



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

February 11, 2022

Mr. David Rhoades
Senior Vice President
Constellation Energy Generation, LLC
President and Chief Nuclear Officer (CNO)
Constellation Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: BYRON STATION – INTEGRATED INSPECTION REPORT 05000454/2021004
AND 05000455/2021004

Dear Mr. Rhoades:

On December 31, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Byron Station. On January 19, 2022, the NRC inspectors discussed the results of this inspection with Mr. J. Kowalski, Site Vice President, 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,

A handwritten signature in dark ink, appearing to read "Hironori Peterson", is located below the word "Sincerely,".

Signed by Peterson, Hironori
on 02/11/22

Hironori Peterson, Chief
Branch 3
Division of Reactor Projects

Docket Nos. 05000454 and 05000455
License Nos. NPF-37 and NPF-66

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV®

Letter to David Rhoades from Hironori Peterson dated February 11, 2022.

SUBJECT: BYRON STATION – INTEGRATED INSPECTION REPORT 05000454/2021004
AND 05000455/2021004

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Numbers: 05000454 and 05000455

License Numbers: NPF-37 and NPF-66

Report Numbers: 05000454/2021004 and 05000455/2021004

Enterprise Identifier: I-2021-004-0070

Licensee: Constellation Energy Generation, LLC

Facility: Byron Station

Location: Byron, IL

Inspection Dates: October 01, 2021 to December 31, 2021

Inspectors: S. Bell, Health Physicist
C. Thompson, Illinois Emergency Management Agency
J. Vera, Senior Resident Inspector
J. Weigandt, Resident Inspector

Approved By: Hironori Peterson, Chief
Branch 3
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 Byron 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	05000454, 05000455/2021004-01	Applicability of Technical Specifications when Opening Emergency Diesel Generator Roll-Up Doors	71111.15	Open

PLANT STATUS

Unit 1 began the inspection period operating at 25 percent power after completion of a refueling outage. The unit was returned to full power on October 5, 2021. With the exception of minor reductions in power to support scheduled testing activities and load changes requested by the transmission dispatcher, the unit remained at or near full power for the rest of the inspection period.

Unit 2 began the inspection period operating at full power. With the exception of minor reductions in power to support scheduled testing activities, the unit remained at or near full power for the entire 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 activities described in IMC 2515, Appendix D, "Plant Status," conducted routine reviews using IP 71152, "Problem Identification and Resolution," observed risk significant activities, and completed on-site portions of IPs. 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.

On February 1, 2022, the operating license for Byron Station held by Exelon Generation Company, LLC was transferred to Constellation Energy Generation, LLC (Constellation) as documented in the associated license amendments ([ML22021B659](#)). While some or all of the inspection documented in this report was performed while the license was held by Exelon Generation Company, LLC, this report will refer to the licensee as Constellation throughout.

REACTOR SAFETY

71111.01 - Adverse Weather Protection

Seasonal Extreme Weather Sample (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated readiness for seasonal extreme weather conditions prior to the onset of seasonal cold temperatures during the week ending November 6, 2021.

External Flooding Sample (IP Section 03.03) (1 Sample)

- (1) The inspectors evaluated that flood protection barriers, mitigation plans, procedures, and equipment are consistent with the licensee's design requirements and risk analysis assumptions for coping with external flooding during the week ending October 30, 2021.

71111.04 - Equipment Alignment

Partial Walkdown Sample (IP Section 03.01) (2 Samples)

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

- (1) Fire Protection system in the Circulating Water Pumphouse (CWPH) during the week ending October 30, 2021
- (2) Unit 2 Essential Service Water (SX) associated with crosstie flushing during the week ending November 25, 2021

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (2 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) Fire Zone (FZ) 8.2-2 North: Unit 1 Turbine, elevation 369' during the week ending October 9, 2021
- (2) FZs 18.12-0 - CWPH and 18.13-0 - 0B Pump; CWPH during the week ending October 30, 2021

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 03.01) (1 Sample)

The inspectors evaluated internal flooding mitigation protections in the:

- (1) Auxiliary Building; 401' and 426' elevations during the week ending December 18, 2021

71111.07A - Heat Sink Performance

Annual Review (IP Section 03.01) (1 Sample)

The inspectors evaluated readiness and performance of:

- (1) Unit 0 Component Cooling (CC) Water Heat Exchanger (HX) during the week ending October 23, 2021

71111.11A - Licensed Operator Requalification Program and Licensed Operator Performance

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

- (1) The inspectors reviewed and evaluated the licensed operator examination failure rates for the requalification annual operating exam administered from October 22, 2021 to November 19, 2021.

