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DEC 20 2017

Docket No.: 50-364

NL-17-2109

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Joseph M. Farley Nuclear Plant – Unit 2
Licensee Event Report 2017-003-00
Pressurizer Safety Valve Lift Pressure Outside of
Technical Specifications Limits

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(i)(B), Southern Nuclear Company is submitting the enclosed Licensee Event Report for Unit 2.

This letter contains no NRC commitments. If you have any questions regarding this submittal, please contact Mandy Ludlam at (334) 814-4930.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Dennis R. Madison".

D.R. Madison
Vice President - Farley

DRM/mml/cbg

Enclosure: Unit 2 Licensee Event Report 2017-003-00

Cc: Regional Administrator, Region II
NRR Project Manager – Farley Nuclear Plant
Senior Resident Inspector – Farley Nuclear Plant
RTYPE: CFA04.054

Enclosure

Joseph M. Farley Nuclear Plant

Unit 2 Licensee Event Report 2017-003-00

**Pressurizer Safety Valve Lift Pressure Outside of
Technical Specifications Limits**

**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/>)

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, NEOF-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.

1. FACILITY NAME

Joseph M. Farley Nuclear Plant, Unit 2

2. DOCKET NUMBER

05000 364

3. PAGE

1 OF 2

4. TITLE

Pressurizer Safety Valve Lift Pressure Outside of Technical Specifications Limits

| 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 | | |
| 10 | 31 | 2017 | 2017 | 003 | 00 | 12 | 20 | 2017 | FACILITY NAME | DOCKET NUMBER | | |
| | | | | | | | | | | 05000 | | |
| 9. OPERATING MODE | | | 11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) | | | | | | | | | |
| 6 | | | <input type="checkbox"/> 20.2201(b) | | | <input type="checkbox"/> 20.2203(a)(3)(i) | | | <input type="checkbox"/> 50.73(a)(2)(ii)(A) | | <input type="checkbox"/> 50.73(a)(2)(viii)(A) | |
| | | | <input type="checkbox"/> 20.2201(d) | | | <input type="checkbox"/> 20.2203(a)(3)(ii) | | | <input type="checkbox"/> 50.73(a)(2)(ii)(B) | | <input type="checkbox"/> 50.73(a)(2)(viii)(B) | |
| | | | <input type="checkbox"/> 20.2203(a)(1) | | | <input type="checkbox"/> 20.2203(a)(4) | | | <input type="checkbox"/> 50.73(a)(2)(iii) | | <input type="checkbox"/> 50.73(a)(2)(ix)(A) | |
| | | | <input type="checkbox"/> 20.2203(a)(2)(i) | | | <input type="checkbox"/> 50.36(c)(1)(i)(A) | | | <input type="checkbox"/> 50.73(a)(2)(iv)(A) | | <input type="checkbox"/> 50.73(a)(2)(x) | |
| 10. POWER LEVEL 000 | | | <input type="checkbox"/> 20.2203(a)(2)(ii) | | | <input type="checkbox"/> 50.36(c)(1)(ii)(A) | | | <input type="checkbox"/> 50.73(a)(2)(v)(A) | | <input type="checkbox"/> 73.71(a)(4) | |
| | | | <input type="checkbox"/> 20.2203(a)(2)(iii) | | | <input type="checkbox"/> 50.36(c)(2) | | | <input type="checkbox"/> 50.73(a)(2)(v)(B) | | <input type="checkbox"/> 73.71(a)(5) | |
| | | | <input type="checkbox"/> 20.2203(a)(2)(iv) | | | <input type="checkbox"/> 50.46(a)(3)(ii) | | | <input type="checkbox"/> 50.73(a)(2)(v)(C) | | <input type="checkbox"/> 73.77(a)(1) | |
| | | | <input type="checkbox"/> 20.2203(a)(2)(v) | | | <input type="checkbox"/> 50.73(a)(2)(i)(A) | | | <input type="checkbox"/> 50.73(a)(2)(v)(D) | | <input type="checkbox"/> 73.77(a)(2)(i) | |
| | | | <input type="checkbox"/> 20.2203(a)(2)(vi) | | | <input checked="" type="checkbox"/> 50.73(a)(2)(i)(B) | | | <input type="checkbox"/> 50.73(a)(2)(vii) | | <input type="checkbox"/> 73.77(a)(2)(ii) | |
| | | | <input type="checkbox"/> 50.73(a)(2)(i)(C) | | | <input type="checkbox"/> OTHER | | | Specify in Abstract below or in NRC Form 366A | | | |

