Exelon Generation®

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March 11, 2015

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United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Byron Station, Unit 1
Facility Operating License No. NPF-37
NRC Docket No. STN 50-454

Subject: Licensee Event Report (LER) 454-2015-001-00, "Byron Unit 1, Inadequate Application of Technical Specifications Related to Main Steam Isolation Valves and Actuator Trains"

Enclosed is Byron Station Licensee Event Report (LER) No. 454-2015-001-00 regarding previous occurrences in the prior three years when a Main Steam Isolation Valve actuator train was inoperable and the inoperable train was not restored within the required Technical Specification 3.7.2, Condition A, 8 hour Completion Time. This condition is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B) for any operation or condition which is prohibited by the plant's Technical Specifications.

There are no regulatory commitments in this report.

Should you have any questions concerning this submittal, please contact Mr. Douglas Spitzer, Regulatory Assurance Manager, at (815) 406-2800.

Respectfully,

Faber A. Kearney
Site Vice President
Byron Generating Station

FAK/GC/sg

Enclosure: LER 454-2015-001-00

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Byron Generating Station

NRC FORM 366 (02-2014) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 01/31/2017

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

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4. TITLE

Byron Unit 1, Inadequate Application of Technical Specifications Related to Main Steam Isolation Valves and Actuator Trains.

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
01	11	2015	2015	- 001	- 00	03	11	2015	Byron Station, Unit 2	05000455
									FACILITY NAME: N/A	DOCKET NUMBER: N/A

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*			
1	☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)
	☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
	☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
	☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
10. POWER LEVEL	☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
100	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER
	☐ 20.2203(a)(2)(vi)	☒ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT	TELEPHONE NUMBER *(Include Area Code)*
Douglas Spitzer – Manager, Byron Regulatory Assurance	(815) 406-2800

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

14. SUPPLEMENTAL REPORT EXPECTED	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO				

ABSTRACT *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

On January 11, 2015, at 2055 hours, Byron Station Unit 2 entered Technical Specification (TS) 3.7.2, "Main Steam Isolation Valves (MSIVs)," Condition A, with an associated 8 hour Completion Time for the Unit 2, Train 'A' MSIV due to one of the associated redundant actuator trains being inoperable. This action was consistent with an October 19, 2006 NRC staff interpretation that Surveillance Requirement 3.7.2.2 requires both actuator trains for a single valve to be tested and an MSIV shall be declared inoperable when one of its associated actuator trains is inoperable. A subsequent Byron Station extent of condition review identified two previous occurrences in the prior three years when an actuator train for an MSIV was inoperable and the inoperable train was not restored within the required 8 hour Completion Time. In these instances, TS requirements of 3.7.2 were inadequately applied and should have been imposed. This event is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B) for any operation or condition which is prohibited by the plant's Technical Specifications.

The cause of the event was a departure from Byron Station's previous practice to one that was based on the October 19, 2006 NRC position in regard to entering TS 3.7.2, Condition A, under similar conditions. Corrective actions included communicating to operating crews, revising procedures and implementation of new TS for MSIVs.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

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NARRATIVE

A. Plant Condition Prior to Event

Event Date/Time: January 11, 2015 / 2055 hours CST
Unit 1 - Mode 1 – Mode 1 Power 100 percent
Unit 2 - Mode 1 – Mode 1 Power 100 percent

Reactor Coolant System [AB]: Normal operating temperature and pressure. There was no inoperable equipment that contributed to this event.

B. Description of Event

On January 11, 2015, at 2055 hours, the Byron Station Unit 2, Train 'A' (2A), Main Steam Isolation Valve (MSIV) was declared inoperable due to the inoperability of one of the associated redundant actuator trains. Byron Station Operations immediately entered Technical Specification (TS) 3.7.2, "Main Steam Isolation Valves (MSIVs)," Condition A, which requires that with one MSIV inoperable in Mode 1, restore the MSIV to Operable status within 8 hours. If the inoperable MSIV is not restored to Operable status, Condition B must be entered. Condition B requires that the unit be placed in Mode 2 within 6 hours. Byron Station successfully restored the inoperable MSIV to Operable status prior to the expiration of the TS 3.7.2, Condition A, 8 hour Completion Time.

On January 13, 2015 a Byron Station system engineer initiated Issue Report (IR) 2436822 to document that declaring a MSIV inoperable due to a condition that affects only one accumulator/hydraulic train may not have been performed in the recent past. The IR referenced a specific prior occurrence on June 30, 2014 associated with the 2A MSIV Accumulator (reference IR 1676838). This IR prompted a Byron Station action to review for extent of condition for a period of three years back from January 11, 2015.

