

Log # TXX-97262  
File # 10200  
Ref. # 10CFR50.73 (voluntary)  
December 10, 1997

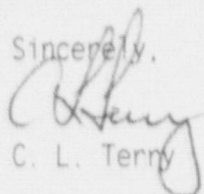
**C. Lance Terry**  
*Group Vice President*

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES) - UNIT 2  
DOCKET NOS. 50-445 AND 50-446  
VOLUNTARY LICENSEE EVENT REPORT (LER);  
LICENSEE EVENT REPORT 446/97-004-00

REF: Letter logged TXX-95006, dated January 23, 1995 from C. L. Terry to  
the NRC.

Enclosed is voluntary Licensee Event Report (LER) 97-004 for Comanche Peak Steam  
Electric Station Unit (CPSES) 2, "Gaps in Structural Components of the Containment  
Sump Trash Racks."

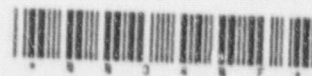
Sincerely,  
  
C. L. Terry

OB:ob  
Enclosure

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

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NRC FORM 306 (4/96)		U.S. NUCLEAR REGULATORY COMMISSION			APPROVED BY OMB NO. 3150-0104 EXPIRES 4/30/98																								
<h2 style="margin: 0;">LICENSEE EVENT REPORT (LER)</h2> <p style="margin: 0;">(See reverse for required number of digits/characters for each block)</p>										ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST 50 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 (7-6 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 2					Docket Number (2) 05000446					Page (3) 01 OF 06																			
Title (4) GAPS IN STRUCTURAL COMPONENTS OF THE CONTAINMENT SUMP TRASH RACKS																													
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																			
1	1	0	8	9	7	9	7	-	0	0	4	-	0	0	1	2	1	0	9	7	N/A	0	5	0	0	0	4	4	5
Operating Mode (9) 6		This report is submitted pursuant to the requirements of 10 CFR 6. (Check one or more) (11)																											
Power Level (10) 0		<input type="checkbox"/> 20.2201 (b)			<input type="checkbox"/> 20.2203 (a) (2) (v)			<input type="checkbox"/> 50.73 (a) (2) (i)			<input type="checkbox"/> 50.73 (a) (2) (vii)																		
		<input type="checkbox"/> 20.2203 (a) (1)			<input type="checkbox"/> 20.2203 (a) (3) (i)			<input type="checkbox"/> 50.73 (a) (2) (ii)			<input type="checkbox"/> 50.73 (a) (2) (x)																		
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		<input type="checkbox"/> 20.2203 (a) (2) (ii)			<input type="checkbox"/> 20.2203 (a) (4)			<input type="checkbox"/> 50.73 (a) (2) (iv)			<input checked="" type="checkbox"/> OTHER <b>Voluntary</b>																		
		<input type="checkbox"/> 20.2203 (a) (2) (iii)			<input type="checkbox"/> 50.36 (c) (1)			<input type="checkbox"/> 50.73 (a) (2) (v)			Specify in Abstract below or in NRC Form 366A																		
		<input type="checkbox"/> 20.2203 (a) (2) (iv)			<input type="checkbox"/> 50.36 (c) (2)			<input type="checkbox"/> 50.73 (a) (2) (vi)																					
Licensee Contact For This LER (12)																													
Name Duerk J. Reimer - Technical Support Manager										Telephone Number (include Area Code) (254)897-0681																			
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)										EXPECTED SUBMISSION DATE (15)																			
YES (If yes, completed EXPECTED SUBMISSION DATE)										X NO																			
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)																													
<p>On Saturday, November 8, 1997, while performing a coating inspection inside Unit 2 containment, the coating inspector (utility non-licensed), observed some gaps in the Unit 2 containment sump trash rack support structures that appeared to be larger than the system description specified in Section 6.2.2.2.1, "Component Description," of the FSAR (0.115 inches). Since the sump screens still met the prescribed design basis of Regulatory Guide 1.82 and Section 6.2.2.1 of the FSAR, "Design Basis," and structural gaps were smaller than those bounding sizes that would adversely affect the recirculation lines and system components, operability was not affected. Sump structural gaps is a condition which was initially identified in November of 1994 for which corrective action was previously performed.</p> <p>Immediate actions included verifying that this condition does not negatively interact with the condition reported in CPSES Unit 1 LER 445/97-008-00 to prevent ECCS recirculation in the event of an accident. The gaps in the Unit 2 containment sump trash racks were repaired. Unit 1 containment sump trash racks will be inspected prior to startup of the next refueling outage. This is a voluntary LER.</p>																													

