

CONSUMERS POWER COMPANY
Docket 50-255
Request for Change to the Technical Specifications
License DPR-20

For the reasons hereinafter set forth, it is requested that the Technical Specifications contained in the Provisional Operating License DPR-20, Docket 50-255, issued to Consumers Power Company on October 16, 1972, for the Palisades Plant be changed as described in Section I below:

I. Changes

- A. Change 4.5.4a. to read as follows:

"Tendon inspection shall be accomplished at five-year intervals for the life of the plant. The scheduled inspection dates for all inspections may be varied by not more than plus or minus one year from the base schedule."

- B. Delete specifications 4.5.4b., c. and d., and renumber 4.5.4e., f., g., h., and i. as 4.5.4b., c., d., e. and f."

- C. Change re-lettered specification 4.5.4b. (old 4.5.4e.) as follows:

"b. The surveillance tendons shall be randomly but representatively selected from each of the following groups:

1. A minimum of 4 dome tendons including one from each dome tendon group.
2. A minimum of 4 vertical tendons.
3. A minimum of 5 hoop tendons.

For each inspection, the tendons shall be ..."

- D. Change re-lettered specification 4.5.4c.1. (old 4.5.4f.1) to read as follows:

"1. Lift-off readings shall be taken for each of the surveillance tendons. The tests shall include the following actions:

- (a) One tendon, randomly selected from each group of tendons during each inspection, shall be subjected to essentially complete detensioning to identify broken or damaged wires.
- (b) The simultaneous measurement of elongation and jacking force during retensioning shall be made at a minimum of three approximately equally spaced levels of force between the seating force and zero."

OC0887-0139-NL04

8709210524 870916
PDR ADDCK 05000255
PDR

- E. Delete re-lettered specification 4.5.4c.6. (old 4.5.4f.6)
- F. Change re-lettered specification 4.5.4d. (old 4.5.4g.) as follows:

"Following the field testing of 4.5.4c., the following laboratory testing shall be done.

1. Three tensile test specimens shall be cut from each of the three inspection wires removed (one from each end and one from the middle). One additional specimen shall be cut from the wire determined by field visual inspection to have the greatest amount of corrosion. Each of the wire samples shall be tested for ultimate strength, yield strength, and elongation.
2. The sheathing filler samples shall be taken from each end of each tendon examined. Vertical tendon samples shall be taken from the lower end. Samples shall be thoroughly mixed and analyzed for reserve alkalinity, water content, and concentration of water soluble chlorides, nitrates, and sulfides. Analyses shall be performed in accordance with the procedures and within the acceptance limits specified in ASME Code Section XI, Table IWL-2525-1.

Procedures shall be established to minimize voids and to assure that the volume of sheathing filler removed has been replaced upon completion of the inspection and amounts documented."

- G. Change re-lettered specification 4.5.4e.1. (old 4.5.4h.1.) to read as follows:

"1. The average of all measured tendon forces for each type of tendon shall be equal to or greater than the minimum required prestress level of 584 kips per tendon for dome tendons and 615 kips per tendon for hoop and vertical tendons. The measured force in each individual tendon shall not be less than 95% of the predicted force, or

- (a) the measured force in not more than one tendon is between 90% and 95% of the predicted force, and
- (b) The measured forces in two tendons located adjacent to the tendon in (a) above are not less than 95% of the predicted forces, and
- (c) the measured forces in all the remaining sample tendons are not less than 95% of the predicted force.

If measured force in any tendon is less than 90% of its predicted force, the tendon shall be completely detensioned and a determination shall be made as to the cause of such an

occurrence and corrective action shall be taken. In addition, all such tendons shall have their forces measured as additional tendons in the next scheduled inspection period. The Commission shall be notified in accordance with Paragraph 4.5.4f."

- H. Change in re-lettered specification 4.5.4e.3. (old 4.5.4h.3.) "Specification 4.5.4i." to "Specification 4.5.4f."
- I. Change re-lettered specification 4.5.4f. (old 4.5.4i.) to read as follows:
 - "i. If any element of the prestressing system fails to meet the acceptance criteria of 4.5.4e., the reporting provision of Specification 6.9.2 shall apply."
- J. Change specification 4.5.5 in its entirety, to read:
 - "4.5.5 End Anchorage Concrete Surveillance
 - a. A VT-1 visual examination shall be performed on the end anchorage concrete surface at the surveillance tendon anchor points for signs of cracking, popouts, spalling, or corrosion. Concrete cracks having widths greater than 0.010 inches shall be evaluated and documented.
 - b. The end anchorage concrete surveillance inspection interval shall be the same as tendon surveillance period.
 - c. Acceptance criteria
 - 1. Crack widths shall be measured by using optical comparators or wire feeler gauge. Movements shall be measured by using demountable mechanical extensometers.
 - 2. Concrete anchorage areas are acceptable if no concrete cracks are wider than 0.010 inches and no signs of new or progressive deterioration since previous inspection are found.
 - 3. Concrete surface conditions exceeding those stated in 4.5.5c.2 above shall be evaluated for the effect on tendon and containment structural integrity. The results of evaluation shall be included in the final surveillance report."
- K. Delete specifications 4.5.6 "Liner Plate Surveillance" and 4.5.7 "Penetration Surveillance."
- L. Revise 4.5 Basis as shown in attached page changes.

II. Discussion

- A. Proposed in specification 4.5.4 is the inspection schedule stipulated in the pending ASME B&PV Code, Section XI, Subsection IWL-2400, and stipulated as different allowable interval extension than that in specification 4.0.2.

