (WOs), condition reports, 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 inspections constituted four partial system walkdown samples as defined in inspection procedure (IP) 71111.04–05.

b. Findings

No findings were identified.

.2 Semi-Annual Complete System Walkdown

a. Inspection Scope

On September 8, 2017, the inspectors completed a system alignment inspection of the 125 Volt direct current system to verify the functional capability of the system. This system was selected because it was considered both safety significant and risk significant in the licensee’s probabilistic risk assessment. The inspectors walked down the system to review mechanical and electrical equipment lineups; electrical power availability; system pressure and temperature indications, as appropriate; component labeling; component lubrication; component and equipment cooling; hangers and supports; operability of support systems; and to ensure that ancillary equipment or debris did not interfere with equipment operation. A review of a sample of past and outstanding WOs was performed to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the CAP database to ensure that system equipment alignment problems were being identified and appropriately resolved. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one complete system walkdown sample as defined in IP 71111.04–05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (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 Zone OEW-1a; Emergency Service Water Pump House;
- Fire Zones 1AB-1b, 1E2; Auxiliary Building 599' Elevation, Residual Heat Removal (RHR) A System 599' Elevation, RHR B System 599' Elevation;
- Fire Zone 1CC-3a; Div. 2 4.16 16 KV and 480V Switchgear and Reactor Protection System, M/G Room 620'6" Elevation;
- Fire Zone 1CC-4c, 1CC-4D; Division 2 125 Volt Direct Current Distribution and Battery Rooms 638'6" Elevation; and
- Fire Zone 1DG-1c; Division 1 Diesel Generation Building, 620'6" and 646'6" Elevations.

The inspectors reviewed areas to assess whether 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. Using the documents listed in the Attachment to this report, 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 inspections constituted five quarterly fire protection inspection samples as defined in IP 71111.05-05.

b. Findings

No findings were identified.

1R06 Flooding (71111.06)

.1 Internal Flooding

a. Inspection Scope

The inspectors reviewed selected risk important plant design features and licensee procedures intended to protect the plant and its safety-related equipment from internal flooding events. The inspectors reviewed flood analyses and design documents, including the UFSAR, engineering calculations, and abnormal operating procedures to identify licensee commitments. The specific documents reviewed are listed in the Attachment to this report. In addition, the inspectors reviewed licensee drawings to identify areas and equipment that may be affected by internal flooding caused by the failure or misalignment of nearby sources of water, such as the fire suppression or the circulating water systems. The inspectors also reviewed the licensee's corrective action documents with respect to past flood-related items identified in the corrective action program to verify the adequacy of the corrective actions. The inspectors performed a walkdown of the following plant area(s) to assess the adequacy of watertight doors and verify drains and sumps were clear of debris and were operable, and that the licensee complied with its commitments:

- Auxiliary Building 599' Elevation.

Documents reviewed during this inspection are listed in the Attachment to this report. This inspection constituted one internal flooding sample as defined in IP 71111.06-05.

b. Findings

No findings were identified.

1R07 Annual Heat Sink Performance (71111.07)

.1 Heat Sink Performance

a. Inspection Scope

The inspectors reviewed the licensee's emergency service water loop B flow and differential pressure test to verify that potential deficiencies did not mask the licensee's ability to detect degraded performance, to identify any common cause issues that had the potential to increase risk, and to ensure that the licensee was adequately addressing problems that could result in initiating events that would cause an increase in risk. The inspectors reviewed the licensee's observations as compared against acceptance criteria, the correlation of scheduled testing and the frequency of testing, and the impact of instrument inaccuracies on test results. Inspectors also verified that test acceptance criteria considered differences between test conditions, design conditions, and testing conditions. Documents reviewed for this inspection are listed in the Attachment to this document.

This inspection constituted one annual heat sink performance sample as defined in IP 71111.07-05.

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 30, 2017, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator regualification training. The inspectors verified that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and that 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 71111.11-05.

b. Findings

No findings were identified.

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

a. Inspection Scope

On August 26, 2017, the inspectors observed licensed operator reactivity manipulations during a large power reduction evolution. This was an activity that required heightened awareness or was 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; and
- oversight and direction from supervisors.

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 71111.11–05.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk-significant systems:

- intake structure for emergency service water and service water pumps;
- emergency service water system; and
- upper airlock valve maintenance/repair (quality control).

The inspectors reviewed events such as where ineffective equipment maintenance had or could have resulted in valid or invalid automatic actuations of engineered safeguard 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 (SSCs)/functions classified as (a)(2), or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

The inspector performed a quality review for the upper airlock valve maintenance/repair, as discussed in IP 71111.12, Section 02.02.

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 three quarterly maintenance effectiveness samples, of which one was a quality control sample as defined in IP 71111.12–05.

b. Findings

No findings were identified.

