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Log # TXX-99242
File # 10200
Ref. # 10CFR50.73(a)(2)(ii)(B)

October 28, 1999

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
CONDITION OUTSIDE OF DESIGN BASIS
LICENSEE EVENT REPORT 445/98-005-01

Enclosed is supplement 1 to Licensee Event Report (LER) 98-005-00 for Comanche Peak Steam Electric Station Units 1 and 2, "Functional requirements of the hydrogen purge system (HPS) not in accordance with design."

This supplement is being issued to revise the implementation dates for of the corrective actions. This communication contains no new licensing basis commitments.

Sincerely,

C. L. Terry
C. L. Terry

By: *Roger D. Walker*
Roger D. Walker
Regulatory Affairs Manager

OAB: oab
Enclosure

cc: E. W. Merschoff, Region IV
J. I. Tapia, Region IV
Resident Inspectors, CPSES

IE22

PDR ADOCK

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

Facility Name (1)

COMANCHE PEAK STEAM ELECTRIC STATION UNIT 1

Docket Number (2)

05000445

Page (3)

1 OF 4

Title (4)

FUNCTIONAL REQUIREMENTS OF THE HYDROGEN PURGE SYSTEM (HPS) NOT IN ACCORDANCE WITH DESIGN

Event Date (5)			LER Number (6)			Report Date (7)			Other Facilities Involved (8)		
Month	Day	Year	Year	Sequential Number	Revision Number	Month	Day	Year	Facility Name	Docket Numbers	
06	17	99	98	005	01	10	28	99	CPSES UNIT 2	05000446	
										05000	

Operating Mode (9)	1	This report is submitted pursuant to the requirements of 10 CFR : (Check one or more) (11)									
Power Level (10)	100	20.2201 (b)	20.2203 (a) (2) (v)	50.73 (a) (2) (i)	50.73 (a) (2) (viii)						
		20.2203 (a) (1)	20.2203 (a) (3) (i)	X 50.73 (a) (2) (ii)	50.73 (a) (2) (x)						
		20.2203 (a) (2) (i)	20.2203 (a) (3) (ii)	50.73 (a) (2) (iii)	73.71						
		20.2203 (a) (2) (ii)	20.2203 (a) (4)	50.73 (a) (2) (iv)	OTHER						
		20.2203 (a) (2) (iii)	50.36 (c) (1)	50.73 (a) (2) (v)	Specify in Abstract below						
		20.2203 (a) (2) (iv)	50.36 (c) (2)	50.73 (a) (2) (vii)	or in NRC Form 366A						

Licensee Contact For This LER (12)

Name	D. L. Walling - Plant Modification Manager	Telephone Number (Include Area Code)	(254)897-5767
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Complete One Line For Each Component Failure Described in This Report (13)

Cause	System	Component	Manufacturer	Reportable To NPRDS	Cause	System	Component	Manufacturer	Reportable To NPRDS
				N					

Supplemental Report Expected (14)

YES (If YES, complete EXPECTED SUBMISSION DATE)	X	NO	EXPECTED SUBMISSION DATE (15)	Month	Day	Year
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On June 17, 1998, at approximately 3:00 p.m. CDT, a condition was identified by plant personnel (utility non-licensed) in which the hydrogen purge system control valves would not perform their intended design function as described in the FSAR. The as found condition was that the hydrogen purge system (HPS) required for backup to the Hydrogen Recombiners and long-term post-accident recovery dose mitigation in accordance with Regulatory Guide (RG) 1.7 may not function properly above 0 psig. If the system was to be operated as backup to the hydrogen recombiners in conformance with RG 1.7, there would be an increase in offsite radiological consequences due to lower filtration efficiency over that assumed if in compliance with Regulatory Guide 1.140 as committed in FSAR Section 6.2.5. Therefore, limitations were placed on system operation to prevent its use above 0 psig. This condition is not in conformance with RG 1.7 as committed in FSAR Appendix 1A(B) or the design basis in FSAR Section 6.2.5. On June 17, 1998, at approximately 3:07 p.m. CDT, TU Electric concluded that the condition resulted in the plant being outside of the design basis.

TU Electric believes that the cause of this condition was the failure to completely evaluate the FSAR impact on the design basis. This condition existed within the original configuration of the plants upon licensing. However, corrective action will be implemented by completion of design modifications to restore the original design basis of the plant by the end of the eighth refueling outage for Unit 1 (1RF08) and the Unit 2 fifth refueling outage (2RF05).

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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Text (If more space is required, use additional copies of NRC Form 366A) (17)

I. DESCRIPTION OF THE REPORTABLE EVENT

A. REPORTABLE EVENT CLASSIFICATION

Any event or condition that resulted in the nuclear power plant being in a condition that was outside the design basis of the plant.

