NRC FORM 366 (08-2020) U.S. NUCLEAR REGULATORY COMMISSION

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LICENSEE EVENT REPORT (LER)

(See Page 3 for required number of digits/characters for each block)
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1. Facility Name	2. Docket Number	3. Page
Calvert Cliffs Nuclear Power Plant, Unit 2	05000318	1 OF 4

4. Title

Auxiliary Feedwater Pump Inoperable Due to Improper Reset of Trip Throttle Valve

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	Docket Number
08	10	2021	2021	- 003 -	00	09	23	2021		05000
									Facility Name	Docket Number
										05000

9. Operating Mode	10. Power Level
1	100

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)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(A)	**10 CFR Part 73**
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.69(g)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(4)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(i)	**10 CFR Part 21**	☒ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	☐ 73.77(a)(1)(i)
☐ 20.2203(a)(2)(ii)	☐ 21.2(c)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)	☐ 73.77(a)(2)(i)
☐ 20.2203(a)(2)(iii)	**10 CFR Part 50**	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)	☐ 73.77(a)(2)(ii)
☐ 20.2203(a)(2)(iv)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)	
☐ 20.2203(a)(2)(v)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)	

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

12. Licensee Contact for this LER

Licensee Contact	Phone Number (Include area code)
Art Simpson, Principal Regulatory Engineer	410 495-6913

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
D	BA	P	T147	N						

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

16. Abstract (Limit to 1560 spaces, i.e., approximately 15 single-spaced typewritten lines)

On August 10, 2021 it was determined that the 22 Auxiliary Feedwater (AFW) Pump trip throttle valve was not reset properly in March 2021. As a result, the 22 AFW Pump was determined to be inoperable for a period longer than allowed by the technical specification condition completion time. The 22 AFW Pump was subsequently reset properly. The cause of the improper reset of 22 AFW Pump trip throttle valve was due to inadequate procedural guidance. Actions were taken to update the procedure providing additional detail to ensure the trip throttle valve is reset properly.

PLANT AND SYSTEM IDENTIFICATION

Calvert Cliffs Nuclear Power Plant, Unit 2, is a Combustion Engineering Pressurized Water Reactor with a licensed maximum power level of 2737 megawatts thermal. The Energy Industry Identification System code used in the text is identified as [BA].

A. CONDITION PRIOR TO EVENT

Unit: 2
Date: August 10, 2021
Power level: 100
Mode: 1
There were no structures, systems, or components out-of-service that contributed to this event.

B. DESCRIPTION OF EVENT

On August 10, 2021, Calvert Cliffs Nuclear Power Plant received an NRC Inspection Report documenting the NRC's position that the 22 Auxiliary Feed Water Pump (22 AFWP) was inoperable from March 20, 2021 until March 26, 2021. As described in the report, on March 24, 2021, during a plant walkdown, it was identified that the trip throttle valve, part of the overspeed trip mechanism for the 22 AFWP did not appear to have proper alignment of the trip hook and latch-up lever. Without proper alignment, the 22 AFWP cannot perform its design function, and should be considered technical specification (TS) inoperable. An investigation determined that on March 20, 2021 when the trip throttle valve was reset, it was not reset properly such that proper alignment and full engagement of the trip hook and latch-up lever was obtained. The condition was corrected on March 26, 2021 when the valve was reset properly such that proper alignment and full engagement was obtained.
The condition of TS inoperability was identified on August 10, 2021, when the report was received.

C. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES

March 12, 2021
Maintenance satisfactorily completed per procedure, ensuring the 22 AFWP was properly aligned, including proper engagement of the trip throttle valve trip hook and latch-up lever.

March 19, 2021 17:00
Unit 2 is in Mode 3.

March 20, 2021
Pump tested per surveillance test procedure. Trip throttle valve trip hook and latch-up lever reset.

March 20, 2021 23:02
Unit 2 is in Mode 2.

March 21, 2021 06:49

Unit 2 is in Mode 1.

March 24, 2021
During a walkdown it was identified that the 22 AFWP trip throttle valve was misaligned and did not appear fully engaged as compared to the remaining AFW pumps. The 22 AFWP was aligned for automatic operation. The station determined there was reasonable assurance of operability for the 22 AFWP in the as found condition.

March 26, 2021
Reset 22 AFW pump and confirmed proper alignment and engagement of trip throttle valve trip hook and latch-up lever.

