



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION I
2100 RENAISSANCE BLVD., Suite 100
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November 9, 2017

Mr. Bryan C. Hanson
Senior Vice President, Exelon Generation Company, LLC
President and Chief Nuclear Officer, Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: NINE MILE POINT NUCLEAR STATION – INTEGRATED INSPECTION
REPORT 05000220/2017003 AND 05000410/2017003

Dear Mr. Hanson:

On September 30, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Nine Mile Point Nuclear Station, LLC (NMPNS), Units 1 and 2. On October 25, 2017, the NRC inspectors discussed the results of this inspection with Mr. Peter Orphanos, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

The NRC inspectors did not identify any finding or violation of more than minor significance.

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 the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Anthony Dimitriadis, Chief
Reactor Projects Branch 1
Division of Reactor Projects

Docket Nos. 50-220 and 50-410
License Nos. DPR-63 and NPF-69

Enclosure:
Inspection Report 05000220/2017003
and 05000410/2017003
w/Attachment: Supplementary Information

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SUBJECT: NINE MILE POINT NUCLEAR STATION – INTEGRATED INSPECTION
 REPORT 05000220/2017003 AND 05000410/2017003 DATED NOVEMBER 9,
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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos. 50-220 and 50-410

License Nos. DPR-63 and NPF-69

Report Nos. 05000220/2017003 and 05000410/2017003

Licensee: Exelon Generation Company, LLC (Exelon)

Facility: Nine Mile Point Nuclear Station, LLC (NMPNS)
Units 1 and 2

Location: Oswego, New York

Dates: July 1, 2017 through September 30, 2017

Inspectors: E. Miller, Senior Resident Inspector
G. Stock, Resident Inspector
R. Rolph, Health Physicist
S. Rutenkroger, Senior Resident Inspector
C. Safouri, Project Engineer
A. Turilin, Project Engineer

Approved by: Anthony Dimitriadis, Chief
Reactor Projects Branch 1
Division of Reactor Projects

Enclosure

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SUMMARY

Inspection Report 05000220/2017003 and 05000410/2017003; 07/01/2017 – 09/30/2017; Nine Mile Point Nuclear Station (NMPNS), Units 1 and 2; Routine Integrated Inspection Report.

This report covered a 3-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. No findings were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6.

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at 100 percent power. On September 6, 2017, Unit 1 experienced an automatic scram on low reactor water level due to a failure of a feedwater level control component. On September 9, following troubleshooting and repairs of the feedwater level control system, operators started up the unit and raised reactor power to 100 percent. On September 10, operators reduced reactor power to 83 percent to perform a rod pattern adjustment; operators restored reactor power to 100 percent later that same day. Unit 1 remained at or near 100 percent power for the remainder of the inspection period.

Unit 2 began the inspection period at 100 percent power. On July 1, 2017, operators reduced reactor power to 81 percent due to a malfunction associated with the moisture separator reheater (MSR) drain tank level control system. Following repairs on July 3, operators restored reactor power to 100 percent. On July 13, power was reduced to 49 percent when Unit 2 experienced a rupture of an instrument air line and subsequent trip of a feedwater pump. On July 14, following repairs of the ruptured instrument air line, operators restored power to 100 percent. On August 4, operators reduced reactor power to 20 percent to perform repairs to the main turbine overspeed trip protection system. On August 5, following repairs to the main turbine overspeed trip protection system, operators raised power to 85 percent to perform turbine stop valve and control valve testing. During testing on August 5, Unit 2 experienced an automatic reactor scram on high reactor pressure when turbine control valves unexpectedly went closed. On August 8, following troubleshooting and repairs of the turbine control valve system, operators began power ascension and achieved criticality. On August 9, operators raised reactor power to 100 percent. On August 9, operators reduced reactor power to 85 percent when they experienced a reduction in main condenser vacuum caused by a valve malfunction in the offgas system and leakby of a safety relief valve in the main turbine gland seal system. On August 9, operators reduced reactor power to 80 percent to perform a rod pattern adjustment. On August 10, following repairs to the offgas system valve and main turbine gland seal safety relief valve, operators restored reactor power to 100 percent. Unit 2 remained at or near 100 percent for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment

Partial System Walkdowns (71111.04 – 3 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the systems listed below. The inspectors selected these systems based on their risk-significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors reviewed applicable operating procedures, system diagrams, the Updated Final Safety Analysis Report (UFSAR), technical specifications, work orders, issue reports (IRs), and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted the system's performance of its intended safety functions.

The inspectors also performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether Exelon staff had properly identified equipment issues and entered them into the corrective action program (CAP) for resolution with the appropriate significance characterization.

- Unit 1 122 containment spray system following 122 containment spray heat exchanger preventive maintenance on July 20, 2017
- Unit 2 high pressure core spray (HPCS) following planned maintenance on July 27, 2017
- Unit 2 offgas system during elevated inlet pressures and system flows on August 10, 2017

b. Findings

No findings were identified.

1R05 Fire Protection

Resident Inspector Quarterly Walkdowns (71111.05Q – 5 samples)

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that Exelon controlled combustible materials and ignition sources in accordance with administrative procedures. The inspectors verified that fire protection and suppression equipment was available for use as specified in the area pre-fire plan, and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for out of service, degraded, or inoperable fire protection equipment, as applicable, in accordance with procedures.

- Unit 2 south reactor building 306' elevation, fire area (FA) 35, on July 20, 2017
- Unit 2 north reactor building 306' elevation, FA 34, on July 20, 2017
- Unit 1 reactor building west 318' elevation, FA 2 on August 22, 2017
- Unit 1 reactor building west 340' elevation, FA 2 on August 22, 2017
- Unit 1 reactor building west 298' elevation, FA 2 on August 22, 2017

b. Findings

No findings were identified.

1R06 Flood Protection Measures(71111.06 – 1 sample)

a. Inspection Scope

The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), the site flooding analysis, and plant procedures to identify internal flooding susceptibilities for the site. The inspectors review focused on the domestic water line to eyewash station in Unit 2 Division II emergency switchgear room. The inspectors verified the adequacy of equipment seals located below the flood line, watertight door seals, common drain lines and sumps, sump pumps, level alarms, control circuits, and temporary or removable flood barriers. The inspectors assessed the adequacy of operator actions that Exelon had identified as necessary to cope with flooding in this area and also reviewed the CAP to determine if Exelon was identifying and correcting problems associated with both flood mitigation features and site procedures for responding to flooding.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance
(71111.11Q – 4 samples)

.1 Quarterly Review of Licensed Operator Requalification Testing and Training (2 samples)

a. Inspection Scope

The inspectors observed:

- Unit 1 licensed operator simulator training scenario, which involved a control rod drifting out of position, a loss of 4kV electrical powerboard 101, a loss of coolant accident, and failure of a containment isolation valve on July 11, 2017
- Unit 2 licensed operator simulator training scenario, which involved a loss of turbine building closed loop cooling, a loss of the Division III 4kv electrical bus, a condensate booster pump trip, a dual reactor recirculation pump trip with an anticipated transient without scram, and a loss of coolant accident resulting in a failure of reactor pressure vessel level indication on July 11, 2017

The inspectors evaluated operator performance during the simulated events and verified completion of risk-significant operator actions, including the use of abnormal and emergency operating procedures. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the unit supervisor. The inspectors verified the accuracy and timeliness of the emergency classifications made by the shift manager and the technical specification (TS) action statements by the unit supervisor. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

b. Findings

No findings were identified.