Deleted are the requirements for surveillance tests that have been previously accomplished. The results of these prior tests are described in the updated FSAR, Section 5.8.8.3.

- B. Deleted in old specifications 4.5.4b., e., and d. are out of date surveillance requirements that have been previously accomplished and the results of which are described in the Updated FSAR.
- C. Re-lettered 4.5.4b. has been revised to be consistent with a 2% sample size which is consistent with the ASME Code, Section XI, Subsection IWL-2521-1 and exceeds the sample selection size in 2.2 and 2.3 of Regulatory Guide 1.35 revision 3.
- D. Proposed in re-lettered 4.5.4c.1 are the new provisions stipulated in the Regulatory Position No. 4 of the proposed revision 3 to Regulatory Guide 1.35 and ASME Code, Section XI, Subsection IWL-2523.1. The new provisions require complete detensioning of only one tendon per each group of the surveillance tendons and additional information which is not covered in the existing Technical Specifications.
- E. Re-lettered item 4.5.4c.6 has been superseded by the retension requirement in 4.5.4c.1(b).
- F. The changes to re-lettered 4.5.4d.1. and 2. are made to include the additional requirements stipulated in draft ASME B&PV Code, Section XI, Subsection IWL-2523, for tensile test and IWL-2526 for sheathing filler examination, which were not clearly described in the existing Technical Specifications.
- G. The changes to re-lettered 4.5.4e.1 are made to incorporate the requirement stipulated in the draft ASME B&PV Code, Section XI, Subsection IWL-3221.1 for the acceptance of tendon force. These added requirements clarify the tolerances permissible for lift-off deviation.
- H. The change in re-lettered section 4.5.4e.3 are editorial.
- I. The change to section 4.5.4f is editorial to align it with the reporting requirements in 6.9.2 and delete obsolete wording.
- J. The changes to 4.5.5 are made to incorporate the requirements stipulated in the draft ASME B&PV Code, Section XI, Subsection IWL-2524 and IWL-3221.3 which are more consistent with the overall tendon surveillance activities, rather than as a separate activity.

The change to the inspection interval is intended to eliminate the redundant inspection schedule for end anchorage concrete as separated from the tendon surveillance schedule to avoid confusion.

- K. Specifications 4.5.6 "Liner Plate Surveillance" and 4.5.7 "Penetration Surveillance) contain obsolete requirements that have been previously accomplished and the results of which are described in the Updated FSAR, Section 5.8.8.5.

The Standard Technical Specifications (STS) contain requirements for an examination of containment surfaces, which are similar to these out-of-date requirements. The STS surveillance is accomplished prior to a Type A, containment integrated leak rate test. However, the STS requirement is also stipulated in 10CFR50 Appendix J, section V.A and is, therefore, unnecessary in the Technical Specifications.

- L. Revisions to the Basis section 4.5 are to update the information. Deletion of the next to last paragraph is consistent with information in FSAR Section 5.8.8.5.
- M. In reference to IWL-2521(b), in Subsection IWL-2521(a) it is stipulated that surveillance tendons shall be randomly selected, preferably in a symmetrical pattern with respect to containment geometry which represents better distribution of tendon population. However, in Subsection IWL-2521(b) it is stipulated to have a common tendon selected for all surveillance periods which imposes unnecessary cyclic load to this particular tendon that will ultimately induce fatigue stress and possibly result in failure to certain tendon wires. We, CPCo, feel that this provision is not technically justified. Currently, IWL Working Group is still working on the details of this requirement.

Analysis of No Significant Hazards Consideration


The proposed revision to the surveillance method incorporates current methods of conducting inservice inspections of prestressed concrete containments. The proposed changes incorporate the revisions agreed upon by the NRC and Consumers Power Company in the resolution of SEP Topic III-7.A as described in the Integrated Plant Safety Assessment, NUREG-0820, October 1982. The revisions to the method of conducting lift-off readings and conducting of the laboratory testing and acceptance criteria are acceptable methods per the pending ASME B&PV Code, Section XI, Subsection IWL. There are no changes to the physical part of the surveillance field activities. The deletion of several sections in the specifications is considered editorial to remove obsolete requirements that have been previously accomplished and described in the Updated FSAR. As a result, there is no increase in the probability of occurrence or consequences of an accident or malfunction of equipment and the possibility of a new or different accident has not been created.

The change does not result in a reduction in the margin of safety as defined in the basis of the Specifications. The revisions in sample size, measurement methods, definition of laboratory testing and acceptance criteria do not result in a reduction in the margin of safety. Additionally, the number of tendons undergoing complete detensioning has been reduced from the previous requirements. This acceptable reduction ensures the margin of safety of the containment structure is not affected by detensioning and retensioning a larger sample than is necessary to conduct an appropriate surveillance program.

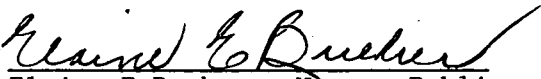
III. Conclusion

The Palisades Plant Review Committee has reviewed this Technical Specification Change Request and has determined that this change does not involve an unreviewed safety question and, therefore, involves no significant hazards consideration. This change has also been reviewed under the cognizance of the Nuclear Safety Board. A copy of this Technical Specification Change Request has been sent to the State of Michigan official designated to receive such Amendments to the Operating License.

CONSUMERS POWER COMPANY

By 
F W Buckman, Vice President
Nuclear Operations

Sworn and subscribed to before me this 16th day of September 1987.


Elaine E Buehrer, Notary Public
Jackson County, Michigan
My commission expires October 31, 1989