



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

May 10, 2019

Mr. Mark Bezilla  
Site Vice President  
FirstEnergy Nuclear Operating Co.  
Davis-Besse Nuclear Power Station  
5501 N. State Rte. 2, Mail Stop A-DB-3080  
Oak Harbor, OH 43449-9760

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1—NRC INTEGRATED  
INSPECTION REPORT 05000346/2019001

Dear Mr. Bezilla:

On March 31, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Davis-Besse Nuclear Power Station, Unit 1. On April 9, 2019, the NRC inspectors discussed the results of this inspection with you 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/*

Dariusz Szwarc, Acting Chief  
Branch 2  
Division of Reactor Projects

Docket No.: 05000346  
License No.: NPF-3

Enclosure:  
Inspection Report 05000346/2019001

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Letter to Mark Bezilla from Dariusz Szwarc dated May 10, 2019

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1—NRC INTEGRATED INSPECTION REPORT 05000346/2019001

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

Docket Number: 05000346

License Number: NPF-3

Report Number: 05000346/2019001

Enterprise Identifier: I-2019-001-0062

Licensee: FirstEnergy Nuclear Operating Co.

Facility: Davis-Besse, Unit 1

Location: Oak Harbor, OH

Inspection Dates: January 01, 2019 to March 31, 2019

Inspectors: J. Cassidy, Senior Health Physicist  
J. Harvey, Resident Inspector  
D. Mills, Senior Resident Inspector

Approved By: Dariusz Szwarc, Acting Chief  
Branch 2  
Division of Reactor Projects

Enclosure

## **SUMMARY**

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a quarterly inspection at Davis-Besse Nuclear Power Station, Unit 1 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. Findings and violations being considered in the NRC's assessment are summarized in the table below.

### **List of Findings and Violations**

No findings or violations were identified.

### **Additional Tracking Items**

None.

## PLANT STATUS

The unit began the inspection period at full rated thermal power. On January 12, 2019, the unit was shutdown to allow the repair of a steam leak from a main steam bypass line. On January 14 the unit was started up and full power was reached on January 15. The unit remained at or near full rated thermal power for the remainder of the inspection period.

On April 25, 2018, FirstEnergy Solutions (FES) / FirstEnergy Nuclear Operating Company (FENOC) notified the U.S. Nuclear Regulatory Commission (NRC) that they intend to shut down all four of their operating nuclear power plants (ADAMS Accession Number ML18115A007). Based on that notification, the first to shut down will be Davis-Besse, by May 31, 2020. On March 31, 2018, FES, FirstEnergy Nuclear Generation (FENGEN), and FENOC filed for bankruptcy. The NRC continues to maintain focus on public health and safety and the protection of the environment. This will include a continuous evaluation by inspectors to determine whether the licensee's financial condition is impacting safe operation of the plant.

## 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

#### Impending Severe Weather Sample (IP Section 03.03) (1 Sample)

The inspectors evaluated readiness for impending adverse weather conditions for cold temperatures below zero, wind, and several inches of snow expected during the week ending January 19, 2019.

### 71111.04 - Equipment Alignment

#### Partial Walkdown (IP Section 02.01) (4 Samples)

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

- (1) Decay heat pump 2 following planned maintenance during the week ending January 26, 2019;

- (2) High pressure injection (HPI) 2 with decay heat valve 7B, borated water storage tank outlet line 1, out of service for planned maintenance during the week ending February 9, 2019;
- (3) Motor driven feed water pump while auxiliary feedwater pump 2 out of service for planned monthly test during the week ending February 16, 2019; and
- (4) HPI 1 while HPI 2 was out of service for planned maintenance during the week ending February 23, 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 area DH, main steam line rooms during the week ending January 19, 2019;
- (2) Fire area J, emergency diesel generator 2 and diesel fuel oil tank 1-2 room during the week ending January 12, 2019;
- (3) Fire area II, main feedwater pump room, west condenser pit, including motor driven feedpump area, during the week ending February 16, 2019; and
- (4) Fire area A, mechanical penetration rooms 2 and 4 during the week ending March 16, 2019.