.2 Quarterly Review of Licensed Operator Performance in the Main Control Room
(2 samples)

a. Inspection Scope

The inspectors observed:

- Unit 2 during manipulations associated with the MSR drain tank during reduced power operations at 80 percent on July 2, 2017; and during power ascension following corrective maintenance on the MSR equipment on July 3, 2017
- Unit 1 startup following forced outage on September 9, 2017

The inspectors reviewed HU-AA-101, "Human Performance Tools and Verification Practices," Revision 009, and observed test performance to verify that procedure use, crew communications, and coordination of plant activities among work groups similarly met established expectations and standards.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 1 sample)

a. Inspection Scope

The inspectors reviewed the sample below to assess the effectiveness of maintenance activities on structure, system, and component (SSC) performance and reliability. The inspectors reviewed system health reports, corrective action program documents, maintenance work orders, and maintenance rule basis documents to ensure that Exelon was identifying and properly evaluating performance problems within the scope of the maintenance rule. For each sample selected, the inspectors verified that the SSC was properly scoped into the maintenance rule in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 50.65 and verified that the (a)(2) performance criteria established by Exelon staff was reasonable. As applicable, for SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these SSCs to (a)(2). Additionally, the inspectors ensured that Exelon staff were identifying and addressing common cause failures that occurred within and across maintenance rule system boundaries.

- Unit 1 SF-1154 silicon fluid used for hydraulic snubbers on August 21, 2017

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 8 samples)

a. Inspection Scope

The inspectors reviewed station evaluation and management of plant risk for the maintenance and emergent work activities listed below to verify that Exelon performed the appropriate risk assessments prior to removing equipment from service. The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that Exelon personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When Exelon performed emergent work, the inspectors verified that operations personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work and discussed the results of the assessment with the station's probabilistic risk analyst to verify plant conditions were consistent with the risk assessment. The inspectors also reviewed the TS requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- Unit 2 risk mitigation actions during 'A' residual heat removal (RHR) breaker maintenance on July 19, 2017
- Unit 2 risk mitigation actions during HPCS breaker maintenance on July 24, 2017
- Unit 1 risk mitigation actions during 12 liquid poison system surveillance on August 1, 2017
- Unit 2 Division II emergency diesel generator (EDG) during planned surveillance testing of loss of offsite power/loss of coolant accident relays on August 17, 2017
- Unit 2 'A' RHR discharge flow switch trip unit calibration on August 24, 2017
- Unit 2 risk mitigation actions during 'B' and 'C' RHR keepfill system relief valve replacement on September 6, 2017
- Unit 2 risk mitigation actions during Division I EDG maintenance window on September 19, 2017
- Unit 1 risk mitigation actions during EDG 102 maintenance window on September 26, 2017

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 7 samples)

a. Inspection Scope

The inspectors reviewed operability determinations for the degraded or non-conforming conditions listed below based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the operability determinations to assess whether technical specification 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 technical specifications and UFSAR to Exelon's evaluations to determine whether the components or systems were operable.

The inspectors confirmed, where appropriate, compliance with bounding limitations associated with the evaluations. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled by Exelon.

- Unit 2 instrumentation associated with reactor water cleanup isolation due to standby liquid control system (SLCS) initiation on July 5, 2017
- Unit 1 EDG 103 during air receiver tank 5 isolation for planned maintenance on July 31, 2017
- Unit 2 Division II EDG due to a failure to run during a monthly surveillance on August 2, 2017
- Unit 2 2MSS*AOV7D, main steam isolation valve 7D following identification 33-6 limit switch not making proper contact on August 10, 2017
- Unit 2 'A' RHR system following failed as-found surveillance testing of discharge flow transmitter 2RHS*FT86A on August 21, 2017
- Unit 2 failure of reactor manual control system during control rod exercise surveillance testing on August 28 and September 13, 2017
- Unit 1 11 drywell equipment drain tank following level alarm malfunction on September 27, 2017

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 – 3 samples)

Temporary Modifications

a. Inspection Scope

The inspectors reviewed the temporary modifications listed below to determine whether the modifications affected the safety functions of systems that are important to safety. The inspectors reviewed 10 CFR 50.59 documentation and post-modification testing results, and conducted field walkdowns of the modifications to verify that the temporary modifications did not degrade the design bases, licensing bases, and performance capability of the affected systems.

- Unit 1 seismic qualification of the control room 'G' panel with the average power range monitor drawers racked out for an extended period of time on August 3, 2017
- Unit 2 engineering change package (ECP)-17-000531, temporary modification to reduce the risk of changes in turbine control valve demand signal on August 9, 2017
- Unit 1 ECP-13-000651 and Unit 2 ECP-13-000652, reliable spent fuel pool instrumentation modification on August 28, 2017

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 10 samples)a. Inspection Scope

The inspectors reviewed the post-maintenance tests for the maintenance activities listed below to verify that procedures and test activities adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure were consistent with the information in the applicable licensing basis and/or design basis documents, and that the test results were properly reviewed and accepted and problems were appropriately documented. The inspectors also walked down the affected job site, and reviewed test data to verify quality control hold points were performed and checked, and that results adequately demonstrated restoration of the affected safety functions.

- Unit 1 11 reactor building emergency ventilation fan run following fan belt replacement on July 6, 2017
- Unit 1 EDG 103 monthly run following safety valve replacement on starting air receiver 5 on July 10, 2017
- Unit 1 containment spray 122 operability test following heat exchanger and valve preventative maintenance July 13, 2017
- Unit 1 'A' RHR pump and valve operability test following breaker maintenance on July 20, 2017
- Unit 2 HPCS pump and valve operability test following maintenance on July 26, 2017
- Unit 2 Division II SLCS following oil change and breaker preventive maintenance on August 2, 2017
- Unit 2 2HVC*CAB18A control room air intake radiation monitor following sample pump replacement on August 16, 2017
- Unit 1 turbine stop valve 14 reactor protection limit switch following repairs on September 8, 2017
- Unit 2 Division 2 control room chiller following maintenance and check valve 2SWP*V240B following replacement on September 15, 2017
- EDG 103 following 18-year maintenance window on September 29, 2017

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20 – 2 samples)a. Inspection Scope

