



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

September 18, 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 29, 1986

Description of Amendment Request: The proposed change would revise ACTION statements "c" and "d" to Technical Specification 3.1.3.1, "Movable Control Assemblies, CEA Position". The reason for this change is to impose new requirements on power reduction during the period from 15 minutes to one hour following a full or part length CEA misalignment. This change would reduce the inward CEA deviation penalty factors currently provided by the CEA Calculators (CEACs) to the CPCs to a value of 1.0. The reduction of these penalty factors will reduce the sensitivity of the CPCs to CEA drops and to electronic noise which can be interpreted in the logic as a major CEA deviation and will therefore eliminate some unnecessary reactor trips.

The margins on DNBR and Linear Heat Rate (LHR) which now exist will be maintained after the reduction in the penalty factors. Currently, if an inward CEA deviation event occurs, the CPC algorithm applies two penalty factors to the DNBR and LHR calculations. The first, a static penalty factor

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is applied upon detection of the CEA deviation event. The second, a xenon redistribution penalty, is applied linearly as a function of time over a one-hour period following the detection of the deviation.

In the proposed change, the margin reserved by the DNBR Limiting Condition for Operation (LCO) is based on the maximum inward CEA deviation (i.e., the CEA Drop) and therefore accommodates changes in the static power distribution. This margin also accommodates the first 15 minutes of xenon redistribution effects for the limiting CEA drop. Thereafter, for up to one hour after the deviation event, the proposed change to this specification imposes a core power reduction to accommodate xenon redistribution effects occurring beyond the first 15 minutes. Therefore, the combination of the margin reserved by the DNBR LCO and the required core power reduction starting 15 minutes after the deviation is sufficient to maintain the required margins to DNB and LHR for the first hour after detection of the event. Thereafter, the current action statements in the Technical Specification apply.

Basis for Proposed No Significant Hazards Considerations Determination:

The NRC staff proposes that the proposed change does 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 any 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) Reducing the static penalty factor generated by the CEACs to a value of 1.0 is accounted for by setting aside the margin in the DNBR LCO. This ensures that the Specified Acceptable Fuel Design Limits (SAFDLs) on both DNBR and LHR can be maintained for up to 15 minutes following the limiting CEA drop event without any reduction in core power. Similarly, reducing the xenon redistribution penalty factor to a value of 1.0 is accounted for by imposing new requirements for core power reduction starting 15 minutes after the postulated CEA drop and continuing for an additional 45 minutes. Thereafter, all other ACTION statements in the Technical Specifications are applicable. Adhering to the proposed power reduction requirements ensures that the power peaking resulting from xenon redistribution will not result in a violation of the SAFDLs. Therefore, since the consequences of the limiting CEA drop event are still acceptable, the proposed change will not significantly increase the probability or consequences of any accident previously evaluated.
- (2) The proposed change does not affect the logic used by the CPCs to mitigate the consequences of any Anticipated Operational Occurrence (AOO). Since the proposed change will not affect the ability of the CPCs to perform their design function of protecting the core against a violation of the SAFDLs (during an AOO), it will not create the possibility of a new or different kind of accident from any accident previously evaluated.
- (3) In the proposed change, credit is taken for available margin in the DNBR LCO. By staying within this LCO, there is margin to accommodate the

first 15 minutes of the most limiting CEA drop. Thereafter, the proposed change requires a core power reduction to accommodate the increased power peaking associated with xenon redistribution in the core. Therefore, the combination of additional margin reserved in the DNBR LCO and the required power reduction ensures that the proposed change will not involve a significant reduction in the margin of safety.

As the change requested by the licensee's August 29, 1986 submittal satisfies the criteria of 10 CFR 50.92(c), it is concluded that: (1) the proposed change does not constitute a significant hazards consideration as defined by 10 CFR 50.92; (2) there is a reasonable assurance that the health and safety of the public will not be endangered by the proposed change; and (3) this action will not result in a condition which significantly alters the impact of the station on the environment as described in the NRC Final Environmental Statement.

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