#### 71111.06 - Flood Protection Measures

##### Inspection Activities - Underground Cables (IP Section 02.02c.) (1 Sample)

The inspectors evaluated cable submergence protection in:

Manholes MH3001, MH3004, MH3005, MH3041, MH3042, MH3101, MH3109, and MH3010 during the week ending February 9, 2019.

#### 71111.11Q - Licensed Operator Requalification Program and Licensed Operator Performance

##### Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

The inspectors observed and evaluated licensed operator performance in the control room during shutdown and startup operator actions during the forced outage from January 12, 2019 through January 14, 2019.

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

The inspectors observed and evaluated licensed operator training on February 19, 2019.

#### 71111.12 - Maintenance Effectiveness

##### Routine Maintenance Effectiveness Inspection (IP Section 02.01) (1 Sample)

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

Borated water storage tank level instrumentation channels 3 and 4.

#### 71111.13 - Maintenance Risk Assessments and Emergent Work Control

##### Risk Assessment and Management Sample (IP Section 03.01) (4 Samples)

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

- (1) Main steam bypass line crack and plant shutdown for repair during the week ending January 12, 2019;
- (2) Planned maintenance of decay heat 2 and unexpected trip of high pressure feedwater heater drains 1-4, 1-5, and 1-6 during the week ending January 26, 2019;
- (3) Planned heater drain HD271A steam leak repair during the week ending February 9, 2019; and
- (4) Service water pump train 2 and auxiliary feedwater train 2 planned maintenance during the week ending March 16, 2019.

#### 71111.15 - Operability Determinations and Functionality Assessments

##### Operability Determinations (IP Section 02.01) (4 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) Condition Report (CR) 2019-00787, As found condition of snubber SNA67;
- (2) CR 2018-11015, Safety features actuation system borated water storage tank level transmitter channel 3 failure;
- (3) CR 2019-00490, New diesel fuel oil delivery to emergency diesel generator 2 fuel oil storage tank analysis above specification; and
- (4) CR 2019-00201 and CR 2019-00225, Main steam MS-100 bypass line crack extent of condition, MS-100 and MS-101 bypass line safety-related weld inspection.

#### 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) Weld overlay repair for main steam MS-100 bypass line crack during the week ending January 19, 2019; and
- (2) Safety features actuation system borated water storage tank level transmitter replacement channels 3 and 4 beginning the week ending January 12, 2019.

### 71111.19 - Post Maintenance Testing

#### Post Maintenance Test Sample (IP Section 03.01) (7 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) Steam feed rupture control system logic channel 1 after K35 Agastat relay replacement during the week ending January 12, 2019;
- (2) Decay heat 2 after planned maintenance during the week ending January 26, 2019;
- (3) Emergency ventilation system 2 after planned maintenance during the week ending February 16, 2019;
- (4) Motor driven feedpump after planned maintenance during the week ending February 23, 2019;
- (5) High pressure injection train 2 after planned maintenance during the week ending February 23, 2019;
- (6) Service water pump 2 following planned maintenance during the week ending March 16, 2019; and
- (7) Auxiliary feedwater pump 2 following planned maintenance during the week ending March 16, 2019.

### 71111.20 - Refueling and Other Outage Activities

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

The inspectors evaluated forced outage activities from January 12, 2019 to January 14, 2019.

### 71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

#### In Service Testing (IST) (IP Section 03.01) (1 Sample)

Containment spray 2 during the week ending January 19, 2019.

#### Reactor Coolant System (RCS) Leak Detection (IP Section 03.01) (1 Sample)

Reactor coolant system leakage monitoring during the week ending March 30, 2019.

