

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250
 50-251 Turkey Point Plant, Unit 4, Florida Power and Light C 05000251
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 UHRIG, R. E. Florida Power & Light Co.
 RECIP. NAME: RECIPIENT AFFILIATION
 EISENHUT, D. G. Division of Operating Reactors

SUBJECT: Responds to NRC 791017 ltr re auxiliary feedwater sys. Amend
 to Tech Specs covering auxiliary feedwater pumps scheduled
 for submittal on 800131. Sys operability verified monthly by
 starting pumps & establishing flow to steam generators.

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December 20, 1979
L-79-354

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

Dear Mr. Eisenhut:

Re: Turkey Point Units 3 & 4
Docket Nos. 50-250 & 50-251
Auxiliary Feedwater System

We have reviewed your letter of October 17, 1979 on the subject of the auxiliary feedwater system at Turkey Point. Our response to Enclosure 1 of your letter is attached.

A response to the Enclosure 2 information request is being developed by our NSSS vendor and will be submitted at a later date.

Please call if you have further questions on this subject.

Very truly yours,

Robert E. Uhrig
Vice President
Advanced Systems & Technology

REU/MAS/cph

Attachment

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

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ATTACHMENT

Re: Turkey Point Units 3 & 4
Docket Nos. 50-250 & 50-251
Auxiliary Feedwater System

Generic Short-Term Recommendation 1 (GS-1)

A proposed Technical Specification amendment to enhance our current specifications covering auxiliary feedwater (AFW) pumps is scheduled for submittal by January 31, 1980.

Generic Short-Term Recommendation 2 (GS-2)

AFW system operability is verified on a monthly basis in accordance with Technical Specification 4.10 by starting the AFW pumps and establishing flow to the steam generators.

With the following exceptions, valves that could affect AFW flow are locked open and verified locked open monthly by procedure.

Exceptions: (a) Steam admission to AFW pump turbines

MOV 3-1403, 1404, 1405

MOV 4-1403, 1404, 1405

After receipt of an accident signal, these valves open automatically to supply steam to the AFW pump turbines. Upon loss of one or two valves, the third valve would still be available to furnish the required steam. These valves are part of the AFW control system and cannot be locked open because that would activate AFW.

(b) Steam pressure control valves

CV-3705, 3706, 3707

The steam pressure control valves, located between the steam admission valves and the AFW pump turbines, cannot be locked in any position because they are part of the AFW control system. The valves open automatically upon sensing an upstream steam pressure of 110 psi. Operability of the steam pressure control valves is tested monthly in compliance with Technical Specification 4.10.

(c) AFW regulators

CV-2816, 2817, 2818

CV-2831, 2832, 2833

Automatic initiation of AFW was addressed in our November 21, 1979 response to NUREG-0578 (FPL letter L-79-329). In our letter we stated that the auxiliary feedwater system is

automatically initiated, however, the feedwater regulator valves are modulated by operator action from the control room to maintain steam generator level. Normal practice and established procedures dictate that an operator (as a primary and essential function) monitor and maintain steam generator level(s) during transients or accidents. The operator assigned to maintain steam generator level(s) does not have any other concurrent duties during an accident or transient until after the steam generator level(s) are stabilized.

In order to provide fully automatic flow initiation, the auxiliary feedwater control valves will be automatically opened to a predetermined position. Given the availability of off the shelf control grade components, implementation of the control grade modification can be completed by February 15, 1980 for both Units 3 and 4 since plant shutdown is not required.

The opening of the auxiliary feedwater system discharge valves, meeting safety grade requirements, will be implemented by January 1, 1981.

Generic Short-Term Recommendation 4 (GS-4)

Each unit's condensate storage tank (CST) is its primary source of AFW supply. If a unit's CST is not available, the alternate source would be the

CST from the other unit. The availability of the CSTs is physically assured by their seismic design and administratively assured during operation by Technical Specification 3.8.

Normal makeup to the CST is from the water treatment plant. Alternate CST makeup is from the condenser hotwell.

A procedure is scheduled to be written by March 31, 1980 to provide instructions for obtaining alternate sources of AFW and alternate sources of CST makeup.

