VISTRA ENERGY

TXU energy | Luminant

Thomas P. McCool
Site Vice President
Luminant
P.O. Box 1002
6322 North FM 56
Glen Rose, TX 76043
o 254.897.6042

CP-202000032
TXX-20001

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

Ref 10 CFR 50.73

02/27/2020

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT
DOCKET NO. 50-446
MANUAL REACTOR TRIP DUE TO TRIP OF BOTH MAIN FEEDWATER PUMPS
LICENSEE EVENT REPORT 446/20-001-00

Dear Sir or Madam:

Pursuant to 10CFR50.73, Vistra Operations Company LLC (Vistra OpCo), hereby submits the enclosed Licensee Event Report 446/20-001-00, "Manual Reactor Trip Due To Trip Of Both Main Feedwater Pumps" for Comanche Peak Nuclear Power Plant (CPNPP) Unit 2.

This communication contains no new licensing basis commitments regarding CPNPP Unit 2.

IE22
NRR

If you have any questions regarding this submittal, please contact Gary L. Merka at 254-897-6613.

Sincerely,

Thomas P. McCool

Enclosure

c - Scott A. Morris, Region IV
Dennis Galvin, NRR
Resident Inspectors, Comanche Peak

NRC FORM 366
(04-2018)

U.S. NUCLEAR REGULATORY COMMISSION

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/)

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.

1. Facility Name	2. Docket Number	3. Page
Comanche Peak Nuclear Power Plant	05000 446	1 OF 4

4. Title

Manual Reactor Trip Due To Trip Of Both Main Feedwater Pumps

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
										05000
01	01	2020	2020	001	00	02	27	2020	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)
100	☐ 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)
	☐ 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)
Gary Merka	254-897-6613

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

Cause	System	Component	Manufacturer	Reportable to ICES	Cause	System	Component	Manufacturer	Reportable to ICES

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 14 single-spaced typewritten lines)

At 1253 on January 1, 2020, Comanche Peak Nuclear Power Plant (CPNPP) Unit 2 was manually tripped due to a loss of Auxiliary Condenser vacuum on both Main Feedwater Pumps that caused both Main Feedwater Pumps to automatically trip on low vacuum. All safety systems functioned as designed and the Unit 2 Auxiliary Feedwater Pumps started as designed due to trip of both Main Feedwater Pumps. There was no impact on Unit 1.

The cause of this event was neither the on-shift crew nor the leadership supporting them recognized, understood or addressed the risk prior to throttling the Auxiliary Condenser outlet valves in the closed direction. Corrective Actions include removal of the involved Operations personnel pending Performance Improvement plans, additional around the clock field and control room oversight for two weeks with daily roll-ups, oral boards for all Operations personnel, re-performance of Leadership and Team Effectiveness assessments for crew composition, developing Behavioral Learning Activities, and conducting a site wide observation blitz. All times in this report are approximate and Central Standard Time unless noted otherwise.

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.
Comanche Peak Nuclear Power Plant	05000- 446	20	- 001	- 00

NARRATIVE

I. DESCRIPTION OF THE REPORTABLE EVENT

A. REPORTABLE EVENT CLASSIFICATION

This event is reportable under 10CFR50.73(a)(2)(iv)(A), "Any event or condition that resulted in manual or automatic actuation of any of the systems listed in paragraph (a)(2)(iv)(B) of this section." The systems that actuated were the Unit 2 Reactor Protection System and the Unit 2 Auxiliary Feedwater System.

B. PLANT CONDITION PRIOR TO EVENT

At 1253 on January 1, 2020, Comanche Peak Nuclear Power Plant (CPNPP) Unit 2 was in MODE 1 operating at 100% power.

C. STATUS OF STRUCTURES, SYSTEMS, OR COMPONENTS THAT WERE INOPERABLE AT THE START OF THE EVENT AND THAT CONTRIBUTED TO THE EVENT

There were no structures, systems, or components that were inoperable prior to the event which contributed to the event.

D. NARRATIVE SUMMARY OF THE EVENT, INCLUDING DATES AND APPROXIMATE TIMES

On January 1, 2020, Operators (Utility, Licensed) were shutting down Circulating Water Pump 2-01 [EIIS:(NN)(P)], which is a normal plant activity to improve efficiency during the Winter months. The Circulating Water Pumps at CPNPP draw water from the Squaw Creek Reservoir (SCR) and, through a system of piping and valves, pass that water as a cooling medium through various components including the Main and Auxiliary Condensers, before discharging the water back into the SCR. Seasonal variation in the temperature of the SCR necessitates periodic shifting in the lineup of the Circulating Water Pumps and throttling cooling water flow to ensure maximum efficiency in plant operation.