#### Surveillance Testing (IP Section 03.01) (3 Samples)

- (1) Channel functional test and response time of reactor coolant pump monitor to steam feed rupture control system Channel 1 and reactor protection system Channel 1 during the week ending February 9, 2019;
- (2) Decay heat pump 1 quarterly on February 8, 2019; and
- (3) Channel calibration of PSL 106A, 108B, 106C and 106D, auxiliary feed pump turbine 1-1 inlet isolation on low auxiliary feed pump turbine 1-1 inlet pressure interlocks during the week ending March 2, 2019.



## 71114.06 - Drill Evaluation

### Emergency Preparedness (EP) Drill (IP Section 02.01) (1 Sample)

Emergency preparedness exercise on March 19, 2019.

## **RADIATION SAFETY**

### 71124.01 - Radiological Hazard Assessment and Exposure Controls

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

The inspectors evaluated licensee processes for monitoring and controlling contamination and radioactive material. The inspectors verified the following sealed sources are accounted for and are intact:

- 1.1.028; Gamma Source used for Nuclear Instrumentation
- 1.1.435; Calibration source for Kamen monitors

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

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

#### 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:

##### Radiation work packages

- 2018-6003; Replacement/Changeout of Various Filters, Including but not limited to, Spent Fuel Pool, Make-Up, Purification/Letdown and Seal Injection
- 2018-6042; Transfer/Movement of a Spent Filter HIC in the Low Level Radwaste Building
- 2018-1010; Replacement/Changeout of Various Filters, Including but not limited to, Spent Fuel Pool, Make-Up, Purification/Letdown and Seal Injection

##### Electronic alarming dosimeter alarms

- CR-2018-02206; Individual Unintentionally sent Dosimeter through the X-Ray Machine
- CR-2019-00473; MG Ran Through X-Ray Machine

##### Labeling of containers

- Hot Machine Shop; CV-150
- Hot Machine Shop; In-Core Closures
- Auxiliary Building Train Bay; Performance Engineering Equipment
- Auxiliary Building Train Bay; In-Core Cask Rigging

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

The inspectors evaluated radiation worker performance and radiation protection technician proficiency.

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

The inspectors evaluated radiological hazards assessments and controls. The inspectors reviewed the following:

Radiological Surveys

- Spent Fuel Pool Pump Room
- Auxiliary Building Train Bay
- Reactor Coolant Drain Tank Sump Room

Risk significant radiological work activities

- System Breach to replace CV-150
- Routine Survey Spent Fuel Pool Pump Room
- Routine Survey Hot Machine Shop

Air sample survey records

- 19-0024 - Breach of CV-150
- 19-0026 - Routine in Make-Up Pump Room General Area
- 18-0038 - Cutting and Grinding in the Post Accident Sample System Room

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.

Radiological work package for areas with airborne radioactivity

- There were no work packages for jobs within airborne radioactivity areas during the inspection.

**OTHER ACTIVITIES – BASELINE**

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

IE01: Unplanned Scrams per 7000 Critical Hours Sample (IP Section 02.01) (1 Sample)

Unit 1 (January 1, 2018 - December 31, 2018)

IE03: Unplanned Power Changes per 7000 Critical Hours Sample (IP Section 02.02)  
(1 Sample)

Unit 1 (January 1, 2018 - December 31, 2018)

IE04: Unplanned Scrams with Complications (USwC) Sample (IP Section 02.03) (1 Sample)

Unit 1 (January 1, 2018 - December 31, 2018)

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

October 2018 through December 2018

71152 - Problem Identification and Resolution

Annual Follow-Up of Selected Issues (IP Section 02.03) (2 Samples)

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

- (1) CR 2018-11199, LIC 6452 has a DLINK and OOS message displayed; and
- (2) CR 2018-11015, Safety features actuation system channel 3 borated water storage tank (BWST) LT1525C indicating erratically, and CR 2019-00579, BWST level transmitter for channel 4 is failed.