**LICENSE EVENT REPORT (LER)**  
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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**

This is a voluntary report as an event or condition that is of generic interest or concern.

**B. PLANT OPERATING CONDITIONS PRIOR TO THE EVENT**

At time of discovery, on November 8, 1997, Comanche Peak Steam Electric Station (CPSES) Unit 1 was in Mode 1, Power Operations, and Unit 2 was in Mode 6, Refueling.

**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**

Section 6.2.2.2.1, "Component Description" of the CPSES FSAR, item 7, "Containment Spray Recirculation Sumps," describes the containment sump trash racks as having a coarse outer screen and a fine inner screen, with the inner screen having 0.115 inch openings. At CPSES the containment sump trash racks are provided to ensure that clogging of the recirculation lines and any of the system components (e.g. containment spray nozzles) does not occur during a design basis accident. Although the FSAR does not describe the containment sump trash rack support structures, it is assumed that the size of the finer sump screen openings (0.115 inches) applies to the support structure. The trash racks are designed to meet the requirements of Regulatory Guide 1.82 and Section 6.2.2.1 of the FSAR, (Design Basis section for the Containment Heat Removal System, Section 6.2.2).

On Saturday, November 8 1997, while performing a coating inspection inside the Unit 2 containment, the coating inspector (utility non-licensed), observed some gaps in the containment sump trash rack support structures that appeared to be larger than the description specified in Section 6.2.2.2.1, "Component Description," of the FSAR (0.115 inches). Since the containment sump trash rack still met the prescribed design basis of Regulatory Guide 1.82 and Section 6.2.2.1 of



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the FSAP, "Design Basis," and structural gaps were smaller than those bounding sizes that would adversely affect the recirculation lines and system components, operability was not affected. This is a condition which was initially identified in November of 1994 for which corrective action was previously performed (see referenced letter TXX-95006)

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

The event was discovered while performing a coating inspection inside the Unit 2 containment, the coating inspector observed some gaps in the containment sump trash rack support structures that appeared to be larger than the system description specified in Section 6.2.2.2.1. "Component Description," of the FSAR (0.115 inches).

II. COMPONENT OR SYSTEM FAILURES

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

No failure mode, mechanism, or effect of failed components were identified.

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.

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**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.

**C. SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT**

Two Containment Spray recirculation sumps (EIS:(DRN)(BP)(BE)) are provided, one for each safety train. The sumps are physically separated and are located at the lowest elevation of the Containment Building. Sump covers are provided to protect the sumps against falling debris. Trash racks and screens are provided to preclude clogging of the recirculation lines and any of the system's components. The covers consist of a solid horizontal deck. Vertical trash racks, behind which are located a coarse outer screen and a fine inner screen, are provided.

Following an accident the emergency core cooling system (ECCS) (EIS:(CB)) fluid reaching the upper internals storage stand area will drain to the lower internal storage stand area from where it drains to the Containment Spray recirculation sumps. The fluids that reach the fuel transfer upender area will also drain to the Containment Spray recirculation sumps. The ECCS fluid is then recirculated to provide post accident containment spray and core cooling.

This condition was previously assessed in 1994 and it was concluded that the containment sump trash racks were operable. This condition was reassessed considering the throttle valve gap (EIS:(V)(CB)) concerns reported in CPSES Unit 1 LER 445/97-008-00 and found the previous evaluation for operability performed for the containment sump trash racks to remain valid.

