



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

January 28, 2020

Mr. Dean Curtland
Director of Site Operations
NextEra Energy Duane Arnold, LLC
3277 DAEC Road
Palo, IA 52324-9785

SUBJECT: DUANE ARNOLD ENERGY CENTER – INTEGRATED INSPECTION REPORT
05000331/2019004

Dear Mr. Curtland:

On December 31, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Duane Arnold Energy Center. On January 9, 2020, 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.

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

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 Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Billy C. Dickson, Jr, Chief
Branch 2
Division of Reactor Projects

Docket No. 05000331
License No. DPR-49

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

Letter to Dean Curtland from Billy Dickson dated January 28, 2020.

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05000331/2019004

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

Docket Number: 05000331

License Number: DPR-49

Report Number: 05000331/2019004

Enterprise Identifier: I-2019-004-0065

Licensee: NextEra Energy Duane Arnold, LLC

Facility: Duane Arnold Energy Center

Location: Palo, Iowa

Inspection Dates: October 01, 2019 to December 31, 2019

Inspectors: G. Hansen, Senior Emergency Preparedness Inspector
V. Myers, Senior Health Physicist
C. Norton, Senior Resident Inspector
T. Ospino, Reactor Engineer
G. Roach, Senior Operations Engineer
J. Seymour, Operations Engineer

Approved By: Billy C. Dickson, Jr, Chief
Branch 2
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 Duane Arnold Energy Center, 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

None.

PLANT STATUS

The unit began the inspection period at rated thermal power. On November 2, 2019, the unit was down powered to 60 percent power for a control rod sequence exchange. The unit was returned to full power on November 3, 2019 and remained at or near rated thermal power for the remainder 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

Seasonal Extreme Weather Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal cold temperatures for the following systems on November 4, 2019:
 - FLEX buildings
 - Control building heating ventilation and air conditioning (HVAC)
 - Reactor building HVAC

71111.04Q - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (6 Samples)

The inspectors evaluated system configurations during a partial walkdowns of the following areas:

- (1) 'A' emergency service water system on October 2, 2019
- (2) High pressure coolant injection system on October 8, 2019
- (3) Standby liquid control system on October 9, 2019
- (4) Control rod drive system on October 15, 2019
- (5) 'A' residual heat removal system on November 5, 2019
- (6) 'A' core spray system on November 7, 2019

71111.06 - Flood Protection Measures

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

The inspectors evaluated internal flooding mitigation protections in the:

- (1) Torus basement on October 7, 2019

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

The inspectors evaluated cable submergence protection in:

- (1) Cable vaults MH106 and MH107 on October 9, 2019

71111.11A - Licensed Operator Qualification Program and Licensed Operator Performance

Qualification Examination Results (IP Section 03.03) (1 Sample)

- (1) The inspectors reviewed and evaluated the licensed operator examination failure rates for the qualification annual operating exam administered from November 4 through December 12, 2019

71111.11B - Licensed Operator Qualification Program and Licensed Operator Performance

Licensed Operator Qualification Program (IP Section 03.04) (1 Sample)

- (1) Biennial Qualification Written Examinations

The inspectors evaluated the quality of the licensed operator biennial qualification written examination administered on November 21, 2019

Annual Qualification Operating Tests

The inspectors evaluated the adequacy of the facility licensee's annual qualification operating test

Administration of an Annual Qualification Operating Test

The inspectors evaluated the effectiveness of the facility licensee in administering qualification operating tests required by 10 CFR 55.59(a)(2) and that the facility licensee is effectively evaluating their licensed operators for mastery of training objectives

Qualification Examination Security

The inspectors evaluated the ability of the facility licensee to safeguard examination material, such that the examination is not compromised

Remedial Training and Re-examinations

The inspectors evaluated the effectiveness of remedial training conducted by the

licensee, and reviewed the adequacy of re-examinations for licensed operators who did not pass a required requalification examination.