**INSPECTION RESULTS**

Observation	71152
<p>The inspectors reviewed CR 2018-11199, which documented the error messages "DLINK" and "OOS" displayed in December 2018 on the safety related train 1 auxiliary feedwater steam generator level controller. The licensee noted the error messages and declared AFW 1 inoperable while troubleshooting the cause of the messages and generated CR 2018-11199.</p> <p>Upon troubleshooting, the licensee determined the cause of the error messages to be a loose ribbon cable connecting the controller to a microprocessor that controls the steam generator level by positioning a level control valve. The licensee performed a past operability evaluation and determined that because communication was lost when the controller was in auto, AFW maintained operability. However, had the controller been set to manual, steam generator level would not have been controlled automatically by AFW. A corrective action was generated to replace the ribbon connector assembly during the refueling outage in 2016 but was rescheduled to 2020.</p> <p>The inspectors determined the DLINK/OOS error message was received in August 2012 (CR 2012-13239) and March 2015 (CR 2015-04127) in addition to 2018 (CR 2018-11199). In each instance the licensee disconnected, cleaned, and reconnected the cable. The inspectors noted that each time the error message was identified, the controller had only been subjected to normal and expected control room vibrations without additional force acting upon the cable.</p> <p>Section 3.2.1.2 of the Updated Final Safety Analysis Report states, in part, "...the following are Seismic Category I equipment and systems: auxiliary feedwater turbines, pumps, and system." During review of the 2012, 2015, and 2018 condition reports, the inspectors determined the</p>	

licensee did not discuss the controller seismic qualification. Following questions by the inspectors, the licensee concluded the controller was required to be seismically qualified which was supported by the original qualification documentation. The inspectors determined that based on the history of the ribbon cable becoming unseated without any additional acting forces, the age of the ribbon cable assembly and connector, the unchanged design, and the similar maintenance methodology from 2012 to 2018, that the ribbon cable was non-conforming to the seismic qualification requirement. The inspectors concluded the controller was not in conformance with its seismic design basis and that the licensee had failed to identify the non-conformance. The licensee has corrective actions planned to install a clip on the ribbon cable to restore compliance.

Screening: The licensee's failure to verify the adequacy of the design for the AFW steam generator level control system is a minor performance deficiency because it did not impact the Mitigating Systems' cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e, core damage) because the operators are provided with additional procedural guidance to control steam generator level manually.

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part that, "the design control measures shall provide for the verifying or checking the adequacy of design, such as by the performance of design reviews by the use of alternate or simplified calculation methods, or by performance of a suitable testing program."

The failure to comply with 10 CFR Part 50, Appendix B, Criterion III constitutes a minor violation that is not subject to enforcement action in accordance with the NRC's Enforcement Policy.

Observation	71152
<p>During this inspection period, the inspectors reviewed CR 2018-11015 and CR 2019-00579, which documented the erratic indication of the safety-related, safety features actuation system (SFAS) borated water storage tank (BWST) level instruments. On December 16, 2018, the BWST channel 3 level instrument indicated a low reading and was calibrated, tested, and returned to service. The same instrument began showing erratic indication again 16 days later and was replaced with a new instrument. Approximately two weeks later, on January 20, the channel 4 level instrument demonstrated an adverse trend and was also replaced with a new instrument. The inspectors identified two minor violations and provided the licensee several observations associated with the replacement of the instruments:</p> <ul style="list-style-type: none"> <li>• The inspectors determined the work package/engineering change package (ECP) was not appropriate for the circumstances. Specifically the work package for the installation of Channel 3 level indicators failed to specify which mounting bracket to use and an associated torque value for the mounting fasteners. The work package described the level transmitter replacements as like-for-like, however, the new instruments were built to a higher environmental qualification standard and included a larger, more robust housing apparatus and an associated mounting bracket of robust construction. When the work was performed, the licensee used the original, lighter mounting bracket but used the torque values intended for the new, heavier bracket which resulted in the bracket being crushed during installation. The inspectors questioned the licensee regarding operability and seismic qualifications of the Channel (CH) 3 instrument and housing in the current configuration using the older style bracket. The licensee revised the torque specifications using skill of the craft and demonstrated the torque values and</li> </ul>	

older bracket design were acceptable. The original CR 2018-11015 did not identify an issue with the adequacy of the procedure until identified by the inspectors.