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

.1 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

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

- unplanned Division 2 emergency diesel generator (EDG) unavailability;
- increasing leakage in reference leg purge panel B;
- planned :reactor core isolation cooling (RCIC) unavailability for surveillance testing;
- condensate storage tank (CST) availability during tornado warning;
- annulus exhaust gas treatment system (AEGTS) A slow system response; and
- through wall leaks in B essential service water (ESW) system.

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 six samples as defined in IP 71111.13–05.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functional Assessments (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- Division 1 EDG common mode failure evaluation;
- control room ventilation system train B operability determination;
- evaluation of through-wall leak on emergency service water piping; and
- RCIC system steam leak.

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 TS and UFSAR 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 inspections constituted four operability samples as defined in IP 71111.15–05.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

.1 Plant Modifications

a. Inspection Scope

The inspectors reviewed the following modifications:

- Unit 2 startup transformer temporary operation with six of seven low side cables installed;
- storm drain modification; and
- undervoltage relay alarm setpoint change.

The inspectors reviewed the configuration changes and associated 10 CFR 50.59 safety evaluation screening against the design basis, the UFSAR, and the TS, 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.

These inspections constituted three plant modification samples as defined in IP 71111.18-05.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

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

- division 2 diesel generator high crankcase pressure indication test;
- SVI-P53-T-9312 upper containment airlock test;
- emergency service water pumphouse supply fan B controller replacement test;
- scram discharge volume valve regulator replacement test;
- containment radiation monitor isolation valve test;
- motor driven fire pump PMT; and
- PTI-M32-P0005 for PMT for B ESW fan damper.

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 UFSAR, Title 10 of the *Code of Federal Regulations* (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 seven post-maintenance testing samples as defined in IP 71111.19-05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

.1 Surveillance Testing

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:

- SVI-E51-T2001; RCIC Pump and Valve Operability;
- SVI-E12-T2002; RHR B Pump and Valve Operability;
- SVI-C11-T1022; Rod Withdrawal Limiter (routine);
- SVI-C85-T1314; Turbine Bypass Valve Operability Test (routine);
- SVI-R-43-T1317; Diesel Generator Start and Load Division 1 (routine); and
- SVI-C11-T1022; Control Rod Scram Time (routine).

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 UFSAR, 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 in-service 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 four routine surveillance testing samples and two in-service test samples, as defined in IP 71111.22, Sections–02 and–05.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on September 12, 2017, 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 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 inspection constituted one emergency preparedness drill inspection sample as defined in IP 71114.06–05.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Public Radiation Safety and Occupational Radiation Safety

2RS5 Radiation Monitoring Instrumentation (71124.05)

.1 Calibration and Testing Program (02.03)

a. Inspection Scope

The inspectors assessed laboratory analytical instruments used for radiological analyses to determine whether daily performance checks and calibration data indicated that the

frequency of the calibrations was adequate and there were no indications of degraded instrument performance. The inspectors assessed whether appropriate corrective actions were implemented in response to indications of degraded instrument performance.

These inspection activities supplemented those documented in Inspection Report 05000440/2017002 and constituted one complete sample as defined in Inspection Procedure (IP) 71124.05–05.

b. Findings

No findings were identified.

2RS7 Radiological Environmental Monitoring Program (71124.07)

.1 Site Inspection (02.02)

a. Inspection Scope

The inspectors walked down selected air sampling stations and dosimeter monitoring stations to determine whether they were located as described in the Offsite Dose Calculation Manual (ODCM) and to determine the equipment material condition.

The inspectors reviewed calibration and maintenance records for selected air samplers, dosimeters, and composite water samplers to evaluate whether they demonstrated adequate operability of these components.

The inspectors assessed whether the licensee had initiated sampling of other appropriate media upon loss of a required sampling station.

The inspectors observed the collection and preparation of environmental samples from select environmental media to determine whether environmental sampling was representative of the release pathways specified in the ODCM and whether sampling techniques were in accordance with procedures. The inspectors assessed whether the meteorological instruments were operable, calibrated, and maintained in accordance with guidance contained in the Final Safety Analysis Report, U.S. Nuclear Regulatory Commission (NRC) Regulatory Guide 1.23, "Meteorological Monitoring Programs for Nuclear Power Plants," and licensee procedures. The inspectors assessed whether the meteorological data readout and recording instruments were operable.

The inspectors evaluated whether missed and/or anomalous environmental samples were identified and reported in the annual environmental monitoring report. The inspectors selected events that involved a missed sample, inoperable sampler, lost dosimeter, or anomalous measurement to determine whether the licensee had identified the cause and had implemented corrective actions. The inspectors reviewed the licensee's assessment of any positive sample results and reviewed any associated radioactive effluent release data that was the source of the released material.

The inspectors selected structures, systems, or components that involve or could reasonably involve a credible mechanism for licensed material to reach ground water, and assessed whether the licensee had implemented a sampling and monitoring program sufficient to detect leakage to ground water.

