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 3.1.2.7, "Borated Water Sources - Shutdown", and 4.1.2.7, the associated surveillance requirement. The reason for the changes is to delete the requirement for a heat tracing circuit and the reference to Figure 3.1-1 of the Technical Specifications by reducing the maximum boron concentration in the Boric Acid Makeup Tanks (BAMTs) to 3.5 weight percent. In place of the reference to Figure 3.1-1, this specification will provide the required boron concentration and water volumes that must be maintained in the BAMTs.

The heat tracing requirements for the boric acid makeup tanks and associated flow paths are no longer necessary because the maximum boric acid concentration in the tanks has been reduced to less than or equal to 3.5 weight percent. Chemical analyses have shown that a 3.5 weight percent solution of boric acid will remain dissolved (i.e., will not precipitate or "plate out") at solution temperatures above 50°F. Reducing the boron concentration in these tanks requires that they maintain an increased water volume to meet

the shutdown margin requirements of Technical Specification 3.1.1.2. The volume of borated water necessary to meet this requirement is approximately 4150 gallons of 2.25 weight percent boric acid. This amount of boron is sufficient to maintain the required shutdown margin during a xenon-free cooldown from 200°F to 140°F.

By reducing the maximum boron concentration in the boric acid makeup tanks, chemical analyses have shown that there is no longer the possibility of the boron precipitating out of solution as long as the temperature of the boric acid remains above 50°F. Thus, surveillance requirement 4.1.2.7 will be modified to require verification that the boric acid makeup solution is at a temperature greater than 55°F whenever the Reactor Auxiliary Building air temperature is less than 55°F. These changes are consistent with other Technical Specification surveillance requirements for the Reactor Auxiliary Building (RAB) and provides approximately 5°F margin before precipitation of the boron is possible. Similarly, changing the frequency of the surveillance from every seven days to when the Reactor Auxiliary Building air temperature is less than 55°F is justified because it is unlikely that the temperature in the RAB would fall below 55°F.

Basis for Proposed No Significant Hazards Consideration Determination: The NRC staff proposes to determine that these 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 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 boric acid makeup tank boron concentration is accounted for by increasing the volume of borated water that must be contained in the tanks. The amount of borated water that must be available is equal to approximately 4150 gallons of 2.25 weight percent boric acid. This amount of boron is sufficient to maintain the shutdown margin requirements of Technical Specification 3.1.1.2 during a xenon-free cooldown from 200°F to 140°F. In addition, controls on the boric acid makeup tank temperature ensure that the lack of heat tracing does not result in precipitation of the boron. The proposed changes, therefore, 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 boron concentration to a maximum of 3.5 weight percent, chemical analyses have shown there is no possibility of the boron precipitating out of solution as long as the temperature of the boric acid remains above 50°F; thus there is no longer a need for heat tracing. Since the boron will be in solution when the BAMT flowpaths are credited and will therefore be available for emergencies, the proposed changes do 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 there is enough boron available to achieve and maintain the required shutdown margin during an emergency when the BAMT flowpaths are credited. 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. Previous analyses have shown that by reducing the boric acid concentration to a maximum of 3.5 weight percent, the boron will remain in solution at temperatures above 50°F. By compensating for the reduction in boron concentration by increasing the volume available in the boric acid makeup tanks there is a sufficient amount of boron to maintain the shutdown margin requirements of Technical Specification 3.1.1.2. Surveillance requirement 4.1.2.7 retains the requirements to verify the boron concentration and water volume of the tanks and has been amended to ensure that the boric acid solution is always greater than 55°F. Therefore, the effect of 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.

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NRC Project Director: George W. Knighton

/s/

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

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