Operator License Conditions

The inspectors evaluated the licensee's program for ensuring that licensed operators meet the conditions of their licenses

Control Room Simulator

The inspectors evaluated the adequacy of the facility licensee's control room simulator in modeling the actual plant, and for meeting the requirements contained in 10 CFR 55.46

Problem Identification and Resolution

The inspectors evaluated the licensee's ability to identify and resolve problems associated with licensed operator performance

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)

- (1) The inspectors observed and evaluated a reactor plant power evolution and rod sequence exchange on November 3, 2019

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

- (1) The inspectors observed and evaluated licensed operator requalification training and activities on October 1, 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) Electric fire pump minimum flow valve on October 25, 2019
- (2) Control room annunciator horn on November 5, 2019

Quality Control (IP Section 02.02) (1 Sample)

The inspectors evaluated maintenance and quality control activities associated with the following equipment performance activities:

- (1) Quality control sample for an emergency service water exchange of a differential pressure indicator switch on November 7, 2019

71111.13 - Maintenance Risk Assessments and Emergent Work Control

Risk Assessment and Management Sample (IP Section 03.01) (3 Samples)

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

- (1) A small spurious increase in reactor power on October 24, 2019
- (2) The unplanned unavailability of the 'A' control building chiller on December 20, 2019
- (3) Reactor core isolation coolant unavailability for operability test and system walkdown on December 3, 2019

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 02.02) (1 Sample)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) Condition Report (CR) 02329060, emergency service water and well water abnormal indication on October 16, 2019

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (6 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) Following 'A' and 'B' rod block monitor repairs after receiving spurious alarms when selecting control rods on October 3, 2019
- (2) Following calibrations of the LOW LOW pressure set point channels on October 15, 2019
- (3) Following repack of CV1956A, essential service water to 'A' control building chiller on October 29, 2019
- (4) Following 'A' containment spray logic calibration on October 30, 2019
- (5) Following repair of 'C' residual heat removal pump torus suction isolation valve on November 7, 2019
- (6) Following repairs to 'A' diesel generator air start check CV 32-0043 on November 19, 2019

71111.20 - Refueling and Other Outage Activities

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

- (1) The inspectors evaluated forced outage readiness on November 5, 2019

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (3 Samples)

- (1) High pressure coolant injection system operability test on October 23, 2019
- (2) In field activities associated with reactor core isolation coolant system operability test on December 3, 2019
- (3) In field activities associated with standby liquid control operability test on December 5, 2019

71114.04 - Emergency Action Level and Emergency Plan Changes

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

- (1) The inspector completed the evaluation of submitted Emergency Action Level and Emergency Plan changes on November 21, 2019. This evaluation does not constitute NRC approval.

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

- Refuel floor
- Reactor water clean up pump room
- Heater bay
- High pressure coolant injection rooms
- Torus rooms

Risk Significant Radiological Work Activities

- Tri-nuke filter removal from spent fuel pool
- Reactor water clean up pump removal
- Steam leak repair on the moisture separator reheater drain tank

Air Sample Survey Records

- Sample 19-145, refuel floor
- Sample 19-19, reactor water clean up pump room
- Sample 19-150, high pressure coolant injection room

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

- 19-0112, Refuel Floor Pool Work
- 19-0051, Routine Work and Inspections
- 19-0600, High Steam Areas at Power

Electronic Alarming Dosimeter Alarms

- Dose rate alarm on dosimeter serial number 029216 on 11/12/2018
- Dose rate alarm on dosimeter serial number 048617 on 06/03/2019
- Dose rate alarm on dosimeter serial number 897998 on 08/15/2019

Labeling of Containers

- Rebuild equipment on the turbine operating deck
- Refuel floor spare rigging container
- 55 gallon drums in the radioactive waste building
- Dry active waste storage area containers

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:
- Source 3826
 - Source 734

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) The inspectors also reviewed the following radiological work package for areas with airborne radioactivity:
- None were available for review during this 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.

71124.06 - 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)
 - Reactor building ventilation system
 - Low level radioactive waste building ventilation system
 - Ground water mitigation systems

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)
 - Reactor building Kaman 6
 - Residual heat removal service water system monitor

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

The inspectors reviewed the following:

- (1) Radioactive Effluent Sampling and Analysis Activities
 - Permanent ground water mitigation system sampling
 - Temporary ground water mitigation system sampling
 - Reactor building gaseous effluent system sampling

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

Dose Calculations (IP Section 02.05) (1 Sample)

The inspectors reviewed the following to assess public dose:

- (1) Liquid and Gaseous Discharge Permits
 - Liquid discharges made 10/23/2019 through 10/28/2019 for the temporary ground water mitigation system

- Liquid discharges made 10/23/2019 through 10/30/2019 for the permanent ground water mitigation system
- Gaseous discharges made 11/06/2019 through 11/13/2019 for off gas and reactor building ventilation systems

Annual Radiological Effluent Release Reports

- 2017 Annual Radioactive Material Release Report
- 2018 Annual Radioactive Material Release Report

Abnormal Gaseous or Liquid Tank Discharges

- None were available for review during this inspection.