The inspectors evaluated whether records important to decommissioning, as required by 10 CFR, Part 50.75(g), were retained in a retrievable manner.

The inspectors assessed whether the appropriate detection sensitivities with respect to the ODCM were used for counting samples. The inspectors reviewed the quality control program for analytical analysis.

The inspectors reviewed the results of the licensee's interlaboratory comparison program to evaluate the adequacy of environmental sample analyses performed by the licensee. The inspectors assessed whether the interlaboratory comparison test included the media/nuclide mix appropriate for the facility. The inspectors reviewed the licensee's determination of any bias to the data and the overall effect on the radiological environmental monitoring program.

These inspection activities constituted a partial sample as defined in IP 71124.07-05.

b. Findings

No findings were identified.

.2 Groundwater Protection Initiative Implementation (02.03)

a. Inspection Scope

The inspectors reviewed monitoring results of the GPI to evaluate whether the licensee had implemented the program as intended and to assess whether the licensee had identified and addressed anomalous results and missed samples.

The inspectors evaluated the licensee's implementation of the minimization of contamination and survey aspects of the GPI and the Decommissioning Planning Rule requirements in 10 CFR 20.1406 and 10 CFR 20.1501.

The inspectors reviewed leak and spill events and 10 CFR 50.75 (g) records and assessed whether the source of the leak or spill was identified and appropriately mitigated.

The inspectors assessed whether unmonitored leaks and spills were evaluated to determine the type and amount of radioactive material that was discharged. The inspectors assessed whether the licensee completed offsite notifications in accordance with procedure.

The inspectors reviewed evaluations of discharges from onsite contaminated surface water bodies and the potential for ground water leakage from them. The inspectors assessed whether the licensee properly accounted for these discharges as part of the effluent release reports.

The inspectors assessed whether on-site ground water sample results and descriptions of any significant on-site leaks or spills into ground water were documented in the Annual Radiological Environmental Operating Report or the Annual Radiological Effluent Release Report.

The inspectors determined whether significant new effluent discharge points were updated in the ODCM and the assumptions for dose calculations were updated as needed.

These inspections constituted one complete sample as defined in IP 71124.07–05.

b. Findings

No findings were identified

.3 Problem Identification and Resolution (02.04)

a. Inspection Scope

The inspectors assessed whether problems associated with the radiological environmental monitoring program were being identified by the licensee at an appropriate threshold and were properly addressed for resolution. The inspectors assessed the appropriateness of the corrective actions for a selected sample of problems documented by the licensee that involved the radiological environmental monitoring program.

These inspections constituted one complete sample as defined in IP 71124.07–05.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Security

40A1 Performance Indicator Verification (71151)

.1 Mitigating Systems Performance Index—Heat Removal System

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI – Heat Removal System performance indicator for the period from the third quarter of 2016 through the second quarter of 2017. To determine the accuracy of the performance indicator (PI) data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99–02, “Regulatory Assessment Performance Indicator Guideline,” Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee’s operator narrative logs, issue reports, event reports, MSPI derivation reports, and NRC Integrated Inspection Reports for the period of July 1, 2016 through June 30, 2017, 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 in value 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 sample as defined in IP 71151–05.

b. Findings

.2 Mitigating Systems Performance Index—Residual Heat Removal System

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI – Residual Heat Removal System performance indicator for the period from the third quarter 2016 through the second quarter 2017. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99–02, “Regulatory Assessment Performance Indicator Guideline,” Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee’s operator narrative logs, issue reports, MSPI derivation reports, event reports and NRC Integrated Inspection Reports for the period of third quarter 2016 through the second quarter 2017 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 in value 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 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 performance indicator for the period from the third quarter 2016 through the second quarter 2017. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99–02, “Regulatory Assessment Performance Indicator Guideline,” Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee’s operator narrative logs, issue reports, MSPI derivation reports, event reports and NRC Integrated Inspection Reports for the period of third quarter 2016 through the second quarter 2017 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 in value 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 sample as defined in IP 71151–05.

b. Findings

No findings were identified.

.4 Reactor Coolant System Specific Activity

a. Inspection Scope

The inspectors sampled licensee submittals for the reactor coolant system specific activity Performance Indicator for Perry Nuclear Power Plant for the period from the fourth quarter of 2016 through the second quarter of 2017. The inspectors used Performance Indicator definitions and guidance contained in the NEI Document 99–02, “Regulatory Assessment Performance Indicator Guideline,” Revision 7, dated August 2013, to determine the accuracy of the Performance Indicator data reported during those periods. The inspectors reviewed the licensee’s reactor coolant system chemistry samples, technical specification requirements, issue reports, event reports and NRC Integrated Inspection Reports to validate the accuracy of the submittals. The inspectors also reviewed the licensee’s issue report database to determine if any problems had been identified with the Performance Indicator data collected or transmitted for this indicator. In addition to record reviews, the inspectors observed a chemistry technician obtain and analyze a reactor coolant system sample. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one reactor coolant system specific activity sample as defined in IP 71151–05.

b. Findings

No findings were identified.