The inspectors reviewed the station's work schedules and outage risk plans for a Unit 2 forced outage August 4-9, 2017, and a Unit 1 forced outage September 6-8, 2017. The inspectors reviewed Exelon's development and implementation of outage plans and schedules to verify that risk, industry experience, previous site specific problems, and defense-in-depth were considered. During the outages, the inspectors observed portions of the shutdown and cooldown processes and monitored controls associated with the following outage activities:

- Configuration management, including maintenance of defense-in-depth, commensurate with the outage plan for the key safety functions and compliance with the applicable technical specifications when taking equipment out of service

- Status and configuration of electrical systems and switchyard activities to ensure that technical specifications were met
- Reactor water inventory controls, including flow paths, configurations, alternative means for inventory additions, and controls to prevent inventory loss
- Activities that could affect reactivity
- Identification and resolution of problems related to outage activities

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 4 samples)

a. Inspection Scope

The inspectors observed performance of surveillance tests and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied technical specifications, the UFSAR, and Exelon procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied. Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following surveillance tests:

- Unit 1, N1-ST-Q3, High Pressure Coolant Injection Pump and Check Valve Operability Test on July 5, 2017
- Unit 1, N1-ST-Q13, Emergency Service Water Pump and Check Valve Operability Test on August 1, 2017
- Unit 1, N1-ST-Q1A, CS 111 Pump, Valve and shutdown cooling (SDC) Water Seal Check Valve Operability Test on August 22, 2017 (in-service test)
- Unit 2, N2-OSP-EGS-M@002, Diesel Generator and Diesel Air Start Valve Operability Test – Division III on August 23, 2017

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness1EP6 Drill Evaluation (71114.06 – 1 sample)Emergency Preparedness Drill Observationa. Inspection Scope

The inspectors observed a simulator training evolution for Unit 2 licensed operators on July 11, 2017, which required emergency plan implementation by an operations crew. Exelon planned for this evolution to be evaluated and included in performance indicator (PI) data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note if there were any weaknesses and deficiencies in the crew's performance and ensure that Exelon evaluators noted the same issues and entered them into the CAP.

b. Findings

No findings were identified.

2. RADIATION SAFETY**Cornerstone: Occupational and Public Radiation Safety**2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01 – 1 sample)a. Inspection Scope

The inspectors reviewed the monitoring, assessment, and reporting of occupational dose. The inspectors used the requirements in 10 CFR Part 20, Regulatory Guides 8.9 and 8.34, TSs, and procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors reviewed radiation protection program audits and procedures associated with dosimetry operations.

Contamination and Radioactive Material Control (1 sample)

The inspectors observed the monitoring of potentially contaminated material leaving the radiological controlled area and inspected the methods and radiation monitoring instrumentation used for control, survey, and release of that material. The inspectors selected several sealed sources from inventory records and assessed whether the sources were accounted for and were tested for loose surface contamination. The inspectors evaluated whether any recent transactions involving nationally tracked sources were reported in accordance with requirements.

b. Findings

No findings were identified.

2RS2 Occupational As Low As is Reasonably Achievable Planning and Controls
(71124.02 – 3 samples)

a. Inspection Scope

The inspectors assessed Exelon's performance with respect to maintaining occupational individual and collective radiation exposures as low as is reasonably achievable (ALARA). The inspectors used the requirements contained in 10 CFR Part 20, Regulatory Guides 8.8 and 8.10, TSs, and procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors conducted a review of NMPNS collective dose history and trends, ongoing and planned radiological work activities, previous post-outage ALARA reviews, radiological source term history and trends, and ALARA dose estimating and tracking procedures.

Radiological Work Planning (1 sample)

The inspectors selected the following radiological work activities based on exposure significance for review:

- RWP No. NM-1-17-00306, Drywell Scaffolding
- RWP No. NM-1-17-00518, Drywell In-Service-Inspection
- RWP No. NM-1-17-00542, Drywell Recirculation Pump Motor Oil Modification
- RWP No. NM-1-17-00901, Reactor Disassembly and Reassembly
- RWP No. NM-1-17-00601, Reactor Water Clean-Up Maintenance Activities

For each of these activities, the inspectors reviewed ALARA work activity evaluations, exposure estimates, exposure reduction requirements, results achieved (dose rate reductions, actual dose), person-hour estimates and results achieved and post-job reviews that were conducted to identify lessons learned.

Implementation of ALARA and Radiological Work Control (1 sample)

The inspectors reviewed radiological work controls and ALARA practices during the observation of in-plant work activities. The inspectors evaluated use of shielding, contamination controls, airborne controls, RWP controls, and other work controls to determine if they were consistent with ALARA plans. The inspectors ensured that work-in-progress reviews were performed in a timely manner and adjustments made to the ALARA estimates when appropriate. The inspectors reviewed the results achieved against the intended ALARA estimates to confirm adequate implementation and oversight of radiological work controls. The inspectors also verified that the ALARA staff was involved with emergent work activities and were revising both dose estimates and ALARA controls in the associated radiation work permits/ALARA plans, as appropriate.

The inspectors reviewed performance in assuring the accuracy and operability of radiation monitoring instruments used to protect occupational workers during plant operations and from postulated accidents. The inspectors used the requirements outlined as listed in 10 CFR Part 20; regulatory guides; American National Standards Institute (ANSI) 323A, N323D, and N42.14; and procedures required by TSs as criteria for determining compliance.

Problem Identification and Resolution (1 sample)

The inspectors evaluated whether problems associated with ALARA planning and controls were identified at an appropriate threshold and properly addressed in the CAP.

b. Findings

No findings were identified.

2RS4 Occupational Dose Assessment (71124.04 – 2 samples)

a. Inspection Scope

The inspectors reviewed the monitoring, assessment, and reporting of occupational dose. The inspectors used the requirements in 10 CFR Part 20, Regulatory Guides 8.9 and 8.34, TSs, and procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors reviewed radiation protection program audits and procedures associated with dosimetry operations.

Source Term Characterization (1 sample)

The inspectors reviewed the plant radiation characterization (including gamma, beta, alpha, and neutron) being monitored. The inspectors verified the use of scaling factors to account for hard-to-detect radionuclides in internal dose assessments.

Internal Dosimetry (1 sample)

The inspectors reviewed internal dosimetry procedures, whole body counter measurement sensitivity and use, adequacy of the program for whole body count monitoring of plant radionuclides or other bioassay technique, adequacy of the program for dose assessments based on air sample monitoring and the use of respiratory protection, and internal dose assessments for any actual internal exposure.

b. Findings

No findings were identified.

2RS5 Radiation Monitoring Instrumentation (71124.05 – 3 sample)

a. Inspection Scope

The inspectors reviewed performance in assuring the accuracy and operability of radiation monitoring instruments used to protect occupational workers during plant operations and from postulated accidents. The inspectors used the requirements in 10 CFR Part 20; regulatory guides; ANSI 323A, N323D, and N42.14; and procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors reviewed NMPNS UFSARs, radiation protection audits, records of in-service survey instrumentation, and procedures for instrument source checks and calibrations.

