



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, ILLINOIS 60532-4352

November 5, 2019

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

SUBJECT: CLINTON POWER STATION – INTEGRATED INSPECTION REPORT  
05000461/2019003

Dear Mr. Hanson:

On September 30, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Clinton Power Station. On October 11, 2019, the NRC inspectors discussed the results of this inspection with Mr. T. Stoner, 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 at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

*/RA/*

Kenneth R. Riemer, Chief  
Branch 1  
Division of Reactor Projects

Docket No. 05000461  
License No. NPF-62

Enclosure:  
As stated

cc: Distribution via LISTSERV®

Letter to Bryan Hanson from Kenneth Riemer dated November 5, 2019

SUBJECT: CLINTON POWER STATION – INTEGRATED INSPECTION REPORT  
05000461/2019003

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**U.S. NUCLEAR REGULATORY COMMISSION  
Inspection Report**

Docket Number: 05000461

License Number: NPF-62

Report Number: 05000461/2019003

Enterprise Identifier: I-2019-003-0067

Licensee: Exelon Generation Company, LLC

Facility: Clinton Power Station

Location: Clinton, IL

Inspection Dates: July 01, 2019 to September 30, 2019

Inspectors: J. Beavers, Senior Resident Inspector  
S. Bell, Health Physicist  
M. Domke, Reactor Inspector  
G. Edwards, Health Physicist  
M. Garza, Emergency Preparedness Inspector  
T. Go, Health Physicist  
M. Holmberg, Senior Reactor Inspector  
C. Mathews, Illinois Emergency Management Agency  
E. Sanchez Santiago, Senior Reactor Inspector  
D. Sargis, Resident Inspector  
C. St. Peters, Reactor Engineer  
L. Torres, Illinois Emergency Management Agency

Approved By: Kenneth R. Riemer, Chief  
Branch 1  
Division of Reactor Projects

Enclosure

## SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an integrated inspection at Clinton Power Station in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

### List of Findings and Violations

No findings or violations of more than minor significance were identified.

### Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
URI	05000461/2019003-01	Unresolved Item Regarding the Primary Calibration of the Heating, Ventilation, and Air Conditioning Effluent Monitor Noble Gas Channel	71124.06	Open

## PLANT STATUS

The unit operated at full achievable power (approximately 99 percent power) and approximately 1120 MWe for the majority of the inspection period. On August 3, 2019, the plant was automatically shut down on low reactor water level. The unit returned to full power on August 8, 2019. The unit was shut down on September 16, 2019, for Refueling Outage C1R19. The unit remained in a shutdown condition through the end of the inspection period.

## INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed plant status activities described in IMC 2515 Appendix D, "Plant Status" and conducted routine reviews using IP 71152, "Problem Identification and Resolution." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

## REACTOR SAFETY

### 71111.01 - Adverse Weather Protection

#### External Flooding Sample (IP Section 03.04) (1 Sample)

- (1) The inspectors evaluated readiness to cope with external flooding for the following areas:
  - dam inspection on July 15, 2019

### 71111.04Q - Equipment Alignment

#### Partial Walkdown Sample (IP Section 03.01) (3 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) residual heat removal 'C' during lowered inventory conditions on September 17, 2019
- (2) Division 2 shutdown service water on September 19, 2019
- (3) Division 2 emergency diesel generator on September 19, 2019

### 71111.04S - Equipment Alignment

#### Complete Walkdown Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated system configurations during a complete walkdown of the feedwater system on August 21, 2019.

71111.05A - Fire Protection (Annual)

Annual Inspection (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated fire brigade performance during the fire in the turbine building, elevation 762' on September 25, 2019.

71111.05Q - Fire Protection

Quarterly Inspection (IP Section 03.01) (4 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

- (1) Fire Zone T-1a, turbine building basement, elevation 712'-0" on July 5, 2019
- (2) Fire Zone D-6a/b, Division 2 diesel generator and day tank room, elevation 737'-0" on July 12, 2019
- (3) Fire Zone CB-3E, Division 2 nuclear system protection system inverter room, elevation 781'-0" on July 19, 2019
- (4) Fire Zones A-2n and A-4, Division 1 switchgear room and Division 1 battery room, elevation 781'-0" on July 24, 2019

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 02.02a.) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in:

- (1) auxiliary electrical equipment room on September 3, 2019

71111.07A - Heat Sink Performance

Annual Review (IP Section 02.01) (1 Sample)

The inspectors evaluated readiness and performance of:

- (1) leakage past 1CC075A and 1CC076A impact to ultimate heat sink on August 14, 2019

71111.08G - Inservice Inspection Activities (BWR)

BWR Inservice Inspection Activities Sample - Nondestructive Examination and Welding Activities (IP Section 03.01) (1 Partial)

- (1) (Partial)  
The inspectors verified that the reactor coolant system boundary, reactor vessel internals, risk-significant piping system boundaries, and containment boundary are appropriately monitored for degradation and that repairs and replacements were appropriately fabricated, examined and accepted by reviewing the following activities from September 23, 2019 to September 30, 2019:

03.01.a - Nondestructive Examination and Welding Activities.