.5 Occupational Exposure Control Effectiveness

a. Inspection Scope

The inspectors sampled licensee submittals for the Occupational Exposure Control Effectiveness Performance Indicator for the period from the fourth quarter of 2016 through the second quarter of 2017. The inspectors used Performance Indicator definitions and guidance contained in the NEI Document 99–02, “Regulatory Assessment Performance Indicator Guideline,” Revision 7, dated August 2013, to determine the accuracy of the Performance Indicator data reported during those periods. The inspectors reviewed the licensee’s assessment of the Performance Indicator for occupational radiation safety to determine if indicator related data was adequately assessed and reported. To assess the adequacy of the licensee’s Performance Indicator data collection and analyses, the inspectors discussed with radiation protection staff, the scope and breadth of its data review and the results of those reviews. The inspectors independently reviewed electronic personal dosimetry dose rate and

accumulated dose alarms and dose reports and the dose assignments for any intakes that occurred during the time period reviewed to determine if there were potentially unrecognized occurrences. The inspectors also conducted walkdowns of numerous locked high and very high radiation area entrances to determine the adequacy of the controls in place for these areas. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one occupational exposure control effectiveness sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.6 Radiological Effluent Technical Specification/Offsite Dose Calculation Manual
Radiological Effluent Occurrences

a. Inspection Scope

The inspectors sampled licensee submittals for the radiological effluent Technical Specification/ODCM radiological effluent occurrences Performance Indicator for the period from the fourth quarter of 2016 through the second quarter of 2017. The inspectors used Performance Indicator definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 2013, to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee's issue report database and selected individual reports generated since this indicator was last reviewed to identify any potential occurrences such as unmonitored, uncontrolled, or improperly calculated effluent releases that may have impacted offsite dose. The inspectors reviewed gaseous effluent summary data and the results of associated offsite dose calculations for selected dates to determine if indicator results were accurately reported. The inspectors also reviewed the licensee's methods for quantifying gaseous and liquid effluents and determining effluent dose. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one Radiological Effluent Technical Specification/ODCM radiological effluent occurrences sample as defined in IP 71151-05.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152)

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

a. Inspection Scope

As 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, adequate attention was being given to timely corrective actions, and adverse trends were identified and

addressed. Some minor issues were entered into the licensee's CAP as a result of the inspectors' observations; however, they are not discussed in 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.

b. Findings

No findings were identified.

.2 Annual Follow-up of Selected Issues: Missed Surveillance for Containment Isolation Valves

a. Inspection Scope

The inspectors selected the following condition reports for in depth review:

Condition Report 2015-16791, Extent of Condition review identifies additional Containment Isolation Valves are not tested in the accident direction.

During the inspectors' review of items on the "plan of the day" package, they noted there was an item associated with a missed surveillance. The licensee had previously misapplied the conditions when the technical specification for missed surveillances could be entered. Therefore, the inspectors selected this item for an in-depth review to determine whether the licensee appropriately identified the issue and dispositioned it in accordance with technical specifications requirements, the operability procedure and the corrective action program. Based on the inspectors review, they determined that the licensee adequately dispositioned the issue in accordance with the applicable requirements.

As appropriate, the inspectors verified the following attributes during their review of the licensee's corrective actions for the above condition reports and other related condition reports:

- complete and accurate identification of the problem in a timely manner commensurate with its safety significance and ease of discovery;
- consideration of the extent of condition, generic implications, common cause, and previous occurrences;
- evaluation and disposition of operability/functionality/reportability issues;
- classification and prioritization of the resolution of the problem commensurate with safety significance;
- identification of the root and contributing causes of the problem;
- identification of corrective actions, which were appropriately focused to correct the problem; and
- completion of corrective actions in a timely manner commensurate with the safety significance of the issue.

This activity constituted one in-depth problem identification and resolution inspection sample as defined in IP 71152.

b. Observations and Assessments

The inspectors reviewed condition report CR–2015–16791, which was written because the licensee identified they were not testing a population of containment isolation valves in the accident surveillance, which was not in accordance with surveillance requirements. The licensee declared these missed surveillances and entered TS surveillance requirement (SR) 3.0.3. The inspectors reviewed the condition report and determined the issue constituted a never-performed surveillance rather than a missed surveillance. In accordance with the guidance in Inspection Manual Chapter (IMC) 0326, “Operability Determination & Functionality Assessments for Conditions Adverse to Quality,” in order to use SR 3.0.3, the licensee would need to determine that a TS surveillance had been demonstrated outside of routine surveillances. The information documented by the licensee did not explicitly state which non-routine surveillance they were crediting in order to apply SR 3.0.3. The inspectors questioned the licensee’s justification and they provided additional information to demonstrate that the method they had been previously using to perform surveillances on these components constituted an equivalent surveillance. The inspectors reviewed this issue and determined they did not have any concerns with the actions taken by the licensee. Based on the inspector’s review of TS and the technical justification provided, they determined the licensee adequately dispositioned the issue in accordance with the applicable requirements.

c. Findings

No findings were identified.