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 (October 1, 2018 to September 30, 2019)

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

- (1) Unit 1 (October 1, 2018 to September 30, 2019)

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

- (1) Unit 1 (October 1, 2018 to September 30, 2019)

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

- (1) Unit 1 (October 1, 2018 to September 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) October 1, 2018 to September 30, 2019

71152 - Problem Identification and Resolution

Semiannual Trend Review (IP Section 02.02) (1 Sample)

- (1) The inspectors reviewed the licensee's corrective action program for potential adverse trends in integrated process radiation monitor issues that might be indicative of a more significant safety issue on December 27, 2019

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) The inspectors reviewed the licensee's corrective action program for potential adverse trends in addressing risk and risk communication on December 27, 2019

INSPECTION RESULTS

Observation: Addressing Risk and Risk Communication	71152
<p>In August of 2019, the inspectors identified a negative trend in addressing risk and risk communication. Examples include:</p> <ul style="list-style-type: none">• During the 2018 refueling outage, the risk associated with work on the condensate demineralizer instrument air filter housing was not communicated to the workers. This resulted in the workers improvising a repair to the severely damaged and degraded condensate demineralizer air filter housing. The improvised repair failed while the plant was at full power. Demineralizer flow was lost. Subsequently, operators manually scrambled the reactor due to rapidly lowering reactor water level. The inspectors documented this event in Inspection Report 05000331/2019002 and the licensee reported this as detailed in License Event Report 05000331/2019-001-00.• In July 2019, the licensee did not adequately communicate identified risks associated with fuel mixture adjustments on the diesel fire pump engine during a maintenance inspection. The licensee did not provide adequate oversight over an inexperienced vendor technician during the fuel mixture adjustment portion of the inspection. The technician made inappropriate adjustments and created an over rich fuel mixture that deposited combustibles in the exhaust line. This resulted in an exhaust line fire that spread to the non-safety related side of the pump house roof. The inspector evaluated this minor event during the 3rd Quarter of 2019.• Other minor examples included an inadequate brief for work on the well water flow recorder and an inadequate brief associated with taking an oil sample on an instrument air compressor. In the first example, a technician inadvertently allowed a loose wire to make contact which blew a fuse in the recorder circuit. This resulted in well water isolating from loads and unplanned entries into abnormal and emergency operating procedures. In the second example, an operator unfamiliar with the sample location breached the instrument air system causing a control room alarm for low instrument air pressure. <p>The inspectors monitored licensee actions to address risk and risk communication. The inspectors observed increased emphasis on risk communications during plan-of-day meetings and shop briefings. Duane Arnold Nuclear Assurance observed communications and wrote action requests to address substandard communications. This resulted in discussions that increased sensitivity to the importance of addressing risk and risk communication. The inspectors concluded that the licensee's increased emphasis on risk and risk communication resulted in improvements in station performance and a reduction in near miss occurrences.</p>	

Observation: Integrated Process Radiation Monitor Maintenance Issues and Post Accident Sampling	71152
<p>Early in 2019, the inspectors observed an increasing trend in process radiation monitor issues. The inspectors noted several minor equipment and human performance related issues.</p> <p>Equipment related issues, the result of component aging and spare part availability, included:</p> <ul style="list-style-type: none"> • reoccurring off-gas detector failure alarms • multiple momentary radiation detector alarms with nothing recorded • control building intake radiation monitor trouble alarms and spurious standby filter unit actuations • recurring fuel pool exhaust radiation monitor downscale alarms • incorrect background on effluent ventilation radiation monitor <p>Human performance issues, the result of inadequate work focus in the field or procedure unfamiliarity, included:</p> <ul style="list-style-type: none"> • incorrect background programmed into radiation monitors • using incorrect background values while calibrating a reactor building vent shaft radiation monitor • mispositioning components when calibrating effluent radiation monitors • lack of familiarity with emergency alternate sampling procedures for when accident range process radiation monitors are unavailable <p>The inspectors determined that the equipment related issues identified in this inspection sample, although many, were minor and adequately addressed. The inspectors determined that the human performance issues identified in this sample were adequately addressed.</p> <p>The inspectors evaluated the licensee's readiness to do post-accident manual sampling, analysis and assessment of offsite releases with a concurrent loss of accident range effluent radiation monitors. The inspectors reviewed procedures, training records, walked down sample locations with technicians, and conducted interviews with supervisors and technicians. The inspectors concluded for the scenarios discussed, licensee staff have the training and supervisory skills to collect, analyze and assess post-accident releases with post-accident effluent radiation monitors unavailable.</p>	

EXIT MEETINGS AND DEBRIEFS

The inspectors confirmed that proprietary information was controlled to protect from public disclosure.