1. Volumetric, ultrasonic, manual examination of reactor pressure vessel nozzle, N10, inner radius welds for ASME category B-D located within the bio-shield of the containment drywell
2. Volumetric, ultrasonic, manual examination of reactor recirculation weld, 1-RR-AC-1, for ASME category R-A located in the drywell 750' elevation
3. Volumetric, ultrasonic, manual examination of reactor pressure vessel head meridional weld, CH-ME, at 255° for ASME category B-A located on the refueling floor
4. Volumetric, ultrasonic, manual examination of reactor pressure vessel head meridional weld, CH-MF, at 315° for ASME category B-A located on the refueling floor
5. Surface, magnetic particle examination of one third of reactor pressure vessel head-to-flange weld, CH-C-2 (1/3), for ASME category B-A located on the refueling floor
6. \*IN-PROGRESS\* pressure boundary weld(s) review

71111.11Q - Licensed Operator Regualification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (2 Samples)

- (1) The inspectors observed and evaluated licensed operator performance in the control room during unit restart following SCRAM on August 5, 2019.
- (2) The inspectors observed and evaluated licensed operator performance in the control room during planned reactor shutdown for Refueling Outage C1R19 on September 15, 2019.

Licensed Operator Regualification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed and evaluated Just-in-Time training to prepare for the upcoming outage on September 3, 2019.

71111.12 - Maintenance Effectiveness

Routine Maintenance Effectiveness Inspection (IP Section 02.01) (2 Samples)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

- (1) electrohydraulic control system on September 3, 2019
- (2) emergency core cooling ventilation system on August 29, 2019

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (6 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

- (1) liquid discharge, elevated risk due to first liquid discharge in 27 years, Work Order 4955690-13
- (2) heavy lift over main turbine for outage mobilization on September 5, 2019
- (3) planned Yellow risk for reactor core isolation cooling valve operability checks on September 6, 2019
- (4) shutdown risk Yellow due to lowered inventory on September 17, 2019
- (5) shutdown risk Yellow due to shutdown cooling on September 18, 2019
- (6) shutdown risk Yellow due to electrical power work on September 19, 2019

#### 71111.15 - Operability Determinations and Functionality Assessments

##### Operability Determination or Functionality Assessment (IP Section 02.02) (2 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) Action Request 4258762, "#4 BPV [bypass valve] Stuck Full Open During 9072.10" on July 11, 2019
- (2) Action Request 4279700, "SRM [source range monitor] B Failed Linear Response" on September 18, 2019

#### 71111.18 - Plant Modifications

##### Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (2 Samples)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Engineering Change 624142, "Slip-on Flange on 1RH19BB-4"
- (2) Engineering Change 625821, "Modify Unit Sub 'B' for Reliable VC [control room heating, ventilation, and air conditioning] Load Shedding"

#### 71111.19 - Post-Maintenance Testing

##### Post-Maintenance Test Sample (IP Section 03.01) (4 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) shutdown service water hydromotor 1SX019B rebuild post maintenance test on June 7, 2019
- (2) reactor core isolation cooling water leg pump post maintenance testing on July 25, 2019
- (3) source range monitor channel B post maintenance test on September 19, 2019
- (4) Division 3 shutdown cooling water pump post maintenance test on July 22, 2019



## 71111.20 - Refueling and Other Outage Activities

### Refueling/Other Outage Sample (IP Section 03.01) (1 Partial)

- (1) (Partial)  
The inspectors evaluated Refueling Outage C1R19 planning activities and outage activities from September 9 through October 31, 2019.

## 71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

### Surveillance Tests (other) (IP Section 03.01) (4 Samples)

- (1) Clinton Power Station (CPS) 9061.10, "Fuel Pool Cooling Valve Operability," on July 26, 2019
- (2) diesel generator operability - independent verification on September 15, 2019
- (3) heatup/cooldown, inservice leak and hydrostatic 30 minute temperature log on September 16, 2019
- (4) CPS 9069.01, "Shutdown Service Water Operability Test," on July 8, 2019

### Containment Isolation Valve Testing (IP Section 03.01) (2 Samples)

- (1) upper air lock barrel leak rate test on September 15, 2019
- (2) high pressure core spray injection valve local leak rate test on September 17, 2019

## 71114.04 - Emergency Action Level and Emergency Plan Changes

### Inspection Review (IP Section 02.01-02.03) (1 Sample)

- (1) The inspectors evaluated the following submitted Emergency Action Level and Emergency Plan changes:
  - Evaluation 18-45, "Exelon Nuclear Standardized Radiological Emergency Plan," Revision 30

This evaluation does not constitute NRC approval.

## 71114.06 - Drill Evaluation

### Drill/Training Evolution Observation (IP Section 03.02) (1 Sample)

The inspectors evaluated:

- (1) Technical Support Center drill on August 13, 2019

## **RADIATION SAFETY**

### 71124.01 - Radiological Hazard Assessment and Exposure Controls

#### Radiological Hazard Assessment (IP Section 02.01) (1 Sample)

The inspectors evaluated radiological hazards assessments and controls.

(1) The inspectors reviewed the following:

##### Radiological Surveys

- C1R19 Drywell 768' 9/19/2019 through 9/26/2019
- C1R19 Refuel Floor 828' 09/16/2019 through 09/22/2019
- C1R19 Drywell 755' 09/19/2019 through 09/20/2019

##### Risk Significant Radiological Work Activities

- C1R19 Drywell Emergent Activities
- C1R19 Refuel Floor Activities (No Cavity Access)
- C1R19 Refuel Floor IVVI Activities
- C1R19 Drywell Bioshield ISI Activities

##### Air Sample Survey Records

- Sample 19-231; C1R19 Refuel Floor 09/16/2019 10:10
- Sample 19-240; C1R19 Refuel Floor Cavity 09/17/2019 00:40
- Sample 19-253; C1R19 Refuel Floor 09/18/2019 23:15

#### Instructions to Workers (IP Section 02.02) (1 Sample)

The inspectors evaluated instructions to workers including radiation work permits used to access high radiation areas.

