



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 149 TO FACILITY OPERATING LICENSE NO. DPR-50

METROPOLITAN EDISON COMPANY
JERSEY CENTRAL POWER & LIGHT COMPANY
PENNSYLVANIA ELECTRIC COMPANY
GPU NUCLEAR CORPORATION

THREE MILE ISLAND NUCLEAR STATION, UNIT NO. 1

DOCKET NO. 50-289

INTRODUCTION

GPU Nuclear Corporation (GPU) submitted Technical Specification Change Request (TSCR) Nos. 188, 186 and 187 on December 2, 1988, December 19, 1988 and January 31, 1989, respectively. All three TSCR's involve changes to the Technical Specifications (TS) or their bases that are primarily administrative or editorial in nature: TSCR No. 186 also has a technical aspect to it that has been reviewed by the NRC staff as discussed below. Because of the similar nature of these three requests the staff has elected to issue one overall license amendment in the interest of efficiency.

EVALUATION

TSCR No. 186

This amendment application proposed raising the TS temperature value at which low temperature overpressure protection becomes mandatory from 320°F to 332°F. Presently TS Sections 3.1.12 and 4.5.2.1.c require specific administrative measures to disable the ability of the High Pressure Injection (HPI) system to overpressurize the Reactor Coolant System (RCS) when RCS average temperature is below 320°F. These two TS sections deal with power operated relief valve (PORV) isolation and HPI flow verification testing, respectively. Raising the temperature value by 12°F to 332°F adds a slight conservatism to the TS since these actions would occur 12°F earlier in a cooldown and the phenomenon of concern is overpressurization when the plant is at low temperatures. Plant operating procedures for heatup and cooldown currently contain this administrative control and specify 332°F as the temperature at which the overpressure protection is to be provided. An additional minor change was added to section 3.1.12.3 that allows a 1 hour period to restore pressurizer level to less than 220 inches in the event it exceeds this limit.

GPU performed a technical evaluation in December 1987 to provide a basis to conclude that the current TMI-1 pressure vs. temperature operating curves (approved by License Amendment No. 134 dated November 18, 1987) do not impact nuclear safety nor pose any unresolved safety issues. This evaluation included an examination of low temperature overpressurization issues including potential initiating events. One of those events is erroneous actuation of the HPI system or opening of an HPI or makeup valve with a makeup pump operating with the plant at low temperature. The specific valves involved are HPI isolation valves mu-v-16A, -16B, -16C, -16D and high capacity makeup valve mu-v-217. Administrative controls in the plant heatup and cooldown procedures require shutting these valves and tagging open their power supply circuit breakers at a specified RCS temperature. The safety evaluation postulated a scenario where the PORV could fail to open on an overpressure event (with the plant shut down) allowing pressure to rise to the code safety relief setpoint of 2750 psig. To provide more conservative protection against low temperature overpressurization during this scenario, the heatup and cooldown procedures were revised to require shutting and disabling these valves at 332°F rather than at 320°F. Plant operating procedures and administrative controls are allowed to be more conservative than the TS, such as in this case. However, GPU has proposed to change the TS in a conservative direction to be consistent with the revised plant procedures.

The staff has reviewed TSCR No. 186, the November 1987 GPU technical evaluation discussed above, the plant heatup and cooldown procedures and the plant temperature/pressure curves and has concluded that this TS change is appropriate. Raising the temperature at which the subject administrative controls (isolating HPI from the RCS) are executed represents a conservatism and eliminates a possible source of operator confusion by making the TS consistent with the operating procedures. Adding the 1 hour action statement to TS section 3.1.12.3 clarifies actions required if the pressurizer level limit is exceeded and is consistent with the standard TS.

TSCR NO. 187

The changes requested by this application are a compilation of editorial changes for clarification of the TS and to correct existing errors, eliminate obsolete terms such as "AEC", upgrade the bases sections and eliminate unnecessary footnotes. A detailed discussion of each change is presented in the GPU change request dated January 31, 1989 and is not repeated here. However, each change was reviewed by the staff for validity and appropriateness. Only those changes to the TS (not including "bases" sections) having any technical significance are discussed in this evaluation.

The NRC issued License Amendment No. 142 in July 1987 in support of Cycle 7 of operation. Based on justification provided by the licensee, the requirement for a variable low RCS pressure reactor trip was eliminated. However, the reference to this instrument on Table 3.5-1 and the surveillance for this trip on Table 4.1-1 were inadvertently not omitted from the TS. This amendment corrects that error.

A number of footnotes throughout TS Sections 3 and 4 contained requirements to be met prior to or during Cycle 5 of operation. The plant is now in Cycle 7 and removal of these footnotes is therefore appropriate.

Section 4.19 of the TS, "OTSG Tube Inservice Inspection", presently contain separate repair limits for primary side defects which are stated to apply only until the 6R Refueling Outage. That outage occurred in 1986-87 and it is appropriate to remove these limits from the TS.

Clarification was proposed regarding OTSG tube repair methods that might be used to meet the operability criteria of TS 4.19.4.b. These criteria, as written, could be misconstrued to exclude all repair methods other than kinetic expansion. The staff concurs with this clarification.

The information concerning liquid effluent outfall descriptions has been upgraded to be consistent with the current NPDES (see page 5-10).

TSCR NO. 188

This application proposes removal of the word "offsite" in TS administrative section 6.5.3.2 dealing with conduct of an annual fire protection audit. The licensee considers that sufficient procedural controls exist to assure that these audits are objective and independent without having the TS require conduct by offsite personnel. This request is consistent with guidance provided by the NRC in Generic Letter No. 82-21 which states "the annual item i audits may be performed by qualified utility personnel who are not directly responsible for the site fire protection program or by an outside independent fire protection consultant."

The staff finds the proposed change acceptable in that it is consistent with NRC guidance.

ENVIRONMENTAL CONSIDERATION

This amendment changes a requirement with respect to installation or use of a facility component located within the restricted areas as defined in 10 CFR Part 20 and makes editorial corrections. We have 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 off site, and that there is no significant increase in individual or cumulative occupational exposure. The staff 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, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and (10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need 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 (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: R. Hernan

Dated: April 27, 1989