UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 141 TO FACILITY OPERATING LICENSE NO. DPR-20

CONSUMERS POWER COMPANY

PALISADES PLANT

DOCKET NO. 50-255

1.0 INTRODUCTION

By letter dated October 22, 1990, Consumers Power Company submitted a request for change to Palisades Technical Specification 4.14, "Augmented Inservice Inspection Program for Steam Generators." Under the proposed change, the existing Technical Specification (TS) program for augmented inservice inspection of the steam generators will be replaced with an inservice inspection program that is consistent with the inspection program described in the Standard Technical Specifications (STS). With the replacement of the original steam generators and approval of this change to the TS, all previous commitments and requirements pertaining to inspection of the original steam generators will be annulled.

2.0 DISCUSSION

The proposed TS change would revise the augmented inservice inspection program for steam generators that is currently described in Technical Specification 4.14. Under the proposed change, the existing TS program for inservice inspection of steam generators will be replaced with an inservice inspection program that is consistent with the program described in the STS.

Inservice inspection of primary coolant system components, including steam generator tubes, is necessary to ensure that design basis assumptions are maintained. Steam generator tube inspections also provide periodic surveillance of steam generator tube condition in order to detect mechanical damage or progressive degradation caused by corrosion. The proposed inservice inspection program for steam generators is based Regulatory Guide 1.83, Revision 1, "Inservice Inspection of Pressurized Water Reactor Steam Generator Tubes" and satisfies these objectives.

3.0 Evaluation

The existing augmented inservice inspection program for steam generators includes the following: (1) non-destructive examination of a sample of steam generator tubes on a schedular basis, (2) emphasis on tubes that are located in areas where experience has indicated that flaw initiation is most probable,

(3) increased monitoring of tubes that were previously identified as degraded, (4) increased tube sample size and inspection frequency following evidence of excess tube degradation, and (5) repair and plugging criteria for degraded and defective tubes.

These same requirements from the existing steam generator inspection program are embodied in the STS program for augmented inservice inspection of steam generators, and are also reflected in the inservice inspection program proposed. In addition to the previously mentioned program attributes, both the existing and proposed inservice inspection programs contain provisions for reporting the results of inspection activities to the Commission.

A difference between the existing and proposed programs is the imperfection depth at or beyond which a steam generator tube will be considered defective. Under the proposed TS, a steam generator tube will be considered unacceptable if an indication penetrates 40% or more of the nominal tube wall thickness.

The existing specification has separate criteria for tubes that contain multiple indications. However, neither the STS inspection program nor the proposed inspection program contain a separate criteria for tubes with multiple indications. The existing criteria for tubes with multiple indications was developed specifically for the original Palisades steam generators at a time when operational degradation of the steam generator tubes was unpredictable and aggressive due to previous chemistry practices. The repair criteria reflects previously observed operational degradation rates, as well as the relatively high level of instrument uncertainty that was inherent in eddy current testing (ECT) devices which were available at the time the specification was written.

Early ECT devices often provided ambiguous representations of tube wall condition, including indeterminate evidence of multiple tube wall indications. ECT devices are now able to depict tube wall conditions with significantly greater accuracy. Additionally, the licensee utilizes secondary water chemistry that has been demonstrated to minimize operational tube degradation, and has recently the steam generators.

The proposed change to Technical Specification 4.14 will result in an acceptance criteria that is as conservative as those described in the existing program for steam generator tubes that do not exhibit multiple indications. Because of differences in nominal tube wall thickness between the original and replacement steam generators, the proposed 40% acceptance criteria will result in a dimensionally larger thickness of un-degraded tube wall.

The proposed specification also clarifies the method used to satisfy the requirement that hydrostatic testing be performed prior to preservice ECT examination of the steam generator tubes.

The same principal provisions from the existing inservice inspection program are also reflected in the proposed inservice inspection program. Therefore, the reliability and integrity of those provisions of the primary coolant boundary associated with the steam generator tubes will not be reduced.

Additionally, the proposed inspection program will direct tube repairs under conditions that are no less conservative than those stated in the existing specification.

The margin of safety associated with the structural integrity of those portions of the primary coolant system that are associated with the steam generator tubes will be maintained following implementation of the proposed change through use of TS limits on primary-to-secondary leakage and the inservice inspection program.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Michigan State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and a change in a surveillance requirement. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding (FR). Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

6.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Date: February 3, 1992