(1) The inspectors reviewed the following:

##### Radiation Work Packages

- CL-1-19-00543; C1R19 Drywell Emergent Work; Revision 3
- CL-1-19-00902; C1R19 Refuel Floor Activities (No Cavity Access); Revision 0
- CL-1-19-00903; C1R19 Refuel Floor Cavity Platform IVVI; Revision 0

##### Electronic Alarming Dosimeter Alarms

- Dosimeter Dose Rate Alarm 05/06/2018 01:23
- Dosimeter Dose Rate Alarm 05/07/2018 14:28
- Dosimeter Dose Rate Alarm 05/24/2018 04:39
- Dosimeter Dose Rate Alarm 06/21/2019 11:06
- Dosimeter Dose Rate Alarm 09/22/2019 02:52

##### Labeling of Containers

- Five refueling equipment containers on north side of containment refueling floor

#### Contamination and Radioactive Material Control (IP Section 02.03) (1 Sample)

The inspectors evaluated licensee processes for monitoring and controlling contamination and radioactive material.

- (1) The inspectors verified the following sealed sources are accounted for and are intact:
  - Cs-137 Source Number 10187
  - Cs-137 Source Number 9042

#### Radiological Hazards Control and Work Coverage (IP Section 02.04) (1 Sample)

The inspectors evaluated in-plant radiological conditions during facility walkdowns and observation of radiological work activities.

- (1) There were no radiological work package for areas with airborne radioactivity available for review during the inspection.

#### High Radiation Area and Very High Radiation Area Controls (IP Section 02.05) (1 Sample)

- (1) The inspectors evaluated risk-significant high radiation area and very high radiation area controls.

#### Radiation Worker Performance and Radiation Protection Technician Proficiency (IP Section 02.06) (1 Sample)

- (1) The inspectors evaluated radiation worker performance and radiation protection technician proficiency.

#### 71124.02 - Occupational ALARA Planning and Controls

#### Implementation of ALARA and Radiological Work Controls (IP Section 02.03) (1 Sample)

The inspectors reviewed as low as reasonably achievable practices and radiological work controls.

- (1) The inspectors reviewed the following activities:
  - CL-1-19-00543; C1R19 Drywell Emergent Work; Revision 3
  - CL-1-19-00902; C1R19 Refuel Floor Activities (No Cavity Access); Revision 0
  - CL-1-19-00903; C1R19 Refuel Floor Cavity Platform IVVI; Revision 0

#### Radiation Worker Performance (IP Section 02.04) (1 Sample)

The inspectors evaluated radiation worker and radiation protection technician performance during the following activities:

- (1)
  - CL-1-19-00543; C1R19 Drywell Emergent Work; Revision 3
  - CL-1-19-00902; C1R19 Refuel Floor Activities (No Cavity Access); Revision 0
  - CL-1-19-00903; C1R19 Refuel Floor Cavity Platform IVVI; Revision 0

## 71124.03 - In-Plant Airborne Radioactivity Control and Mitigation

### Engineering Controls (IP Section 02.01) (1 Sample)

The inspectors evaluated airborne controls and radioactive monitoring.

- (1) The inspectors reviewed the following:

#### Installed Ventilation Systems

- Standby Gas Treatment System 0VG01SB at 719' Control Building
- Drywell Purge Trains 0VQ07FC at 702' Control Building

#### Temporary Ventilation System Setups

- There were none available for review during this inspection.

#### Portable or Installed Monitoring Systems

- Three Portable Ventilation Units Containing HEPA/Charcoal at Various Elevations inside the Drywell

### Use of Respiratory Protection Devices (IP Section 02.02) (1 Sample)

The inspectors evaluated the licensee's use of respiratory protection devices by:

- (1) Observing in-field applications; verifying the licensee validated the level of protection provided by the devices; inspecting the material condition of devices, reviewing records and certification of devices issued for use; reviewing the qualifications of workers that use the devices; and observing workers' donning, doffing and testing devices.

### Self-Contained Breathing Apparatus for Emergency Use (IP Section 02.03) (1 Sample)

The inspectors evaluated self-contained breathing apparatus program implementation.

- (1) The inspectors reviewed the following:

#### Status and Surveillance Records for Self-Contained Breathing Apparatus

- Ultra Elite MSA Firehawk PD-065
- Ultra Elite MSA Premier P-17
- Ultra Elite MSA Premier P-12

#### Self-Contained Breathing Apparatus Fit for On-Shift Operators

- MSA Firehawk PD-063; Operator 1
- MSA Firehawk PD-106; Operator 2

#### Self-Contained Breathing Apparatus Maintenance Check

- Ultra Elite MSA Firehawk P-123
- Ultra Elite MSA Firehawk P-7

## 71124.04 - Occupational Dose Assessment

### Source Term Categorization (IP Section 02.01) (1 Sample)

- (1) The inspectors evaluated the licensee's characterization of the source term and use of scaling factors for the use of hard-to-detect radionuclide activity.