- On January 9, 2020, the inspectors presented the integrated inspection results to Mr. D. Curtland, Director of Site Operations and other members of the licensee staff.
- On October 24, 2019, the inspectors presented the radiation protection program inspection results to Mr. D. Curtland, Director of Site Operations and other members of the licensee staff.
- On November 21, 2019, the inspectors presented the Emergency Action Level and Emergency Plan Changes Inspection inspection results to Mr. M. Davis, Licensing Manager and other members of the licensee staff.
- On November 21, 2019, the inspectors presented the radiation protection program inspection results to Mr. D. Curtland, Director of Site Operations and other members of the licensee staff.

- On November 22, 2019, the inspectors presented the Biennial inspection of the licensed operator requalification program inspection results to Mr. R. Spading, Operations Director and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Miscellaneous	Seasonal Readiness	Winter 2019 Memo Curtland to Moul	09/24/2019
71111.04Q	Corrective Action Documents	Condition Report (CR) 02220863	1P230B Standby Liquid Control (SBLC) Pump Leakage Update	08/17/2017
		CR 02253601	'B' SBLC Pump Seal Leak	03/10/2018
		CR 02258728	Sodium Penta Borate Crystal Under 1P230B	04/10/2018
		CR 02261588	(Previously Identified) 1P230B SBLC Leak Rate Update-2dpm	04/26/2018
	Drawings	BECH-M117	Control Rod Drive Hydraulic System	66
	Miscellaneous		'A' Emergency Diesel Generator Outage Work Plan Spread Sheet	0
	Procedures	OI 149	Residual Heat Removal (RHR) System	170
		OI 149A2	'A' RHR System Valve Lineup	15
		OI 151	Core Spray System	0
		OI 151A2	'A' Core Spray System Valve Lineup	0
		OI 151A6	Core Spray System Control Panel Lineup	0
		OI 152	High Pressure Coolant Injection (HPCI) System	120
		OI 152A2	HPCI System Valve Lineup	20
		OI 153	SBLC	0
		OI 153A1	SBLC System Electrical Lineup	0
		OI 153A2	SBLC System Valve Lineup	0
		OI 255	Control Rod Drive Hydraulic System	97
		OI 255A3	Control Rod Drive System HCU Valve Lineup	3
		OI 416	RHR Service Water System	0
		OI 416A6	Residual Heat Removal Service Water System Control Panel Lineup	5
		OI 454	Emergency Service Water System	70
		STP 3.5.1-05	HPCI System Operability Test	83
		STP NS540002-A	'A' Emergency Service Water Operability Test	43
		STP NS550003	Surveillance Test Procedure (STP) ASME CDR Accumulator Check Valve test	3

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Work Orders	40637955-01	GWPP Mitigation System / 'A' Emergency Service Water Operability test	09/26/2019
71111.06	Drawings	GMP-ELEC-39	Electrical Man-Hole Inspection	8
71111.11B	Corrective Action Documents	CR 2263827	PDA Interim Report - Operations	05/11/2018
		CR 2281632	Tech Spec 3.0.4 Question	09/22/2018
		CR 2287125	IRM Upscale Activated and Reset	10/21/2018
		CR 2303207	Invoked T.S. 5.2.2.C	02/23/2019
		CR 2305415	Near Miss - Exam Validation Session on Simulator Printer	03/12/2019
	Engineering Changes	278899	Replace River Water Make-up System Controllers	0
		284591	Replacing Transverse Incore Probe Drawers and Removing XY Plotters from Panel 1C13	0
		288619	Replacing and Removing Switchyard Breaker Handswitches and Indicating Lights from Panel 1C08	0
	Miscellaneous		Simulator Review Committee Meeting Minutes	06/05/2019
			Simulator Review Committee Meeting Minutes	10/11/2018
		2018 DAEC NRC Annual Operating Exam Report	Examination Summary	08/08/2018
		2018 Operability and Steady State Test Data	21.4% Power Test	10/01/2018
		2018 Operability and Steady State Test Data	53.7% Power Test	10/01/2018
		2018 Operability and Steady State Test Data	78.9% Power Test	10/02/2018
		2018 Operability and Steady State Test Data	99.1% Power Test	10/02/2018
		2018 Operability and Steady State Test Data	Stability Test @ 100% Power	10/02/2018
		2019 Written	Written Examination Sample Plan	2019