B. PLANT OPERATING CONDITIONS PRIOR TO THE EVENT

On June 17, 1998, Comanche Peak Steam Electric Station (CPSES) Unit 1 was in Mode 1, Power Operation, at approximately 100 percent power and Unit 2 was in Mode 1, Power Operation, at approximately 100 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 inoperable structures, systems, or components that contributed to the event.

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

While performing reviews supporting the project to convert to the Improved Technical Specifications, it was discovered that the Hydrogen Purge System (HPS), required for backup to the hydrogen recombiners and long term post-accident recovery by FSAR commitments to Regulatory Guides 1.7 and 1.140, would not function properly above 0 psig. A related FSAR change (Amendment 76) was made to change (in Section 6.2.5.2.2) "[T]wo trains are provided (one train is required to operate), each capable of exhausting the design airflow of 700 scfm." to "[T]wo trains are provided (one train is required to operate), each capable of exhausting the design airflow of 700 cfm when the containment is at atmospheric pressure." Subsequently, design documents were changed to caution against operating above 0 psig without any associated design basis or licensing basis changes. In lieu of corrective action or changes to the design basis, changes were made to the Design Basis Document (DBD) system description and Station Operation Procedures (SOPs) in conflict with the design bases.

Although a change describing the HPS system's ability to accommodate 700 CFM at atmospheric pressure only was incorporated into the FSAR in Amendment 76, (prior to licensing Units 1 and 2) the impact on the HPS system Design Basis (Section 6.2.5.1.3) or on RG conformance in FSAR Section 1A(B) was not identified.

Upon concluding that the plant design did not match the design basis section of the FSAR, the condition was deemed reportable as a condition that resulted in the plant being outside of its design basis even though the Hydrogen Purge System does not perform a nuclear safety function.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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Text (If more space is required, use additional copies of NRC Form 366A) (17)

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

Following review of Design Basis Documents and calculations supporting the Basis section of the Improved Technical Specifications, it was noted that the licensing design basis (FSAR Section 6.2.5.1.3) and engineering design basis in the Design Basis Documents of the HPS requires its function starting at 5 psig containment pressure post-LOCA while calculations for Units 1 and 2 concluded the system would not function properly above 0 psig. The original determination concluded that system did not function as required by the design basis found in the FSAR.

II. COMPONENT OR SYSTEM FAILURES

A. FAILURE MODE, MECHANISM, AND EFFECT OF EACH FAILED COMPONENT

The identified failure mode is the inability to start the HPS when the containment is above atmospheric pressure.

B. CAUSE OF EACH COMPONENT OR SYSTEM FAILURE

No failed components or systems contributed to this event.

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

No failed components contributed to this event.

D. FAILED COMPONENT INFORMATION

No failed components contributed to this event.

III. ANALYSIS OF THE EVENT

A. SAFETY SYSTEM RESPONSES THAT OCCURRED

No safety system responses occurred as a result of this event.

B. DURATION OF SAFETY SYSTEM TRAIN INOPERABILITY

No safety system trains were inoperable as a result of this event.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

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C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT

The Hydrogen Purge System (**EIIS:(VA)**) is not required by current Technical Specifications; therefore, Technical Specification OPERABILITY is not affected. The Hydrogen Purge System does not perform a nuclear safety function. Based on examination of calculation results, the Hydrogen Purge System used for post-accident recovery is available above 0 psig using the 3-inch inlet valve (**EIIS:(V)(VA)**). The 12 inch inlet valve (**EIIS:(V)(VA)**) will not be opened until Engineering provides post-accident recovery guidance and appropriate design modifications for the use of the HPS, if required. Current station procedures provide precautions with respect to use of the HPS at conditions that would provide unacceptable flows. TU Electric concludes that the existing design of the HPS may limit its use as backup to the hydrogen recombiners and extend the recovery time following a design basis accident; however, this would not result in a condition that would adversely impact the health and safety of the public.

IV. CAUSE OF THE EVENT

The cause of this condition was the failure to completely evaluate the FSAR Design Basis impact of limitations placed on the HPS. This condition existed within the original design configuration of the plant.

V. CORRECTIVE ACTIONS

Current station procedures provide precautions with respect to the use of the HPS at conditions that would provide unacceptable flows. The Hydrogen Purge System use for post-accident recovery is available above 0 psig using the 3-inch inlet valve based on examination of calculation results. TXU Electric will develop appropriate post-accident recovery guidance and/or design modifications to allow use of the 12 inch inlet valve prior to completion of the next refueling outage for Unit 1 (1RF08). Since the HPS is not required for mitigation of an accident and based on current engineering resources, the post-accident recovery guidance and/or design modifications for Unit 2 will be completed by the end of its fifth refueling outage (2RF05). Procedural precautions regarding use of the HPS above atmospheric pressures will be retained in station operation procedures until the above guidance and/or modifications are incorporated.

VI. PREVIOUS SIMILAR EVENTS

There have been other previous events which resulted in conditions outside of design basis. However, the causes of those events are sufficiently different than the subject event. Corrective actions taken for the previous events would not have prevented this event.