### External Dosimetry (IP Section 02.02) (1 Sample)

- (1) The inspectors evaluated the external dosimetry program implementation.

### Internal Dosimetry (IP Section 02.03) (1 Sample)

The inspectors evaluated the internal dosimetry program implementation.

- (1) The inspectors reviewed the following:

#### Whole Body Counts

- Whole Body Count Intake Investigation 02/08/2019
- Whole Body Count Intake Investigation 10/19/2018

#### In-Vitro Internal Monitoring

- There were no In-Vitro Internal Monitoring Investigations during this inspection period.

#### Dose Assessments Performed Using Air Sampling and Derived Air Concentration-Hour Monitoring

- TEDE ALARA Evaluation Screening Worksheet for Reactor Disassembly-Reassembly; Reactor Cavity Entry-Reactor Head

### Special Dosimetric Situations (IP Section 02.04) (1 Sample)

The inspectors evaluated the following special dosimetric situation:

- (1) Licensee's implementation of requirements to manage radiation protection of declared pregnant workers for three workers, application of NRC-approved external dosimetry methods (i.e. EDEX), shallow dose equivalent and neutron dose assessments.

## 71124.06 - Radioactive Gaseous and Liquid Effluent Treatment

### Walk Downs and Observations (IP Section 02.01) (1 Sample)

The inspectors walked down the following gaseous and liquid radioactive effluent monitoring and filtered ventilation systems to assess the material condition and verify proper alignment according to plant design:

- (1)
  - Plant service water effluent
  - HVAC effluent
  - Liquid radioactive waste effluent

#### Calibration and Testing Program (Process & Effluent Monitors) (IP Section 02.02) (1 Sample)

The inspectors reviewed the following gaseous and liquid effluent monitor instrument calibrations and tests:

- (1)
  - Plant service water effluent monitor 1RIX-PR036 calibration; 02/21/2019
  - Liquid radiation monitor sensitivities to I-131 and setpoint determination; 11/30/1999
  - HVAC System Effluent Exhaust monitor PR001 calibration; 01/08/2019

#### Sampling and Analysis (IP Section 02.03) (1 Sample)

The inspectors reviewed the following:

- (1) Radioactive Effluent Sampling and Analysis Activities
  - Offgas pretreatment effluent; 08/20/2019
  - HVAC effluent tritium and noble gas; 08/22/2019

##### Effluent Discharges

- There were none available for review during the inspection.

#### Instrumentation and Equipment (IP Section 02.04) (1 Sample)

The inspectors reviewed the following radioactive effluent discharge system surveillance test results:

- (1) Standby Gas Treatment System Train A tests 03/20/2018

#### Dose Calculations (IP Section 02.05) (1 Sample)

The inspectors reviewed the following to assess public dose:

- (1) Liquid and Gaseous Discharge Permits
  - Gaseous continuous effluent permit 07/26/2019
  - Gaseous continuous effluent permit 07/15/2019

##### Annual Radiological Effluent Release Reports

- 2018 Annual Radioactive Effluent Release Report
- 2017 Annual Radioactive Effluent Release Report

##### Abnormal Gaseous or Liquid Tank Discharges

- There were none available for review during this inspection.

#### 71124.07 - Radiological Environmental Monitoring Program

##### Site Inspection (IP Section 02.01) (1 Sample)

The inspectors evaluated the radiological environmental monitoring program implementation.

- (1) The inspectors reviewed the following:

Walkdowns, Calibrations, and Maintenance Record Review

- Air Sampling Station CL-2
- Air Sampling Station CL-3
- Air Sampling Station CL-94
- Optically Stimulated Luminescent Dosimeter (OSLD) Monitoring Station CL-2
- OSLD Monitoring Station CL-3
- OSLD Monitoring Station CL-94

Environmental Sample Collections and Preparation Observation

- Sampling not available due to pre-determined sample scheduling that was contrary to onsite inspection time frame.

Licensee Actions in Response to Missed Sample, Inoperable Sampler, Lost TLD or Anomalous Measurement

- CL-115; Food Product; Insufficient Vegetation Collected; 07/25/2018
- CL-118; Food Product; Insufficient Vegetation Collected; 07/25/2018
- CL-114; Food Product; Insufficient Vegetation Collected; 08/29/2018

Sampling Program for the Potential of Licensed Material Entering Groundwater

- Monitoring Well MW-CL-13I
- Monitoring Well MW-CL-13S
- Monitoring Well MW-CL-14S

Groundwater Protection Initiative (GPI) Implementation (IP Section 02.02) (1 Sample)

- (1) The inspectors reviewed licensee actions as a result of a 2006 onsite release of the Cycled Condensate System Tank.

