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TX-16093

Ref: 10 CFR 50.73

August 22, 2016

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

**SUBJECT: COMANCHE PEAK NUCLEAR POWER PLANT (CPNPP)
DOCKET NO. 50-445
LICENSEE EVENT REPORT 445/16-001-00
SAFETY CHILLER INOPERABLE FOR LONGER THAN ALLOWED BY TECHNICAL
SPECIFICATIONS**

Dear Sir or Madam:

Enclosed is Licensee Event Report (LER) 445/16-001-00, "Safety Chiller Inoperable For Longer Than Allowed by Technical Specifications," for Comanche Peak Nuclear Power Plant (CPNPP) Unit 1.

This communication contains the following new licensing basis commitment regarding CPNPP Units 1 and 2.

<u>Commitment No.</u>	<u>Description</u>
5321500	The applicable Maintenance procedure will be revised before the next scheduled performance to have the equipment specific thermography inspection performed as a part of the maintenance restoration/post work activities so that an improper torque will be identified and corrected before the equipment is turned over to Operations.

The commitment number is used by Luminant Generation Company LLC for the internal tracking of CPNPP commitments.

If there are any questions regarding this report, please contact Mr. Gary L. Merka at (254) 897-6613 or Gary.Merka@luminant.com.

IE22
NRR

Sincerely,

Luminant Generation Company LLC

A handwritten signature in black ink, appearing to read 'T. McCool', written over a horizontal line.

Thomas P. McCool

Enclosure

c – Kriss M. Kennedy, Region IV
Margaret M. Watford, NRR
Resident Inspectors, CPNPP



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/>)

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 FOIA, Privacy and Information Collections Branch (T-5 F53), 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

Comanche Peak

2. DOCKET NUMBER

05000 445

3. PAGE

1 OF 4

4. TITLE

Safety Chiller Inoperable For Longer Than Allowed By Technical Specifications

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
6	22	2016	2016	001	00	8	22	2016	FACILITY NAME	DOCKET NUMBER
										05000
										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)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
100	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.77(a)(1)
	<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)(D)	<input type="checkbox"/> 73.77(a)(2)(i)
	<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)(vii)	<input type="checkbox"/> 73.77(a)(2)(ii)
	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> OTHER	Specify in Abstract below or in NRC Form 366A	

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT: Tim Hope - Manager, Regulatory Affairs TELEPHONE NUMBER (Include Area Code): (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)

At 1005 on June 9, 2016, during routine periodic predictive maintenance thermography activities, the 'A' phase connection to the Unit 1, Train A Safety Chiller was identified to be at an elevated temperature. Inspection found three of the six electrical connections associated with the chiller to be un-torqued. Subsequent investigation found the affected connections should have been torqued on May 10, 2016 as part of restoration actions following planned preventive maintenance. On June 22, 2016 an evaluation was completed that determined the Unit 1, Train A Safety Chiller was inoperable from May 28, 2016 to June 9, 2016.

The cause of this event was the restoration and post work activities by Maintenance personnel did not ensure that the Unit 1, Train A Safety Chiller was properly configured per procedure and ready to be turned over to Operations. Corrective actions included replacing the Phase 'A' cable and dashpot relay and re-torquing the Phase 'B' and 'C' dashpot relay terminations. The applicable procedure will be revised before the next scheduled performance to have the equipment specific thermography inspection performed as a part of the maintenance restoration/post work activities.

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



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

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1. FACILITY NAME Comanche Peak	2. DOCKET NUMBER 05000- 445	3. LER NUMBER		
		YEAR 16	SEQUENTIAL NUMBER 001	REV NO. 00

NARRATIVE

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" as a result of the Unit 1, Train A Safety Chiller exceeding its LCO completion times, for entering Mode 4 with an inoperable chiller, and for subsequently entering Modes 3, 2, and 1 with an inoperable safety chiller in violation of Technical Specification (TS) 3.7.19.

B. PLANT CONDITION PRIOR TO EVENT

On June 22, 2016, Comanche Peak Nuclear Power Plant (CPNPP) Unit 1 was operating in Mode 1, at or near 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 at the start of the event that contributed to the event.

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

On May 10, 2016, during a Unit 1 refueling outage Maintenance personnel (Utility, Non-Licensed) completed dashpot overload relay testing and re-installed the relays into the Unit 1, Train A Safety Chiller Motor Starter Panel [EIS:(KM) (CHU)(DPT)(MSTR)]. The Maintenance personnel then re-terminated the Phase A, B, and C upper and lower cables to their respective dashpot overload relays, and should have torqued the bolted connections in accordance with the applicable Maintenance procedure.