- After review of both the CH 3 and CH 4 failures and corrective actions, the inspectors questioned the licensee regarding the level instrument mounting drawings versus the installed condition. The inspectors noted the drawing specifications did not match the installed instrument specifications. Specifically, the drawings showed the wrong size fasteners and showed fabricated welded brackets rather than the installed stamped steel brackets. The licensee documented the inspectors' observations in CR 2019-02906 and CR 2019-03884.
- During replacement of the CH 4 instrument the licensee identified that water accumulated on the bottom of the transmitter and into the attached conduit. This was an unexpected condition and the licensee generated CR 2019-00596. The licensee drilled weep holes to mitigate the condition. The inspectors noted neither CR 2019-00596 nor CR 2019-00579 discussed the potential operability impact of water in the transmitter. The licensee committed to updating the CR to reflect that consideration.

Screening: (1) The licensee's failure to properly specify the torque specification was a minor performance deficiency because the revised torque values and older bracket design were bounded in existing design documents and thus the performance and seismic qualification of the instrument was not affected. (2) The licensee's failure to correctly translate the safety-related instrument and mounting apparatus into system drawings constituted a minor performance deficiency because the incorrect drawings did not negatively impact the performance and seismic qualification of the instrument.

Enforcement: (1) Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that, "activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." (2) Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that, "measures shall be established to assure that applicable regulatory requirements and the design basis ... are correctly translated into specifications, drawings, procedures and instructions."

The failure to comply with 10 CFR 50 Appendix B, Criteria III and V constitute minor violations that are not subject to enforcement action in accordance with the NRC's Enforcement Policy.

## **EXIT MEETINGS AND DEBRIEFS**

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

- On April 9, 2019, the inspector presented the quarterly integrated inspection results to Mr. M. Bezilla and other members of the licensee staff.

## **DOCUMENTS REVIEWED**

### 71111.01—Adverse Weather Protection

- CR 2018-10356; Freeze Protection Circuit 88 Reading Low; 11/20/2018
- CR 2019-00411; BA Heat Trace TIC20241P Indicates "8.8.8.8.;" 01/15/2019

- CR 2019-00439; Fuse Blown in Y113 Causing Heat Trace Panel CFP03Q to be De-Energized; 01/16/2019
- CR 2019-00516; DO Pump House Heater 1 is Blowing Ambient Air, No Heat; 02/15/2019
- DB-ME-09521; Preventive Maintenance and Circuit Testing of Freeze Protection and Heat Tracing; Revision 05
- DB-OP-06331; Freeze Protection and Electrical Heat Trace; Revision 30
- DB-OP-06913; Frazil Ice Operations; Revision 32
- RA-EP-02870; Emergency Plan Off/Normal Occurrence Procedure; Revision 07

#### 71111.04—Equipment Alignment

- CR 2015-05215; INPO 2015: BACC — Valve Packing Leak Found on HP2B During Walkdown; 04/14/2015
- CR 2018-05404; SW6391 Leaking By; 06/10/2018
- CR 2018-08883; DC Bus Ground Received During Restoration of FW6459, MDFP Discharge to OTSG 1; 10/09/2018
- CR 2019-00181; FIS-HP04B Switch Set Point Found Out of Tolerance During Calibration Check; 01/08/2019
- DB-OP-06011; Attachment 1: HPI Train 1 Valve Checklist; Revision 32
- DB-OP-06011; Attachment 2: HPI Train 2 Valve Checklist; Revision 32
- DB-OP-06012; Attachment 2: DH Loop 2 Normal Lineup Valve Checklist; Revision 73
- DB-OP-06225; Attachment 1: Placing the MDFP in Standby in the Main Feedwater Mode Valve Lineup; Revision 23
- Drawing M-0060; Auxiliary Feedwater System; Revision 60
- Drawing M-033A; High Pressure Injection; Revision 49
- Drawing M-033B; Decay Heat Train 1; Revision 59
- Drawing M-033C; Decay Heat Train 2; Revision 30
- EQ Package DB1-036C; Environmental Qualification of Electrical Equipment; Revision 08
- EQ Package DB1-100; Environmental Conditions; Revision 13

