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March 23, 2018

U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

ATTENTION: Document Control Desk

SUBJECT: R.E. Ginna Nuclear Power Plant
Renewed Facility Operating License No. DPR-18
Docket No. 50-244

LER 2017-001, During Surveillance Testing, Lift Pressure Setpoints on Three Main Steam Safety Valves Found Outside Technical Specifications Limits Due to Stiction.

The attached Licensee Event Report (LER) 2017-001 is submitted under the provisions of NUREG-1022, Event Reporting Guidelines. There are no new commitments contained in this submittal. This submittal is for revision 1 of the LER.

Should you have any questions regarding this submittal, please contact Kyle Garnish at 315-791-5321.

Sincerely,

Paul Swift,
Ginna Plant Manager

PS/ejf

Attachment: LER 2017-001-01

cc: NRC Regional Administrator, Region I
NRC Project Manager, Ginna
NRC Resident Inspector, Ginna

IE22
NRR

Attachment

LER 2017-001-01

NRC FORM 366 (04-2017) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 03/31/2020

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 Information Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by 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)

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

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4. TITLE

During Surveillance Testing, Lift Pressure Setpoints on Three Main Steam Safety Valves Found Outside Technical Specifications Limits Due to Narrowness of As-Found Acceptance Band.

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
04	23	2017	2017	- 001	- 01	03	23	2018		05000
									FACILITY NAME	DOCKET NUMBER
										05000

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)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
	☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
	☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
	☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
10. POWER LEVEL	☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(C)	☐ 73.77(a)(1)
088	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(D)	☐ 73.77(a)(2)(i)
	☐ 20.2203(a)(2)(vi)	☑ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(vii)	☐ 73.77(a)(2)(ii)
		☐ 50.73(a)(2)(i)(C)	☐ OTHER Specify in Abstract below or in NRC Form 366A	

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT	TELEPHONE NUMBER *(Include Area Code)*
Kyle Garnish, Regulatory Assurance Manager	(315) 791-5321

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
X	SB	RV	C710	Y					

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 April 23, 2017, with the plant in Mode 1, during in-place testing of main steam safety valve (MSSV) 3509, the as-found lift pressure did not meet the acceptance criteria of +1% / -3% of setpoint (1140 psig), required by Technical Specifications (TS) surveillance SR 3.7.1.1. This was the second unsatisfactory MSSV as-found lift pressure, as MSSV 3508 had failed to meet the same as-found acceptance criteria during earlier in-place sequential testing (on April 21, 2017). Later, on May 5, 2017, a third MSSV (3512) tested at a vendor's facility failed to meet the same as-found acceptance criteria. (All three of the MSSVs have the same manufacturer and model number.) The most probable cause of exceeding the MSSV upper acceptance limit is the programmatic issue of the narrowness of the as-found acceptance band. A contributing cause was minor stiction on the disc. The as-found settings of all three MSSVs remained within analytical bounds; therefore, operation of the facility in this condition had no impact on the health and safety of the public.

TS LCO 3.7.1, "Main Steam Safety Valves (MSSVs)," requires eight MSSVs to be operable in Modes 1, 2, and 3. Since the acceptance band is fixed and the stiction affecting the three lift pressures may have occurred over a period of time, it is assumed that at least one required MSSV was not operable in the past for a time greater than allowed. Therefore, this occurrence is considered reportable per 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by the plant's TS.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

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		YEAR	SEQUENTIAL NUMBER	REV NO.
R. E. Ginna Nuclear Power Plant	05000- 244	2017	- 001	- 01

NARRATIVE

I. PRE-EVENT PLANT CONDITIONS:

At the time the condition was identified, the plant was in Mode 1 at approximately 88% rated thermal power.

II. DESCRIPTION OF EVENT:

A. EVENT:

On April 23, 2017, with the plant in Mode 1, during in-place testing of main steam safety valve (MSSV) 3509, the as-found lift pressure did not meet the acceptance criteria of +1% / -3% of setpoint (1140 psig), required by Technical Specifications (TS) surveillance SR 3.7.1.1. The initial as-found lift pressure for MSSV 3509 was at +1.2% of setpoint. This was the second unsatisfactory MSSV as-found lift pressure, as MSSV 3508 had failed to meet the same as-found acceptance criteria during earlier in-place sequential testing (on April 21, 2017), with an initial as-found lift pressure at +1.3% of setpoint. Subsequently, the testing scope was expanded to all eight MSSVs. Of the other six valves, MSSV 3512 tested at +1.1% of setpoint; the other five valves tested within range.