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		Sample Plan		
		DAEC 2017 LOCT Biennial Exam	Examination Summary	12/15/2017
		DAEC BRE	Written Exam Development Methodology Matrix	2017
		DAEC LOCT Two Year Plan	Training Plan	2018-2019
		ESG and JPM Sample Plan	Operating Test Sample Plan	2019
		JPM 2.4.35-01	Job Performance Measure	7
		JPM 2.4.41-23	Job Performance Measure	0
		JPM 201003-03	Job Performance Measure	11
		JPM 215001-01	Job Performance Measure	3
		JPM 217000-01	Job Performance Measure	8
		JPM 259001-12	Job Performance Measure	1
		JPM 264000-10	Job Performance Measure	4
		JPM 295004-02	Job Performance Measure	2
		JPM 304.2-07.02-01	Job Performance Measure	2
		JPM 304.2-07.02-02	Job Performance Measure	1
		Normal Evolution 3.4.3.3	Reactor Core Reload and Core Performance Testing	11/12/2018
		Normal Evolution STP 3.5.1-01	Core Spray System Operability Test	04/12/2018
		ODI-009	Individual Status Change Letter (Active)	08/13/2018
		ODI-009	Individual Status Change Letter (Active)	08/28/2018
		OP-302	Quarterly Personnel Watchstanding Verifications, Various	2017-2019
		PDA OPS 50008	2019 LOCT Biennial Comprehensive Written Exam (RO) Week 1	0
		PDA OPS 50008	2019 LOCT Biennial Comprehensive Written Exam (RO) Week 3	0
		PDA OPS 50008	2019 LOCT Biennial Comprehensive Written Exam (SRO) Week 3	0

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		PDA OPS ESG 350	Simulator Exercise Guide	0
		PDA OPS ESG 351	Simulator Exercise Guide	0
		PDA OPS ESG 354	Simulator Exercise Guide	0
		PDA OPS ESG 356	Simulator Exercise Guide	0
		Post Event Simulator Testing	'B' FRV Closure and Scram	01/18/2019
		Post Event Simulator Testing	Feedwater Pumps Suction Pressure Trip and Manual Scram	06/18/2019
		Scenario Based Testing	OPS 19-1 NRC Scenario 1	04/19/2019
		Scenario Based Testing	OPS 19-1 NRC Scenario 2	04/19/2019
		Scenario Based Testing	OPS 19-1 NRC Scenario 3	04/19/2019
		Simulator Testing	2018 Real Time and Repeatability Test	09/24/2018
		Simulator Transient Test	Loss of All Feedwater	10/17/2018
		Simulator Transient Test	Trip of One Recirculation Pump	10/17/2018
		Simulator Transient Test	Unisolable Main Steam Line Break	10/17/2018
		TR-AA-220-1004-F01	LOCT Annual/Biennial Exam Results Summaries, Various	11/20/2019
		TR-AA-230-1000-F10	Remediation	11/16/2017
		TR-AA-230-1007-F01	Crew Simulator Evaluation Form	11/19/2019
		TR-AA-230-1007-F02	Individual Simulator Evaluation Forms, Various	11/19/2019
		TR-AA-230-1007-	STA Simulator Evaluation Forms, Various	11/19/2019