4OA5 Other Activities

.1 Follow Up Inspection for Three or More Severity Level IV Traditional Enforcement Violations in the Same Area in a 12-Month Period (92723)

a. Inspection Scope

The inspectors assessed the licensee’s evaluation of five SL IV violations, which occurred within the area of impeding the regulatory process, from May 5, 2016, through May 4, 2017. These violations were documented in NRC Inspection Reports as:

- (1) NCV 05000440/2016007–01;
- (2) NCV 05000440/2016007–02;
- (3) NCV 05000440/2016004–02;
- (4) NCV 05000440/2016004–04; and
- (5) NCV 05000440/2017002–01

The inspection objectives were to provide assurance that:

- the licensee understood the causes of multiple SL IV traditional enforcement violations;
- the licensee identified the extent of condition and extent of cause of multiple SL IV traditional enforcement violations; and
- the licensee’s corrective actions to address the traditional enforcement violations were sufficient to address the causes.

The inspectors reviewed the circumstances related to the five violations as well as the CAP CRs and the cause evaluation associated with each of the five issues and the

common cause analyses, and the CRs, procedures, and relevant references to the violations. Also reviewed were a number of Fleet and Perry procedures addressing the 50.59 process, work management, and event notifications, as well as the Licensee's Self-Assessment Plan and summary, and 50.59 Improvement Action Plan. The inspectors discussed the evaluations with management and staff personnel who were familiar with the violations and who participated in the evaluation or corrective actions.

b. Findings

No findings were identified.

The inspectors determined that the licensee identified the problem and causes using a systematic approach. The evaluation addressed the extent of condition and extent of cause. The corrective actions taken or planned were appropriate to address the causes, and schedules to measure the success of these actions were established.

4OA6 Management Meetings

.1 Exit Meeting Summary

On October 04, 2017, the inspectors presented the inspection results to Mr. D. Hamilton, 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 August 18, 2017, the inspection results for the Radiation Safety Program were reviewed with Mr. D. Hamilton.

4OA7 Licensee-Identified Violations

The following violation of very low significance (Green) was identified by the licensee and is a violation of NRC requirements, which meet the criteria of the NRC Enforcement Policy for being dispositioned as a NCV.

Technical Specification 5.5.1, states in part, that the ODCM shall contain the conduct of the Radiological Environmental Monitoring Program (REMP). The ODCM, Revision 20, includes Table 5.1–1 ODCM REMP Locations and Section 3.12.1.c, which states in part, "With milk or broadleaf vegetation samples unavailable from one or more of the sample locations...identify specific locations for obtaining replacement samples and add them within 30 days to the Radiological Environmental Monitoring Program given in the ODCM."

Contrary to the above, as of August 11, 2017, substantive changes to the REMP identified by the licensee in 2015 were not incorporated into the ODCM. Specifically, the licensee identified that a milk sampling location was no longer available and that the expansion of broadleaf vegetation sampling was required. Additionally, the licensee relocated collection sites for water and sediment samples that were not reflected in the ODCM. The licensee documented this issue in CR 2017–08353. The inspectors determined that this REMP issue was of very low safety significance (Green) after reviewing IMC 0609, Appendix D, "Public Radiation Safety SDP," dated

February 12, 2008. The inspectors determined that this finding was associated with the Environmental Monitoring Program, therefore, the finding screened as Green (very-low safety significance).

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

D. Hamilton, Site Vice-President
F. Payne, General Plant Manager
B. Blair, Operations Manager
S. Benedict, Chemistry Manager
C. Elliott, Radiation Protection Manager
B. Huck, Outage Management Manager
D. Saltz, Performance Improvement Director
N. Conicella, Regulatory Compliance Manager
P. Boissoneault, Training Manager
R. O'Connor, Emergency Planning Manager
D. Reeves, Site Engineering Director
M. Koberling, Design Manager
S. Gorski, Prog and Tech Services Manager
K. Clark, Maintenance Manager
V. Furbus, Security Manager
R. Killing, Quality
L. Zerr, Regulatory Compliance
T. Kledzik, Regulatory Compliance
J. Spahr, RPM

U.S. Nuclear Regulatory Commission

J. Cameron, Chief, Reactor Projects Branch 4
D. Hills, Chief, Engineering Branch 1
H. Peterson, Chief, Health Physics and Incident Response Branch
M. Jeffers, Chief, Engineering Branch 2

LIST OF ITEMS OPENED, CLOSED, AND 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.