Therefore, based on the above considerations, this event did not adversely affect the safety of plant operations or the health and safety of the public.

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**IV. CAUSE OF THE EVENT**

Although the work and design change documents for the corrective actions taken during the first refueling outage for Unit 2 in 1994 were closed, the actual completed actions were determined to have been incomplete with respect to the defined scope of work in the corrective action documents because work instructions were not fully implemented. Some previously identified gaps remained uncorrected, some identified gaps were not completely closed, and some new gaps were found. Gaps that communicate through the containment sump trash rack support structures were difficult to identify because gaps had indirect paths through the structure.

Additionally, for this unique condition, the work instructions may not have provided the appropriate level of detail within the work documents to ensure that all gaps were corrected. This situation may have also been impacted due to less than effective coordination of a work activity identified near the end of the refueling outage. Had the original work and design change documents provided more detailed directions for this unique condition, these corrective actions should have been fully implemented.

As part of preplanning, work instructions are required to provide sufficient detail to complete activities. Furthermore, design change documentation should provide sufficient details to fully describe the change. Audits and surveillance of design changes and work planning are provided by the Nuclear Overview Department. Generic or programmatic problems have not been identified with these programs. In addition, an NRC inspection of the CPSES corrective action program was recently conducted (see NRC inspection report 50-445/50-446 97-12). The results of this inspection found that corrective action and self assessment programs at CPSES is functioning well and adequately supporting the safe operation of the plant. Therefore, this condition is determined to be an isolated incident because of the unique conditions related to this emergent work.

**V. CORRECTIVE ACTIONS**

Immediate corrective action was to ensure that this condition does not interact with the condition reported in LER 445/97-008-00 to prevent ECCS recirculation in the event of an accident. The gaps in the Unit 2 containment sump trash racks were repaired, inspected, and engineering verified to assure the work was satisfactorily completed during the current Unit 2 refueling outage. Incomplete work in the Unit 1 containment sump trash rack support structures is not expected since Unit 1 corrective action was performed as a scheduled activity during the refueling outage 4 for



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Unit 1. Based on the unlikely potential of finding gaps in the Unit 1 containment sump trash racks support structures which could exceed the bounding size, and therefore affect operability of the system, Unit 1 will be inspected prior to startup of the next refueling outage.

TU Electric engineering personnel have reviewed any possible generic implications of this condition and believe it to be an isolated occurrence because of the unique conditions. However, a sample review of comparable emergent and unique 1994 work documents implemented during the first refueling outage of Unit 2 related to completion of corrective actions will be performed to determine if the appropriate level of detail was provided to the personnel for implementation and appropriate follow-up review criteria were provided to ensure proper completion of the job such that the identified condition was fully addressed. Furthermore, since 1994, organizational changes have occurred which provide for increased engineering ownership of the design of CPSES such that matters of similar urgency and uniqueness would receive additional assurance that corrective actions are fully addressed.

### VI. PREVIOUS SIMILAR EVENTS / ADDITIONAL INFORMATION

The condition of gaps in the sump screen support structures was identified by TU Electric in 1994, and addressed by the corrective action program. The condition was initially conservatively reported under 10CFR50.72 on November 5, 1994 (see event no. 27997), because the effect of gaps in the structure were not known at the time. The 10CFR50.72 report was subsequently retracted based on a review of as found conditions with respect to the bounding gap sizes and geometry that would adversely affect the recirculation lines and system components which determined that the design basis requirements were still met, and operability was not affected. In 1994, an NRC inspection report (see NRC inspection report 50-445/94-23; 50-446/94-23) notified TU Electric of a violation related to gaps in the containment sump trash rack support structures. The response to the Notice of Violation was provided in TXX-95006 and was based on completed modifications to repair gaps in the support structures of the containment sump trash racks in Unit 2 and scheduled modifications for Unit 1 prior to the startup of the next refueling outage. The NRC closed the issue in inspection report 50-445/95-28; 50-446/95-28.