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Ref: 10CFR50.55a(3)(i)

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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
RELIEF REQUEST NO. P-2 FOR THE UNIT 1 AND UNIT 2 INSERVICE TESTING PLAN FOR PUMPS AND VALVES (ASME OM CODE 1998 EDITION, THROUGH 2000 ADDENDA; INTERVAL START DATE: AUGUST 3, 2004, SECOND INTERVAL)

REFERENCES

1. Luminant Power letter, logged TXX-04199, from Mike Blevins to the U. S. Nuclear Regulatory Commission (NRC), dated November 30, 2004.
2. Luminant Power letter, logged TXX-05176, from Mike Blevins to the U. S. Nuclear Regulatory Commission (NRC), dated November 15, 2005.
3. Luminant Power letter, logged TXX-06119, from Mike Blevins to the U. S. Nuclear Regulatory Commission (NRC), dated June 29, 2006.
4. NRC letter, Comanche Peak Steam Electric Station, Units 1 and 2 – Relief Request for 10-year Pump and Valve Inservice Testing Program (TAC NOS. MC 5385 and MC5386), from David Terao to Mike Blevins, dated September 27, 2006.

Dear Sir or Madam:

Luminant Generation Company LLC (Luminant Power) requested relief from ASME OM Code 1998 Edition, through 2000 Addenda, for the testing of the Safeguards Building Sump Pumps (SBSPs) at Comanche Peak Nuclear Power Plant (CPNPP) via references 1, 2, and 3 pursuant to 10 CFR 50.55a(3)(i).

The NRC staff reviewed the request and concluded via reference 4 that the Code-required test is impractical to perform without significant plant modifications, that the proposed alternative test would provide reasonable assurance for pump operability without major degradation, and that providing interim relief would allow time for the licensee to explore other alternatives, make necessary plant modifications for performing the required test, or submit a revised relief request.

Reference 4 granted relief for an interim period of up to two refueling cycles but not to exceed 4 years. This interim relief will end in September 2009.

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Luminant Power has explored other alternatives and has determined that the proposed relief request will provide reasonable assurance for pump operability without major degradation. These pumps are not required to provide a significant flow at a required head to prevent or mitigate any accident or maintain the plant in a safe shutdown condition. Modifications to enable testing in compliance with ASME OM code would not result in an increase to safety. The proposed alternate test simulates expected pump operation, including pumping against the same piping configuration, and demonstrates the pumps' capability to meet the unique performance requirements of these pumps. Performance of this test will clearly demonstrate that the pumps can achieve their intended safety functions.

The basis and justification for the relief request are attached. Luminant Power requests approval of this relief request by September 30, 2009.

This communication contains no new licensing basis commitments regarding CPNPP.

If you have any questions regarding this request, please contact Jack Hicks at (254) 897-6725.

Sincerely,

Luminant Generation Company LLC

Mike Blevins

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

Attachment

JCH

c - E. E. Collins, Region IV
B. K. Singal, NRR
Resident Inspectors, Comanche Peak
A. Jones, TDLR
Brian Welch ANII, Comanche Peak

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1. ASME Code Component(s) Affected

Safeguards Building Sump Pumps

The Safeguards Building Sump Pumps (SBSPs) safety functions are to: (1) detect and mitigate passive failures in the Emergency Core Cooling System (ECCS) and Containment Spray (CT) System post-LOCA, and (2) to prevent flooding of these engineered safety feature systems resulting from leakage after an accident. The Safeguards Building sump pumps are classified as active pumps and are required to mitigate the consequences of assumed continuous system leakage (1 gpm) from flooding the Engineered Safety Featured (ESF) equipment. Additionally, the sump level instrumentation, in combination with pump operation, provides positive indication to the Control Room of ESF system leakage occurring outside containment. Specifically, the Reactor Operator is credited with noting that the SBSP turns on and stays on longer than a normal sump pump down; an Operator is dispatched to the scene; and the source of the leak is determined and isolated. The SBSPs are designed with a capacity of 50 gpm each. There are two sumps per unit servicing the ESF equipment. Each sump has two safety related SBSPs; each having a 50 gpm design capacity. Only the capacity of one of the two pumps is required to perform the safety function.

Pump Tag Numbers:

CP1-WPAPSS-01	CP1-WPAPSS-02
CP1-WPAPSS-03	CP1-WPAPSS-04
CP2-WPAPSS-01	CP2-WPAPSS-02
CP2-WPAPSS-03	CP2-WPAPSS-04

ASME Code Class 3

The sump pumps are vertical line shaft centrifugal pumps that are included in the Comanche Peak Nuclear Power Plant (CPNPP) Risk-Informed Inservice Testing (IST) Plan. These pumps are classified as low safety significant components (LSSCs) per Risk Informed Inservice Test plan, and have a six-year staggered test frequency. The staggered test frequency results in one pump per Unit tested every 18 months.

2. Applicable Code Edition and Addenda

ASME OM Code 1998 edition, through 2000 Addenda.

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3. Applicable Code Requirements

ISTB-5100 (a) Duration of Tests
For the Group A test and the comprehensive test, after pump conditions are stable as the system permits, each pump shall be run at least two minutes.

ISTB-5121 Group A Test Procedure
The test parameters shown in Table ISTB-3000-1 shall be determined and recorded as required by this paragraph, including differential pressure.