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		F03		
		TR-AA-230-1007-F13	Crew Grading Attachments, Various	11/19/2019
		TR-AA-230-J405	Training Review Board	11/13/2017
		Training Attendance Records	Curricula Item Status Matrices, 2017-2019	11/18/2019
	Procedures	1801.4	Simulator Configuration Management	28
		OI 152	High Pressure Coolant Injection System	120
		OP-AA-100-1001	License Maintenance and Activation	6
		SA-AA-101-1000	NRC Operator License Application and Renewal Requirements	3
		TR-AA-201-1000-F01	Licensed Operator Continuing Training 2018-2019 Training Plan	06/29/2018
		TR-AA-201-1000-F02	DAEC Licensed Operator Continuing Training Program Description	10/13/2019
		TR-AA-201-1000-F02	Training Program Description	2
		TR-AA-220-1002	NRC Licensed Operator Exam Security	4
		TR-AA-220-1004	Licensed Operator Continuing Training Annual Operating and Biennial Written Exams	5
		TR-AA-221-1000	Simulator Change Control	5
		TR-AA-230-1007	Conduct of Simulator Training and Evaluation	12
		TR-AA-230-1009	Training Examination Security	4
	Self-Assessments		2019 DAEC Simulator Annual Report	11/13/2019
		AR - L2A #: NAMS 2287755 / 2276322	Pre-NRC Licensed Operator Requalification Program Assessment	08/30/2019
		NG-18-0141	2018 DAEC Simulator Annual Report	11/27/2018
	Work Orders	SWR 2010	PEST Issue: Total Core Flow, Core Plate DP, Jet Pump DP	01/17/2019
		SWR 2011	PEST Issue: B024 RWCU System Cooldown Issue	01/17/2019
		SWR 2012	PEST Issue: Main Steamline Flowrates Issue	01/17/2019
		SWR 2013	PEST Issue: Containment Pressure/Temperature Response	01/17/2019

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
			to Scram/ Recirc Trips	
		SWR 2014	PEST Issue: Torus Water Level Response to HPCI, RCIC Running Issues	01/17/2019
		SWR 2066	Meteorological Recorder YR-9400 Multiple Issues	0
		SWR 2067	Turbine Vibes too Elevated at Critical Turbine RPMs After Trip	0
		SWR 2248343	HPCI Auxiliary Oil Pump Handswitch Wobbly	0
		SWR 2257397	Hardened Containment Vent System Radiation Monitor Display Inoperable	0
		SWR 2306441	3 Primary Containment Isolation System Valve Closing Time not within Specification	0
71111.11Q	Corrective Action Documents	CR 02334071	RPS Relays did not Cycle as Expected for 'B' Inboard Main Steam Isolation Valve	11/03/2019
	Miscellaneous	Evaluated Scenario	Scenario ESG 2019D-01E	0
	Procedures	NS930002	Main Turbine Stop and Combined Intermediate Valves Test	5
		STP 3.3.1.1-13	Turbine Control Valve Recirculation Pump Trip Logic and Reactor Protection System Instruments Functional Test	15
		STP 3.3.1.1-17	Main Steam Line Isolation Valve Functional Test	15
		STP 3.3.1.1-19	Functional Test of Turbine Stop Valve Closure Input to Reactor Protection System Recirculation Pump Trip	23
71111.12	Corrective Action Documents	CR 02331615	PSV3302 Internal Parts Degradation	10/15/2019
	Miscellaneous		Roy Hanson Email: Electric Fire Pump Unavailability	10/17/2019
			Operations Shift Log	10/22/2019
		NG-006M	Electrical Termination Sheet	10
		NG-006M	Electrical Termination Sheet	10
		NG-015K	Shift Manager, CRS, WCCS, and STA Turnover Form dated October 22, 2019	44
	Work Orders	40478652-01	Replace and Calibrate Stilling Basin Differential Pressure Indicator LIS4935A	11/07/2019
		4068329-01	PSV3301; Rebuild and Repack	10/15/2019
71111.13	Corrective Action Documents		Shift Operations Log	12/03/2019
		CR 02327515	Observed Step Rise in Reactor Power	1