During adjustment of the Auxiliary Condenser Outlet Valves [EIIS:(SG)(PDCV)], Operators inadvertently closed both of the outlet valves simultaneously. This caused a loss of vacuum on both Main Feedwater Pumps [EIIS:(SJ)(P)] and both pumps automatically tripped on low vacuum. At 1253, CPNPP Unit 2 was manually tripped due to the trip of both Main Feedwater Pumps. The Unit 2 Auxiliary Feedwater Pumps started as designed due to trip of both Main Feedwater Pumps. There was no impact on Unit 1.

E. THE METHOD OF DISCOVERY OF EACH COMPONENT OR SYSTEM FAILURE, OR PROCEDURAL PERSONNEL ERROR

Operators (Utility, Licensed) in the Unit 2 Control Room received Feedwater Pump Turbine A and B trip alarms on the Main Control Board.

II. COMPONENT OR SYSTEM FAILURES

A. CAUSE OF EACH COMPONENT OR SYSTEM FAILURE

Not applicable - No component or system failures were identified during this event.

B. FALURE MODE, MECHANISM, AND EFFECTS OF EACH FAILED COMPONENT

Not applicable - No component or system failures were Identified during this event.

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NARRATIVE

C. SYSTEMS OR SECONDARY FUNCTIONS THAT WERE AFFECTED BY FAILURE OF COMPONENTS WITH MULTIPLE FUNCTIONS

Not applicable - No component or system failures were identified during this event.

D. FAILED COMPONENT INFORMATION

Not applicable - No component or system failures were identified during this event.

III. ANALYSIS OF THE EVENT

A. SAFETY SYSTEM RESPONSES THAT OCCURRED

The Unit 2 Reactor Protection System and the Unit 2 Auxiliary Feedwater systems responded as designed.

B. DURATION OF SAFETY SYSTEM TRAIN INOPERABILITY

This event did not involve the inoperability of any safety systems.

C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT

A loss of normal feedwater is an ANS Condition II event (Faults of Moderate Frequency). This event is bounded by FSAR Section 15.2, "Decrease In Heat Removal By The Secondary System." When both of the Main Feedwater Pumps tripped, the reactor was manually tripped and the Auxiliary Feedwater System automatically started to provide feedwater to the steam generators.

No automatic safety functions were exercised other than the expected automatic start of the Auxiliary Feedwater System and all plant safety systems responded as designed during the resultant transient. This event had no impact on nuclear safety, reactor safety, radiological safety, environmental safety, or the safety of the public. This event has been evaluated to not meet the definition of a safety system functional failure per 10CFR50.73(a)(2)(v).

IV. CAUSE OF THE EVENT

The cause of this event was neither the on-shift crew nor the leadership supporting them recognized, understood or addressed the risk prior to throttling the Auxiliary Condenser outlet valves in the closed direction. The potential risk to generation never entered the thinking of anyone involved in the task. Adjusting the CWP cooling flow was considered a routine task covered by procedure. Crew inexperience and the negative potential of that inexperience was not adequately considered or addressed.

V. CORRECTIVE ACTIONS

Immediate Corrective Actions included removal of the involved Operations personnel pending Performance Improvement plans, presentation of a case study on the preliminary causes of the event to all Operations personnel prior to assuming watch standing duties, additional around the clock field and control room oversight for two weeks with daily roll-ups, oral boards for all Operations personnel, and re-performance of Leadership and Team Effectiveness assessments for crew composition. Per the CPNPP Corrective Action Program, Behavioral Learning Activities will be developed to reinforce Operator Fundamentals, Nuclear Professional Fundamentals and Supervisory Intrusiveness. A site wide observation blitz will be conducted on challenging risk, preparation, and critical thinking in work preparation (including Pre-Job Briefs) and execution.

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NARRATIVE

VI. PREVIOUS SIMILAR EVENTS

There have been other manual reactor trips in the last three years. However, the causes of those events are believed to be sufficiently different from this event such that previous corrective actions could not have prevented this event.