Luminant

Rafael Flores
Senior Vice President
& Chief Nuclear Officer
rafael.flores@Luminant.com

Luminant Power
P O Box 1002
6322 North FM 56
Glen Rose, TX 76043

T 254 897 5550
C 817 559 0403
F 254 897 6652

CP- 201000424
TXX -10023

Ref. # 10CFR50.73(a)(2)(i)(B)
10CFR50.73(a)(2)(vii)

March 18, 2010

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

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT
DOCKET NOS. 50-445 and 50-446
LOSS OF AUTOMATIC INITIATION OF AUXILIARY FEEDWATER UPON LOSS OF MAIN FEEDWATER
LICENSEE EVENT REPORT 445/10-002-00

Dear Sir or Madam:

Enclosed is Licensee Event Report (LER) 445/10-002-00, "Loss of Automatic Initiation of Auxiliary Feedwater Upon Loss of Main Feedwater," for Comanche Peak Nuclear Power Plant (CPNPP) Units 1 and 2.

This communication contains no licensing basis commitments regarding CPNPP Units 1 and 2.

Should you have any questions, please contact Gary Merka at (254) 897-6613.

Sincerely,

Luminant Generation Company LLC

Rafael Flores

By: Fred W. Madden
Director, Oversight & Regulatory Affairs

IE22
NRR

Enclosure

c - E. E. Collins, Region IV
B. K. Singal, NRR
Resident Inspectors, Comanche Peak

NRC FORM 366 (9-2007) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES: 8/31/2010

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.

LICENSEE EVENT REPORT (LER)

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

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Comanche Peak Nuclear Power Plant Unit 1	05000 445	1 OF 5

4. TITLE
Loss of Automatic Initiation of Auxiliary Feedwater Upon Loss of Main Feedwater

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	DOCUMENT NUMBER
									CPNPP Unit 2	05000 446
01	20	2010	2010	002	00	03	18	2010	FACILITY NAME	DOCUMENT NUMBER 05000

9. OPERATING MODE: 3

10. POWER LEVEL: 0

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (*Check all that apply*)

☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(C)	☒ 50.73(a)(2)(vii)
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER
☐ 20.2203(a)(2)(vi)	☒ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	VOLUNTARY LER

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER (*Include Area Code*)
Timothy A. Hope, Nuclear Licensing Manager	(254)897-6370

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	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
☒ YES (*If yes, complete 15. EXPECTED SUBMISSION DATE*) ☐ NO		05	31	2010

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

On January 20, 2010, Comanche Peak Nuclear Power Plant (CPNPP) Unit 1 was in Mode 3 during a planned outage and Unit 2 was in Mode 1 operating at 100% power. At 1827 hours, during review of an Oconee INPO OE report, parallels were discovered between the Oconee design and the CPNPP design. Further investigation determined that the required completion times for TS 3.3.2, Condition J, may not have been completed in the past when Units 1 and 2 were operating at low power with only one MFWP providing MFW flow.

The cause of this event is still being determined and a supplemental report providing this information will be submitted by May 31, 2010. Corrective actions include the completion of procedure changes on Unit 1 to ensure compliance with TS. Since Unit 2 has been operating at 100% power with both MFW pumps in service since discovery of this condition, corresponding changes to the Unit 2 procedures will be completed prior to removing one MFW pump from service during the next shutdown of Unit 2 or prior to startup of Unit 2 from any event which results in an unplanned trip of Unit 2.

All times in this report are approximate and Central Standard Time unless noted otherwise.

I. DESCRIPTION OF THE REPORTABLE EVENT

A. REPORTABLE EVENT CLASSIFICATION

10CFR50.73(a)(2)(i)(B) "Any operation or condition which was prohibited by the plant's Technical Specifications" and 10CFR50.73(a)(2)(vii) "Any event where a single cause or condition caused at least one independent train or channel to become inoperable in multiple systems or two independent trains or channels to become inoperable in a single system designed to: (B) Remove residual heat"

B. PLANT CONDITION PRIOR TO EVENT

On January 20, 2010, CPNPP Unit 1 was in Mode 3 during a planned outage and 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 inoperable structures, systems, or components that contributed to the event.

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

CPNPP TS 3.3.2, Function 6.g, requires two Main Feedwater pump (MFWP) trip channels for each automatic Auxiliary Feedwater Pump (AFW) initiation circuit. TS 3.3.2 also requires a manual initiation circuit, which was not affected by this event. Per TS 3.3.2, Condition J, if one required MFWP trip channel is inoperable, the inoperable trip channel must be placed in the trip condition within 6 hours or the plant must be placed in MODE 3 within the following 12 hours.