#### 71111.05AQ—Fire Protection Annual/Quarterly

- Davis-Besse Unit 1 Fire Hazard Analysis Report; Fire Area Evaluation Fire Area J Train Accredited for Shutdown; Revision 26
- PFP-AB-319; Diesel Generator 1-2 Room, Rooms 319 and 319A Fire Area J; Revision 07
- PFP-AB-320A; Diesel Fuel Oil Day Tank 1-2 Room 320A Fire Area J; Revision 04
- PFP-AB-601E; No. 1 Main Steam Line Area Room 601E Fire Area DH; Revision 03
- PFP-AB-602; No. 2 Main Steam Line Area Room 602 Fire Area DH; Revision 04
- PFP-TB-252; Main Feedwater Pump Room, Room 22, Fire Area II; Revision 05

#### 71111.06—Flood Protection Measures

- WO 200686301; Electrical Hand/Manholes; 07/06/2016
- CR 2019-01816; Manhole MH3041 Sump Pump not Working; 02/27/2019

#### 71111.11—Licensed Operator Requalification Program and Licensed Operator Performance

- DB-OP-02000; RPS, SFAS, SFRCS Trip, or SG Tube Rupture; Revision 30
- DB-OP-06901; Plant Startup; Revision 41
- DB-OP-06903; Plant Cooldown; Revision 53
- NOP-OP-1002; Conduct of Operations; Revision 13

#### 71111.12—Maintenance Effectiveness

- C-CSS-049.01-016; Seismic Evaluation for Level Transmitters, L-1525B and D, Mounting Bracket; Revision 0
- CR 2019-00579; BWST Level Transmitter for Channel 4 is Failed; 01/20/2019
- CR 2019-00596; Water Found in LT125D; 01/21/2019
- CR 2019-00788; Three SFAS BWST Level Transmitter Installations Used Non-Q Nuts for Mounting Hardware
- Drawing DP-020-168; N-E13DM Nuclear Electronic Force Balance Transmitter; March 1982
- Drawing J-841 SH.1; Heat Enclosure Type "A-1" For L-125A, B, C, D; Revision 2
- Drawing STD-620-1; Assembly Drawing for Foxboro Model E-130 Transmitter LT-1525B, LT-15250; Revision T1

#### 71111.13—Maintenance Risk Assessments and Emergent Work Control

- CR 2019-00623; HD291B, 1-4 FW Heater Normal Drain Control Valve, not Controlling Level; 01/22/2019
- DB-OP-06012; Attachment 1: DH Loop 1 Normal Lineup Valve Checklist; Revision 73
- DB-OP-06229; High Pressure Feedwater Heater System Operation; Revision 20
- NG-DB-00001; On-Line Risk Management; Revision R15

