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 FACIL: 50-389 St. Lucie Plant, Unit 2, Florida Power & Light Co.      05000389  
 AUTH. NAME      AUTHOR AFFILIATION  
 UHRIG, R. E.      Florida Power & Light Co.  
 RECIP. NAME      RECIPIENT AFFILIATION  
 EISENHUT, D. G.      Division of Licensing

SUBJECT: Forwards safety analysis of 830606 proposed change to Tech Specs requesting that weekly testing of valves involved in turbine overspeed protection be extended to monthly schedule & Westinghouse ltr inadvertently omitted from 830606 ltr.

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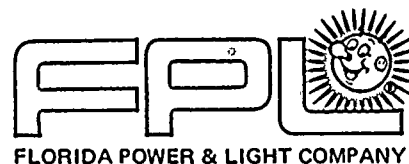
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THE UNITED STATES OF AMERICA  
 DISTRICT COURT OF THE DISTRICT OF COLUMBIA  
 IN RE: [Name], Debtor.  
 CHAPTER 11, TITLE 11, U.S.C.

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Dated this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.  
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June 28, 1983  
L-83-375

Office of Nuclear Reactor Regulation  
Attention: Mr. Darrell G. Eisenhut, Director  
Division of Licensing  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Eisenhut:

Re: St. Lucie Unit 2  
Docket No. 50-389  
Proposed Technical Specification  
Amendment - Turbine Overspeed Protection

Our letter L-83-346, dated June 6, 1983 transmitted our request for an amendment to our Technical Specifications. The proposed change requested that the weekly testing of valves involved in turbine overspeed protection be extended to a monthly schedule.

As a result of discussions with your staff, please find attached an expanded safety analysis, which addresses the conclusion that the proposed change involves no significant hazards considerations. Also, please find attached a copy of the Westinghouse letter that was inadvertently omitted in our June 6th letter.

Very truly yours,

Robert E. Uhrig  
Vice President  
Advanced Systems & Technology

REU/JEM/cab

Attachments

cc: J. P. O'Reilly, Region II  
Harold F. Reis, Esquire

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## SAFETY ANALYSIS

The proposed amendment changes Technical Specification 4.3.4.2 such that the requirement for testing the valves in the turbine overspeed protection system is extended from every seven days to once per month. The acceptability of these testing extensions, in that they involve no significant hazard considerations as defined by 10 CFR 50.92(c) is discussed below.:

- 1) 10 CFR 50.92(c)(1): The change in testing frequency will not involve a significant increase in the probability or consequences of an accident previously evaluated for the following reasons:
  - a) The bases for the seven-day test schedule is a recommendation from the vendor (Westinghouse) to ensure reliability of operation. Westinghouse has recently changed their recommendation to monthly testing, citing a review of their records which revealed "no significant difference in the valve failure rate between valves tested weekly and those tested monthly".
  - b) The operation of the turbine overspeed protection system is important in preventing the generation of turbine missiles. The St. Lucie Unit 2 FSAR contains a safety analysis of turbine missile generation, which utilizes a probability for missile generation of  $4 \times 10^{-5}$  for destructive overspeed. This is based upon the very conservative NRC data presented in Standard Review Plan, Section 3.5.1.3 - Turbine Missiles, Rev. 1. However, Westinghouse has based their turbine generation probabilities on tests and analyses which yield results which differ by 5 or 6 orders of magnitude. The Westinghouse value for disc rupture and missile generation is  $1.31 \times 10^{-11}$ . Therefore, the change in testing frequency will not affect the great conservatism already included in the analysis.
- 2) 10 CFR 50.92(c)(2): The change in testing frequency does not create the possibility of a new or different kind of accident from any accident previously evaluated because it does not modify the configuration of the plant or the manner in which it is operated. Since no changes to the plant or its operation are made to the proposed change, there is no increase in the possibility of creating an accident of a new or different type over what currently exists without the proposed change.
- 3) 10 CFR 50.92(c)(3): The change in testing frequency does not involve a significant reduction in a margin of safety due to the following:
  - a) St. Lucie Unit 2 is required to reduce power to approximately 85% to conduct this test. The reduction of the test frequency from weekly to monthly will reduce the amount of the time the plant will spend in a transient state, and increase the time in "steady-state" operation. It is our opinion that reducing transient time of plant operation actually increases the margin of safety of plant operation.

SAFETY ANALYSIS (continued)

- b) Valve testing as required by this Technical Specification does not influence valve lifetime by identifying necessary repairs or to identify failure precursors. The primary benefit of valve testing is the potential for detection of failed valves. Therefore, reduction of this testing frequency would not reduce the margin of safety assumed in the turbine missile generation safety analyses in that the values used for valve reliability or failure rates remain unaffected.
  
- c) Except as noted in item 3.(b), the turbine overspeed protection system is not an initiator of any previously evaluated accidents, and therefore the change in testing frequency does not reduce any margin of safety.

Westinghouse  
Electric Corporation

Power Generation  
Group

May 24, 1983

Mr. Cecil Wethy, Plant Manager  
St. Lucie Plant  
Florida Power & Light Company  
P.O. Box 128  
Ft. Pierce, FL 33450

Subject: St. Lucie Units 1 and 2  
Valve Testing Frequency


Dear Cecil:

As a result of further study of Building Block 296 turbines using horizontal throttle valve 1 steam chest configuration Westinghouse has officially changed its recommendation regarding valve testing. The statement from our Engineering Department is given verbatim below.

Westinghouse Electric Corporation recommends that the throttle, governor, interceptor, and reheat stop valves of nuclear turbine-generators units with steam chests be tested monthly.

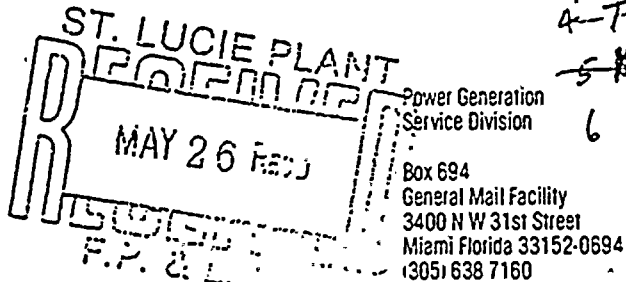
Based on a review of testing frequency and performance data from Westinghouse turbine and component incidents records and a 1982 survey of utilities operating Westinghouse nuclear turbines, Westinghouse concluded that there is no significant difference in the valve failure rate between valves tested weekly and those tested monthly. It was further noted that monthly versus weekly valve testing frequency may be beneficial because it reduces the time a plant is operating in a "transient state".

Very truly yours,

  
W. F. Caperton  
District Manager  
Power Generation Service

WFC:cp

cc: Mr. J. W. Williams, Jr., FPL-Miami  
Mr. K. N. Harris, FPL-Miami  
Mr. Harry Paduano, FPL-Miami



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