1R04 Equipment Alignment

- DWG 302-0621-00000; Emergency Closed Cooling System; Revision TT
- DWG 302-0622-00000; Emergency Closed Cooling System; Revision N
- DWG 206-0021-00000; Class 1E 480V Bus EF1A; Revision TTTT
- DWG 206-0023-00000; Class 1E 480V Bus EF1B; Revision VVV
- DWG 206-0025-00000; Class 1E 480V Bus EF1C; Revision DDDD
- DWG 206-0035-00000; Non-Class 1E 480V Bus F1C; Revision XX
- CR 2017-07919; Emergency Service Water Pump House Fan B Suction Damper Appears Failed Closed; July 30, 2017
- CR 2017-06045; TSC Damper Shows Dual Indication; May 26, 2017
- VLI-M23/24; MCC, Switchgear and Miscellaneous Electrical Equipment Area HVAC System; June 03, 2013
- CR 2017-09230; Crew Performance Critique for Maintenance Electrical Battery SVI Issue; October 06, 2017
- CR 2017-08373; Potential Seismic Bolt Missing from Charger; August 11, 2017
- CR 2017-09171; System Trending Shows SVI Data Collected on Wrong Battery; October 05, 2017
- SVI-R42-T5202; Unit 1 Weekly 125V Battery Voltage and Category A Limits Check; July 16, 2012

1R11 Licensed Operator Requalification Program

- PNPP No. 9076; Cycle 17, Sequence B2/A1, Special Maneuver Control Rod Movement Sheet; August 26, 2017
- NOBP-OP-1004-02; Evolution Specific Reactivity Plan, August 2017 Control Rod Pattern Change; August 26, 2017, Revision 0
- FTI-B0002 Control Rod Movements; Revision 16
- IOI-3; Power Changes; Revision 66
- SVI-C11-T1003-B; Control Rod Exercise (Part 2); Revision 20

1R12 Maintenance Effectiveness

- ECP 16-0037-002; Installation of a P53 Test Connection Upstream of 1P53F0561' Revision 2
- WO 200670494; Upper Containment Airlock Reactor Door, Install LRT Inbd Dr Test Point Isol Vlv; September 7, 2107
- WO 200602095; Upper Containment Airlock Reactor Door, Replace Braided Flex Hoses; September 7, 2017
- WO 200701868; Check Valve Inner Door Large Seal Upper, Replace Check Valve (Viton Seals); September 8, 2017
- WO 200727575; 3-way Valve Inner Door Large Seal Upper, Rebuild Upper Air Lock, Inner Door, Large Seal Inflation Ball Valve; September 11, 2017

- WO 200566621; Check Valve Inner Door Small Seal Upper, Replace Viton Seals; September 7, 2017
- GMI-0176; Containment Airlock Door Maintenance Procedure; Revision 11
- GWI-0004; General Welding Requirements, Attachment 13; Revision 22
- GCI-0005; Nuclear Grade Steel Coating Systems Instruction; Revision 9
- DWG 302-0762-00000; Containment and Drywell Personnel Airlocks; Revision R
- DWG 40-1200-00000; 150# ½" Check Valve; Revision A
- DWG 40-1192-00000; ½ Model 'S' 3-way 90° 150#-600# Socket Weld Ball Valve; Revision A
- CR-2017-08548; Upper Containment Airlock Inner Door Pre-Conditioning Leak Test Failed to Stabilize
- CR-2017-08455; Upper Airlock (P53) SVI Tests not Correctly Sequenced by the Work Group
- CR-2017-09537; Nuclear Grade Coating did not Meet Acceptance Criteria
- NOP-ER-3004; FENOC Maintenance Rule Program; Revision 2
- CR 2017 -05213; ESW A Pump Packing Leak; May 8, 2017
- CR 2017-03434; ESW B Pump Flow Rates are Unchanged Following Maintenance; March 26, 2017
- CR 2017-08736; Localized Wall Thinning Identified in ESW A Loop Piping; August 23, 2017
- CR 2017-08582; Extent of Condition for Emergency Service Water B through Wall Pinhole Piping Leaks; August 18, 2017
- CR 2017-08726; NRC Identified Leakage at 1P45-F0582B Pipe Cap; August 23, 2017
- CR 2017-08581; P45 Piping thru Wall Pin Hole Leak; August 18, 2017
- NOP-ER-33004; FENOC Maintenance Rule Program; Revision 2
- CR 2017-09648; Leakage has Increased from the through Wall Leak Downstream of 1P45-F541B; September 19, 2017
- Perry Nuclear Power Plant; Plant Health Report 2017-1; July 31, 2017

