



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 87 TO FACILITY OPERATING LICENSE NO. DPR-64
POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT NUCLEAR GENERATING UNIT NO. 3
DOCKET NO. 50-286

INTRODUCTION

By letter dated July 24, 1989, the Power Authority of the State of New York (the licensee) requested a license amendment to revise the Technical Specifications to increase the design basis water inlet temperature of the Indian Point 3 Service Water System (SWS) from 85°F to 95°F and to incorporate an allowable containment air temperature of 130°F. On July 27, 1989, the licensee requested that the July 24, 1989 licensee amendment request be issued as an emergency Technical Specification (TS) amendment. Since the staff has not completed its review of the request for 95°F, the licensee, on August 4, 1989 requested an emergency amendment for a limit of 90°F using the same basis as Amendment 82 issued on August 19, 1988. The reason for this request for emergency action was that the river water temperature had peaked above 82°F and was projected to peak above 85°F in a couple of days. The river water temperature had already peaked above 85°F at Indian Point 2.

On July 28, 1989, the NRC issued a Temporary Waiver of Compliance which permitted operation with SWS temperatures equal to or less than 90°F with containment air temperature up to 130°F. This Temporary Waiver of Compliance is superseded by issuance of this amendment.

EVALUATION

The NRC staff's review of the licensee's July 24, 1989 submittal has not progressed sufficiently to approve the request for operation with 95°F water inlet temperature to SWS. However, a similar situation (SWS inlet temperature exceeding 85°F and corresponding high containment air temperatures) occurred during July and August 1988. On August 19, 1988, the staff issued Corrected License Amendment No. 82 for operation of Indian Point Unit 3 at up to 100% rated thermal power with service water inlet temperatures of up to 90°F and with containment air temperatures of up to 130°F. The licensee's August 4, 1989 letter states that (1) the plant heat loads have not changed, (2) the extensive analyses of equipment and systems precluded earlier submission of the proposed TS changes, and (3) to complete these extensive analyses, confirmatory testing was completed during the refueling outage which ended June 24, 1989.

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The staff concluded that although its review has not progressed sufficiently to approve operation with 95°F SWS inlet water temperature, the staff could approve operation SWS inlet water temperature of up to 90°F based upon the review performed for License Amendment No. 82. Therefore, approval is restricted to operation of Indian Point 3 with SWS inlet water temperature of up to 90°F and with containment air temperature of up to 130°F, the same approval as was granted in Licensee Amendment No. 82.

To ensure that adequate heat removal capability is provided to the containment fan cooling units, the CCW system and the EDGs, the licensee has committed to performing an orderly plant shutdown to hot shutdown, utilizing normal plant operating procedures, if service water inlet temperature exceeds 90°F over a two hour period. The plant shall be placed in hot shutdown within seven hours from the point in time whence the service water temperature initially exceeded 90°F.

Furthermore, the licensee has committed to monitoring service water temperature at least once per hour and CCW temperature at least once every two hours when the service water inlet temperature exceeds 85°F. This monitoring will ensure that, during normal plant operations, adequate cooling is provided to the reactor coolant pump thermal barriers by CCW to prevent these thermal barriers from being damaged by exceeding their continuous rating of 105°F or their two hour rating of 125°F.

The staff has not yet approved the licensee's request to increase the SWS allowable inlet water temperature to 95°F since the staff's review has not progressed sufficiently to approve that request. However, based on the staff's safety evaluation performed for License Amendment No. 82 (issued August 19, 1988), the staff again finds that a change to increase the allowable SWS inlet water temperature to 90°F and the containment air temperature to 130°F is acceptable. These changes were temporarily approved for License Amendment No. 82 and, since the safety aspects of their changes have not changed, the same changes are again being approved.

FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission's regulation, 10 CFR 50.92, states that the Commission may make a final determination that a license amendment involves no significant hazards consideration if operation of the facility in accordance with the 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 a margin of safety.

The NRC staff reviewed the Final No Significant Hazards Consideration Determination that was made in support of Licensee Amendment No. 82 and has concluded that the same determination (which follows) is again valid for the current proposed change.