71111.11Q - Licensed Operator Regualification 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 licensed operator performance in the control room during various activities by on-watch operations crews. These activities included, but were not limited to:
 - 1A emergency diesel generator (EDG) monthly run and other day shift activities on October 27, 2021
 - Downpower to support turbine throttle and governor valve surveillances on October 30, 2021

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

- (1) The inspectors observed and evaluated licensed operator regualification training in the simulator on October 20 and October 21, 2021.

71111.12 - Maintenance Effectiveness

Maintenance Effectiveness (IP Section 03.01) (2 Samples)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

- (1) Maintenance effectiveness on EDG jacket water coolers during the week ending October 23, 2021
- (2) Motor Driven Fire Pump maintenance as documented in Work Order (WO) 1938029 during the week ending October 30, 2021

71111.13 - Maintenance Risk Assessments and Emergent Work Control

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

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

- (1) 2BISR 3.1.5-2; Unit 2 Response Time Testing Resistance Temperature Detectors as documented in WO 5013686 during the week ending October 16, 2021
- (2) Risk management after lube oil pump failed to stop during 2A auxiliary feedwater (AF) pump post-maintenance testing (PMT) during the week ending November 5, 2021
- (3) 112 Direct Current Bus ground during the week ending November 5, 2021
- (4) Emergent valve work during EDG SX crosstie flush as documented in Action Request (AR) 04462838 during the week ending November 27, 2021
- (5) Risk management during a 1A Safety Injection (SI) Pump work window during the week ending December 4, 2021
- (6) Risk management during an EDG run during the week ending December 4, 2021

71111.15 - Operability Determinations and Functionality Assessments

Operability Determination or Functionality Assessment (IP Section 03.01) (6 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

- (1) Impact of makeup pump on essential service water operability during the week ending October 16, 2021
- (2) Operability of fire protection for Unit 1 containment after failure of valve to open on post-maintenance testing during the week ending October 16, 2021
- (3) Operability of the 1AF050B AF accumulator after failed leakage test during the week ending October 30, 2021
- (4) Silt on FLEX Pipe for SX as documented in AR 04447690 during the week ending October 30, 2021
- (5) 2A EDG troubleshooting and air compressor motor replacement activities during the week ending December 11, 2021
- (6) 1SI8801B did not fully open during Chemical and Volume Control (CV) surveillance as documented in AR 4325926 during the week ending December 18, 2021

71111.18 - Plant Modifications

Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (1 Sample)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Rescale of Reactor Coolant System Loop 2B Delta T/Tave Summing Amplifier Card per Engineering Change (EC) 632514 during the week ending October 23, 2021

71111.19 - Post-Maintenance Testing

Post-Maintenance Test Sample (IP Section 03.01) (5 Samples)

The inspectors evaluated the following post-maintenance test activities to verify system operability and functionality:

- (1) 1B AF PMT during the week ending October 23, 2021
- (2) Bus 213 Inverter 2IP07E Startup and Verify Voltage PMT, as documented in WO 4642985, during the week ending November 5, 2021
- (3) 2A AF Pump PMT, as documented in WO 5041277 and 5041533, during the week ending November 5, 2021
- (4) 1A CC Pump Motor Run PMT, as documented in WO 5000333, during the week ending November 5, 2021
- (5) Motor Driven Fire Pump PMT, as documented in WO 1938029, during the week ending November 5, 2021

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Surveillance Tests (other) (IP Section 03.01) (2 Samples)

- (1) 2B CC pump surveillance during the week ending October 16, 2021
- (2) 1B AF PMT during the week ending October 23, 2021

OTHER ACTIVITIES – BASELINE

71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

BI01: Reactor Coolant System (RCS) Specific Activity Sample (IP Section 02.10) (2 Samples)

- (1) Unit 1 (April 1, 2020 through September 30, 2021)
- (2) Unit 2 (April 1, 2020 through September 30, 2021)

BI02: RCS Leak Rate Sample (IP Section 02.11) (2 Samples)

- (1) Unit 1 (October 1, 2021 through September 30, 2021)
- (2) Unit 2 (October 1, 2021 through September 30, 2021)

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

- (1) October 1, 2020 through September 30, 2021

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) April 1, 2020 through September 30, 2021

71152 - Problem Identification and Resolution (PI&R)

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

- (1) The inspectors reviewed the licensee's corrective action program for potential adverse trends in the adequacy of operator logs that might be indicative of a more significant safety issue.