Walkdowns and Observations (1 sample)

The inspectors conducted walkdowns of plant area radiation monitors and continuous air monitors. The inspectors assessed material condition of these instruments and that the monitor configurations aligned with the UFSARs. The inspectors checked the calibration and source check status of various portable radiation survey instruments and contamination detection monitors for personnel and equipment.

Calibration and Testing Program (1 sample)

For the following radiation detection instrumentation, the inspectors reviewed the current detector and electronic channel calibration, functional testing results, alarm set-points, and the use of scaling factors:

- laboratory analytical instruments
- whole body counter
- containment high-range monitors
- portal monitors
- personal contamination monitors
- small article monitors
- portable survey instruments
- area radiation monitors
- electronic dosimetry
- air samplers
- continuous air monitors

The inspectors reviewed the calibration standards used for portable instrument calibrations and response checks to verify that instruments were calibrated by a facility that used National Institute of Science and Technology traceable sources.

Problem Identification and Resolution (1 sample)

The inspectors verified that problems associated with radiation monitoring instrumentation (including failed calibrations) were identified at an appropriate threshold and properly addressed in the CAP.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Mitigating Systems Performance Index (12 samples)

a. Inspection Scope

The inspectors reviewed Exelon's submittal of the Mitigating Systems Performance Index for the following systems for the period of July 1, 2016 through June 30, 2017:

Unit 1 and Unit 2

- Safety System Function Failures (MS05)
- Emergency Alternating Current Power System (MS06)
- High Pressure Injection System (MS07)
- Heat Removal System (MS08)
- Residual Heat Removal System (MS09)
- Cooling Water System (MS10)

To determine the accuracy of the PI data reported during those periods, inspectors used definitions and guidance contained in NEI 99-02, and NUREG-1022, "Event Reporting Guidelines: 10 CFR 50.72 and 50.73," Revision 3. The inspectors reviewed Exelon's operator narrative logs, operability assessments, maintenance rule records, incident reports, event reports, and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

.2 Occupational Exposure Control Effectiveness (1 sample)

a. Inspection Scope

The inspectors reviewed Exelon submittals for the occupational radiological occurrences PI for the first quarter 2016 through the third quarter 2017. The inspectors used PI definitions and guidance contained in NEI 99-02, Revision 7, to determine the accuracy of the PI data reported. The inspectors reviewed electronic personal dosimetry accumulated dose alarms, dose reports, and dose assignments for any intakes that occurred during the time period reviewed to determine if there were potentially unrecognized PI occurrences. The inspectors conducted walkdowns of various locked high and very high radiation area entrances to determine the adequacy of the controls in place for these areas.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – 1 sample)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by Inspection Procedure 71152, "Problem Identification and Resolution," the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify Exelon entered issues into the CAP at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order 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 corrective action program and periodically attended condition report screening meetings. The inspectors also confirmed, on a sampling basis, that, as applicable, for identified defects and non-conformances, Exelon performed an evaluation in accordance with 10 CFR Part 21.

b. Findings

No findings were identified.

.2 Annual Sample: Unit 1 Turbine Trip Signal and High Pressure Coolant Injection Initiation during Tagging Application

a. Inspection Scope

The inspectors performed an in-depth review of the condition that resulted in actuation of the Unit 1 High Pressure Coolant Injection (HPCI) system on March 20, 2017. Exelon provided a 60-day telephone notification to the NRC of this condition reported under 10 CFR 50.73 (a)(2)(iv) due to the invalid actuation of the HPCI flow control mode of the normal feedwater system.

The inspectors assessed Exelon's problem identification threshold, cause analyses, extent of condition reviews, compensatory actions, and the prioritization and timeliness of Exelon's corrective actions to determine whether Exelon appropriately identified, characterized, and corrected problems associated with this issue and whether the planned or completed corrective actions were appropriate. The inspectors compared the actions taken with the requirements of Exelon's CAP and 10 CFR Part 50, Appendix B. In addition, the inspectors reviewed plant parameter data and logs from March 20, 2017 and interviewed operations and engineering personnel to assess the effectiveness of the implemented corrective actions.

b. Findings and Observations

On March 20, 2017, Exelon was performing a shutdown of NMPNS Unit 1 for a planned refueling outage. Exelon removed the main generator, main turbine, and the 13 feedwater pump from service. At Unit 1, the 13 feedwater pump is clutch-driven from the main turbine to provide 100 percent capacity feedwater flow. As part of this evolution, the motor-driven 12 feedwater pump was placed into service and provided normal reactor water level control. At approximately 4 percent reactor power, a clearance tagging evolution was in progress to support shutdown activities. The tag was applied that opened the two output breakers from the automatic voltage regulator (AVR).

Although the main generator and AVR were out of service at this time, the AVR system initiated an internal trip signal from the opening of both output breakers. This trip signal generated a turbine trip signal. The turbine trip signal generated a HPCI initiation signal.

Per design, the 11 and 12 feedwater pumps received start signals, and the feedwater level control system transitioned from normal automatic mode into HPCI mode of operation. The HPCI mode of operation automatically controlled reactor water level at its higher setpoint. The 11 feedwater pump started, and the 12 feedwater pump supplied more water to increase the reactor water level to its setpoint. The operators subsequently secured the 11 feedwater pump and reset HPCI to return to normal automatic control.

Exelon conducted interviews with the operators responsible for the tagging evolution. Exelon determined that the tagging evolution was based on previous successful experience with tagouts of the AVR system. However, a modification was performed during the last refueling outage which replaced the AVR with a new digital system. The new system included a new feature in which a redundant generator trip signal is generated when the AVR output breakers are both opened. This signal is generated regardless of whether or not the generator and AVR are already tripped. The tagout preparer, reviewer, and shift crew were not aware of the new trip feature.

Since the AVR system was new, Exelon determined that the operators should have questioned the tagout sequence to verify that no adverse consequences would result to or from the AVR system. Exelon briefed operations personnel on this issue and on having a questioning attitude.

Exelon also determined that the new trip information was only contained in the controlled vendor manual. So, Exelon revised the tagout database to flag the relevant AVR components with a notation describing the redundant trip signal with the AVR system either on or off. During tagging development, the notations are required to be reviewed, which will ensure this condition will be recognized during future tagouts involving the AVR system. The inspectors reviewed Exelon's corrective actions to address the inadvertent HPCI initiation. The inspectors determined Exelon conducted a thorough technical review of the issue. The inspectors reviewed the tagging database including the relevant components with their notations. The inspectors reviewed the procedures for tagout development. The inspectors determined that Exelon's corrective actions were responsive and sufficient and appropriately addressed the deficiency in the tagout process.