1R13 Maintenance Risk Assessments and Emergent Work Control

- ECP 17-0331-001; Temporary Modification to Restore the Pressure Boundary Integrity to the ESW B Loop 14-inch Diameter Elbow; Revision 0
- CR 2017-08726; NRC Identified Leakage at 1P45-F0582B Pipe Cap; August 23, 2017
- CR 2017-08736; Localized Wall Thinning Identified in ESW A Loop Piping; August 23, 2017
- CR 2017-08581; P45 Piping thru Wall Pin Hole Leak; August 18, 2017
- CR 2017-08582; Extent of Condition for Emergency Service Water B through Wall Pinhole Piping Leaks; August 18, 2017
- CR 2017-08602; Prompt Operability Determination on Pinhole Leak could not be Assured; August 19, 2017
- CR 2017-04817; NRC ID: NRC Questioned Applicable Discovery Time for AEGTS A Inoperability; April 28, 2017
- CR 2017-05820; AEGTS Fan A Low Flow; May 21, 2017
- CR 2017-05854; AEGTS A Recirc Damper Hydramotor Oil Leak Found; May 22, 2017
- CR 2017-08450; Annulus Low Differential Pressure Alarms during Fan Shift; August 15, 2017
- CR 2017-04728; Unplanned LCO, AEGTS A not Maintaining Proper Pressure; April 27, 2017
- CR 2017-08631; Typographical Error Identified on N-513-4 Relief Request Submittal; August 21, 2017

1R18 Plant Modifications

- CR 2017-08348; Potential Modification to the Site Topography from Previous Paving Debris; August 11, 2017

- ACN 16-0430-001; Storm Drain Modification; Revision 0
- ACN 16-0430-001; Storm Drain Modification; Revision 1
- NOP-CC-2003; Engineering Changes; Revision 22
- ECP 17-0027-002; ED-1-B Undervoltage Relay Alarm Setpoint Change; Revision 1
- ECP 16-0430-001; Storm Drain Modification; September 16, 2016

1R19 Post-Maintenance Testing

- SVI-P53-T7312; Upper Containment Airlock Pneumatic System Leak Test, Pen #312; September 7, 2017
- SVI-P53-T9312; Type C Local Leak Rate Test of 1P53 Upper Containment Airlock Pen. P312; August 28, 2017
- CR-2017-08862; Level 4 Clearance Event CP-4.1.3; Clearance Development Milestone not Met
- CR-2017-09016; Work Order Operation was Signed off without Fully Completing Operation
- WO 200515362; Inspect Motor Driven Fire Pump Relief Valve; August 14, 2017
- WO 200726350; Troubleshoot and Repair Failed Closed ESWPH Fan B Supply Damper; August 02, 2017

1R22 Surveillance Testing

- SVI-C11-T1006; Control Rod Scram Time Surveillance; August 26, 2017
- SVI-C11-T1022; Rod Withdrawal Limiter Surveillance; August 26, 2017
- CR 2017-01037; Second Set of Vibration Readings Recorded for RHR Pump B during SVI-E12-T2002
- CR 2017-04292; RCIC/RHR Test Connections Difficult to Operate; April 17, 2017
- WO 200650924; (2Y) RHR B Pump and Valve Operability Test (PI); August 04, 2017

1EP6 Drill Evaluation

- PNPP ERO Drill; 9/12/17; Scenario Guide; September 6, 2017
- CR-2017-05419; Improvement Opportunities with Responsiveness to Regulatory Issues
- CR-2017-04939; NRC ID: Potential Loss of Safety Function with Bypass Valve #1 Open
- CR-2017-00613; CR 2016-06714 Completed Prior to Issuance of NRC Non-Cited Violation
- CR-2017-05022; Loss of Safety Function Reporting Improvement Opportunities
- CR-2015-14025; 10 CFR 50.59 Review Committee Identified Concerns with 50.59 Eval 14-01234
- CR-2016-06714; NRC Mod/50.59 Inspection: 50.59 Deficiencies Associated with ECP 10-0811
- CR-2016-06882; NRC Mod/50.59 Inspection: 50.59 Evaluation 14-01234 Departure in Methodology Required Prior NRC Approval
- CR-2017-04179; In the Past 12 Month Perry has Received Four NRC Violations that were Categorized as Level IV Traditional Enforcement Violations
- CR-2017-05808; Trend Review – Missed Fire protection and Loss of Safety Function Requirements

2RS5 Radiation Monitoring Instrumentation

- CR 2017-05390; Chemistry Gamma Spectroscopy System Efficiency Calibration Verification not Performed in 2016; May 11, 2017