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) SX water silting issues
- (2) SX supply vault inspection frequency

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

Reporting (IP Section 03.05) (1 Sample)

- (1) The inspectors evaluated event response and reporting requirements related to the wrong unit error resulting in an unexpected discharge of Unit 1 lower cable spreading room CO2 fire suppression, as documented in AR 4467164, during the week ending December 18, 2021.

INSPECTION RESULTS

Unresolved Item (Open)	Applicability of Technical Specifications when Opening Emergency Diesel Generator Roll-Up Doors URI 05000454,05000455/2021004-01	71111.15
<p><u>Description:</u></p> <p>On December 10, 2021, while performing a review of Unit 2 “A” EDG work activities performed under WO 5196347 (check valve and starting air compressor motor replacement), the inspectors noted that as part of the work the licensee opened the 2A EDG roll-up door “0DSSD167.” Records indicated that 0DSSD167 was opened for 8 minutes on the evening of December 9, 2021, and 11 minutes on December 10, 2021, to facilitate movement of a lifting device and air compressor motors during motor replacement.</p> <p>The inspectors reviewed the Final Safety Analysis Report (FSAR) and saw that the EDG roll-up doors are credited equipment for mitigating a postulated design basis event, including steam system piping failure (Reference Tables 15.0-7 and 15.1-2), and High Energy Line Break (HELB) events. Based on this information the inspectors reviewed the associated work to determine how the licensee evaluated the opening of the roll-up doors. The licensee conducted the activities using the prepared Plant Barrier Impairment (PBI) Permit, (PBI # 21-267) and associated evaluation CC-AA-201-F-02, Plant Barrier Impairment Permit Evaluation. The evaluation stated, in part:</p> <p>“An open roll-up door may affect the operability of BOTH trains of EDG because of HELB considerations on the wall separating the two trains of EDGs. BAP 1100-3A3 “Pre-Evaluated Plant Barrier Matrix,” directs entry into Limited Condition of Operation Action Requirement (LCOAR) 1/2BOL 8.1 “AC sources – Operating” for both trains of DG. In lieu of the LCOAR entry, the activity must be planned and conducted to limit the risk to the EDGs. Measures to limit risk include the following:</p> <ol style="list-style-type: none">1. The door is not degraded and is capable of being closed during this activity.2. The plant should not have steam leaks that are considered imminent HELB threats.3. The activity should be planned to ensure the large component and the transport device will fit through the door.4. Personnel shall be ready for transfer of the equipment immediately following opening of the door.5. In addition, both the door and the equipment shall be in continuous attendance to permit the door to be closed expeditiously if adverse plant conditions develop.6. The door will be closed and secured (as required) immediately following the equipment move.		

These actions will ensure that the risk to the EDGs will be minimal such that LCOAR entry is not required during this activity.”

The inspectors reviewed the above information and considered the instantaneous hazards of a HELB event, and questioned whether the identified actions would adequately mitigate the associated risk. The postulated turbine building high energy line break presents a near instantaneous hazard, which may not be reasonably mitigated by the measures listed on the permit or in the evaluation. In addition, the inspectors questioned the reason for not entering the 2-hour Technical Specification (TS) Limited Condition of Operations (LCO) 3.8.1.F for two inoperable EDGs, as the actions taken do not appear to be equivalent to the barrier removed. This interpretation is based on information contained in RIS 2001-09, Control of Hazard Barriers, which clarifies TS applicability with respect to HELB barriers.

The licensee’s position is that as the roll-up doors are being used for their intended purpose of ingress/egress for maintenance purposes, the momentary opening of the door would not require entering the LCO. In addition, they are referencing industry position documented on APC 15-31, “NEI Regulatory Issues Task Force Position Paper Managing Risk and Operability While Opening Doors on Seismically Qualified Cabinets,” as providing basis for their position.

At the end of the inspection period this issue is unresolved, because the inspectors cannot determine whether there is a performance deficiency and will need to consult with the Office of Nuclear Reactor Regulation.

