



December 20, 2013

NG-13-0459
10 CFR 50.73

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

Duane Arnold Energy Center
Docket 50-331
Renewed Op. License No. DPR-49

Licensee Event Report #2013-004

Please find attached the subject report submitted in accordance with 10 CFR 50.73. This letter makes no new commitments or changes to any existing commitments.

A handwritten signature in black ink, appearing to read "Richard L. Anderson".

Richard L. Anderson
Vice President, Duane Arnold Energy Center
NextEra Energy Duane Arnold, LLC

Handwritten initials "IE22" and "NRR" in black ink.

LICENSEE EVENT REPORT (LER)

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

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 Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@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.

1. FACILITY NAME

Duane Arnold Energy Center

2. DOCKET NUMBER

05000331

3. PAGE

1 OF 3

4. TITLE

Condition Prohibited by Technical Specifications – Main Steam Line Steam Leak Detection

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
12	23	2012	2013	004	0	12	20	13	N/A	05000

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)			
1	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
10. POWER LEVEL	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
	<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)(C)	<input type="checkbox"/> OTHER
	<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)(v)(D)	<input type="checkbox"/> VOLUNTARY LER

12. LICENSEE CONTACT FOR THIS LER

NAME

Robert J. Murrell, Engineering Analyst

TELEPHONE NUMBER (Include Area Code)

(319) 851-7900

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

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 December 23, 2012, while operating at 100% power, Temperature Indicating Switch (TIS) 4479 Channel 1, Turbine Building Main Steam Line 'C', was found indicating 183F. This indication did not meet the acceptance criteria of $\geq 70F$ and $\leq 175F$ of Surveillance Test Procedure (STP) 3.0.0-01, Instrument Checks. Subsequently, the indicated temperature returned to within its acceptance criteria and no actions were taken to declare TIS-4479 inoperable. On December 28, 2012, TIS-4479, Channel 1 was again found to be outside of its surveillance requirements and was declared inoperable. A Past Operability Review (POR), completed on March 12, 2013, concluded that TIS-4479 was operable from December 23, 2012 to December 28, 2012. The POR conclusion was based on a lack of firm evidence indicating when the TIS was no longer performing its required safety function. A subsequent revision to the POR, completed on October 18, 2013, determined that TIS-4479 was inoperable from December 23, 2013 to December 28, 2012. Technical Specification (TS) 3.3.6.1, Primary Containment Isolation Instrumentation, Required Action D.1, requires the associated Main Steam Line be isolated within 12 hours or be in Mode 3 within 12 hours. Neither of these Required Actions were completed. Therefore, this condition constituted a condition prohibited by TS. The causes of this event were an undetermined failure internal to the TIS and inadequate procedure guidance on how to perform a qualitative channel check as required by TS. TIS-4479 was replaced and returned to service on December 29, 2012.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

1. FACILITY NAME Duane Arnold Energy Center	2. DOCKET 05000 - 331	6. LER NUMBER			3. PAGE 2 OF 3
		YEAR 2013	SEQUENTIAL NUMBER 004	REV NO. 0	

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

I. Description of Event:

On December 23, 2012, while operating at 100% power, Temperature Indicating Switch (TIS) 4479 Channel 1, Turbine Building Main Steam Line 'C', was found indicating 183F. This indication did not meet the acceptance criteria of $\geq 70F$ and $\leq 175F$ of Surveillance Test Procedure (STP) 3.0.0-01, Instrument Checks. Subsequently, the indicated temperature returned to within its acceptance criteria and no actions were taken to declare TIS-4479 inoperable. On December 28, 2012, TIS-4479, Channel 1 was again found to be outside of its surveillance requirements and was declared inoperable. A Past Operability Review (POR), completed on March 12, 2013, concluded that TIS-4479 was operable from December 23, 2012 to December 28, 2012. The POR conclusion was based on a lack of firm evidence indicating when the TIS was no longer performing its required safety function. A subsequent revision to the POR, completed on October 18, 2013, determined that TIS-4479 was inoperable from December 23, 2013 to December 28, 2012. Technical Specification (TS) 3.3.6.1, Primary Containment Isolation Instrumentation, Required Action D.1, requires the associated Main Steam Line to be isolated within 12 hours or be in Mode 3 within 12 hours. Neither of these Required Actions were completed. Therefore, this condition constituted a condition prohibited by TS.

There were no other structures, systems or components inoperable at the start of this event that contributed to the event.

II. Assessment of Safety Consequences:

The safety significance of this event is low based on the fact that the other 7 Main Steam Line Isolation Channels were operable during the time TIS-4479 was inoperable.

Technical Specification (TS) 3.3.6.1, Primary Containment Isolation Instrumentation, Required Action D.1, requires the associated Main Steam Line to be isolated within 12 hours or be in Mode 3 within 12 hours. Neither of these Required Actions were completed. Therefore, this condition constituted a condition prohibited by TS and is reportable to the NRC pursuant to 10CFR50.73(a)(2)(i)(B).

This event did not result in a safety system functional failure.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

1. FACILITY NAME Duane Arnold Energy Center	2. DOCKET 05000 - 331	6. LER NUMBER			3. PAGE 3 OF 3
		YEAR 2013	SEQUENTIAL NUMBER 004	REV NO. 0	

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

III. Cause of Event:

A Root Cause Evaluation was completed. The evaluation identified the following root causes of this event.

Root Cause 1 – An undetermined failure internal to the TIS affected its ability to provide accurate temperature indications.

Root Cause 2 – Procedural guidance of STP 3.0.0.0-01, Instrument Checks, did not include a requirement to perform a qualitative channel check as required by TS.

IV. Corrective Actions:

On December 29, 2012, TIS-4479 was replaced and returned to service.

In order to address the root cause of this event, the following corrective actions will occur.

A modification will be developed and implemented to replace the current Chromlox TIS with Yokogawa Recorders or other suitable instruments.

STP 3.0.0-01, Instrument Checks, will be revised to clearly state that a qualitative assessment of instrument performance should be performed for ANY instrument included in the STP that is being assessed to meet its CHANNEL CHECK surveillance requirement, not just for cases when the specified quantitative assessment cannot be performed.

V. Additional Information:

Previous Similar Occurrences:

A review of License Event Reports from the past 5 years did not identify any similar occurrence.

EIIS System and Component Codes:

IM - Temperature Monitoring System.

Reporting Requirements:

This event is being reported as an Operation or Condition Prohibited by TS,
10CFR50.73(a)(2)(i)(B).