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	Miscellaneous		Shift Operations Logs	12/03/2019
		Risk Analysis	White Paper on 'A' Control Building Chiller Risk	00
		Work Plan 40644666	Calibrate I/I 6924A, as part of 'A' CB Chiller AC to DC Converter Issue	12/05/2019
	Work Orders	40194425	Calibrate I/I6924B	08/29/2013
		40236612	Calibrate I/I6924A 'A' CB Chiller AC to DC Converter Card	03/23/2014
		Work Plan 40644666	'A' CB Chiller AC to DC Converter Card	12/05/2019
71111.15	Corrective Action Documents	CR 02329060	Emergency Service Water Abnormal Indication	09/24/2019
71111.19	Corrective Action Documents	CR 02329584	Rod Block Monitor (RBM) Issues when Selecting a Rod	09/28/2019
		CR 02329585	RBM Alarms when Selecting Control Rod	09/28/2019
		CR 02333339	CV1956A Packing Leak has Risen to 30 dpm	10/28/2019
		CR 02333812	MO 2015 Tripped on Thermal Overload When Timing Open Per STP	10/31/2019
	Drawings	BECH-M132<1>	Diesel Generator Systems	21
	Miscellaneous	Work Plan 40682200-01	Air Receiver 1T-115A Outlet Check Valve	09/17/2019
		Work Plan 40682200-01	Air Receiver 1T-115A Outlet Check Valve	09/18/2019
		Work Plan 40682200-01	Air Receiver 1T-115A Outlet Check Valve	11/08/2019
		Work Plan 40682200-05	Air Receiver 1T-115A Outlet Check Valve	11/19/2019
		Work Plan 40682200-05	Air Receiver 1T-115A Outlet Check Valve	11/20/2019
	Procedures	CAL-M01-071	Valve Number CV1956A	5
		ER-AA-122-1001	Printed Circuit Board Life Cycle Management Plan	0
		ER-AA-122-1001	Printed Circuit Board Life Cycle Management Plan	0
		GMP-Test-58	Air Operated Valve Diagnostic Testing	9
		OI 878.5	Rod Block Monitoring System	0
		STP 3.1.3-01	Control Rod Exercises	0
		STP 3.3.2.1-01	Rod Block Monitor Functional Check	9

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		STP 3.3.2.1-01	Rod Block Monitor Functional Check	9
		STP 3.3.2.1-02	Rod Block Monitor Calibration	0
		STP 3.3.2.1-02	Rod Block Monitor Calibration	0
		STP 3.3.5.1-29A	'A' Containment Spray Logic System Functional Test and RHR Timer Calibration	3
		STP 3.3.6.3-03	Low-Low Set Pressure Set Point Channels Functional Test	13
		STP 3.8.1-11A	Standby Diesel Generator Air Compressor and Air Start Check Valve Test	11
		STP NS540002A	'A' Emergency Service Water	43
	Work Orders	40609798-01	CV-1959A-0 Perform AOV Diagnostic Testing	10/28/2019
		40619490-01	'A' Containment Spray Logic System Functional Test and RHR Timer Calibration	10/29/2019
		40642865-01	Low-Low Set Pressure Setpoint Chan Functional test	10/14/2019
		40649752-02	'B' RBM Clean Cards and Cabinet in RBMS	10/03/2019
		40690161-05	C-RHR Pump Torus Suction Isolation Valve Post Maintenance Test	11/07/2019
		WR 94198480	Work Request for V-32-043, 'A' Emergency Diesel Starting Air Check Valve, Failed Surveillance Test	09/03/2019
71111.20	Miscellaneous		Forced Outage Scope List	05/08/2019
71111.22	Procedures	NS500001	Reactor Core Isolation Cooling System Leakage Inspection Walkdown	5
		NS530001	Standby Liquid Control System Leakage Inspection Walkdown	10
		STP 3.1.7-01	Standby Liquid Control Pump Operability Test	44
		STP 3.5.1-05	HPCI System Operability Test	83
		STP 3.5.3-02	Reactor Core Isolation Cooling Operability Test	56
71114.04	Miscellaneous		10 CFR 50.54(q) Screening and Evaluation Personnel Training and Qualification Records	07/03/2019
		PCR 2269673	10 CFR 50.54(q) Screening and Evaluation Forms, "Joint Information Center (JIC) Relocation and Staff Reorganization" Screen and Evaluation	07/17/2018
		PCR 2277166	10 CFR 50.54(q) Screening Form, "Emergency Plan, Appendix 6 - Correct Typo"	04/22/2019
		PCR 2290125	10 CFR 50.54(q) Screening Form, Emergency Procedures	02/19/2019