Planned Closure Actions: The inspectors will discuss the information provided during the inspection with the Office of Nuclear Reactor Regulation to determine whether the licensee should have entered the LCO, and whether the mitigative actions were adequate.

Licensee Actions: The licensee is conferring with staff at their other sites to evaluate the consistency and adequacy of current guidance for open barriers.

Corrective Action References: AR 4470117

Observation: Essential Service Water System Vault Inspections Less Frequent than FSAR License Renewal Commitment	71152
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Following a recent pipe repair to an SX pipe, its importance, and likelihood of corrosion, the inspectors reviewed the corrective action program for conditions related to SX corrosion. The review revealed that periodically, conditions are being documented related to water intrusion into an SX supply vault. Examples from 2021 included: AR 4427323, "Corrosion on 0SX138A," and AR 4427323, "Water intrusion Into 0SX138A Valve Pit - New tarp needed from June 3, 2021." Inspectors conducted a review into these items because prior work requests and issue report products have indicated challenges in managing the water intrusion. Many of the issue reports were found to be results of periodic inspections per PMID 100304-02, "LR Remove Valve Pit Plug for 0SX138A & Pump Water from Pit as Required." The NRC's review suggests that SX corrosion conditions are being identified and entered into the corrective action program in a timely, complete, and accurate manner. However, further review into the issue revealed that the vault inspections per PMID 100304-02, were only scheduled with a 144-day periodicity. Current license renewal commitments dictate that the vault inspections be conducted quarterly. (Reference Updated Final Safety Analysis Report Supplement (License Renewal), Revision 019a)

The inspectors questioned licensee staff about the difference and the issue has been documented in AR 4453016, "NRC ID: Preventive Maintenance Frequency for 0SX138A/B Vault Inspections" on October 14, 2021. As a result, the licensee has adjusted the preventative maintenance frequency to quarterly. No findings or violations were identified.

Observation: Inadequate Operating Logs

71152

Inspectors performed a semiannual review to identify trends that might indicate the existence of a more significant safety issue. For their review, the inspectors focused on operating logs and their accuracy. Inspectors reviewed a sampling of quality records of operating logs corresponding to days of activities or equipment status changes, based on the requirements of 10 CFR 50, Appendix B Criterion XVII, "Quality Assurance Records," and licensee procedure OP-AA-111-101 "Operating Narrative Logs and Records," Revision 18. During the review, inspectors identified several instances of activities or equipment status not being included in the Operations logs as required. Some examples include:

- 10/13/2021: Unit 1 output breaker and leading-edge flow monitor issues, which prevented the unit from reaching full power as planned, not logged.
- 11/3/2021: 'D' Essential Water Cooling Tower (SXCT) Fan out of service, fan status not logged.
- 11/19–24/2021: 'G' SXCT Fan out of service, fan status not logged.
- 11/30/2021: Steam Generator blowdown adjustments & water conservation due to Makeup Demin Area Hi/Lo Conductivity sump pump failures, not logged.
- 12/2/2021: CV pumps in-service testing procedure not entered, pump start not noted, testing only noted completed on logs.

The licensee had also identified some instances of inadequate logs during August 2021, which were documented in AR 4442888. The inspectors noted that corrective actions from the August issue appear to not be comprehensive, as ongoing issues with log keeping were still noted during this inspection period. The inspectors determined that the failure to maintain operating logs of activities affecting quality was a performance deficiency. This performance deficiency was determined to be minor, per Inspection Manual Chapter 0612, Appendix B, because it could not reasonably be viewed as a precursor to a significant event, would not have the potential to lead to a more significant safety concern if left uncorrected, and did not affect the cornerstone objectives. The licensee entered this item into their corrective action program under AR 4470113.

Observation: Silt on FLEX Pipe for SX

71152

On September 21, 2021, during replacement of the 1SX311B pipe, the as found inspection revealed that the pipe downstream of isolation valve 1SX310B was completely plugged with 18 to 24 inches of silt. This is the FLEX supply to the SX booster pump for 1B AF cooling.

