

PDR



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

November 7, 1986

MEMORANDUM FOR: Sholly Coordinator
Office of Nuclear Reactor Regulation

FROM: George W. Knighton, Director
PWR Project Directorate No. 7
Division of PWR Licensing-B

SUBJECT: REQUEST FOR PUBLICATION IN BI-WEEKLY FR NOTICE - NOTICE OF
CONSIDERATION OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE AND PROPOSED NO SIGNIFICANT HAZARDS
CONSIDERATION DETERMINATION AND OPPORTUNITY FOR HEARING

Louisiana Power and Light Company, Docket No. 50-382, Waterford Steam Electric
Station, Unit 3, St. Charles Parish, Louisiana.

Date of amendment request: August 20, 1986, as supplemented by letter dated
October 6, 1986

Description of amendment request: The proposed changes would revise Technical
Specification 3.1.2.8, "Borated Water Sources - Operating," ACTION statement
"a" to this specification, the associated surveillance requirement 4.1.2.8 and
the Bases section related to Boration Systems (3/4.1.2). The proposed changes
would also reference a revised Technical Specification Figure 3.1-1 which shows
the minimum Boric Acid Makeup Tank (BAMT) water volumes as a function of BAMT
concentration and Refueling Water Storage Pool (RWSP) concentration. The reason
for these changes are to delete the requirement for a heat tracing circuit in the
BAMTs by reducing the maximum boron concentration in the tanks to less than or
equal to 3.5 weight percent.

Reducing the boron concentration in the BAMTs requires that they maintain
a higher water volume in order to meet the safe shutdown requirements of Branch
Technical Position RSB 5-1, "Design Requirements of the Residual Heat Removal
System." The volume of borated water that is required from these tanks is
shown in the revision to Figure 3.1-1. During a natural circulation cooldown

8702120595 861107
PDR ADOCK 05000382
P PDR

with no letdown available, this figure shows the minimum volume of borated water necessary to maintain the required shutdown margin during the initial stages of plant cooldown and depressurization. Once this volume of water has been depleted, the RWSP is used to supply borated water to the RCS. This provides sufficient boron to meet the shutdown margin requirements for the remainder of the cooldown. Thus, both the BAMT(s) and the RWSP are required to maintain the shutdown margin requirements of Technical Specifications 3.1.1.1 and/or 3.1.1.2 during the natural circulation cooldown.

Previously, this specification has required at least one of the BAMTs to meet the requirements of Figure 3.1-1. The proposed change will add the flexibility of meeting the Limiting Conditions for Operation (LCO) by combining the contents of both BAMTs. This option was added because the proposed revision to Figure 3.1-1 allows the boron concentration in the BAMTs to go as low as 2.25 weight percent. In this case the volume requirement of approximately 14,000 gallons cannot be met with a single tank. However, if the combined contents of both tanks are used to comply with LCO, it must be shown that both Boric Acid Makeup pumps and both gravity feed valves are OPERABLE. This ensures that both BAMTs have two independent flow paths for injecting their contents into the RCS.

The proposed change to ACTION statement "a" of this specification will simply refer to the actual shutdown margin Specification (either 3.1.1.1 or 3.1.1.2) instead of requiring the core to be at least 2% subcritical at an RCS temperature of 200°F.

Basis for Proposed No Significant Hazards Consideration Determination: The NRC staff proposes to determine that the proposed changes do not involve a

significant hazards consideration because, as required by the criteria of 10 CFR 50.92(c), operation of the facility in accordance with the proposed amendment would not: (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) Create the the possibility of a new or different kind of accident from any accident previously evaluated; or (3) Involve a significant reduction in the margin of safety.

The basis for this proposed finding is given below.

- (1) Deleting the requirement for a heat tracing circuit by reducing the boron concentration in the BAMTs is accounted for by increasing the volume of boric acid solution that must be contained in the tanks and by also crediting borated water from the RWSP. During a natural circulation cooldown with no letdown available (Branch Technical Position RSB 5-1), sufficient borated water is available in the BAMTs to maintain the required shutdown margin while the plant is depressurized to the point where borated water from the RWSP can be delivered to the RCS. This provides sufficient boron to ensure the shutdown margin requirements of Specification 3.1.1.1 and/or 3.1.1.2 are satisfied. Since the safe shutdown requirements of Branch Technical Position RSB 5-1 are satisfied, these changes do not significantly increase the probability or consequences of any accident previously evaluated.
- (2) The reason for requiring a heat tracing circuit was to ensure that the dissolved boric acid was in solution and hence, available for injection into the Reactor Coolant System in the event of an emergency. By lowering the maximum boric acid concentration in the BAMTs to 3.5 weight percent, chemical analyses have shown that the boron would remain in solution at temperatures above 50°F. Since requirements are in place to ensure that the BAMT solution

remains above 55°F when crediting this source of borated water, there is no longer a need for the heat tracing circuit. Therefore, since the boron will be in solution and therefore available for emergencies, it does not create the possibility of a new or different kind of accident from those previously evaluated.

- (3) The intent of this Technical Specification is to ensure that there is enough boron available to maintain the required shutdown margin during an emergency. In order for the boron to be available, it must remain in solution from the time it leaves the boric acid makeup tanks until it reaches the Reactor Coolant System. Reducing the maximum boric acid concentration to 3.5 weight percent ensures that all the boron will remain in solution (as long as the solution temperature is greater than 50°F) while increasing the required volume in the tanks ensures there is a sufficient amount of boron available. Surveillance requirement 4.1.2.8 retains the requirements to verify the boron concentration and water volume of the tanks and has been amended to ensure the boric acid solution is greater than 55°F. Therefore, the proposed change does not involve a significant reduction in the margin of safety.

The staff has reviewed the licensee's no significant hazards consideration determination analysis. Based on the review and the above discussion, the staff proposes to determine that the proposed changes do not involve a significant hazards consideration.

Local Public Document Room location: University of New Orleans Library,
Louisiana Collection, Lakefront, New Orleans, Louisiana 70122

Attorney for licensee: Bruce W. Churchill, Esq., Shaw, Pittman, Potts
and Trowbridge, 2300 N St. N.W., Washington, D.C. 20037

NRC Project Director: George W. Knighton

/s/

George W. Knighton, Director
PWR Project Directorate No. 7
Division of PWR Licensing-B

DISTRIBUTION:

✓ Docket File
PWR No. 7 Rdg
JWilson
JLee (5)
Attorney, OGC -Bethesda

PWR#7
JLee
11/7/86

PWR#7 *JW*
JWilson:dd
11/6/86

PWR#7 *GK*
GKnighton
11/7/86