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			Update due to NRC Approval of LAR 308 - EAL Scheme Revision - Editorial Changes	
		PCR 2299716	10 CFR 50.54(q) Screening and Evaluation Forms, "Emergency Plan, Section G Revision - Public Information Requirements and Education" Screen and Evaluation	02/05/2019
		PCR 2302439	10 CFR 50.54(q) Screening and Evaluation Forms, "Emergency Plan, Section B Revision to Reflect Reorganization of EOF and JIC" Screen and Evaluation	04/02/2019
		PCR 2310522	10 CFR 50.54(q) Screening and Evaluation Forms, "Emergency Plan, Section B Revision - TSC Staff Reorganization" Screen and Evaluation	05/14/2019
		PCR 2313357	10 CFR 50.54(q) Screening and Evaluation Forms, "EAL Matrix and EAL Technical Bases Document Revisions" Screen and Evaluation	05/14/2019
	Procedures		DAEC Emergency Plan, Section B - Emergency Response Organization	42
			DAEC Emergency Plan, Section B - Emergency Response Organization	43
			DAEC Emergency Plan, Appendix 6 - Definitions	29
			DAEC Emergency Plan, Appendix 6 - Definitions	30
			DAEC Emergency Plan, Section G - Public Education and Information	26
			DAEC Emergency Plan, Section G - Public Education and Information	27
		2310525	10 CFR 50.54(q) Screening and Evaluation Forms, "Emergency Plan, Section B Revision - TSC Staff Reorganization" Screen and Evaluation	05/14/2019
		EP-AA-100-1007	Evaluation of Changes to the Emergency Plan, Supporting Documents and Equipment [10 CFR 50.54(Q)]	8
		PCR 2299718	10 CFR 50.54(q) Screening and Evaluation Forms, "Emergency Plan, Section G Revision - Public Information Requirements and Education" Screen and Evaluation	0
71124.01	Miscellaneous		Radiation Protection Work Plan For HPCI/RCIC Runs	01/10/2019
	Procedures	HPP 3104.03	Radiological Air Sample Collection and Analysis	28

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	Radiation Surveys	Form HP-48	Air Sample Record For Tri-Nuke Filter Removal	10/15/2019
		Form HP-48	Air Sample Record For Reactor Water Clean Up Pump Work	02/18/2019
		Form HP-48	Air Sample Record For High Pressure Coolant Injection Surveillance	10/23/2019
		PDA-M-20170112-2	Surveys For High Pressure Coolant Injection and Torus Rooms	01/12/2017
		PDA-M-20190218-2	Reactor Water Clean Up Pump Removal Surveys	02/18/2019
		PDA-M-20190219-1	Reactor Water Clean Up Pump Removal Surveys	02/19/2019
		PDA-M-20190530-2	Heater Bay Surveys For Camera Installation	05/30/2019
		PDA-M-20190603-7	Heater Bay Surveys For Steam Leak Isolation	06/03/2019
		PDA-M-20191015-1	Refuel Floor Tri-Nuke Filter Removal Surveys	10/15/2019
		PDA-M-20191016-2	Refuel Floor Tri-Nuke Filter Removal Surveys	10/16/2019
		PDA-M-20191023-2	Surveys For Torus Rooms	10/23/2019
		PDA-M-20191023-3	Surveys For High Pressure Coolant Injection Rooms	10/23/2019
	Radiation Work Permits (RWPs)	19-0051	Routine Work and Inspections	01
		19-0112	Refuel Floor Pool Work	01
		19-0600	High Steam Areas At Power	01
	Work Orders	40624340	Sealed Source Leakage Test	07/17/2019
71124.06	Corrective Action Documents	02298709	Kaman 5 Mid-Range Conversion Factor Incorrectly Calculated	01/21/2019
	Procedures	NS790601	Effluent Particulate and Iodine Sampling and Analysis	33
		NS790708	Offsite Effluent Dose Calculations	6
		NS790709	Ground Water Protection Program Mitigation System	4
		PCP 10.1	MIDAS - Offsite Radiation Dose Assessment	10
	Work Orders	40562421	Kaman 5 Calibration	01/03/2019
		40608222	Standby Gas Treatment System Filter Efficiency	02/04/2019

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		40617861	RE 1997: Replacement Detector	08/31/2018
		40626760	Kaman 6 Calibration	10/17/2019
71151	Miscellaneous	Reactor Oversight Process	Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual NRC PI Data Calculation, Review and Approval, 3rd Quarter 2019	0
		Reactor Oversight Process	Residual Heat Removal NRC PI Data Calculation, Review and Approval, 2nd Quarter 2019	0
		Reactor Oversight Process	Cooling Water Support Systems NRC PI Data Calculation, Review and Approval, 1st Quarter 2019	0
		Reactor Oversight Process	Reactor Coolant Systems Specific Activity Samples NRC PI Data Calculation, Review and Approval, 4th Quarter 2018	0
71152	Corrective Action Documents	CR 02308485	Received Multiple Momentary Reactor Building Kaman Alarms	04/02/2019
		CR 02310749	RIM6101B Control Building Radiation Monitor Trouble and 'B' Standby Filter Unit Auto-Start	04/16/2019
	Procedures	PSAP 6.1	Emergency Procedures for Effluent Sample Retrieval	6