However, the inspectors determined that the engineering change which installed the new AVR system was not fully sufficient. The modification process should have determined the need to describe the new redundant trip feature in the procedures or databases used for accomplishing maintenance at NMPNS Unit 1, such as the tagging database. In particular, the inspectors noted that the current engineering change process procedure CC-AA-102, "Design Input and Configuration Change Impact Screening," states, in part, "if the Configuration Change is revising the basic functions, both the changes and the functions of the modified SSC should be described, including any system interaction changes that are affected by the proposed change. If the use of an SSC has changed, even when the basic function has not changed, then evaluate the effect of the change on the SSC and other SSCs." The inspectors also reviewed the configuration management form for the AVR system modification that was performed in accordance with procedures at the time. The form required operational impacts to be described, including changes to

interlocks, control schemes, operational differences, and actuation signal alarm and control functions. As such, this change should have evaluated and described in the applicable procedures or databases the system interrelationship with HPCI and its impact on normal, shutdown, and abnormal operations.

In addition, the inspectors determined that Exelon did not identify or otherwise question whether a deficiency within the engineering change process resulted in an information (readily available procedures and databases) and knowledge gap within the tagout process. Specifically, the inspectors noted that current configuration change procedure, CC-AA-102-F-10A, "Operations Department (including Radwaste) Configuration Change Review Checklist," states, in part, that, "changes impacting the Clearance and Tagging Program have been identified and are being tracked;" and, "impact on configuration control and potential configuration control event precursors have been identified and are being addressed." In particular, the inspectors observed that the configuration change process for the AVR system modification did not establish robust barriers to prevent the inadvertent HPCI actuation and relied on a single barrier, a questioning attitude on the part of tagout preparers and verifiers. Exelon initiated IR 4045224 in response to the inspectors' observation. The inspectors concluded that Exelon's overall response to the invalid HPCI system actuation was commensurate with the safety significance, was timely, and included appropriate compensatory measures.

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

Plant Events

a. Inspection Scope

For the plant events listed below, the inspectors reviewed and/or observed plant parameters, reviewed personnel performance, and evaluated performance of mitigating systems. The inspectors communicated the plant events to appropriate regional personnel, and compared the event details with criteria contained in Inspection Manual Chapter (IMC) 0309, "Reactive Inspection Decision Basis for Reactors," for consideration of potential reactive inspection activities. As applicable, the inspectors verified that Exelon made appropriate emergency classification assessments and properly reported the event in accordance with 10 CFR Parts 50.72 and 50.73. The inspectors reviewed Exelon's follow-up actions related to the events to assure that Exelon implemented appropriate corrective actions commensurate with their safety significance.

- Unit 2 feedwater pump trip due to instrument airline rupture on July 13, 2017
- Unit 2 automatic reactor scram on high reactor pressure on August 5, 2017
- Unit 2 unexpected loss of condenser vacuum on August 9, 2017
- Unit 1 scram due to feedwater level control component failure on September 6, 2017

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On October 25, 2017, the inspectors presented the inspection results to Mr. Peter Orphanos, Site Vice President, and other members of the NMPNS staff. The inspectors verified that no propriety information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

P. Orphanos, Site Vice President
R. Kreider, Plant Manager
B. Barnes, ALARA Manager
D. Bradshaw, Electrical System Engineer
R. Bugelholl, Director Site Work Management
M. Busch, Director Site Maintenance
C. Christaldi, Senior Radiation Protection Technician
R. Corcoran, Senior Engineer
P. Doran, Engineering Manager
D. Dougherty, Radiation Protection Chief Technician
B. Geiss, Unit 1 Shift Operations Superintendent
B. Gover, Senior Radiation Protection Technician
M. Gray, Manager Site Radiation Protection
T. Hogan, Radiation Protection Technical Support Manager
K. James, Reactor Operator
M. Khan, Director Site Engineering
K. Kristensen, Regulatory Principle Engineer
M. Kunzwiler, Manager Site Security
K. Mattesich, Shift Manager
D. Moore, Manager Regulatory Assurance
C. Moorhead, Shift Manager
S. Nicolaos, Operations Services Manager
R. Pritchard, Regulatory Specialist
J. Sawyer, Unit 2 Shift Operations Superintendent
B. Shultz, Senior Manager Operations Support and Services
T. Sollenberger, Radiation Protection Supervisor
V. Svereika, Radiation Protection Chief Technician
T. Tanguay, Manager Site Chemistry, Environment and Radwaste
J. Thompson, Director Site Operations
N. Tryt, Senior Manager Engineering
J. Tsardakas, Director Site Training
D. Tulowiecki, Manager Site Maintenance

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened/Closed

None

Opened

None

Closed

None

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

Procedures

N1-OP-14, Containment Spray System, Revision 04600

N2-OP-42, Offgas System, Revision 01900

Drawings

C-18012-C Sheet 1, Reactor Containment Spray Raw Water System Piping and Instrumentation (P&ID) Diagram, Revision 26

C-18012-C Sheet 2, Reactor Containment Spray System P&ID, Revision 47

PID-33A, P&ID High Pressure Core Spray System, Revision 18

PID-33B, P&ID High Pressure Core Spray System, Revision 15

PID-42C, P&ID Offgas System, Revision 11

Issue Reports

04030060

04031037

Section 1R05: Fire Protection

Procedures

CC-AA-211, Fire Protection Program, Revision 8

DCD-805, NMPNS Unit 1 NFPA 805 Design Criteria, Revision 1

N1-PFP-0101, Unit 1 Pre-Fire Plans, Revision 00500

N2-FPI-PFP-0201, Unit 2 Pre-Fire Plans, Revision 05

N2-OP-45, Fire Protection Carbon Dioxide, Revision 01500

OP-NM-201-005, Firefighting, Revision 0200

Issue Report

04032873

Section 1R06: Flood Protection Measures

Procedures

A10.1-AA-8, Maximum Flood Level Inside the Control Building, Revision 2

A10.1-AA-7, Max Leakage Rates for Moderate Energy Systems in Control Building and Diesel Generator Building, Revision 1

Issue Report

04035514

Section 1R11: Licensed Operator Requalification Program and Performance

Procedures

N1-OP-16, Feedwater System Booster Pump to Reactor, Revision 06402

N1-OP-43A, Plant Startup, Revision 04500

N1-PM-V6, Turbine Valve Testing Refuel/Cold Shutdown, Revision 00400

Section 1R12: Maintenance Effectiveness

Issue Report

04011935

Miscellaneous

Part 21 No. 2017-0028-01, Potentially Degraded Snubber SF1154 Hydraulic Fluid Second Interim Notification Per 10 CFR Part 21, July 24, 2017