Generic Short-Term Recommendation 5 (GS-5)

After AFW initiation, the as-built AFW system is capable of providing required flow for at least two hours from one AFW pump train independent of any alternating current power source. No manual operation is required upon loss of AC power because the steam control and AFW discharge control systems have a nitrogen backup.

Service water for cooling the lube oil for the turbine-driven pumps is supplied by gravity feed. A procedure is scheduled to be written by March 31, 1980 to describe how to assure at least a two hour supply of lube oil cooling water in the event of a loss of AC power.

A sound powered phone station is located at the AFW pumps, however, it is not linked to the Control Room. A modification to provide a sound powered phone link from the AFW pumps to the Control Room is planned for completion by

January 1, 1981. In conjunction with this modification, DC lighting will also be installed at the AFW pump location.

Generic Short-Term Recommendation 6 (GS-6)

A proposed Technical Specification amendment to enhance our current specifications covering AFW system surveillance (T.S. 4.10) is scheduled for submittal by January 31, 1980.

Independent valve position verification by a second operator will be incorporated into the appropriate procedure(s) by January 1, 1980.

Generic Short-Term Recommendation 7 (GS-7)

Automatic initiation of AFW was addressed in our latest response to NUREG-0578. Please refer to subsection (c) of our response to GS-4 above.

The as-built system is safety grade with one exception. The actuation of the pressure regulating valves for steam supply to the AFW pump turbines is not designed in accordance with the single failure criterion. Modifications designed to meet the criterion are scheduled for installation by January 1, 1981.

Additional Short-Term Recommendation 1

Redundant level indications and low level alarms for the AFW system primary water supply (CST's) are provided in the Control Room. The low level alarm

setpoint will be adjusted by January 1, 1980 to allow at least 20 minutes for operator action, assuming the largest capacity AFW pump is operating.

Additional Short-Term Recommendation 2

Surveillance records generated by the inservice testing program for pumps and valves show that the typical time for stabilization of bearing and bearing oil temperatures ranges from 30 minutes to 50 minutes. Based on these records, a 72 hour test is longer than necessary. We propose to satisfy the recommendation with a 12 hour test of all AFW pumps, each to be performed on a one-time basis during the current Unit 3 refueling outage. Following each 12 hour run, the pump will be shut down and cooled down and then restarted and run for one hour.

Additional Short-Term Recommendation 3

Auxiliary feed flow indication was addressed in our November 21, 1979 response to NUREG-0578 (FPL letter L-79-329). In our letter we stated the following:

"Control grade indication will be provided by installing a back-up nitrogen supply system to augment the existing pneumatic instrument loops on the steam generators. The control grade design modification is scheduled for completion by December 7, 1979. Implementation of the control grade modification will be completed by January 1, 1980 for both Units 3 and 4 since plant shutdown is not required. Implementation of the safety grade system is scheduled for completion by January 1, 1981."

Testability and the single failure criterion will be incorporated into the design.

Additional Short-Term Recommendation 4

A proposed Technical Specification amendment to enhance our current specification on AFW surveillance testing is scheduled for submittal by January 31, 1980.

Generic Long-Term Recommendation 3 (GL-3)

The as-built AFW system relies on the operation of motor operated (AC) steam admission valves to supply steam to the AFW turbine-driven pumps. A modification is under consideration to provide DC actuation of the steam admission valves. If we conclude that the modification is appropriate, we plan to have it installed by January 1, 1981.

Additional Long-Term Recommendation 3

The design bases for the AFW system for Turkey Point Units 3 and 4 did not include the requirement that the system be capable of performing its intended function with concurrent single-active and single-passive failures. If a pipe break is postulated in a common section of the AFW pump discharge, the system would be capable of providing AFW to one unit after the break is isolated, even with a concurrent single active failure.

If a pipe break is postulated in a common section of the steam supply piping, the system would perform its function if both nuclear units were operating, even with a concurrent single active failure. If only one nuclear unit was operating, the system can be operated by aligning a backup steam supply from fossil units 1 and 2.

We are considering options (1) and (2) as presented in the recommendation and plan to implement one or the other by January 1, 1981.

Additional Long-Term Recommendation 4

A modification is scheduled for completion by January 1, 1981 to provide cooling water for AFW pump lube oil from the discharge of the AFW pumps.