



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE INSERVICE INSPECTION PROGRAM OF THE

LOW PRESSURE TURBINE DISCS

FLORIDA POWER AND LIGHT COMPANY, Et Al.

ST. LUCIE PLANT, UNIT NO. 2

DOCKET NO. 50-389

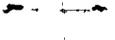
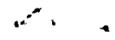
Introduction

Section 10.2.1 of the St. Lucie Plant, Unit No. 2, Safety Evaluation Report (October 1981) contains the staff's conclusion that the low-pressure (LP) turbine discs should be inspected during the first refueling outage. The licensee commitment to this inspection was documented in Supplement No. 3 to the Safety Evaluation Report (April 1983). In a letter dated April 9, 1984 the licensee requested that the commitment contained in Supplement No. 3 be deleted and replaced with a commitment to perform turbine disc inspections in accordance with the turbine vendor's recommended intervals. Additional clarifying information was provided by a letter dated August 6, 1984.

Discussion

The inspection commitment contained in the St. Lucie 2 Safety Evaluation Report resulted from the review of the St. Lucie 2 FSAR. At the time of the review, the licensee had not yet received from the turbine vendor (Westinghouse) the recommended inspection intervals for the St. Lucie 2 LP turbine discs. This was due to the fact that the turbine vendor was giving priority to operating plants and determined the inspection intervals for those plants first. The licensee received a letter from the vendor dated January 30, 1982 containing the recommended inspection intervals for the St. Lucie 2 turbine discs. This letter specified an inspection interval of 3.49 years for LP#1 and an inspection interval of 3.12 years for LP#2. These recommended inspection intervals comply with the new criteria accepted by the staff and detailed in the NRC letter to the licensee dated August 21, 1981. The staff concluded that the inspection intervals for discs on nuclear LP rotors provide an acceptably high degree of assurance that the discs will be inspected before cracks can grow to a size that could cause disc failure at speeds up to design speed. The licensee subsequently committed to follow the inspection intervals recommended by the vendor for the licensee's other operating units, St. Lucie 1 and Turkey Point 3 & 4.

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In the course of the staff review, additional information regarding the turbine vendor's method of determining the turbine disc temperature that should be used for crack growth calculations was requested. This information was supplied in the August 6, 1984 letter, along with a table that updates the table currently in the FSAR. This updated table will be incorporated in the next revision to the FSAR.

Conclusions

Based on the information that has been supplied by the licensee, the staff has concluded that temperatures used by the turbine vendor are consistent with the criterion that has been found acceptable by the staff. Therefore, it is concluded that turbine disc inspection intervals of 3.49 years and 3.12 years for LP 1 and LP 2, respectively, are acceptable.

Principle Contributor:

W. Hazelton
D. Sells