On May 15, 2016, at 1625 the Unit 1, Train A Safety Chiller Technical Specification acceptance criteria was satisfactorily met and approved by the U1 Supervisor (Utility, Licensed) and the chiller was declared operable.

On May 28, 2016 at 0330 Unit 1 entered Mode 4, and per TS 3.7.19 the Unit 1, Train A Safety Chiller was required to be operable.

On June 9, 2016, at 1005 it was discovered during the performance of routine periodic predictive maintenance thermography by Engineering personnel (Utility, Non-Licensed) on the Unit 1, Train A Safety Chiller Motor Starter Panel that the Phase 'A' cable termination on the dashpot overcurrent relay had a significantly higher temperature reading than expected (950°F as opposed to a typical reading of about 90°F). The Unit 1, Train A Safety Chiller was shut down per the direction of the Shift Manager (Utility, Licensed) and the chiller was declared inoperable.



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		YEAR	SEQUENTIAL NUMBER	REV NO.
Comanche Peak	05000- 445	16	001	00

NARRATIVE

On June 22, 2016, an evaluation was completed that determined the Unit 1, Train A Safety Chiller had been inoperable from May 28, 2016 to June 9, 2016.

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

During routine periodic predictive maintenance thermography activities, Engineering personnel (Utility, Non-Licensed) identified that the 'A' phase connection to the Unit 1, Train A Safety Chiller was at an elevated temperature.

II. COMPONENT OR SYSTEM FAILURES

A. CAUSE OF EACH COMPONENT OR SYSTEM FAILURE

Not Applicable – No other component or system failures were identified that contributed to this event.

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

Not Applicable – No component or system 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 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

Not Applicable – No safety system responses occurred as a result of this event.

B. DURATION OF SAFETY SYSTEM TRAIN INOPERABILITY

The Unit 1, Train A Safety Chiller was inoperable per Technical Specification 3.17.9 from May 28, 2016 to June 9, 2016 (approximately 222.5 hours).



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NARRATIVE

C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT

The Unit 1, Train A Safety Chiller was inoperable per Technical Specification 3.17.9 from May 28, 2016 to June 9, 2016. During that time, the Unit 1, Train A Safety Chiller ran without any indication of abnormal performance or degraded function and the Train B Safety Chilled Water System was operable.

The safety significance of the identified condition is low, since the Train B Safety Chiller cooling function remained available during the subject period from May 28, 2016 to June 9, 2016, and no interim actions were required during the planned evolutions to reduce the effect on nuclear safety.

A probabilistic risk assessment of the inoperability of the Unit 1, Train A Safety Chiller found a non-risk significant effect on core damage frequency and large early release frequency. Based on the above considerations, this event had very low safety significance and there was no adverse effect on plant safety or on the health and safety of the public.

IV. CAUSE OF THE EVENT

The cause of this event was the restoration and post work activities by Maintenance personnel during a Unit 1 refueling outage did not ensure that the Unit 1, Train A Safety Chiller was properly configured per procedure and ready to be turned over to Operations. The improper torque resulted in one of the terminations experiencing significantly elevated temperatures once the equipment was returned to service and resulted in the Unit 1, Train A Safety Chiller being declared inoperable. Procedures and work practices contributed to this event. The Maintenance workers inadequately performed a procedure step directly after the termination torque performances directing them to ensure there were no loose electrical connections in the panel. The Maintenance procedure also currently only provides one sign-off step for the performance of six QIV termination torques. There were no training, communication, supervision, human-system interface, fitness for duty, or time/situational pressures associated with this event.

V. CORRECTIVE ACTIONS

The other three Safety Chillers were verified to have no thermal abnormalities. The Phase 'A' cable and dashpot relay were replaced and the Phase 'B' and 'C' dashpot relay terminations were retorqued. The applicable Maintenance procedure will be revised before the next scheduled performance to have the equipment specific thermography inspection performed as a part of the maintenance restoration/post work activities so that an improper torque will be identified and corrected before the equipment is turned over to Operations. The applicable Maintenance procedure will also be revised to include six component verification sign-off steps to verify each of the three line side and three load side terminations are torqued.

VI. PREVIOUS SIMILAR EVENTS

LER 1-14-003-00 was submitted on January 19, 2015, for the Unit 1, Train A Safety Chiller being inoperable for longer than allowed by Technical Specifications. However, the cause of the 2014 event was due to a different cause than this event.