August 10, 2021
The station received an NRC inspection report. The report documented the NRC's position that the 22 AFWP was inoperable from March 20, 2021 until March 26, 2021.

D. CAUSE OF EVENT

The method of discovery for this event was NRC identified and is documented in the site's Corrective Action Program under IR 04411634.

On August 10, 2021, Calvert Cliffs Nuclear Power Plant received an NRC Inspection Report documenting the NRC's position that the 22 Auxiliary Feed Water Pump (22 AFWP) was considered inoperable from March 20, 2021 until March 26, 2021. As described in the report, on March 24, 2021, during a plant walkdown, it was identified that the trip throttle valve, part of the overspeed trip mechanism for the 22 AFWP, did not appear to be aligned properly such that the trip hook and latch-up lever were fully engaged. Without proper alignment, there was reasonable doubt if the 22 AFWP could perform its design function, and if the pump should be considered technical specification (TS) inoperable. Subsequent investigation determined that on March 20, 2021 when the trip throttle valve was reset, it was not reset properly such that full engagement of the trip hook and latch-up lever was obtained. The condition was corrected on March 26, 2021 when the valve was reset properly such that full engagement was obtained. Evaluations performed by the station in March 2021 and again in July 2021 determined that there was reasonable assurance that the 22 AFWP could perform its design function in the as-found condition (i.e., without full engagement of the trip hook and latch-up lever). However, as described in the August 10, 2021 report, failure to ensure that the trip throttle valve trip hook and latch-up lever was fully engaged as required by procedure, resulted in inoperability of the 22 AFWP. The required actions of Technical Specification Limiting Conditions for Operation 3.7.3.A and 3.7.3.E were not performed within the required completion times. The condition of TS inoperability was identified on August 10, 2021, when the report was received.

The cause of the improper reset of 22 AFWP trip throttle valve was due to inadequate procedural guidance and is documented in the site's Corrective Action Program under IR04439901. The procedure directed verifying the trip hook and latch-up lever were "fully engaged" but did not provide adequate procedural guidance and visual cues to ensure no ambiguity on full engagement. Actions were taken to update the procedure to provide additional detail to ensure full engagement is achieved.

E. SAFETY ANALYSIS

The subject condition satisfies the criteria in NUREG-1022, Revision 3, for a condition prohibited by the plant's technical specifications. Therefore, this event is reportable pursuant to 10CFR 50.73(a)(2)(i)(B).

Calvert Cliffs Nuclear Power Plant Technical Specification Limiting Condition for Operation (LCO) 3.7.3, Auxiliary Feedwater (AFW) System, requires two AFW trains operable in Modes 1, 2 and 3. Condition A is entered if one steam-driven AFW pump is inoperable. The required action for Condition A is to align the remaining operable steam-driven AFW pump to automatic initiating status within 72 hours, and to restore the inoperable steam-driven AFW pump to operable status within 7 days. Condition E is entered if the required action and the associated completion time of Condition A, B, C, or D is not met. The required action for Condition E is to be in Mode 3 within six hours and to be in Mode 4 within 12 hours. Contrary to the above, on March 20, 2021, with Unit 2 in the mode of applicability, one steam-driven AFW pump was inoperable (22 AFWP) and the remaining operable steam-driven AFW PP (21 AFWP) was not aligned to automatic status within 72 hours. Therefore, the required action for Condition A was not met. This was unbeknownst to the operators at the time. Therefore, Condition E was not entered, and required actions for Condition E were not met.

The station failed to recognize and meet the requirements of Technical Specification Conditions 3.7.3.A and 3.7.3.E. Therefore, this condition is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications.

This event did not result in any actual nuclear safety consequences.

F. CORRECTIVE ACTIONS

Required corrective actions have been completed. The 22 AFWP was reset properly on March 26, 2021. Actions were taken to update the procedure to provide additional detail to ensure proper alignment and full engagement is achieved when the pump is reset.

G. PREVIOUS OCCURRENCES

No previous similar events have occurred at the site within the last five years.

H. COMPONENT FAILURE DATA

Component	IEEE 803 FUNCTION ID	IEEE805 SYSTEM ID
22AFWP	P	BA

The steam-driven auxiliary feedwater pump manufacturer is Terry Turbine Company.