**OTHER ACTIVITIES – BASELINE**

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

MS05: Safety System Functional Failures (SSFFs) Sample (IP Section 02.04) (1 Sample)

- (1) Unit 1 (07/01/2018 - 06/30/2019)

MS09: Residual Heat Removal Systems (IP Section 02.08) (1 Sample)

- (1) Unit 1 (07/01/2018 - 06/30/2019)

MS10: Cooling Water Support Systems (IP Section 02.09) (1 Sample)

- (1) Unit 1 (07/01/2018 - 06/30/2019)

BI01: Reactor Coolant System (RCS) Specific Activity Sample (IP Section 02.10) (1 Sample)

- (1) Unit 1 (09/5/2018 - 09/9/2019)

BI02: RCS Leak Rate Sample (IP Section 02.11) (1 Sample)

- (1) Unit 1 09/01/2018 - 06/01/2019

OR01: Occupational Exposure Control Effectiveness Sample (IP Section 02.15) (1 Sample)

- (1) 04/01/2018 - 06/30/2019

PR01: Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual  
Radiological Effluent Occurrences (RETS/ODCM) Radiological Effluent Occurrences Sample.  
(IP Section 02.16) (1 Sample)

- (1) 09/01/2018 - 06/01/2019

71152 - Problem Identification and Resolution

Annual Follow-up of Selected Issues (IP Section 02.03) (1 Sample)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

- (1) Action Request 4221847, "1A Diesel Generator Fuel Priming Pump Motor Sparking"

71153 – Follow-up of Events and Notices of Enforcement Discretion

Event Follow-up (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated an automatic reactor scram on low reactor water level and the licensee's response on August 3, 2019.

Personnel Performance (IP Section 03.03) (1 Sample)

- (1) The inspectors evaluated an arc flash event and worker injury on September 11, 2019.

**INSPECTION RESULTS**

Unresolved Item (Open)	Unresolved Item Regarding the Primary Calibration of the Heating, Ventilation, and Air Conditioning Effluent Monitor Noble Gas Channel URI 05000461/2019003-01	71124.06
<u>Description:</u>  The licensee was unable at the time of the inspection to provide records of its primary calibration of the station heating, ventilation, and air conditioning exhaust effluent monitor 0RIX-PR001/2 for the high range noble gas channel.		



Planned Closure Actions: Upon receipt of the licensee's documentation, the agency will perform its review to determine if a performance deficiency occurred.

Licensee Actions: The licensee was performing a review of the effluent monitor's primary calibration to locate the applicable records and information. Once complete, this will be forwarded to the Agency for its review.

Corrective Action References: Action Request 4282015

Observation: Review of Action Request 4221847, "1A Diesel Generator Fuel Priming Pump Motor Sparking"	71152
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During the inspection quarter, the inspectors reviewed the licensee's corrective actions associated with Action Request 4221847, "1A Diesel Generator Fuel Priming Pump Motor Sparking." The inspectors assessed the following performance attributes in their review:

- 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 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.

The inspectors selected this sample due to the potential impact to the operability of the associated diesel generator; a safety significant system. After further testing performed on the fuel priming pump, it was determined it would have been able to fulfill its safety function; therefore, the diesel generator remained operable. The inspectors review focused on whether the licensee had sufficient information prior to the fuel priming pump motor sparking to determine there was a degraded condition. There were indications of oil leaks in the area that had the potential to leak onto the pump but the corrective action documents that described these leaks did not specify whether an impact to the fuel priming pump was identified. Based on the information reviewed the inspectors concluded there was not a performance deficiency associated with this issue.

## EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On October 11, 2019, the inspectors presented the integrated inspection results to Mr. T. Stoner, Site Vice President, and other members of the licensee staff.
- On August 22, 2019, the inspectors presented the Radiation Protection inspection results to Mr. G. Olsen - Maintenance Director and other members of the licensee staff.
- On September 27, 2019, the inspectors presented the Radiation Protection inspection results to Mr. T. Stoner, Site Vice President, and other members of the licensee staff.

- On October 3, 2019, the inspectors presented the Emergency Preparedness inspection results to Mr. L. Baker, EP Fleet Programs Manager, and other members of the licensee staff.

**DOCUMENTS REVIEWED**

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.04S	Corrective Action Documents	AR 4267205	EOID - Through Wall Leak Immediately Upstream of 1CB050A	07/26/2019
	Drawings	Drawing M05-1004	P&ID Reactor Feedwater (FW)	AH
		Drawing M05-1005	P&ID Condensate (CD)	AH
		Drawing M05-1006	P&ID Condensate Booster (CB)	P
	Procedures	CPS 3103.01E001	Feedwater Electrical Lineup	13a
		CPS 3103.01V001	Feedwater Valve Lineup	11
71111.05A	Corrective Action Documents	AR 4282239	Electrical Cable Fire at 762 Turbine Hallway	09/25/2019
		AR 4282262	Documentation of "No-Call" EAL for TB Fire per EP-AA-120	09/25/2019
		AR 4282649	Critique for Response to Fire at 762 TB on 09/25/2019	09/25/2019
	Procedures	CPS 1893.04M720	762 Turbine: Turbine Auxiliaries Prefire Plan	6c
71111.05Q	Corrective Action Documents	AR 4255569	9071.13 FP CO2 Sys Auto Actuation (Div 2 DG)	06/09/2019
	Procedures	CPS 1893.04M512	737 Diesel Generator: Div 2 Diesel Generator & Day Tank Room Prefire Plan	7b
		CPS 1893.04M700	712 Turbine: Basement Prefire Plan	6b
		OP-AA-201-004	Fire Prevention for Hot Work	16
	Work Orders	WO 4762970	Hot Tap Line Per EC to Improve Water Delivery During Outage	08/30/2019
71111.06	Procedures	CPS 1893.04M351	781 Control: Aux. Elect. Equip., Inverter & Battery Rooms Prefire Plan	7d
		CPS 4304.01	Flooding	6c
71111.07A	Corrective Action Documents	AR 4053236	Unexpected CCW Tank Level Increase During 1RIX-PR004 CAL	09/18/2017
		AR 4130127	1CC075A and 1CC076A Leaking By	04/24/2018