The licensee determined 1SX310B is normally closed and at a low point in the room, which allows silt to accumulate. Inspectors noted the silt plug could have had a detrimental effect on operation of the downstream booster pump for 1B AF cooling, and that the capability of the booster pump to provide flow was presumed by assuming dissolution of the silt upon use of the connection. Inspectors challenged the licensee's evaluation in determining possible impact to the ability of the pump to function. Inspectors noted that, although the conditions that might render use of FLEX equipment necessary are extreme, the licensee is still bound by the requirements of Order EA-12-049, which requires provisions for mitigation strategies for beyond-design-basis external events.

Inspectors noted that silt accumulations have been a historic, and ongoing, issue in components that use river water. For example, in December 2021, the licensee wrote trend IR 4467316, which included the 1SX311B pipe, as well as the GL 89-13 failures of three oil coolers. In the past, inspectors have noted the high number of failures to meet acceptance criteria for tube blockage under the licensee's Generic Letter (GL) 89-13 program, and that part of the licensee response has been to eliminate heat exchangers that have failed these inspections.

In the case of the pipe downstream of isolation valve 1SX310B, inspectors found that the issue was outside the licensee's ability to foresee and correct. The inspectors did not identify any findings or violations.

EXIT MEETINGS AND DEBRIEFS

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

- On January 19, 2022, the inspectors presented the integrated inspection results to Mr. J. Kowalski, Site Vice President, and other members of the licensee staff.
- On December 1, 2021, the inspectors presented the radiation protection baseline inspection results to Ms. L. Michigan, Chemistry Manager, and other members of the licensee staff.

DOCUMENTS REVIEWED

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.01	Corrective Action Documents Resulting from Inspection	4453272	NRC Identified Drain Issues and Housekeeping	10/15/2021
	Drawings	A-500	River Screen House North & South Elevations	M
		A-504	River Screen House Roof Plan HP EI 716-0	M
		S-423	River Screen House Girt Framing Units 1 & 2	P
	Procedures	0BOSR XFT-A1	Freezing Temperature Equipment Protection SH and Department Support Requirements	20
		0BOSR XFT-A3	Freezing Temperature Equipment Protection Plant Ventilation Systems	17
		0BOSR XFT-A4	Freezing Temperature Equipment Protection Protected Area Buildings Ventilation Systems and Tanks	19
		BOP XFT-1	Cold Weather Operations	11
71111.04	Procedures	2BOSR SX-SA1	Unit 2 Diesel Generator Essential Service Water Crosstie Line Semi-Annual Flush	21
		BOP FP-M1	Fire Protection System Lineup	49
		BOP SX-M2A	Unit 2 Train "A" Essential Service Water System Valve Lineup	11
		BOP SX-M2B	Unit 2 Train "B" Essential Service Water System Valve Lineup	17
	Work Orders	5158204	LR-Unit Two Diesel Generator Essential Service Water Crosstie Flushing	11/22/2021
71111.05	Calculations	BYR98-224	Fire Pumps 0FP03PA and 0FP03PB Recirculation Test Line Hydraulic Characterization	3
	Corrective Action Documents Resulting from Inspection	4451523	Used Oil Carboys Stored in Turbine Building	10/07/2021
		4452797	NRC Identified Housekeeping Issues	10/13/2021
	Fire Plans	FPR 2.3.18.28-29	Circulating Water Pump House Diesel-Driven Fire Pump Cubicles (Fire Zones 18.12-0 & 18.13-0)	29
		OP-AA-201-008	Pre-Fire Plan Manual	4
		PFP CWPB FZ 18.12-0 18.13-0	Pre-Fire Plan Circulating Water Pump House FZ 18.12-0 and 18.13-0 Plan #206	3