#### 71111.15—Operability Determinations and Functionality Assessments

- BNPS ISTB7; Fourth Ten Year Inservice Testing Basis Document, Volume VII Dynamic Restraints; Revision 1
- C-CSS-049.01-016; Seismic Evaluation for Level Transmitters, L-1525B and D, Mounting Bracket; Revision 0
- CR 2014-15820; Snubber DB-SNA67 Oil Drip; 10/16/2014
- CR 2019-00579; BWST Level Transmitter for Channel 4 is Failed; 01/20/2019
- CR 2019-00596; Water Found in LT125D; 01/21/2019
- CR 2019-00787; As Found Condition of Snubber SNA67; 01/25/2019
- CR 2019-00788; Three SFAS BWST Level Transmitter Installations Used Non-Q Nuts for Mounting Hardware
- CR-2018-08408; Heat Rise from Hot Process Fluids Impact on EQ Equipment; 10/24/2018
- DB Calculation Sheet; Hydraulic Pipe Snubber Calculations; 08/02/1979
- DB Calculation Sheet; Snubber Calculations — Hydraulic; 11/25/1986
- DB Calculation Sheet; Snubber Piston Setting Calculation; 10/19/2000
- DB-MM-09245; General Welding Procedure (ASME/ANSI Applications); Revision 10
- DB-PF-00107; Hydraulic Snubber Program; Revision 09
- Design Basis Engineering; Snubber Piston Setting Calculation; 10/31/2000
- Drawing DP-020-168; N-E13DM Nuclear Electronic Force Balance Transmitter; March 1982
- Drawing J-841 SH.1; Heat Enclosure Type "A-1" For L-125A, B, C, D; Revision 2
- Drawing M-618; Cover Sheet; Revision 34
- Drawing STD-620-1; Assembly Drawing for Foxboro Model E-130 Transmitter LT-1525B, LT-15250; Revision T1
- NA-QC-05560; Visual Examination Procedure for VT-1, VT-3, and General Visual Examinations; Revision 12
- PCI Energy Services Weld Process Traveler 915347-01; Revision 0
- Procedure DB-MM-03006; Examination of Safety Related Hydraulic Snubbers; Revision 16
- WO 200447671; Test/Rebuild/Replace Snubber SNA67; 01/16/2012
- WO 200776125; Main Steam System and Support; 1/12/2019

- WO 200776348; Main Steam System; 1/16/2019

#### 71111.18—Plant Modifications

- C-ICE-048.01-004; SFAS BWST Low Level Setpoint; 09/22/2008
- CR 2018-11015; SFAS Channel 3 BWS L1525C Indicating Erratically; 12/16/2018
- Part Component Equivalent Replacement Package 001398; BWST Level Transmitter Replacement; Revision 0

#### 71111.19—Post Maintenance Testing

- CR 2019-00688; BACC: DH1A Needs Repack; 01/23/2019
- CR 2019-01552; HPI Train 2 Outage A Schedule Adherence Failure; 02/20/2019
- CR 2019-01614; Faulty Test Equipment Leads Require Portion of Quarterly Test Procedure To Be Performed Twice; 02/22/2019
- DB-MI-03211; Channel Functional Test of SFRCS Actuation Channel 1 Logic for Mode 1; Revision 20
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- DB-SP-03160; AFP 2 Quarterly Test; Revision 32
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#### 71111.20—Refueling and Other Outage Activities

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- DBBP-OPS-0003; On-Line Management Process; Revision 15
- DB-OP-02525; Steam Leaks; Revision 13
- DB-OP-06202; Turbine Operating Procedure; Revision 29
- DB-OP-06229; High Pressure Feedwater Heater System Operation; Revision 20
- DB-OP-06901; Plant Startup; Revision 41
- DB-OP-06906; Maintaining Hot Standby During Condenser Unavailability; Revision 09
- DB-PF-06703; Miscellaneous Operation Curves; Revision 25
- Drawing OS-008-SH-2; Operational Schematic Main Steam and Reheat System; Revision 21
- Drawing OS-008-SH-5; Operational Schematic Main Steam and Reheat System; Revision 33
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- CR 2019-00686; In Service Testing Bases and Design Calculations have Different Maximum Differential Pressures for Containment Spray Pump 2; 01/23/2019
- CR 2019-01823; NCD-E11C did not Illuminate as Expected; 02/27/2019
- CR 2019-01824; PSL106A and PSL 10D Found Out of Tolerance; 02/27/2019
- CR 2019-01825; M & TE Gauge Over Ranged; 03/29/2019
- CR 2019-01826; PSL106C and PSL106D Contact State Hard to Read; 03/29/2019
- DB-MI-03205; Channel Functional Test/Calibration and Response Time of CP Monitor (C3601) to SFRCS LCH 1 and RPS CH 1; Revision 25
- DB-SP-03338; Containment Spray Train 2 Quarterly Pump and Valve Test; Revision 30
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#### 71124.01—Radiological Hazard Assessment and Exposure Controls

