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CP- 201400774
TXX -14078

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

June 24, 2014

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

SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT (CPNPP)
DOCKET NO. 50-446
BOTH TRAINS OF RHR INOPERABLE DURING TESTING IN MODE 3
LICENSEE EVENT REPORT 446 / 14-002-00

Dear Sir or Madam:

Enclosed is Licensee Event Report (LER) 446/14-002-00, "Both Trains of RHR Inoperable During Testing in Mode 3," for Comanche Peak Nuclear Power Plant (CPNPP) Unit 2.

This communication contains the following new or revised commitments which will be completed or incorporated into the CPNPP licensing basis as noted:

Commitment Number	Commitment
4872850	Implement a procedure change to the MODE change checklists (e.g., IPO-001A/B attachment 2 step 1) which ensures that a review of the Technical Specification surveillances that must be completed prior to the upcoming mode, as well as Surveillance Testing performance requirements that direct completion prior to entering the upcoming mode, is performed prior to changing modes.

Should you have any questions, please contact R. A. Slough at (254) 897-5727.

Sincerely,

Luminant Generation Company LLC

Rafael Flores

By: _____
Kenneth J. Peters
Site Vice President

Enclosure

c - Marc L. Dapas, Region IV
B. K. Singal, NRR
Resident Inspectors, Comanche Peak

IE22
NRR

NRC FORM 366 (02-2014) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES:01/31/2017

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 F53), 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 Page 2 for required number of digits/characters for each block)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Comanche Peak Nuclear Power Plant (CPNPP) Unit 2	05000 446	1 OF 4

4. TITLE

Both Trains of RHR Inoperable During Testing in MODE 3

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
04	25	2014	2014	002	00	06	24	2014	FACILITY NAME	DOCKET NUMBER

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, Manager, Regulatory Affairs	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

☐ 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 April 25, 2014, valve 2-8809B, RHR to CL 2-03/2-04 INJ ISOL VLV was closed during performance of boundary valve testing per procedure OPT-615B, "RCS PRESSURE BOUNDARY LEAKAGE TEST FOR LOOP 3 CL INJECTION VALVES" while Unit 2 was in MODE 3. Closure of valve 2-8809B rendered both Residual Heat Removal (RHR) trains inoperable resulting in entry into Technical Specification (TS) Limiting Condition for Operation (LCO) 3.0.3.

The cause of the event has been determined to be due to a failure to transmit pertinent information to support a decision to change plant operating modes. Corrective actions include procedure revisions.

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

I. DESCRIPTION OF THE REPORTABLE EVENT

A. REPORTABLE EVENT CLASSIFICATION:

Both trains of Residual Heat Removal (RHR) for Unit 2 were inoperable for a period of 31 minutes while in MODE 3. The event is reportable per 10CFR50.73(a)(2)(v)(B) as any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to:
(A) Shut down the reactor and maintain it in a safe shutdown condition;
(B) Remove residual heat;
(C) Control the release of radioactive material; or
(D) Mitigate the consequences of an accident.

Also, the event is reportable per 10CFR50.73(a)(2)(vii) as "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:
(A) Shut down the reactor and maintain it in a safe shutdown condition;
(B) Remove residual heat;
(C) Control the release of radioactive material; or
(D) Mitigate the consequences of an accident."

B. PLANT CONDITION PRIOR TO EVENT:

At the time of discovery, Unit 2 was in MODE 3 (Hot Standby) at 0 percent 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, components or systems (SSC) that were inoperable at the start of the event and that contributed to the event.

