February 13, 2024
L-2024-017
10 CFR 50.73

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Re: St. Lucie Unit 2
Docket No. 50-389
Reportable Event: 2024-01-00
Date of Event: December 15, 2023

Safety Injection Tank Vent Through Wall Leakage

The attached Licensee Event Report, 2024-01, is being submitted pursuant to the requirements of 10 CFR 50.73 to provide notification of the subject event.

Should you have any questions regarding this submission, please contact Mr. Kenneth Mack, Fleet Licensing Manager, at 561-904-3635.

This letter contains no new or modified regulatory commitments.

Sincerely,

for

Dianne Strand
General Manager, Regulatory Affairs
Florida Power & Light Company

Attachment

cc: St. Lucie NRC Senior Resident Inspector
St. Lucie Station NRC Program Manager

NRC FORM 366 (10-01-2023) | U.S. NUCLEAR REGULATORY COMMISSION | APPROVED BY OMB: NO. 3150-0104 | EXPIRES: 03/31/2024

# 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/)



| 1. Facility Name | | 2. Docket Number | 3. Page |
|---|---|---|---|
| St. Lucie Unit 2 | ☒ 050 ☐ 052 | 00389 | 1 OF 2 |

**4. Title**

Safety Injection Tank Vent Line Through Wall Leakage

| 5. Event Date | | | 6. LER Number | | | 7. Report Date | | | 8. Other Facilities Involved | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Month | Day | Year | Year | Sequential Number | Revision No. | Month | Day | Year | Facility Name | ☐ 050 | Docket Number |
| 12 | 15 | 2024 | 2024 | - 01 - | 0 | 02 | 13 | 2024 | Facility Name | ☐ 052 | Docket Number |

| 9. Operating Mode | 10. Power Level |
|---|---|
| 3 | 0 |

**11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: *(Check all that apply)***

| | | | | | |
|---|---|---|---|---|---|
| **10 CFR Part 20** | ☐ 20.2203(a)(2)(vi) | **10 CFR Part 50** | ☑ 50.73(a)(2)(ii)(A) | ☐ 50.73(a)(2)(viii)(A) | ☐ 73.1200(a) |
| ☐ 20.2201(b) | ☐ 20.2203(a)(3)(i) | ☐ 50.36(c)(1)(i)(A) | ☐ 50.73(a)(2)(ii)(B) | ☐ 50.73(a)(2)(viii)(B) | ☐ 73.1200(b) |
| ☐ 20.2201(d) | ☐ 20.2203(a)(3)(ii) | ☐ 50.36(c)(1)(ii)(A) | ☐ 50.73(a)(2)(iii) | ☐ 50.73(a)(2)(ix)(A) | ☐ 73.1200(c) |
| ☐ 20.2203(a)(1) | ☐ 20.2203(a)(4) | ☐ 50.36(c)(2) | ☐ 50.73(a)(2)(iv)(A) | ☐ 50.73(a)(2)(x) | ☐ 73.1200(d) |
| ☐ 20.2203(a)(2)(i) | **10 CFR Part 21** | ☐ 50.46(a)(3)(ii) | ☐ 50.73(a)(2)(v)(A) | **10 CFR Part 73** | ☐ 73.1200(e) |
| ☐ 20.2203(a)(2)(ii) | ☐ 21.2(c) | ☐ 50.69(g) | ☐ 50.73(a)(2)(v)(B) | ☐ 73.77(a)(1) | ☐ 73.1200(f) |
| ☐ 20.2203(a)(2)(iii) | | ☐ 50.73(a)(2)(i)(A) | ☐ 50.73(a)(2)(v)(C) | ☐ 73.77(a)(2)(i) | ☐ 73.1200(g) |
| ☐ 20.2203(a)(2)(iv) | | ☐ 50.73(a)(2)(i)(B) | ☐ 50.73(a)(2)(v)(D) | ☐ 73.77(a)(2)(ii) | ☐ 73.1200(h) |
| ☐ 20.2203(a)(2)(v) | | ☐ 50.73(a)(2)(i)(C) | ☐ 50.73(a)(2)(vii) | | |

☐ **OTHER** (Specify here, in abstract, or NRC 366A).

**12. Licensee Contact for this LER**

| Licensee Contact | Phone Number (Include area code) |
|---|---|
| Bob Murrell, Licensing Engineer | 319-651-9496 |

**13. Complete One Line for each Component Failure Described in this Report**

| Cause | System | Component | Manufacturer | Reportable to IRIS | | Cause | System | Component | Manufacturer | Reportable to IRIS |
|---|---|---|---|---|---|---|---|---|---|---|
| B | BQ | PSF | NA | Y | | | | | | |

| 14. Supplemental Report Expected | | 15. Expected Submission Date | Month | Day | Year |
|---|---|---|---|---|---|
| ☑ No | ☐ Yes (If yes, complete 15. Expected Submission Date) | | | | |

**16. Abstract** (Limit to 1326 spaces, i.e., approximately 13 single-spaced typewritten lines)

On December 15, 2023, while in Mode 3, it was determined that the Reactor Coolant Pressure Boundary (RCPB) had a through wall flaw with Safety Injection Tank (SIT) leakage. The leakage was coming from the welded connection of a vent valve for SIT 2A2 outlet valve piping segment SI-227. The cause of the leak was stresses resulting in fatigue crack initiation and propagation. This leak resulted in the Unit being in a Degraded Condition. There were no Systems, Structures, or Components inoperable that were inoperable at the start of the event that contributed to the event. This event is being reported pursuant of 10 CFR 50.73(a)(2)(ii)(A), Degraded Condition.

# 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/)



| 1. FACILITY NAME | | 2. DOCKET NUMBER | 3. LER NUMBER | | |
|---|---|---|---|---|---|
| | | | YEAR | SEQUENTIAL NUMBER | REV NO. |
| St. Lucie | ■ 050<br>☐ 052 | 00389 | 2024 | - 001 | - 0 |

**NARRATIVE**

Description of Event:

On December 15, 2023, while in Mode 3, it was determined that the Reactor Coolant Pressure Boundary (RCPB) had a through wall flaw with Safety Injection Tank (SIT) leakage. The leakage was coming from the welded connection of a vent valve for SIT 2A2 outlet valve piping segment SI-227. This leak resulted in the Unit being in a Degraded Condition. There were no Systems, Structures, or Components inoperable that were inoperable at the start of the event that contributed to the event.

Cause of Event:

The cause of the leak was stresses resulting in fatigue crack initiation and propagation. These stresses were related to internal pressure within the piping, bending stresses related to the vent valve weight and its mounting arrangement, and system vibration.

Safety Significance:

This event did not prevent any safety systems from performing their safety related functions based on the minimal amount of leakage identified.

This Licensee Event Report is being reported pursuant of 10 CFR 50.73(a)(2)(ii)(A), Degraded Condition.

This event did not result in a Safety System Functional Failure.

Corrective Actions:

Repairs to SI-227 were completed on December 16, 2023.

Similar Events:

A review of events over the past 5 years did not identify any previous events that involved the same underlying cause of the event reported under this Licensee Event Report.