Inspection Procedure	Type	Designation	Description or Title	Revision or Date	
		AR 4130828	NRC Question on Last Performance of 9861.09D006	04/25/2018	
		AR 4139396	9861.09 & Data Sheets - SX Boundary Leak Test Proc. Changes	05/20/2018	
		AR 4258659	CCP Procedures 9861.09D006/7 Cannot Be Performed as Written	06/21/2019	
		AR 4264675	9861.09D0006 Exceeds Admin Limit	07/17/2019	
		AR 4268801	Leakage Table Parameters Wrong in 9861.09	08/01/2019	
	Corrective Action Documents Resulting from Inspection	AR 4268907	NRC ID'd Error in SX Boundary Leakage Procedure Pressures	08/01/2019	
	Engineering Changes	EC 624294	Maximum Flow from 3/4" SX Hose Test Connection	0	
		EC 624532	9861.09 & Data Sheets - SX Boundary Leak Test Proc. Changes Supporting Information	0	
		EC 628812	Evaluate Leakage from UHS for Valves 1CC075A and 1CC076A	0	
	Miscellaneous	Design Analysis IP-M-0563	Determination of Allowable Leak Rates and Loss of UHS Volume from Shutdown Service Water (SX) Boundary Valves	02/13/2012	
	Procedures	CPS 9861.09	Shutdown Service Water Boundary Valve Leak Testing	2	
		CPS 9861.09D006	Leakage Test on Valve 1CC075A and 1CC076A	2a	
	71111.08G	Corrective Action Documents	4134785	Low Thickness Readings Discovered on "B" RHR Min Flow Piping	05/05/2018
			4135345	Erosion on 1E12F018B Valve Internals	05/07/2018
4136024			Need RHR B Alternate Valves	05/09/2018	
Corrective Action Documents Resulting from Inspection		4282058	Revision of GEH-UT-300 is Required	09/25/2019	
		4282747	NRC ISI: Wear Rate Methodology in EC 624182	09/27/2019	
		4283049	NRC ID Questions on Work Order 1230601-01/39	09/28/2019	
		4283637	Follow-Up to IR 4283049, Questions on Work Order 1230601	09/30/2019	
NDE Reports		C1R19-008	Examination Summary Sheet	09/23/2019	
		C1R19-009	Examination Summary Sheet	09/23/2019	
	C1R19-011	Examination Summary Sheet	09/25/2019		

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		C1R19-MT-006	Magnetic Particle Examination	09/23/2019
		C1R19-UT-031	UT Calibration/Examination	09/26/2019
	Procedures	ER-AA-335-003	Magnetic Particle Examination	9
		ER-AA-430-1004	Erosion in Piping and Components (EPC) Guide	2
		GEH-PDI-UT-1	PDI Generic Procedure for the Ultrasonic Examination of Ferritic Welds	12
		GEH-UT-300	Procedure for Manual Examination of Reactor Vessel Assembly Welds in Accordance with PDI	12
		WPS 1-1-GTSM-PWHT	ASME Welding Procedure Specification Record	4
71111.12	Corrective Action Documents	AR 4139393	Found Fuses Blown for Fast Open Acting Solenoids	05/20/2018
		AR 4193090	(A)(1) Determination for MR Function LAS-2-FUEL-02	11/08/2018
		AR 4214931	GE MK II EHC Circuit Cards Are Now Obsolete	01/29/2019
		AR 4257126	BPV #1 Fast Acting Solenoid Did Not Energize During 9072.01	06/15/2019
		AR 4258812	BPV #3 Fast Acting Solenoid Did Not Energize During 9072.01	06/22/2019
	Miscellaneous	ER-AA-310-1005	(a)(1) Action Plan Development and Action Plan (Monitoring) Goal Setting Template	7
	Work Orders	WO 1525186	Replace Fast Opening Solenoid Valve - 1C85F013	10/09/2013
		WO 1525189	Replace Fast Opening Solenoid Valve - 1C85F022	10/10/2013
71111.13	Procedures	CPS 9054.02	Reactor Core Isolation Cooling Valve Operability Checks	43c
		HU-AA-1211-F-01	Briefing Topic Supplemental Form	7
		MA-AA-716-021	Rigging and Lifting Program	30
		WC-AA-104-F-01	Risk Screening/Mitigation Plan	0
	Work Orders	WO 4840584	Pre-Outage Mobilization & Demobilization Turbine Deck	08/28/2019
		WO 4946966	9054.02A20 OP RCIC Valve Operability (D001)	08/01/2019
		WO 4955690	Ops Perform a Liquid Radioactive Discharge	09/10/2019
71111.15	Corrective Action Documents	AR 289539	Provisions for Liquid Tight Jacket Repair	01/11/2005
		AR 4257126	BPV #1 Fast Acting Solenoid did not Energize During 9072.01	06/15/2019
		AR 4258298	Fast Acting Fuse Blew While Testing BPV 1	06/20/2019
		AR 4258762	#4 BPV Stuck Full Open During 9072.01	06/22/2019