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.06	Procedures	MA-AA-716-026	Station Housekeeping/Material Condition Program	19
		OP-AA-201-009	Control of Transient Combustible Material	26
	Calculations	3C8-0787-001	Confirmation of Safe Shutdown Capability After Auxiliary Building Flooding Calculation	0
		3C8-1281-001	Auxiliary Building Flood Level Calculation	12
	Corrective Action Documents	4467496	Floor Drain Blocked	12/19/2021
		4467497	Floor Drain Clogged	12/19/2021
		4467513	Floor Drain Clogged	12/19/2021
	Corrective Action Documents Resulting from Inspection	4464456	NRC ID: 2CV110B Solenoid Electrical Connection Degraded	12/02/2021
	Drawings	3771A06	Section Side View CC Pump	6
		6E-0-3322	Electrical Installation Auxiliary Building Plan	DL
		6E-0-4614A	Elevation 4160V SWGR - Bus CC Pump	C
		6E-0-4615C	Internal-External Wiring Diagram 4160V CC Pump 0 S WGR CUB 3 (0CC01EC)	H
		M-48, Sheet 28	Diagram of Auxiliary Building Leak Detection Sumps Units 1 & 2	C
		M-48, Sheet 6A	Diagram of Waste Disposal Auxiliary Building Floor Drains	AR
		M-48, Sheet 6B	Diagram of Waste Disposal Auxiliary Building Floor Drains	AW
	Miscellaneous	BB Chapter 03 Sec 04	Water Level (Flood) Design	15a
		BB UFSAR Chapter 03 Sec 06	Protection Against Dynamic Effects Associated with the Postulated Break of Piping	18a
		BB UFSAR Chapter 03.06 Attach D	Attachment D Flooding	16a
		BB UFSAR Chapter 9 Section 3	Process Auxiliaries	18c
71111.07A	Work Orders	4994269	LR-Support EDDY Current Testing Concurrent with GL 89-13	10/18/2021
71111.11A	Procedures	TQ-AA-150-F25	LORT Annual Exam Status Report - Byron Generating Station	11/19/2021

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.11Q	Procedures	2BGP 100-4T3	Load Change Instruction Sheet for Power Reduction < 15% in One Hour	22
		2BOSR 3.g.3-1	Unit Two Reheat and Intercept Valve Quarterly Surveillance	23
71111.12	Corrective Action Documents	04271704	1B DG Secured due to Water Overflowing	08/14/2019
		04350758	Contingency Weld Repairs Needed for 2B EDG JW Coolers	06/16/2020
		04388900	Weld Build Up Required for 1A DG Jacket Water Coolers	12/08/2020
		04393165	1A EDG Lower Water Jacket Cooler Refurbishment Required	12/31/2020
		04409886	1A EDG Lower Jacket Water Cooler Requires Refurbishment	03/18/2021
		04419373	1A DG Jacket Water Lower Cooler 1DG01KA Leaking SX	04/27/2021
		04443759	1A EDG Jacket Water Lower Cooler Packed Joint Adjustment	08/31/2021
		04444553	Recordable Indication on 1A EDG Jacket Water VT-2 Exam	09/03/2021
		4438669	0A FP Pump Recirc Valve Broken	08/03/2021
		4458032	0A FP Pp Auto Start Following Surveillance	11/02/2021
	Engineering Changes	EC 623441	DG Closed System Leak Guidance (Lube Oil, Jacket Water, Fuel Oil)	03/26/2020
	Miscellaneous	TRM 3.10.b	3.10.b Fire Suppression Water Supply System (TRM)	121
	Work Orders	5067723	LR-Fire Protection Pump Flow and Pressure Test	11/02/2021
		5067724	Remove Relief Valve to Support OP Surveillance 0BOSR 10.B.12-1	11/02/2021
71111.13	Corrective Action Documents	4457300	High Ground on DC Bus 112	10/31/2021
		AR 04462838	Local Valve Indication	11/23/2021
	Corrective Action Documents Resulting from Inspection	4464173	NRC ID: 1A Diesel Generator Components Shaking	12/01/2021
	Drawings	C14379	Valve Assembly Drawing 218	5
	Procedures	1BOSR 8.1.14-1	1A Diesel Generator 24 Hour Endurance Run and Hot Restart Test	26
		1BOSR SX-SA1	Unit One Diesel Generator Essential Service Water Crosstie Line Semi-Annual Flush	21
		2BISR 3.1.15-2	Unit Two Response Time Testing of Installed RTDS	7
		2BOL DC1 2BOL DC1	LCOAR ESF/Non-ESF Bus DC Grounds	10