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

N2-DRP-GEN-001, Maintenance Emergency Damage Repair Procedure, Revision 00200

N2-DRP-OPS-001, Emergency Damage Repair, Revision 00900

N2-ISP-RHS-R122, Operating Cycle Channel Calibration of RHS Pump Discharge Flow Instrument Channels, Revision 00402

N2-OP-100A, Standby Diesel Generators, Revision 02001

OP-AA-108-117, Protected Equipment Program, Revision 4

OP-NM-108-117, Protected Equipment Program at NMPNS, Revision 00200

OP-NM-108-117, Protected Equipment Program at NMPNS, Revision 00500

WC-AA-101-1006, On-Line Risk Management and Assessment, Revision 2

Issue Reports

04033957

04043400

04055983

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

0007.212-001-047, Elementary Diagram Nuclear Steam Supply Shutoff System, Revision 5

0007.225-001-011, Elementary Diagram Reactor Protection System, Revision 8

N1-ARP-H2, Control Room Panel H2, Revision 01300

N1-OP-45, EDGs, Revision 04100

N2-ARP-603300, 2CEC*PNL603 Series 300 Alarm Response Procedures, Revision 00002

N2-EOP-C5, Failure to Scram, Revision 01400

N2-EOP-6.14, Alternate Control Rod Insertions, Revision 00100

N2-IPM-RRC-R005, Standby Liquid Control Tank Level Instrument Calibration, Revision 00900

N2-ISP-RHS-R122, Operating Cycle Channel Calibration of RHS Pump Discharge Flow Instrument Channels, Revision 00402

N2-OP-96, Reactor Manual Control and Rod Position Indication System, Revision 00700

N2-OSP-EGS-M@001, Diesel Generator and Diesel Air Start Valve Operability Test, Division I and II, Revision 01500

Drawings

0001.040-209-014, Control Schematic Starting Sequence Control 2EGS*EG1 and 2EGS*EG3, Revision 5

0001.040-209-025, Control Schematic Shutdown and Alarm System, Revision 7

0001.040-209-048, Sheet 2, Control Diagram Shutdown System, Revision 9

0001.040-209-049, Diesel Generator Division I/Division II Air Start Control, Revision 2

0007.212-001-047, Elementary Diagram Nuclear Steam Supply Shutoff System, Revision 5

0007.225-001-011, Elementary Diagram Reactor Protection System, Revision 8

Issue Reports

02679341	02692715	02696136	04023057
04038198	04039981	04043400	04043474
04056528			

Work Orders

C91986919	C92742989	C92743804	C92124830
C93513145	C93628717		

Miscellaneous

Calculation No. S15-96M001, Minimum EDG Air Start Receiver Pressure, Revision 0
 Deviation Event Report 1-2000-1321, Possible Missed LCO Entry
 Unit 2 UFSAR Section 7.7.1.1, Reactor Manual Control System, Instrumentation and Controls,
 Revision 22

Section 1R18: Plant Modifications

Procedures

N1-EOP-5, Secondary Containment Control - Flowchart, Revision 01500
 N1-IPM-054-003, Fuel Pool Sludge Tank and Surge Tank Level Instrumentation, Revision 00700
 N1-SOP-33A.2, Station Blackout/ELAP, Revision 01400
 N2-DRP-FLEX-MECH, Emergency Damage Repair - BDB/FLEX Pump Deployment Strategy,
 Revision 00300
 N2-EOP-SC, Secondary Containment Control - Flowchart, Revision 01200
 N2-EPM-GEN-V582, Molded Case Circuit Breaker and Thermal Overload Relay Testing,
 Revision 02200
 N2-IPM-SFC-001, Calibration of SFP Instrument Channel Loops 2SFC-LI413A, 2SFC-LI413B,
 and 2SFC-TI415, Revision 00000
 N2-MPM-SLS-V143, Standby Liquid Control Pumps P.M. and Overhaul, Revision 00201
 N2-OP-23, Main Turbine Electrohydraulic Control, Revision 01700
 N2-OSP-RPS-Q001, RPS Turbine Stop Valve Closure Logic, Control Valve Fast Closure Scram
 Functional Tests and Turbine Valve Cycling, Revision 00600
 N2-OSP-SLS-Q001, Standby Liquid Control Pump, Check Valve, Relief Valve Operability Test
 and ASME XI Pressure Test, Revision 01600
 N2-SOP-01, Station Blackout/Extended Loss of AC Power, Revision 01400
 N2-SOP-02, Station Blackout/Extended Loss of AC Power Support Procedure, Revision 01100
 N2-SOP-38, Loss of Spent Fuel Pool Cooling, Revision 01100

Drawings

0007.330-002-184, Schematic Diagram Load Control Unit, Revision 1
 C-22376-C, Sheet 1, Control Board Panel G Design Layout, Design Layout, Neutron Monitoring,
 Revision 15

Issue Reports

02665255
 04038253

Work Orders

C92721738	C92754958	C92761893	C92797434
C92872111	C93193736	C93193761	C93415260
C93469333	C93478324	C93501842	

Miscellaneous

Calculation No. S0.0SEWSG

DER 1-98-2267, APRM Drawers Left Pulled Out Without Supporting Evaluation

ECP-13-000651-015-07-01, Design Change Technical Evaluation, Revision 0000

ECP-13-000652-015-07-01, Design Change Technical Evaluation, Revision 0000

ECP-13-000651, Unit 1 Reliable Spent Fuel Pool Level Indication, Revision 0000

ECP-13-000652, Unit 2 Reliable Spent Fuel Pool Level Indication, Revision 0000

ECP-17-000531, Temporary Modification to Reduce Risk of Spurious Changes in Control Valve Demand Signal, Revision 0

UFSAR, Unit 2, Section 7.7, Revision 22

Section 1R19: Post-Maintenance TestingProcedures

N1-ISP-001-008, Turbine Stop Valve 10 Percent Closure Instrument Channel Test/Calibration, Revision 00800

N1-MPM-GEN-852, EDG Engine and Associated Equipment Inspection, Revision 01500

N1-MSP-GEN-251, ASME OM Code Pressure Relief Valve Removal Bench Testing and Installation, Revision 01200

N1-OP-45, Emergency Diesel Generators, Revision 04100

N1-ST-M4B, Emergency Diesel Generator 103 and PB 103 Operability Test, Revision 01900

N1-ST-M4A, Emergency Diesel Generator 102 and PB 102 Operability Test, Revision 02100

N1-ST-M8, Reactor Building Emergency Ventilation System Operability Test, Revision 01501

N1-ST-Q6D, Containment Spray System Loop 122 Quarterly Operability Test, Revision 01400

N2-OSP-CSH-Q@002, HPCS Pump and Valve Operability and System Integrity Test, Revision 00600

N2-OSP-RHS-Q@004, RHR System Loop 'A' Pump and Valve Operability Test and System Integrity Test and ASME XI Pressure Test, Revision 00900