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		AR 4258812	BPV #3 Fast Acting Solenoid did not Energize During 9072.01	06/22/2019
		AR 4261761	SBV #1 FAS Plunger Stuck	07/03/2019
		AR 4262116	Bypass Valve 1C85F0012: Leaking Steam by Seat	07/05/2019
		AR 4262629	9072.01 Steam Bypass Valve Tests Surveillance Has Gone Late	07/07/2019
		AR 4279700	SRM B Failed Linear Response	09/13/2019
	Procedures	CPS 9072.01	Steam Bypass Valve Tests	34d
71111.18	Corrective Action Documents	AR 4134785	Low Thickness Readings Discovered on 'B' RHR Min Flow Piping	05/05/2018
		AR 4135297	APS As Found: 1E12D001B Replacement Not Like for Like	05/07/2018
		AR 4264806	NOS ID: Issues with UFSAR Changes Related to Design Changes	07/17/2019
	Drawings	Drawing M05-1075	P&ID Residual Heat Removal (RH)	AO
	Engineering Changes	EC 624142	Slip-On Flange on 1RH19BB-4"	0
	Work Orders	WO 1230601-01	When Required, Replace Eroded RHR 'B' Pump Min Flow Line	05/13/2018
71111.19	Work Orders	929176	SRM 'B'	0
		WO 1784832-01	1SX019B Parts Issues with Linear Converter Rebuild	06/04/2019
		WO 1784832-02	1SX019B Parts Issues with Linear Converter Rebuild	06/04/2019
		WO 1784832-09	1SX019B Parts Issues with Linear Converter Rebuild	06/06/2019
		WO 4582718-28	EM 1SX019B: Re-Install Hydramotor Following MMD Work	06/06/2019
		WO 929176-70	Perform Detector Testing After Replacement	09/16/2019
71111.20	Procedures	C1R19 Master (Fall 2019)	Master Work Activity List	09/10/2019
		SSMP Final	C1R19 Shutdown Safety Management Program	0
71111.22	Corrective Action Documents	AR 4245341	2017 PMMR Created Incorrectly	05/01/2019
	Miscellaneous	CL-SURV-012	Clinton PRA Application Notebook; Risk Assessment Missed Surveillance - Upper Containment Air Lock Barrel; IR 4243061	0
	Procedures	CPS 1305.01	Primary Containment Leakage Rate Testing Program	12c

Inspection Procedure	Type	Designation	Description or Title	Revision or Date	
		CPS 1305.01F002	Type "C" Local Leak Rate Summary Sheet	7	
		CPS 9000.06D001	Heatup/Cooldown, Inservice Leak and Hydrostatic 30 Minute Temperature Log	30b	
		CPS 9080.10	DG Operability - Independent Verification	30c	
		CPS 9843.01	IST Category 'A' Valve Leak Rate Test	36c	
		CPS 9843.01V005	Leak Rate Testing of HPCS Injection	27d	
		CPS 9861.03D001	Upper Air Lock Barrel Leak Rate Test	21d	
		ER-AA-600-1045	Risk Assessments of Missed or Deficient Surveillances	7	
	Work Orders	WO 1544886-02	MC003G01 LLRT: 1MC-03W CT Upper Air Lock Barrel	11/19/2013	
		WO 4571040-01	9059.01R20 LRT Vessel Pressure Test	05/13/2018	
		WO 4636109-02	MC003G01 LLRT: 1MC-03W CT Upper Air Lock Barrel	09/15/2019	
		WO 4781175	9843.01 10 LRT Cat 'A' VLV LRT (1E22-F004) HPCS INJ	09/17/2019	
	71114.04	Miscellaneous	Evaluation 18-45	Exelon Nuclear Standardized Radiological Emergency Plan	02/14/2019
	71124.01	Corrective Action Documents	AR 4133783	RPID: Dose Rate Alarm	05/02/2018
			AR 4201060	RPID: High Beta Dose Rates on Source U-080	12/07/2018
AR 4259704			RPID: Elevated Dose Rates on Pipe in 737' AB	06/26/2019	
AR 4264713			RPID: Rad surv HU Improvement Opportunity	07/17/2019	
AR 4265692			RPID: Potential Weakness in Rad surv Security	07/20/2019	
Miscellaneous				ED Dose and Dose Rate Alarm Logs 01/01/2018 through 09/23/2019	
				Weekly Locked High Radiation Area Checklist	09/13/2019
				Nation Source Tracking System Annual Reconciliation	01/06/2019
		L80526		Dry Active Waste 10 CFR 61 Analysis	12/01/2018
Procedures		RP-AA-460		Controls for High and Locked High Radiation Areas	36
Radiation Surveys				Radioactive Source Leak Test	06/20/2019
		2019-053210		C1R19 BRAC Point Radiological Surveys	09/23/2019
Self-Assessments		AR 4200413		Pre NRC Inspection 71124.01 Radiological Hazards Assessment and Exposure Controls	03/28/2019
	NOSA-CPS-17-06		Radiation Protection Audit Report	07/18/2017	
71124.02	ALARA Plans	CL-1-18-00901	Disassembly and Reassembly/Cavity Lift Installation Post	05/23/2018	