- (1) Does the proposed license amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response:

This change will not increase the probability of an occurrence or consequences of accident or malfunction of equipment important to safety previously evaluated in the FSAR. Plant operation at service water temperatures up to 90°F will not result in peak accident containment pressure in excess of the containment design pressure nor above the maximum pressure at which containment and associated pressure containing components have been periodically tested. The component cooling system has been periodically tested. The component cooling system and the equipment cooled by it will remain operable to perform their safety related function during and following a design basis event. The addition of an LCO providing shutdown requirements when 90°F service water temperature is exceeded adds restrictions to plant operations in an area where no previous specification existed and does not impact accidents previously evaluated. Accordingly, neither the probability of an occurrence nor the consequences of an accident or malfunction of equipment important to safety will be increased.

- (2) Does the proposed license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response:

The proposed changes, as analyzed, do not involve new or different kinds of accidents, from those previously evaluated. Plant operation at service water temperature up to 90°F does not create the possibility of an accident or malfunction of any type other than those previously evaluated in the FSAR...

- (3) Does the proposed amendment involve a significant reduction in a margin of safety?

Response:

A significant reduction in a margin of safety is not involved. Containment integrity was reanalyzed for operation with service water temperature of 90°F at an initial containment temperature of 130°F. The increase in service water temperature to 90°F impacts the heat removal ability of the containment Fan Cooler Units and results in a slight increase in the peak containment pressure (less than 1.5 psi) to

40.73 psig. The design case for an initial containment temperature of 120°F and service water temperature of 87°F was evaluated. For this case, peak containment pressure was shown to remain below 40.6 psig, the peak pressure stated in the basis of the Technical Specifications for the original containment integrity analysis. In both cases, the peak pressure is well below the containment design pressure of 47 psig. Containment leak rate testing has been performed at pressures in excess of the 40.73 psig peak containment accident pressure calculated for 90°F service water temperature and 130°F containment temperature.

The component cooling loop has been evaluated for a service water supply temperature of 90°F. The loop will provide sufficient cooling to enable continued sump and core recirculation following a LOCA. All safety-related heat loads served by Component Cooling during the recirculation phase have been evaluated at a service water temperature of 90°F. In each case all required equipment is shown to remain operable at the elevated temperature of 90°F over the time period for which it must function.

Based on the foregoing, the Commission has concluded that the standards of 10 CFR 50.92 are satisfied. Therefore, the Commission has made a final determination that the proposed amendment does not involve a significant hazards consideration.

STATEMENT OF EMERGENCY CIRCUMSTANCES

The licensee's August 4, 1989 letter presents, in part, the following with regard to justification of the emergency consideration of the amendment.

Based on the river water temperatures recorded in the summer of 1988, the authority initiated efforts to permanently review the Technical Specifications. This effort resulted in the July 24, 1989 submittal. Extensive analyses of equipment and systems were required to be performed over many months and, thus, precluded earlier submission of the proposed Technical Specification changes. In addition, in order to complete the analyses, confirmatory testing was completed during the refueling outage which ended June 24, 1989.

River water temperature is peaking above 82°F on a daily basis and is projected to peak above 85°F. Until the high temperature conditions subside, IP3 can be expected to cycle down and up in power each day unless this relief in specifications is granted.

We conclude that failure to grant the emergency license amendment would require shutdown of Indian Point Unit 3.

Based upon the above, we conclude that the licensee has adequately addressed the standards of 10 CFR 50.91(a)(5) with regard to demonstrating the need for an emergency license amendment. We further conclude, based on our frequent monitoring of the licensee's activities leading to the requested amendment, that the licensee has not abused the emergency provision by failing to make timely application for the amendment.

CONSULTATION WITH STATE

The State of New York was informed by telephone on August 1, 1989 of the staff's intention to issue this amendment. The State of New York contact had no comments.

ENVIRONMENT CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Sec. 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need to be prepared in connection with the issuance of this amendment.

CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: August 11, 1989

PRINCIPAL CONTRIBUTOR:

J. Neighbors