4. Reason for Request

The reason for relief from ISTB-5100(a) is the Safeguards Building sump does not contain sufficient water inventory for 2 minutes duration at 80% or greater of design flow. The sump pumps are not designed with a recirculation line (mini-flow or test header) that allows a pump to be run continuously at design flow conditions.

The reason for relief from ISTB-5121 is there are no plant installed pressure or differential pressure instruments on the suction or discharge of the pump.

Previously the SBSPs were tested by setting flow at 0 gpm (i.e. dead head the pump) and differential pressure was calculated. The suction pressure was calculated by measuring an elevation between the sump cover and water level within the sump. This method was abandoned due to the ALARA concerns of the sump being potentially contaminated.

The test method of dead heading the SBSPs is adverse to the condition of the pumps and is no longer performed. Interim relief was granted by the NRC (TAC NOS. MC5385 and MC5386) on testing in compliance with ISTB-5100 and ISTB-5121 to explore other alternatives. The design of the SBSPs has been reviewed and it was determined that significant plant modifications would have to be performed without any appreciable benefit to safety to enable testing in compliance with ASME OM ISTB-5100 and ISTB-5121.

Per NUREG-1482, "the purpose of inservice testing is providing assurance of the operability of components and for detecting degradation in their performance. Where a particular component is integrated with other components in a system, it may be difficult to perform an individual test of that component. In specific cases for which individual testing is not feasible, an alternate test should be proposed by the licensee. In developing an alternate test, the licensee should attempt to develop quantitative criteria to evaluate the operability and condition of the component."

5. Proposed Alternative and Basis for Use

To meet the operational readiness requirements for these pumps, a test can be performed that demonstrates the pump can meet its intended safety functions. This test would require that the pump start on the proper level switch actuation, determine that the pump is capable of delivering a minimum of 50 gpm to the Waste Holdup Tank, and have velocity-based vibration

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readings that are satisfactory. Differential pressure measurement is not required to show adequate pump performance. Differential pressure measurement creates additional radiation exposure to personnel (ALARA) because the sump is potentially contaminated. Pumping 50 gpm or more to the Waste Holdup Tank demonstrates that adequate head was developed to overcome system resistance with greater confidence that the ASME OM Code requirements, for operational readiness have been met. The required head to pump to the Waste Holdup Tank is greater than the required head to discharge to the Floor Drain Tank which is the normal lineup.

The proposed test consists of the following. The sump will be filled to a predetermined level and the pump will operate until the automatic low-level cutoff switch actuates. The sump will be pumped down rapidly (approximately 50 seconds) by one pump. Suction pressure will vary as sump level changes; therefore, the 2 minute stabilization time and differential pressure measurement are not achievable. The test will require pumping the same quantity of fluid along a repeatable system path while measuring flow and vibration. A baseline reference shall be established for flow and vibration (MIH). Alert and Required Action Limits for vibration will be established and maintained as per Table ISTB-5200-1 for vertical line shaft centrifugal pumps. The acceptance criteria for flow will be greater than the design flow of 50 gpm. The flowrate delivered will be trended for detecting pump degradation and to ensure the SBSPs have adequate design margin

In addition, Regulatory Guide 1.175, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Inservice Testing," states that for Low Safety Significant Components (LSSCs), like the SBSPs, the testing may be less rigorous. This philosophy of demonstrating that the SBSPs have adequate design margin (greater than 50 gpm) is consistent with Regulatory Guide 1.175 testing strategy for LSSCs.

The SBSPs are small capacity pumps, compared to other pumps in the plant, with a capacity of greater than 50 gpm. The SBSPs are designed to pump a working volume, and not expected to run continuously. The SBSPs run intermittently in their normal and emergency modes. They turn on following a high sump level actuation and turn off following low sump level actuation. Trending flow against the required flowrate of 50 gpm will provide adequate means of demonstrating acceptable pump operation.

The SBSPs are of low safety significance and are not explicitly modeled in the Probabilistic Risk Assessment (PRA) for internal events analysis. As stated previously, the SBSPs are there to prevent flooding. Alarms associated with these pumps alert the operator of potential leakage in the safeguards building and mitigate the consequences of the leakage. The proposed alternate test will provide reasonable assurance that the sump pumps will perform their intended functions and not impact the assumptions in the PRA flooding assessment.

The basis for classifying the Safeguard Building Sump Pumps as active is they mitigate continuous system leakage in the Safeguard Building at a flow rate of 1 gpm. These pumps also provide credited positive indication to the Control Room of flooding in the Safeguards Building from ESF equipment. The performance requirements for these pumps are unlike any other pumps in the Risk-Informed Inservice Testing Plan. These pumps are not required to provide a

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significant flow at a required head to prevent or mitigate any accident or maintain the plant in a safe shutdown condition. Modifications to enable testing in compliance with ASME OM code would not result in an increase to safety.

The proposed alternate test simulates expected pump operation and demonstrates the pumps' capability to meet the unique performance requirements of these pumps. Performance of this test will clearly demonstrate that the pumps can achieve their intended safety functions.

There is no change to the design functions of the sump pumps. This change impacts the testing criteria and does not impact the safety analysis as described in the FSAR.

6. Duration of Proposed Alternative

CPNPP is requesting permanent relief on the proposed test methodology for CPNPP Unit 1 and Unit 2 Risk-Informed Inservice Testing Plan for Pumps and Valves, Second Interval.