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			Job Review	
		CL-1-18-00902	RFF Activities/Cavity Lift Installation Post Job Review	05/09/2018
		CL-1-19-00543	C1R19 Drywell Emergent Work	3
		CL-1-19-00902	C1R19 Refuel Floor Activities (No Cavity Access)	0
		CL-1-19-00903	C1R19 Refuel Floor Cavity Platform IVVI	0
	Corrective Action Documents	AR 4189624	RPID: Lack of Rigor in ALARA Planning	10/30/2018
		AR 4277962	RPID: Potential C1R19 Dose savings	09/10/2019
		AR 4278446	RPID: ALARA Plan Under 25% original estimate	09/11/2019
	Miscellaneous		C1R19 Station Alara Committee Meeting Notes	09/25/2019
			C1R18 RP/ALARA Refueling Outage Report	
71124.03	Calculations	RWP 1900901 TEDE ALARA Evaluation Screening Worksheet	C1R19 FF RX Disassembly/Reassembly Activities	08/20/2019
	Calibration Records	0VG015B	Standby Gas Treatment System Charcoal Absorber B Test	02/14/18
		0VG08FA	Standby Gas Treatment System Charcoal Adsorber A	03/20/2018
		0VQ01SC	Drywell Purge Filter Train C Absorber and HEPA Filter Test	05/11/2017
	Corrective Action Documents	AR 4156414	Incorrect Redon Protocol Selected During Respirator Fit Test	07/17/2018
	Miscellaneous	Posi3 USB Test Results 0Y244871	MSA Ultralite Complete SCBA Test	08/16/2019
		Posi3 USB Test Results 0Y33112	MSA Ultralite Complete SCBA Test	08/16/2019
71124.04	Calculations	RWP 1900622 TEDE ALARA Evaluation Screening Worksheet	C1R18 AB/CT Insulation Activities ECCS Insulation Removal HEPA or Wet	09/28/2018
		RWP 1900903 TEDE ALARA Evaluation screening	C1R19 Cavity Platform IVVI and Associated Activities	08/20/2019



Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		Worksheet		
	Calibration Records	RP-AA-210-1001	Multiple Dosimetry EDE Evaluation Sheet	09/19/2019
	Miscellaneous	NISP-RP-006	Personnel Contamination Event Log on PCE #3	09/21/2019
		NVLAP Landauer, Inc.	Scope of Accreditation to ISO/IEC 17025:2005 NVLAP Code 100518-0	01/01/2019
		RP-AA-210-1001	Multiple Dosimetry Issue Log Single Entry on a GE Hitachi Personnel	09/27/2019
		RP-AA-270	Declaration of Pregnancy Paperwork from 04/24/2017 through 05/10/2019	
71124.06	Calibration Records	WO 04666126-02	HVAC System Exhaust PRM CC (PR001)	01/08/2019
		WO04660214-01	SGST Flow Monitor 0FT-VG001	11/27/2018
		WO04682965-01	Main Stack Flow Mon 0FT-VR500	02/25/2019
		WO04686837-01	Calibration of Liquid PRM 1RIX-PR036	02/20/2019
	Corrective Action Documents	AR 04133155	ODCM: Chem Unable to Obtain VR/VQ Sample due to Equipment Issue	05/01/2018
		AR 04220189	Missed ODCM NG and Tritium Sample due to Equipment Malfunction	02/14/2019
		AR 04222110	IRIX-PR036 Comp, Grab Sample Analysis Missed	02/21/2019
	Miscellaneous		2018 Annual Land Use Census Evaluation and Summary	10/10/2018
			2017 Annual Radioactive Effluent Release Report; 04/23/2018	
			2018 Annual Radioactive Effluent Release Report; 04/25/2019	
			Offgas Pre-Treatment Gamma Spectroscopy Analysis	08/20/2019
	Procedures	CY-CL-6949-01	Off-gas Pre Treatment Sampling and Analysis	9
		CY-CL-6954-01	HVAC Stack Effluent Noble Gas and Tritium	4
		CY-CL-6954-02	HVAC Stack Effluent - Iodine and Particulates	5
Self-Assessments	AR 04203312	NRC Inspection: Radioactive Gaseous and Liquid Effluent Treatment	06/28/2019	
Work Orders	01930276-04	Standby Gas Treatment Train A Charcoal/Heater/HEPA Testing	03/20/2018	
71124.07	Calibration Records	Serial Number 3K620000007433	Field Rotameter Calibration	02/05/2019

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		Serial Number 3K620000007433	Field Rotameter Calibration	05/06/2019
	Corrective Action Documents	AR 04104312	ODCM Air Samplers CL-7, CL-8, CL-15 & CL-94 Timer Shortages	02/14/2018
		AR 04112366	ODCM Environmental Area TLDS CL-35 Missing	03/07/2018
		AR 04125532	ODCM: Air Samplers CL-3, CL-4 and CL-6 Timer Shortages	04/11/2018
		AR 04128517	ODCM Water Compositor CI-91 Sample Line or Header Clogged	04/18/2018
		AR 04163281	REMP: Weekly Air Particulate and Iodine Cartridges Missing	08/10/2018
	Miscellaneous		Annual Radiological Environmental Operating Report; January 01, 2018 - December 31, 2018	04/25/2019
			2018 Annual Land Use Census Evaluation and Summary	10/18/2018
			Monthly Report on the Meteorological Monitoring Program at the Clinton Power Station February 2018	04/11/2018
			Monthly Report on the Meteorological Monitoring Program at the Clinton Power Station August 2018	10/22/2018
			Monthly Report on the Meteorological Monitoring Program at the Clinton Power Station February 2019	04/15/2019
	Procedures	CY-AA-170-1001	Environmental Dosimetry - Performance Specifications, Testing, and Data Analysis	1
	Self-Assessments	AR 4203308	NRC Inspection: Radioactive Effluent Monitoring Program (IP 71124.07)	06/28/2019
	71153	Corrective Action Documents	AR 4278245	Arc Flash Event