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		2BOSR 3.g.3-1	Unit Two Reheat and Intercept Valve Quarterly Surveillance	23
		BAR 1-22-D6	125V DC Bus 112 Ground 7	7
		BAR 1-22-D6		
	Work Orders	05041277	Calibrate Time Delay Relays AF1AX1 and AF1AX2 for 2AF0	11/02/2021
		05157109	LR-Unit One Diesel Generator Essential Service Water Cross	11/22/2021
		1956590-01	EWP EM - Valve Operator Inspection - 1SI8924	11/30/2021
		1956590-02	EWP EM - Valve as Found Diagnostic Testing - 1SI8924	11/29/2021
		4807281	Clean Oil System CUNO Filter	11/30/2021
		4885908-02	EWP MM: 1VA04SA Support GL 89-13 HX Inspection (LR)	11/30/2021
		4940381	Perform Inspection of Motor (1SI01PA-M)	12/01/2021
		4997519	MOV PM, Actuator Stem Lubrication - 1SI8923A	11/30/2021
		5013686-1	Response Time of Installed RTD'S	10/13/2021
71111.15	Calculations	BYR01-068	Environmental Parameters of EQ Zones	2
		BYR12-070	Auxiliary Building Environment Following a High Energy Line Break in the Turbine Building	2
		BYR13-011	Evaluation of Doors Along L-Line Wall at Elev 401 and 426 BYR13-011	1
		BYR13-028	Evaluation of Block Walls 5A-150, 5A-151, 5A-152, 5A-153 in L-Line Wall for Pressure from a HELB in Conjunction with an SSE Seismic Event BYR13-028	0
		EQC-BB-007	Diesel Generator Electrical Component Thermal Endurance Evaluation	2A
	Corrective Action Documents	4256052	Valve Leaks By	06/11/2019
		4325926	1SI8801B Failed to Open Fully	03/11/2020
		4447690	As Found 1SX311B Plugged with Silt	09/21/2021
		4449826	Check Valve 1AF059B Leakage Test Failed	09/30/2021
		4449829	Check Valve 1AF058B Failed Leakage Test	09/30/2021
		4477690	As Found 1SX311B Plugged with Silt	09/21/2021
	Corrective Action Documents Resulting from Inspection	4470110	NRC ID: U1 AF Backup Air System RTS Using Troubleshooter	01/05/2022
		4470117	NRC ID: Question Related to EDG Roll-Up Door Usage	01/05/2022
	Engineering	379685	SGTR Design Analysis and Licensing Basis Changes	0

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
	Changes	391394	Turbine Building High Energy Line Break Design and Licensing Basis	12/17/2013
	Miscellaneous	BB UFSAR Chapter 15.0	Accident Analyses	18a
	Procedures	1BOSR AF-2B	Unit One 1AF005 Train B Accumulator Instrument Air Inlet Line Check Valve Test	6
		BAP 1100-3A3	Pre-Evaluated Plant Barrier Matrix	43
		OP-BY-108-115-1000	Byron Operability Determination Guide	2
	Work Orders	05164599	0SX02PB Comprehensive IST Req for SX Makeup Pump	08/09/2021
		05171381	LR-0BOSR 7.9.6-2, SX Makeup Pump 0B Monthly Operability	08/10/2021
		4448030	AF B-Train IA Accumulator Isolation Valve Needs Repaired	09/22/2021
		4719606	Perform 1BOSR AF-2B	06/18/2019
		4931970	Valve Leaks By 0IA049	09/29/2021
		5102241	Perform 1BOSR AF-2B	10/25/2021
71111.18	Corrective Action Documents	4447633	Signal Comparator for 2B OPDT has Failed	09/20/2021
		4448202	EC 632514, Revision 1 - Tracking Activities	09/23/2021
	Engineering Changes	632514	Unit 2 RCS Loop Delta T Indication Scaling Change for Immediate Implementation if Delta T Indications are not Within+/-2% of Calorimetric Power Following B2R22 (Contingency)	1
	Procedures	2BISR 3.1.7-002	Channel Operation Test of Delta T/Tave Loop 2B Protection Channel II (2RC-0421)	18
		2RC-0421 (TRP)	Delta T and Tave Protection Loop 2B RC	8
		BISR 3.1.10-200	Surveillance Calibration of Delta T and Tave Protection Loop	18
71111.19	Corrective Action Documents	4458032	0A FP Pp Auto Start Following Surveillance	11/02/2021
	Procedures	1BOSR 5.5.8.CC.5-1C	Unit One Comprehensive Inservice Testing (IST) Surveillance Requirements for Component Cooling Pump 1CC01PA	10
		MA-AA-716-012	Post-Maintenance Testing	26
	Work Orders	04642985	WO Needed to Inspect Inverter 2IP07E and Repair as Needed	11/08/2021
		05000333	(NEIL) - Perform 5YR Inspection per 1BHS PM-1	11/08/2021
		05041533	LR-U2 Motor Driven AF Pump - Clean and Inspect Lube Oil C	09/23/2021