The extent of condition review identified two occurrences at Byron Station in the prior three years where an accumulator/hydraulic train for an MSIV was inoperable and the inoperable train was not restored within the 8 hour Completion Time required by TS 3.7.2, Condition A. These occurrences are noted as follows:

1. June 30, 2014: Byron Station Unit 2, "Nitrogen leakage from 2A MSIV Standby Accumulator " (reference IR 1676838). During System trending, an engineer observed a minor and longer term decrease in 2A MSIV standby pressure when compared with the Active Train accumulator pressure. Follow-up determined a nitrogen leak of unknown quantity, but the accumulator nitrogen pre-charge was low and, therefore, the accumulator was inoperable. The accumulator was restored to Operable status on July 3, 2015. This restoration time exceeded the 8 hour completion time of TS 3.7.2, Condition A.

2. September 25, 2013: Byron Station Unit 1, " 1B MSIV Has No Oil Level in Sight Glass" " (reference IR 1563273). Operations identified that the 1B MSIV had no oil level visible in the oil sight glass. The 1B MSIV active side accumulator had a nitrogen pre-charge check performed under Work Order 01083671 on September 27, 2013. The pre-charge check found the active side accumulator pre-charge was lower than allowed. Proper pre-charge was established and the accumulator restored on September 30, 2015. This restoration time exceeded the 8 hour completion time of TS 3.7.2, Condition A

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NARRATIVE

This event is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B) for any operation or condition which is prohibited by the plant's Technical Specifications due to TS 3.7.2 Condition A Required Action not being completed within the Completion Time.

The January 11, 2015 entry into Byron TS 3.7.2, Condition A was predicated on industry experience and an NRC staff interpretation that Surveillance Requirement 3.7.2.2 requires both actuator trains for a single valve to be tested. (Reference NRC Memorandum, "Operability Determination for the Callaway Plant Technical Specifications Requirements When One Main Steam Isolation Valve Actuator Train is Removed from Service," dated October 19, 2006 (ADAMS Accession Number ML061730396).

On the event date, Byron TS 3.7.2 did not specifically address or reflect the two independent actuator trains for one MSIV. Inoperability of one of the two actuator trains associated with an MSIV does not by itself make the valve incapable of closing since the remaining Operable actuator train can alone effect valve closure on demand. The NRC staff interpretation results in declaring an MSIV inoperable for those plants with dual MSIV actuator trains when one actuator train is inoperable. The existing Completion time for an inoperable MSIV does not typically provide a reasonable amount of time to effect repairs to one inoperable actuator train. Declaring an MSIV inoperable and having to enter the Condition(s) and Required Action(s) for an MSIV inoperable due only to one inoperable actuator train is unnecessarily restrictive. To address this condition, Byron Station had previously submitted a License Amendment Request (LAR) on August 21, 2013 (ADAMS Accession Number ML13235A095) to incorporate requirements specifically for the MSIV actuator trains within TS 3.7.2 such that the specification would include Conditions and Required Actions to address inoperable MSIV actuator trains. This LAR was approved by the NRC for Byron Station on January 30, 2015.

C. Cause of Event

The cause of the event was a departure from Byron Station's previous practice to one that was based on the October 19, 2006 NRC position in regard to entering TS 3.7.2, Condition A, under similar conditions. The previous practice was based on the following factors:

1. The original TS did not explicitly address the MSIV actuator trains.
2. The redundancy in the MSIV actuator design permits an MSIV to close on demand, with one actuator train unavailable.

D. Safety Significance

This event is not considered an event or condition that could have prevented fulfillment of a safety function.

The Byron events of June 30, 2014 and September 25, 2013 document a single actuator train as inoperable for three days and five days respectively. The probabilistic risk analysis (PRA) used to validate the acceptability of the 7 day allowed Completion Time for the NRC approved Byron LAR bounds these events

E. Corrective Actions

Byron Operations communicated the MSIV operability position to operating crews on January 12, 2015.

Byron Station had previously submitted a LAR on August 21, 2013 to incorporate Conditions and Required Actions to address inoperable MSIV actuator trains within TS 3.7.2. This LAR was approved by the NRC for Byron Station on January 30, 2015. Byron implemented the new TS on February 2, 2015. Operating procedures for the TS change have been approved and implemented.

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CONTINUATION SHEET

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NARRATIVE

F. Previous Occurrences

No previous similar events are known.