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT

Mandy Ludlam, Licensing Engineer

TELEPHONE NUMBER (Include Area Code)

(334) 814-4930

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 |
|-------|--------|-----------|---------------|--------------------|-------|--------|-----------|---------------|--------------------|
| E | AB | RV | C710 | Y | | | | | |

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

| MONTH | DAY | YEAR |
|-------|-----|------|
| | | |

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

On October 31, 2017, while in Mode 6 at 0% power level, it was discovered that a Unit 2 pressurizer safety valve (PSV), which had been removed during the October 2017 refueling outage (2R25) and shipped offsite for testing, failed its as-found lift pressure test. The PSV lifted below the Technical Specification (TS) 3.4.10 allowable lift setting value. Setpoint drift of the PSV is the most likely cause of the failure.

It is likely that the PSV was outside of the TS limits longer than allowed by the Required Action Statement (15 minutes) during the previous operating cycle in all applicable modes of operation. Therefore, this condition is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by TS.

The PSV was replaced during the October 2017 refueling outage.

**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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| 1. FACILITY NAME | 2. DOCKET NUMBER | 3. LER NUMBER | | |
|--|------------------|---------------|-------------------|---------|
| | | YEAR | SEQUENTIAL NUMBER | REV NO. |
| Joseph M. Farley Nuclear Plant, Unit 2 | 05000- 364 | 2017 | 003 | 00 |

NARRATIVE**EVENT DESCRIPTION:**

During the Unit 2 October 2017 refueling outage (2R25), while in Mode 6 and at 0% power level, with the Reactor Coolant System (RCS) at atmospheric pressure and 83 degrees Fahrenheit, a pressurizer safety valve (PSV) was removed as part of the routine In-Service Testing (IST) program and sent to an off-site testing facility. The as-found lift pressure was discovered to be 2455 psig which was outside of the Technical Specification (TS) 3.4.10 allowable lift pressure settings of ≥ 2460 psig and ≤ 2510 psig. The tested valve was in the ASME code acceptance band of $\pm 3\%$ (2411-2559 psig). Based on the lift pressure meeting the IST Program (ASME code) monitored requirements, there was no IST scope expansion for the PSV.

EVENT ANALYSIS:

During the previous cycle, indications of seat leakage from this PSV was evidenced by tailpipe temperature indication. Based on review of trends, during the 18-month cycle the tailpipe temperatures were between the minimum and maximum values, 75 and 130 degrees respectively. Additionally, leakage past the seat was identified during testing at the off-site facility. The cause of the valve removed from PSV location lifting low at 2455 psig is setpoint drift which resulted in the seat leakage.

REPORTABILITY AND SAFETY ASSESSMENT:

This failure constitutes a condition that is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B), "Any operation or condition which was prohibited by the plant's Technical Specifications." Although seat leakage was identified while online in June of 2016 there is no firm evidence of when the failure to meet the lift setting requirements occurred prior to the time of discovery at the test facility. The setpoint could have drifted below the allowable value at any time between startup from the previous refueling outage (2R24) and the time of discovery.

Since the as-found lift setpoint was lower than the allowed value in the TS, the condition did not have an adverse impact on its over-pressurization function. The as-found lift pressure was 2455 psig, and the valve re-closed following the lift. This is within the safety analysis assumptions that are credited for PSVs, and the plant remained bounded by the accident analyses in the Final Safety Analysis Report (FSAR). Therefore, this condition had no significant effect on the health and safety of the public.

CORRECTIVE ACTIONS:

The PSV was replaced during the October 2017 refueling outage. The as-left setpoints were within $\pm 1\%$ tolerance.

PREVIOUS SIMILAR EVENTS:

Similar events were reported for Unit 1 in LER 2015-004-00 and LER 2016-003-00. For the 2015 LER, there had been indication of seat leakage during the previous operating cycle based on elevated tailpipe temperatures.

OTHER SYSTEMS AFFECTED:

No other systems were affected by this event.