TS LCO 3.7.1 requires eight MSSVs to be operable in Modes 1, 2, and 3. Testing of MSSVs is performed one valve at a time, with each valve adjusted if necessary and returned to operable status before proceeding with the testing of another valve. In this manner, a maximum of one valve is known to be inoperable at any time during testing. However, since the acceptance band is fixed and the stiction affecting the three lift pressures may have occurred over a period of time, it is assumed that at least one required MSSV was not operable in the past for a time greater than allowed. Therefore, this occurrence is considered reportable in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by the plant's TS.

B. INOPERABLE STRUCTURES, COMPONENTS, OR SYSTEMS THAT CONTRIBUTED TO THE EVENT:

None

C. DATES AND APPROXIMATE TIMES OF MAJOR OCCURENCES:

- April 21, 2017, 0800 EDST: MSSV 3508 removed from service for lift setpoint testing and returned to service following adjustment. Lift pressure found outside +1% / -3% of setpoint (at +1.3%).
- April 23, 2017, 0630 EDST: MSSV 3509 removed from service for lift setpoint testing and returned to service following adjustment. Lift pressure found outside +1% / -3% of setpoint (at +1.2%).
- May 5, 2017, 1100 EDST: MSSV 3512 tested for lift setpoint at a vendor's facility. Lift pressure found outside +1% / -3% of setpoint (at +1.1%).

D. OTHER SYSTEMS OR SECONDARY FUNCTIONS AFFECTED:

None

E. METHOD OF DISCOVERY:

Review of test data associated with as-found setpoint testing.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

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NARRATIVE

F. SAFETY SYSTEM RESPONSES:

No safety systems were actuated.

III. CAUSE OF EVENT:

The most probable cause of the MSSVs' as-found lift pressures being outside +1% / -3% of setpoint is the programmatic issue of the narrowness of the as-found acceptance band. A contributing cause was minor stiction in the disc. Note that all the Ginna MSSVs were upgraded in 2009/2012 to Inconel 618 flexi-discs and 316SS nozzles, so corrosion of these sub-components (a contributor to some MSSV failures) is insignificant.

IV. ASSESSMENT OF THE SAFETY CONSEQUENCES OF THE EVENT:

This event is reportable in accordance with 10 CFR 50.73, Licensee Event Report System, item (a)(2)(i)(B), which requires a report of, "Any operation or condition which was prohibited by the plant's Technical Specifications."

The operability of the MSSVs ensures that the secondary system pressure will be limited to within 110% of its design pressure of 1140 psig during the most severe anticipated system operational transient. The as-found condition of the MSSVs was compared to the current overpressure analysis prepared in support of extended power uprate, and it was concluded that the analysis remained bounding. As such, the applicable acceptance criteria for design basis events would have been met, and the MSSVs remained capable of performing their intended safety function.

The as-found settings of all three MSSVs remained within analytical bounds; therefore, this event had no impact on the health and safety of the public.

V. CORRECTIVE ACTIONS:

A. ACTION TAKEN TO RETURN AFFECTED SYSTEMS TO PRE-EVENT NORMAL STATUS:

All three MSSVs (3508, 3509, and 3512) found outside the acceptance criteria of +1% / -3% of their required setpoints were adjusted to within +/- 1% of setpoint.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

• Complete the Engineering Change Package (ECP) in support of expanding the as-found Technical Specification limit of (+1% / -3%) to (+3% / -3%) for the last-3-to-open MSSVs on each steam header (total of 6 MSSVs). This will alleviate the programmatic issue of insufficient margin between the TS acceptance criteria and the acceptable as-left acceptance criteria. Also, this action will accommodate possible set-pressure drift related to stiction.

• Evaluate changing the test frequency from 5 years to 3 years. This will prevent the formation of micro-fouling and reduce the likelihood of stiction.

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NARRATIVE

VI. ADDITIONAL INFORMATION:

A. FAILED COMPONENTS:

No other structures, systems, or components failed as result of this event.

B. PREVIOUS LERs ON SIMILAR EVENTS:

A Ginna LER event historical search was conducted which yielded the following results:
• LER 2006-007, Rev. 1, Main Steam Safety Valve Setpoint Exceedance

C. THE ENERGY INDUSTRY IDENTIFICATION SYSTEM (EIIS) COMPONENT FUNCTION IDENTIFIER AND SYSTEM NAME OF EACH COMPONENT OR SYSTEM REFERRED TO IN THIS LER:

	COMPONENT	IEEE 803 FUNCTION NUMBER	IEEE 805 SYSTEM IDENTIFICATION
3508	Valve, Relief	RV	SB
3509	Valve, Relief	RV	SB
3512	Valve, Relief	RV	SB

Note that all three relief valves were made by the same manufacturer and are the same model number.