TUELECTRIC

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July 20, 1992

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Group Vice President

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
TRANSMITTAL OF COMMENTS ON THE
PROOF AND REVIEW COMMON TECHNICAL SPECIFICATIONS

REF: NRC Letter from Mr. Brian E. Holian to
Mr. William J. Cahill, Jr. dated July 1, 1992.

Gentlemen:

The referenced letter provided TU Electric with a copy of the NRC's "Proof and Review" copy of the CPSES Units 1 and 2 combined Technical Specifications. TU Electric orally requested and received an extension in providing comments on the Proof and Review Technical Specifications. TU Electric reviewed the "Proof and Review" copy of the Technical Specifications. Attached are proposed changes to the combined Technical Specifications.

The proposed changes include; 1) corrections to validated Unit 2 values, 2) corrections reflecting previously transmitted changes, and 3) a revised testing frequency for turbine overspeed protection. Attachment 1 provides the descriptions/justifications for the proposed changes. Attachment 2 is a markup of the "Proof and Review" Technical Specifications denoting the proposed changes. Please note that Amendment 11 to the CPSES Unit 1 Technical Specifications have not been incorporated into the Proof and Review copy.

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If you should have any questions concerning these changes, please contact Mr. Jimmy D. Seawright at (214) 812-4375.

Sincerely,

William J. Cahill, Jr.

By: _____
D. R. Woodlan
Docket Licensing Manager

JDS/gmb
Attachments

c - Resident Inspectors, CPSES (2)
Mr. B. E. Holian, NRR
Mr. J. L. Milhoan, Region .V

Change Type	Description/Justification
1.	Corrects the values to reflect the actual validated Unit 1 and 2 values.
2.	Editorial: Typing/Grammatical
3.	Bracket Removal for validated numbers.
4.	Information was incorrectly copied from the current NUREG 1399. Markup corrects information to be consistent.
5.	B 2-2, Editorial: Previously transmitted to the NRC in TXX-92001, dated January 2, 1992. 3/4 4-15, Correction: Previously transmitted to the NRC in TXX-92261, dated June 16, 1992. 3/4 7-14, Correction: Information previously transmitted to the NRC in TXX-92260, dated June 5, 1992. 1) The APPLICABILITY for specification 3.7.4.1 should include "Units 1 and 2 in", since this specification only applies when both units are in MODES 1 through 4. 2) ACTION statement b. for specification 3.7.4.1 and ACTION statements b. and c. of specification 3.7.4.2 should state "7 days" for the allowed outage time. A plant specific PRA calculation was performed to determine the impact of "7 days" versus "72 hours". The calculation demonstrates that equipment unavailability has relatively no impact (less than 0.1%) on the total core damage frequency. In addition, locking the valves open in the cross-connects places the valve in a Technical Specification "OPERABLE" condition since the valve is fully capable of performing its intended safety function. Whether or not operations personnel can operate the valves in the cross-connect is not representative of the OPERABLE status of a valve.
6.	The submittal of the Monthly Operating Report is made to the Document Control Desk in accordance with 10CFR and to the Regional Administrator of the Regional Office as required by Administrative Control 6.9.1. This is duplicate information and unnecessary.
7.	The current CPSES Surveillance Requirement 4.3.4.2.a for Technical Specification 3/4.3.4, "Turbine Overspeed Protection", requires that once per 14 days each high and low pressure turbine stop and control valve be cycled using the manual test or Automatic Turbine Tester. Surveillance 4.3.4.2.c requires that once per 31 days the movement of the turbine valves through one complete cycle, be directly observed. TU Electric requests that a change to these two surveillances be included in the current NRC review of the proposed Proof and Review Common Technical Specifications to reduce the frequency of the above testing to once every six weeks. The Surveillance testing requires moving each of the turbine valves through one complete cycle and is typically performed by a control room operator with an observer at the valve. The test verifies freedom of movement of

Description/Justification

the valve components and is beneficial in detecting non-or sluggish valve operation and identification of gross outward appearance of valve condition. The surveillance requirement ensures that all turbine steam inlet valves are capable of closing to protect the turbine from excessive overspeed which could generate potentially damaging turbine missiles.

In draft NUREG 1366, the NRC evaluated several proposed improvements to technical specification surveillances. In particular, the NUREG identified the above turbine valve testing surveillance as requiring NRC "faster action" based on the following concerns:

1. The surveillance causes a significant number of reactor trips.

2. The surveillance results in some wear to the valves and stress to the steam system, in some cases causing relief valves to lift.

3. While the test is being conducted, in order to avoid a reactor trip, the steam flow to the turbine must be reduced. This is done by reducing reactor power which results in a reduction in capacity factor. In addition, because of the reduction in power, the test becomes more difficult to perform at the end of cycle when there may not be enough boron dilution to override xenon.

The present requirements for the test frequency are based on historical turbine vendor recommendations. The test interval was developed for fossil units and carried over to nuclear units due to the similarity of design. Fossil units (and early PWR units) utilized phosphate chemistry in their condensate. This contributed to a much greater particulate content than is permitted in nuclear units and higher incidence of valve inoperability due to phosphate carryover. With the use of all-volatile chemistry, such as used at CPSES, the failures attributed to particulate carry-over has been significantly reduced.

It was the conclusion of draft NUREG-1366, that with the manufacturers recommendation, the test interval for turbine valves as part of the turbine overspeed protection system surveillances should be extended to one test quarterly, with direct observation of each turbine valve movement. The NUREG also noted that a quarterly test corresponds to the most stringent valve testing requirement of the ASME Code.