2RS7 Radiological Environmental Monitoring Program

- 2016 Perry Nuclear Power Plant Annual Environmental and Effluent Release Report; April 21, 2017
- 2015 Perry Nuclear Power Plant Annual Environmental and Effluent Release Report; April 29, 2016
- ODCM; Revision 20
- Annual Reports of Meteorological Program; 2014 through 2016
- Meteorological Tower Calibration Records; 2016–2017
- Meteorological Tower Maintenance Records; 2016–2017
- August 2007 Groundwater Field Sampling Plan; August 3, 2007
- SN–SA–2012–0248; Self–Assessment Groundwater Conceptual Models as Required by NEI07–07; February 14, 2014
- Environmental Field Sampling Logs; August 16, 2017
- Environmental Sampling Training Records; Various Records
- Environmental Air Sampler Calibration and Maintenance Records; Various Records
- NEI Groundwater Protection Initiative NEI Peer Assessment Report; September 8, 2016
- TAF 15–004; Change in REMP Water Control Location; August 13, 2015
- TAF 15–009; Loss of REMP Milk Sampling at Location 18; August 20, 2015
- TAF 17–004; Addition of Food Product Sampling Locations 16 and 20; August 10, 2017
- REMP–0013; Sampling Locations; Revision 11
- REMP–0023; Air Sample Collection; Revision 8
- CR–2015–17373; Environmental Air Samples not Shipped from the Warehouse in a Timely Manner; December 31, 2015
- CR–2016–02161; Work Practices Evaluation and Risk Ranking not Done per NOBP–OP–2012, System/Work Practices Prioritization for NEI 07–07; February 14, 2014
- CR–2016–05492; REMP Air Sampler #1 Found not Running; April 18, 2016
- CR–2016–05684; Meteorological Data Recovery Less than 90% for March 2016;
- CR 2017–08353; REMP Changes not Reflected in ODCM; August 11, 2017

4OA1 Performance Indicator Verification

- Radiological Effluent Release Summary Information; Fourth Quarter of 2016 through Second Quarter of 2017
- SVI–P35–T3011; Dose Equivalent I–131 Analysis; Revision 6
- Dose Equivalent Iodine Data; Fourth Quarter of 2016 through Second Quarter of 2017
- Electronic Dosimeter Dose and Dose Rate Alarm Logs; Fourth Quarter of 2016 through Second Quarter of 2017
- Internal and External Dose Investigations; Fourth Quarter of 2016 through Second Quarter of 2017
- CR 2017–08512; Documentation Issues Identified During Review of Information for Four Dose Rate Alarms; August 16, 2017

4OA2 Identification and Resolution of Problems

- CR–2015–16791; Extent of Condition Review Identifies Additional Containment Isolation Valves are not Tested in the Accident Condition; December 15, 2015
- CR–2017–02980; 1R16 LLRTs SVI–P53–T9305 an SVI–P53–T9312 Partial Performance; March 16, 2017
- SVI–P53–T9312; Type C Local Leak Rate Test of 1P53 Upper Containment Airlock Penetration 312; Revision 7

- PDB-G0001; Containment Isolation Valve Table; Revision 4

4OA5 Other Activities

- BN-SA-2017-0608; Perry Pre-NRC Inspection IP-92723 Self-Assessment Plan; June 27, 2017
- Self-Assessment Results for BN-SA-2017-0608; Self-Assessment Results; August 9, 2017
- Perry 50.59 Improvement Action Plan; Revision 0
- NOP-WM-4300; FENOC Fleet Procedure Order Execute Process; Revision 13
- NOP-WM-0001; FENOC Fleet Procedure Work Management Process; Revision 12
- NOP-OP-1011; FENOC Fleet Procedure Plant Operations Review Committee (PORC); Revision 3
- NOBP-LP-2001; FENOC Fleet Procedure Self-Assessment and Benchmarking; Revision 25
- NOP-OP-1015; FENOC Fleet Procedure Event Notifications; Revision 5
- NOBP-OP-1015; FENOC Fleet Business Practice Event Notifications; Revision 7
- CR-2016-06744; 2016 NRC Mod/50.59 Inspection: Evaluation 14-01234 Questions
- CR-2016-11864; NRC ID: Underdrain Manhole Covers Changed to Grating vs Watertight Covers
- CER 2016-11864; Causal Evaluation Report, Underdrain Manhole Covers Changed to Grating vs Watertight Covers; November 3, 2016

LIST OF ACRONYMS USED

AEGTS	Annulus Exhaust Gas Treatment System
AOP	Abnormal Operating Procedure
CAP	Corrective Action Program
CFR	<i>Code of Federal Regulations</i>
CR	Condition Report
EDG	Emergency Diesel Generator
ESW	Essential Cooling Water
FENOC	First Energy Nuclear Operating Company
GPI	Groundwater Protection Initiative
HVAC	Heating, Ventilation, and Air Conditioning
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
MSPI	Mitigating Systems Performance Index
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NOBP	Nuclear Operating Business Practice
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PI	Performance Indicator
PMT	Post-Maintenance Testing
PNPP	Perry Nuclear Power Plant
RCIC	Reactor Core Isolation Cooling
RHR	Residual Heat Removal
RPS	Reactor Protection System
SR	Surveillance Requirement
SSC	Structure, System or Component
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
WO	Work Order