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
71111.22	Procedures	1938029-08	OPS PMT -OPS -Perform 0BOSR 10.B.12-1, SEC F.2 0FP03PA Only	11/03/2021
		5034226-23	OPS PMT: Run 1B AF Diesel per BOP AF-7	10/18/2021
		1BOSR 7.5.4-2	Unit One Diesel Driven Auxiliary Feedwater Pump Monthly Surveillance	35
		2BOSR 5.5.8.CC.5-2c	Unit Two Comprehensive Inservice Testing (IST) Surveillance Requirements for Component Cooling Pump 2CC01PB	11
		2BOSR 5.5.8.CC.5-2c	Unit Two Comprehensive Inservice Testing (IST) Surveillance Requirements for Component Cooling Pump 2CC01PB	11
71151	Work Orders	5192571	(NEIL) - 1B AF Pump Surveillance	10/18/2021
	Corrective Action Documents	AR 04392167	Oil Level Checks for 0WX51/52P	12/26/2020
	Miscellaneous		Unit 1 and Unit 2 Reactor Coolant Dose Equivalent Summary Data April 1, 2020 through September 30, 2021	Various
			Personnel Exposure Data Fall Outage 2021	Various
			Gaseous and Liquid Effluent Radioactive Dose Summary Reports, Second Quarter 2020 through Third Quarter 2021	Various
	Procedures	BVP 800-30	Essential Service Water Fouling Monitoring Program	18
		CY-AA-130-3010	Dose Equivalent Iodine Determination	6
	Radiation Surveys		Unit 2 Reactor Coolant Sample Gamma Spectroscopy Analysis	11/17/2021
71152	Corrective Action Documents	4446314	1SX168 Fail Open Test Failed	09/14/2021
		4447170	B1R24 Expanded Scope on 1SX168	09/17/2021
	Corrective Action Documents Resulting from Inspection	4452800	NRC Identified Minor Oil Leak 2SX143B	10/13/2021
		4452804	NRC Identified Issue 2CS043A Dried Caustic	10/13/2021
		4453016	NRC ID: PM Frequency for 0SX138A/B Vault Inspections	10/14/2021
		4453268	NRC Observations Discussed at 3Q21 Exit Meeting	10/15/2021
		4454784	Learnings from NRC Status Meeting	10/22/2021
		4454933	NRC Identified: Small Packing Leak from 2HD002C	10/22/2021
		4456932	NRC ID: Loose Bolt on 0DSD325	10/29/2021
		4456933	NRC ID: Residual Oil around 1A DG Woodward Governor	10/29/2021
		4456935	NRC ID: 1PY-DG8034B is Puffing	10/29/2021
		4459965	NRC ID: SX Tower Door D629 Not Operating Correctly Again	11/10/2021

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		4460646	NRC Challenge of SI Accumulator Setpoints	11/13/2021
		4464501	NRC ID: 2HD035B Packing Leak	12/03/2021
		4464524	NRC Identified PI&R Concerns with 0FP775A MRule and Testing	12/03/2021
		4470113	NRC ID: Operator Logs Missing Some Entries Required by Proc	01/05/2022
	Drawings	M-900 sh. 7	Outdoor Piping Essential Service Water at Cooling Tower	AN
		M-900 sh. 9	Outdoor Piping Section Essential Service Water at Cooling Tower	V
	Miscellaneous	PMID 100304-02	LR Remove Vlv Pit Plug for 0SX138A & PP Wtr from Pit as Required	01/14/2016
		UFSAR 9.2.1.2	Essential Service Water System	16
	Procedures	ER-AA-340	GL 89-13 Program Implementing Procedure	10
		ER-AA-5400-1001	Raw Water Piping Integrity Management Guide	11
	Work Orders	5159318	Water Intrusion Into 0SX138A Valve Pit - New Tarp Needed	11/03/2021
		5166970	LR Remove VLV Pit Plug for 0SX138A & PP WTR from Pit as Required	11/03/2021
71153	Corrective Action Documents	4467164	CO2 Storage Tank Trouble Alarm	12/16/2021
		4467274	Plant Page is not Audible in Some Areas in the Aux Bldg	12/17/2021
	Procedures	LS-AA-1110	Safety Reportability Manual	31