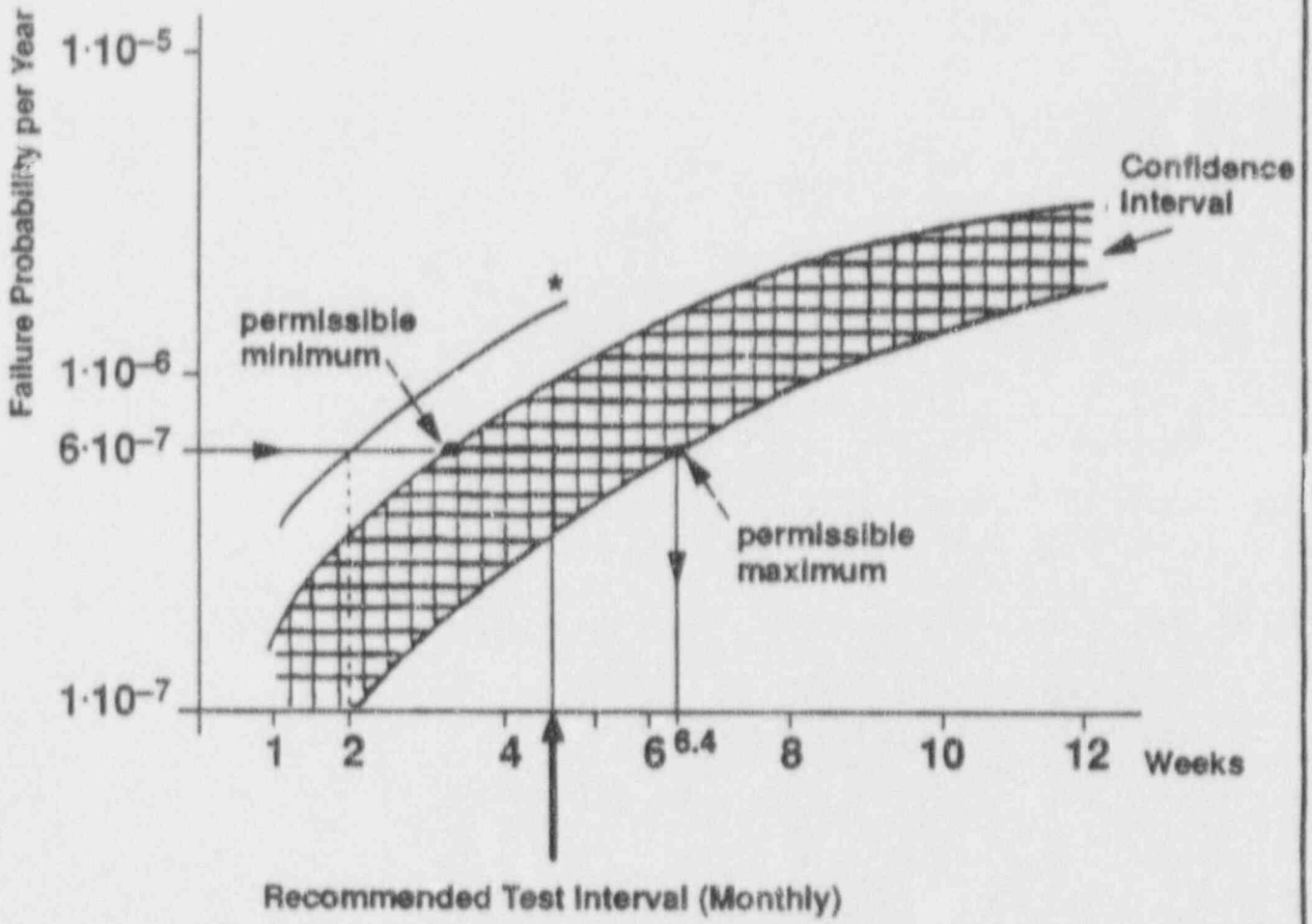
Siemens, the manufacturer of the CPSES turbines (Units 1 and 2), has recommended a one month testing interval, or a six week testing interval providing, that additional monitoring sensors are installed on each stop valve, and that no degradation of closing time is observed. This recommendation was based on a quantitative evaluation performed by Siemens on the probability of failure of the HP/LP turbine stop and control valves as a function of their test interval (see attached figure). CPSES intends to install the additional monitoring sensors and monitor valve closing time

Description/Justification

degradation prior to implementation of a six week testing interval.

The NRC has granted increases in test intervals for turbine overspeed testing to once per month (e.g., North Anna) and in some cases to as long as once per year (e.g., Point Beach 1 & 2, Prairie Island, based on WCAP-11525 analyses performed by Westinghouse for a number of utilities). In the safety evaluation of the Prairie Island submittal, the NRC indicated that the generic turbine failure guideline for determining testing intervals for turbine stop and control valves, was a total turbine missile generation probability of less than 10^{-4} per year for favorably oriented turbines, such as CPSES turbines.

In Engineering Report No. ER-504, previously submitted on the CPSES docket (FSAR Section 3.5, Reference 5), using a two week testing interval, and historical failure rate data gathered through January 1, 1975, the failure probability of HP/LP stop and control valves was calculated to be 3.93×10^{-6} and 8.53×10^{-6} per year respectively. Based on the above, the overall turbine missile probability was determined to be approximately 2.1×10^{-7} per year. Subsequently, Siemens re-evaluated the failure rate data for Siemens turbine stop and control valves using information gathered through 1984. The updated failure probability for these valves decreased to 6×10^{-7} per year. Based on the attached figure of valve failure probability versus testing interval, increasing the test interval to six weeks would not increase the failure rate of these valves to a level as high as that assumed in ER-504. Thus, the requested six week test interval would not increase the overall missile generation probability.



TEST INTERVAL

Time Between 2 Tests

* Based on data compiled before 1984

May 27, 1992	ATT Valve Testing Interval	SIEMENS
		M-TDKA 02579