- CR-2018-02036; Individual Crossed RCA Boundary; 04/05/2018
- CR-2018-02057; Containment Radiological Posting Improvement; 04/06/2018
- CR-2018-02246; Evidence of Chewing Tobacco in the Radiologically Controlled Area; 03/10/2018
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- CR-2018-04739; Damaged Radioactive Check Source; 05/22/2018
- CR-2018-08708; Individual Ducked Under Radiation Area Barricade at the Borated Water Storage Tank; 10/03/2018
- CR-2018-08921; NOP-OP-4105 Has Discrepancies in Requirements for Diving in Areas with Highly Radioactive Components; 11/09/2018
- DBBP-RP-1010; Routine Radiological Surveys; Revision 33
- DB-HP-01109; Significant Radiological Evolution Barriers; Revision 32
- DB-HP-03000; Inventory and Leak Testing of Licensed Sources; Revision 6
- NOP-OP-4102; Radiological Posting and Labeling; Revision 13
- NOP-OP-4204; Special External Exposure Monitoring; Revision 11
- NOP-OP-4701; Radiation and Contamination Surveys; Revision 3
- NOP-OP-4702; Air Sampling — FENOC Specific; Revision 7
- NOP-OP-4703; Determination of Alpha Monitoring Levels; Revision 7
- NOP-OP-4704; Air Sampling — General; Revision 0
- PA-DB-2018-0003; PA-DB-18-01; Organizational Effectiveness and 1R20 Preparation / Implementation Assessment; 04/23/2018

- Radiation Work Permit and Associated ALARA File; RWP 2018-1010; Replacement/Changeout of Various Filters, Including but not Limited to, Spent Fuel Pool, Make-Up, Purification/Letdown and Seal Injection; Multiple Dates
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#### 71151—Performance Indicator Verification

- NOBP-LP-4012-57; Occupational Exposure Effectiveness October 2018 through December 2018

#### 71152—Problem Identification and Resolution

- 87N55474-CD-0001; Connection Diagram Auxiliary Feedwater Control Channel 1 Cabinet C3645; Revision 08
- 87N55474-FD-0001; Auxiliary Feedwater Control Channel 1 Cabinet C3645; Revision 9
- 87N55474-TBW-0002; Terminal Block Wiring Auxiliary Feedwater Control Channel 2 Cabinet C4625; Revision 5
- CR 2012-13239; LIC 6452, Auxiliary Feedwater Pump 1 Target Rock Controller Displaying Error Message; 08/29/2012
- CR 2015-04127; LIC 6452 AFPT #1 Target Controller Displayed DLINK Indicating Error; 05/31/2015
- CR 2015-10181; AFW/MDFP Level Indicating Controllers DB-LIC6451 and DB-LIC-6460, Recommendation for Future Replacement of Ribbon Cable Assembly; 08/28/2015
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- CR 2019-01597; LIC6452 Ribbon Cable Seismic Qualification Concern; 02/21/2019
- CR-G201-2010-85467; AF6452 Inoperable; 12/03/2010
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- E-16 SH-1; Safety Features Actuation System Logic Diagram; Revision 34
- E-18 SH-2; SFRCS Logic Diagram Logic Channels 2 and 4 and Actuation Channel 2; Revision 6
- E-18 SH-3; SFRCS Logic Diagram Miscellaneous Circuits; Revision 7
- E-200B; Circuit Schedule; Revision 70
- E-2010; Connection Diagram AFW Control Cabinet C3545; Revision 1
- E-353; Raceway and Grounding Auxiliary Building Elevation 5 Area 7; Revision 53
- E-44B SH-24; Feedwater System SG Auto Essen Level Control; Revision 3
- E-517; Connection Diagram Relay Cabinet RC 3701; Revision 17
- M-0060; Auxiliary Feedwater System; Revision 60
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- WO 200511855; Clean Dust from LIC6452; 12/11/2016
- WO 200605936; Replace Level Controller; 06/12/2018