N2-OSP-SWP-Q004, Division II Service Water Operability Test, Revision 00600

Drawing

PID-53A, Piping and Instrumentation Diagram Control Building Chilled Water, Revision 25

Issue Reports

02676353	03983541	04020454	04021212
04027061	04030640	04030659	04030679
04031001			

Work Orders

C92878886	C93207541	C93501520	C93503995
C93510519	C93589032	C93612427	C93624718
C93627404	C93630575	C93633140	C93634380

Section 1R20: Refueling and Other Outage ActivitiesProcedures

N1-OP-16, Feedwater System Booster Pump to Reactor, Revision 06402

N1-OP-43A, Plant Startup, Revision 04400

N2-OP-101A, Plant Startup, Revision 04100

Section 1R22: Surveillance TestingProcedures

N1-ST-Q1A, CS 111 Pump, Valve and SDC Water Seal Check Valve Operability Test, Revision 01600

N1-ST-Q3, HPCI Pump and Check Valve Operability Test, Revision 01700

N1-ST-Q13, Emergency Service Water Pump and Check Valve Operability Test, Revision 02000

N2-OP-100B, HPCS Diesel Generator, Revision 01900

N2-OSP-EGS-M@002, Diesel Generator and Diesel Air Start Valve Operability Test – Division III, Revision 02001

Issue Reports

04038003

04056504

Work Orders

C92702164

C93073556

C93197334

C93497633

C93521876

C93526948

Miscellaneous

ECP-17-000391, New Turbocharger for ENG-DG 102, Revision 0

Section 2RS1: Radiological Hazard Assessment and Exposure ControlsProcedures

RP-AA-300, Radiological Survey Program, Revision 15

RP-AA-300-1001, Reference Point Survey Program, Revision 5

RP-AA-376, Radiological Postings, Labeling, and Markings, Revision 9

RP-AA-460, Controls for High and Locked High Radiation Areas, Revision 29

RP-AA-460-001, Controls for Very High Radiation Areas, Revision 6

RP-AA-500, Radioactive Material Control, Revision 17

RP-AA-503, Unconditional Release Survey Method, Revision 14

Issue Reports

03996624

04005437

04002442

04039696

Section 2RS2: Occupational ALARA Planning and ControlsProcedures

RP-AA-210, Dosimetry Issue, Usage, and Control, Revision 27

RP-AA-210-1001, Dosimetry Logs and Forms, Revision 10

RP-AA-232, Operation of the Whole Body Counter Using APEX-INVIVO, Revision 0

RP-AA-250, External Dose Assessments from Contamination, Revision 7

RP-AA-400, ALARA Program, Revision 14

RP-AA-400-1002, Dose Equalization, Revision 2

RP-AA-400-1003, Work Group Radiological Excellence Plans, Revision 3

RP-AA-400-1004, Emergent Dose Control and Authorization, Revision 9

RP-AA-400-1006, Outage Exposure Estimating and Tracking, Revision 7

RP-AA-441, TEDE ALARA Evaluation, Revision 7

Issue Reports

03991609

03994589

03995899

04009457

04009562

04031358

04039696

Section 2RS4: Occupational Dose AssessmentProcedures

RP-AA-203, Exposure Control and Authorization, Revision 5
 RP-AA-203-1001, Personnel Exposure Investigation, Revision 9
 RP-AA-210, Dosimetry Issue, Usage, and Control, Revision 27
 RP-AA-210-1001, Dosimetry Logs and Forms, Revision 10
 RP-AA-232, Operation of the Whole Body Counter Using APEX-INVIVO, Revision 0
 RP-AA-250, External Dose Assessments from Contamination, Revision 7
 TQ-AA-223-F070, NANTeL Generic Radiation Worker Training, Revision 06

Section 2RS5: Radiation Monitoring InstrumentationProcedures

N1-RPS-10C, The Use and Routine Calibration of the General Atomic High Range Gamma Radiation Monitoring System, Revision 00501
 N1-RPS-13, Stack Radiation Monitor Calibration Check and Channel Test, Revisions 00100, 00200
 N1-RPS-14A, Liquid Rad Waste Monitor Channel Calibration, Revision 04
 N1-RTP-31, Calibration of General Electric Area Radiation Monitors, Revisions 01100, 01200
 N2-RSP-RMS-R104, Channel Calibration Test of the Off Gas Process Radiation Monitors, Revision 00900
 N2-RSP-RMS-R106, Channel Calibration Test of the Drywell High Range Area Radiation Monitors, Revision 00701
 N2-RSP-RMS-R113, Channel Calibration Test of the Service Water Effluent Line Process Radiation Monitors 2SWP*CAB146A and 2SWP*CAB146B, Revision 00701
 N2-RTP-111, Radiation Protection Channel Calibration Test of the DRMS Area Radiation Monitors with G-M Detectors, Revisions 00700, 00702, 00900
 RP-AA-700-1205, Calibration of the MPG instruments Telepole, Revision 1
 RP-AA-700-1205, Calibration of the Eberline SAC-4 Alpha Counter, Revision 2
 RP-AA-700-1215, Calibration of Low-Vol Air Samplers, Revision 2
 RP-AA-700-1216, Calibration of Hi-Vol Air Samplers, Revision 3
 RP-AA-700-1239, Operation and Calibration of the Model SAM-12 Small Articles Monitor, Revision 3
 RP-AA-700-1240, Operation and Calibration of the Canberra ARGOS-5 Personnel Contamination Monitor, Revision 6
 RP-AA-700-1401, Operation and Calibration of Eberline Model PM-7 Personnel Contamination Monitor, Revision 3
 RP-AA-700-1501, Operation and Calibration of the Model SAM 9/11 Small Articles Monitor, Revision 4
 RP-AA-700-1301, Calibration, Source Check, Operation and Set-Up of the Eberline Beta Air Monitor, Model AMS-4, Revision 3
 S-RTP-52, Operation and Calibration of Beta-Gamma Ion Chamber Dose Rate Instruments, Revision 07
 S-RTP-71, Operation and Calibration of the Eberline Radiation Monitor Model RM-14 Count Rate Meter, Revision 00503
 S-RTP-155, Operation and Calibration of the Bicron Frisk-Tech Count Rate Meter, Revision 00300
 S-RTP-162, Operation and Calibration of Fixed Beta Gamma Counting Instrumentation, Revision 03
 S-RTP-170, Operation and Calibration of the AMP 50/100/200, Revision 00503
 S-RTP-192, Operation and Calibration of the MGPI DRM-2 Area Radiation Monitor, Revision 00100

Instrument Calibration RecordsPortable Instruments:

<u>Model</u>	<u>Serial#</u>	<u>Recent Calibration</u>	<u>Previous Calibration</u>
AMP-100	5011-050	03/13/2017	04/06/2016
AMP-50	0906-045	04/06/2017	
ASP-2	201	04/03/2017	04/16/2014
DRM-2	12710-037	09/10/2016	09/27/2015
Bicron MicroR	A684T	03/24/2017	03/25/2016
E-140N	1229	02/28/2017	07/01/2016
GILAIR-5	202014	09/01/2016	08/31/2015
RADECO H809V1	3598	03/19/2017	03/01/2005
REM 500	244	01/20/2017	09/04/2015
RO2	1547	04/23/2017	11/29/2016
RO2A	4447	11/01/2016	05/10/2016
RSO-50E	C432J	03/29/2017	03/31/2016
Telepole	6610-035	03/20/2017	04/18/2016
Teletector	35667	03/31/2017	10/14/2013
ARGOS	4 Unit 2	01/07/2016	10/13/2016
PM-7	630	01/26/2017	04/04/2016
AMS-4	7146-26/1742	03/14/2017	12/17/2016
AMS-4	7146-26/1748	02/28/2017	03/01/2016
SAC-4	798	03/08/2017	03/08/2016
SAC-4	690	03/06/2017	02/24/2016
BC-4	605	01/09/2017	09/28/2015
BC-4	674	04/02/2017	02/23/2016
SAM 12	12249	03/16/2017	
SAM 12	253	04/03/2017	

Plant Installed Instruments:

<u>Monitor Description</u>	<u>Work Order</u>	<u>Calibration Date</u>
ARM 30 Unit 1	C92959927	2/29/2016
	C93323082	5/22/2017
ARM 31 Unit 1	C92959927	2/29/2016
	C92967117	5/22/2017
ARM 32 Unit 1	C92959927	2/29/2016
	C93323082	5/22/2017
ARM 33 Unit 1	C92959927	2/29/2016
	C93323082	5/22/2017
RMS-102 Unit 2	C92121474	12/9/2014
	C92936295	2/6/2017
RMS-116 Unit 2	C92123772	1/20/2015
	C93219991	4/28/2017
RMS-138 Unit 2	C91992347	3/24/2014
	C92742929	5/2/2016
#11 Gamma High Range Monitor Unit 1	C92387639	3/28/2015
	C93050182	3/22/2017
#12 Gamma High Range Monitor Unit 1	C92388509	3/28/2015
	C93050169	3/21/2017

Unit 2 Drywell High Range Monitors

RMS-1A	C91987800	4/1/2014
	C92742249	4/26/2016
RMS-1B	C93022688	4/10/2015
	C92742494	4/27/2016
RMS-1C	C91986883	4/1/2014
	C92742482	4/30/2016
RMS-1D	C91990615	4/1/2014
	C92742486	4/29/2016
Unit 1 Stack Radiation Monitor	C91768400	1/3/2014
	C92112402	4/22/2015
	C92706246	6/23/2016
	C93299433	12/19/2016
	C93005766	12/19/2016
	C93371851	3/15/2017
	C93250934	6/21/2017
	C93503983	7/19/2017
Unit 2 Off Gas Process Rad Monitor	C92537705	1/21/2015
	C92744456	4/26/2016
	C93197330	4/23/2016
	IR 02006906	5/12/2014

Unit 2 Service Water Effluent Radiation Monitors

SWP*CAB146A	C92250762	8/14/2014
	C92801632	2/17/2016
SWP*CAB146B	C92122099	6/30/2014
	C92753095	4/1/2016

Issue Reports

2539294	2643341	2654532	2658498
2666753	2669671	2700296	2706648
2712419	2713084	2724140	2737703
2739585	3943490	3954156	3961836
3961851	3964311	3965266	3971470
3982357	3984355	3988314	4001461
4007772	4019546	4024110	

Section 40A1: Performance Indicator VerificationProcedure

ER-AA-600-1047, Mitigating Systems Performance Index Basis Document, Revision 11

Miscellaneous

Licensee Event Report (LER) 05000220/2016-002-00, Isolation of Both Emergency Condensers
Due to Loss of Uninterruptible Power Supply 162B

LER 05000220/2017-001-00, Manual Reactor Scram Due to High Turbine Vibration

LER 05000220/2017-002-00, Manual Reactor Scram Due to Pressure Oscillations

MSPI-1, NMPNS Unit 1 MSPI Basis Document, Revision 10

MSPI-2, NMPNS Unit 2 MSPI Basis Document, Revision 15

NEI-99-02, Regulatory Assessment Performance Indicator Guideline, Revision 7

NUREG-1022, Event Report Guidelines: 10 CFR 50.72 and 50.73, Revision 3

Section 40A2: Problem Identification and ResolutionProcedures

ECP-13-000565-015-8-01, Form 8, Operational Impact of Design Change, Revision 0
 N1-OP-16, Feedwater System Booster Pump to Reactor, Revision 06402
 N1-O-32, Generator, Revision 03700
 N1-SOP-1, Reactor SCRAM, Revision 02500
 N1-SOP-31.1, Turbine Trip, Revision 0400

Issue Reports

02503264	02725114	03957169	03963144
03987203	04014986	04045224	

Miscellaneous

eSOMS Clearance Database

Section 40A3: Follow-up of Events and Notices of Enforcement DiscretionProcedures

N1-EOP-2, RPV Control, Revision 01600
 N1-OP-33C, Main Transformer XF-TB01, Revision 00600
 N1-OP-43C, Plant Shutdown, Revision 02300
 N1-SOP-1, Reactor Scram, Revision 02500
 N2-SOP-06, Feedwater Failures, Revision 01101
 N2-SOP-08, Unplanned Power Changes, Revision 01100
 N2-SOP-09, Loss of Vacuum, Revision 00400
 N2-SOP-29, Sudden Reduction in Core Flow, Revision 01700
 N2-SOP-101D, Rapid Power Reduction Revision 01000

Drawings

EP-40A, Compressed Air Piping Turbine Building and Heater Bays, Revision 9
 PID-19B, P&ID Instrument and Service Air, Revision 45
 PID-19S, P&ID Root Valve and Instrumentation Chart (IAS), Revision 17

Issue Report

04031685

LIST OF ACRONYMS

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
ADAMS	Agencywide Documents Access and Management System
ALARA	as low as reasonably achievable
ANSI	American National Standards Institute
AVR	automatic voltage regulator
CAP	corrective action program
ECP	engineering change package
EDG	emergency diesel generator
FA	fire area
HPCI	high pressure coolant injection
HPCS	high pressure core spray
IMC	Inspection Manual Chapter
IR	issue report
LER	licensee event report
MSR	moisture separator reheater
NEI	Nuclear Energy Institute
NMPNS	Nine Mile Point Nuclear Station, LLC
NRC	Nuclear Regulatory Commission
P&ID	piping and instrumentation diagram
PI	performance indicator
RG	Regulatory Guide
RHR	residual heat removal
SDC	shutdown cooling
SLCS	standby liquid control system
SSC	system, structure, and component
TS	technical specification
UFSAR	Updated Final Safety Analysis Report
WO	work order