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

On April 25, 2014, Unit 2 was in MODE 4 during recovery from Unit 2 refueling outage 2RF14. Surveillance testing of RHR boundary valves [EIIS: (BP)(V)] was in progress in accordance with procedure OPT-615B, "RCS PRESSURE BOUNDARY LEAKAGE TEST FOR LOOP 3 CL INJECTION VALVES". Unit 2 entered MODE 3 at 0445 on April 25, 2014. At 1649 on April 25, 2014, valve 2-8809B, RHR TO CL 3&4 INJ ISOL VLV ORC, was closed as part of the system alignment to perform leak testing of valve 2-8948C, SI ACCUM 2-03 DNSTRM INJ CHK VLV. Closing valve 2-8809B rendered both Unit 2 Residual Heat Removal (RHR) trains incapable of providing Emergency Core Cooling System (ECCS) injection flow to Reactor Coolant System (RCS) cold legs 3 and 4. TS 3.5.2, "ECCS – Operating" is applicable in MODE 3 and requires two Emergency Core Cooling System (ECCS) trains to be OPERABLE. An OPERABLE Emergency Core Cooling System (ECCS) train is required to be capable of injecting to all four Reactor Coolant System (RCS) loops. Since neither Residual Heat Removal (RHR) train was capable of injecting to all four Reactor Coolant System (RCS) loops with valve 2-8809B closed, both trains of Residual Heat Removal (RHR) were inoperable. Since TS 3.5.2 does not provide a CONDITION and REQUIRED ACTION for two inoperable Emergency Core Cooling System (ECCS) trains, Technical Specification (TS) Limiting Condition for Operation (LCO) 3.0.3 was applicable.

In addition, the system lineup for the test of valve 2-8948C created a flowpath which resulted in lowering water level in Safety Injection (SI) Accumulator 2-03 [EIIS: (BQ)(ACC)] due to draining of the accumulator through the

test line to the Refueling Water Storage Tank (RWST). The Unit 2 Control Room operators responded to the ACCUM 3 LVL HI/LO alarm at 1715 on April 25, 2014. SI ACCUM 2-03 was determined to be inoperable due to level being less than required and TS 3.5.1, "Accumulators", CONDITION B was entered to restore the accumulator water level within 24 hours. Surveillance testing per OPT-615B was stopped and valve 2-8809B was re-opened at 1720 on April 25, 2014. Opening valve 2-8809B restored both Residual Heat Removal (RHR) trains to OPERABLE since the capability to inject to all four Reactor Coolant System (RCS) loops from both Residual Heat Removal (RHR) trains was restored. Limiting Condition for Operation (LCO) 3.0.3 was exited at 1720 on April 25, 2014. Safety Injection (SI) Accumulator 2-03 level was restored and TS 3.5.1, CONDITION B was exited at 1811 on April 25, 2014.

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

This event was identified by Operations personnel (Utility, Licensed) as a result of an investigation into the cause of lowering water level in Safety Injection (SI) Accumulator 2-03 in response to a ACCUM 3 LVL HI/LO alarm at 1715 on April 25, 2014.

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

Both Unit 2 RHR trains were inoperable from 1649 to 1720 on April 25, 2014. Unit 2 SI Accumulator 2-03 was inoperable from 1715 to 1811 on April 25, 2014.

C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT

This event represents a loss of safety system function for the Emergency Core Cooling System (ECCS) system since during the brief period of time the valve was closed. Emergency core cooling accident

required flow-rates from the low head Residual Heat Removal (RHR) pumps could not be assured. However, a probabilistic risk assessment of the closing of valve 2-8809B found a negligible effect on core damage frequency and large early release frequency. Additionally, there were no events which required an Emergency Core Cooling System (ECCS) actuation during the time the valve was closed. Based on these considerations, there was no adverse effect on plant safety or on the health and safety of the public.

IV. CAUSE OF THE EVENT

The MODE change checklist inaccurately reflected surveillance tests were completed to support the mode change to MODE 3. OPT-615B/616B section 8.4 was not completed prior to the MODE change and clearly identified in the MODE 3 Surveillance Mode Change Report.

V. CORRECTIVE ACTIONS

Implement a procedure change to the MODE change checklists (e.g., IPO-001A/B attachment 2 step 1) which ensures that a review of the Technical Specification surveillances that must be completed prior to the upcoming mode, as well as Surveillance Testing performance requirements that direct completion prior to entering the upcoming mode, is performed prior to changing modes. This procedure change will require identification of the specific report to be utilized to conduct this review and will contain a requirement that the report be vaulted as part of the procedure.

VI. PREVIOUS SIMILAR EVENTS

There have been no previous similar reportable events at Comanche Peak Nuclear Power Plant (CPNPP) in the last three years.