On January 20, 2010, CPNPP Unit 1 was in Mode 3 during a planned outage and Unit 2 was in Mode 1 operating at 100% power. At 1827 hours, during review of Oconee INPO OE30225 ("Main Feedwater Pump Reset design feature provides incorrect Main Feedwater Pump status"), a System Engineer (Utility, Non-Licensed) discovered parallels between the Oconee design and the CPNPP design. Further investigation determined that CPNPP operating procedures allowed for one MFWP [EIIS: (SJ)(P)] to be reset (i.e., hydraulic oil pressure present) but not aligned to be a source of MFW.

During low-power plant operations, such as start-up or when Unit 1 was recently operated at a lower power level while a single Main Transformer was in service, only one MFWP is creating forward MFW flow. The other MFWP is in a "reset" condition, with the Steam Stop Valves [EIIS: (SJ)(SHV)] open. This condition utilizes hydraulic trip fluid to keep the

Stop Valves open, which appears to be an "operating" MFWP to the hydraulic pressure switches [EIIS: (SJ)(HCU)(PS)]. In the event that the operating MFWP receives a "trip" signal, all of the MFW flow would cease, but since the off-line MFWP is in the "reset" condition, the 2/2 "Loss of Main Feedwater" logic would not be satisfied, and an AFW auto-start signal [EIIS: (BA)(MSTR)] would not be initiated. It was determined that in this condition, the MFWP trip channel would be inoperable per TS 3.3.2, Condition J. CPNPP believes that this condition has existed since 1990, when Unit 1 was initially licensed. Therefore, the required actions of TS 3.3.2, Condition J, may not have been complied with since 1990 at any time that CPNPP Units 1 and 2 were operating at low power with only one MFWP providing MFW flow.

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

During review of an Oconee INPO OE report, a System Engineer (Utility, Non-licensed) discovered parallels between the Oconee design and the CPNPP design. Further investigation determined that the required completion times for TS 3.3.2, Condition J, may not have been completed in the past within the times specified in the TS.

II. COMPONENT OR SYSTEM FAILURES

A. CAUSE OF EACH COMPONENT OR SYSTEM FAILURE

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

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

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

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

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

D. FAILED COMPONENT INFORMATION

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

III. ANALYSIS OF THE EVENT

A. SAFETY SYSTEM RESPONSES THAT OCCURRED

Not applicable - No safety system responses occurred as a result of this event.

B. DURATION OF SAFETY SYSTEM TRAIN INOPERABILITY

The required actions of TS 3.3.2, Condition J, may not have been complied with since 1990 at any time that CPNPP Units 1 and 2 were operating at low power with only one MFWP providing MFW flow.

C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT

The applicable safety function is decay heat removal via the AFW system. The motor-driven AFW pumps are designed to start automatically in the event of a low-low water level in any steam generator, upon actuation of a Safety Injection or AMSAC, after restoration of bus power following a loss of offsite power, or upon trip of both MFWPs. In the safety analyses presented in FSAR Chapter 15, the only credited signal is the start of the motor-driven AFW pumps upon generation of a low-low water level signal in any steam generator. Even though the TS required automatic initiation circuit of the motor-driven AFW pumps upon trip of both MFW pumps may not have been operable since 1990 at any time that CPNPP Units 1 and 2 were operating at low power with only one MFWP providing MFW flow, the AFW pumps remained operable. The automatic start of the motor-driven AFW pumps upon trip of both MFWPs is an anticipatory trip based on the loss of normal decay heat removal; this trip function is not credited in the FSAR Chapter 15 accident analyses. Automatic actuation of the Motor Driven AFW pumps was still possible via steam generator low-low water level protection circuits (which, at CPNPP, are credited within the safety analyses), via AMSAC (which starts Turbine Driven and Motor Driven AFW pumps), upon actuation of a Safety Injection signal, and by a blackout signal after restoration of bus power following a loss of offsite power. AFW initiation was also available via manual actuation by control room operators as required by TS 3.3.2.

Based on the availability of the motor-driven AFW pump start signal credited in the safety analyses, the unavailability of the anticipatory start signal has no impact on the conclusions of the accident analyses.

IV. CAUSE OF THE EVENT

The cause of this event is still being determined and a supplemental report providing this information will be submitted by May 31, 2010.

V. CORRECTIVE ACTIONS

Corrective actions include the completion of procedure changes on Unit 1 to ensure compliance with TS. Since Unit 2 has been operating at 100% power with both MFWPs in service since discovery of this condition, corresponding changes to the Unit 2 procedures will be completed prior to removing one MFWP from service during the next shutdown of Unit 2 or

prior to startup of Unit 2 from any event which results in an unplanned trip of Unit 2. An Operations Shift Order has been issued to advise operating staff of the condition and to note that the Unit 2 procedures will need to be updated/revised prior to a restart of Unit 2 should a trip or shutdown occur and a restart is required. This shift order item will remain in effect until the Unit 2 procedures are updated.

VI. PREVIOUS SIMILAR EVENTS

There have been no previous similar reportable events at CPNPP in the last three years.