



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 73 TO PROVISIONAL OPERATING LICENSE NO. DPR-16  
GPU NUCLEAR CORPORATION AND  
JERSEY CENTRAL POWER & LIGHT COMPANY  
OYSTER CREEK NUCLEAR GENERATING STATION  
DOCKET NO. 50-219

1.0 INTRODUCTION

By letter dated December 21, 1983, which supersedes the application dated July 13, 1983, and clarified by letter dated March 23, 1984, GPU Nuclear Corporation (GPU) (the licensee) requested an amendment to Provisional Operating License No. DPR-16 for the Oyster Creek Nuclear Generating Station. This amendment would authorize changes to the Scram Discharge Volume (SDV) in Section 3.1, Protective Instrumentation and in Section 4.2, Reactivity Control.

A Notice of Consideration of Issuance of Amendment and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing related to the requested action was published in the Federal Register on March 22, 1984 (49 FR 10735). No request for hearing or public comments were received.

In a letter dated December 21, 1983 the licensee stated that it would provide the Scram Discharge Volume (SDV) water level final trip settings upon completion of system testing. The supplemental information submitted by letter dated May 15, 1984 provided the final setpoint values and ensures that, even considering the maximum design scram valve leakage, sufficient scram discharge volume will be available to permit 137 control rods to scram, if required. Since there is sufficient free volume remaining in the scram header piping to accommodate a scram with the setpoints established, the Significant Safety Hazards Analysis, provided by the December 21, 1983 submittal, is not altered.

In addition, line No. 5, page 3.1-7 of Table 3.1.1 which was forwarded by the July 13, 1983 letter accounted for both new scram discharge volumes (SDV). As such, the number in the column headed "Minimum Number of Instrument Channels Per Operable Trip System" was four. Line No. 5 was modified in the December 21, 1983 submittal when each SDV was accounted for separately. Consequently, the number in the above referenced column has been changed to two for each SDV.

The information submitted by letter dated March 23, 1984 provided clarification of the December 21, 1983 submittal. The supplemental information provided in letters dated March 23, and May 15, 1984 did not change the scope of the staff's notice for opportunity for hearing. In a previous amendment the "greater than or equal to" as well as the "less than or equal to" notations in the trip setting column on page 3.1-11 had been inadvertently omitted. This change request provided an opportunity to correct this error, and the notation as it had originally existed has been inserted.

## 2.0 DISCUSSION AND EVALUATION

On June 28, 1980, during a routine shutdown of the Browns Ferry Unit 3 reactor, a manual scram from approximately 36% power failed to insert about 40% of the control rods. Two additional manual scrams followed by an automatic scram were required before all control rods were fully inserted. The total time that elapsed from the initial scram until all rods were inserted was approximately 15 minutes.

Subsequent investigations by the licensee, General Electric Company, and the NRC staff narrowed the cause of the problem to an accumulation of water in the SDV header at the time of the first scram. It is believed that water accumulated because the SDV system venting and/or draining were obstructed. Furthermore, the accumulation of water was not detected by SDV level instruments which provided input to the reactor protection system. It was believed that the SDV level instrumentation was designed to scram the reactor before water accumulated in the scram discharge volume that could hinder scram. In order to improve the overall design of the SDV system an NRR task force has been working with a subgroup of the BWR Owners Group to develop revised scram discharge system design and safety criteria. The NRC has endorsed the criteria developed by the BWR Owners Group. The requested change in the Technical Specifications, Section 3.1, would revise the BWR SDV high water level settings for scram and rod block. Scram Discharge Volume modifications are being performed at the Oyster Creek Nuclear Power Plant in accordance with the BWR Owners Group recommendations in response to IE Bulletin 80-17 and its supplements. As a result of providing two SDV instrument volumes, the high water level scram and rod block set points are to be changed. The scram discharge volume drain and vent valves closure times, Section 4.2, Technical Specification, are to be changed to be in agreement with the BWR Owners Group recommendations.

The high water level setting for scram is requested to be changed from 37 gallons to 18.36 gallons (59 inches) of water, which will permit the 137 control rods to scram by either set of level instruments. The high water level setting for rod block is requested to be changed from 18 gallons to 9 gallons (29 inches) of water which results in a rod block and an alarm at either instrument volume. The drain and vent valves closure times are requested to be changed from 60 seconds to 30 seconds.

The proposed changes are consistent with the staff guidelines as stated in the December 1, 1980 BWR Scram Discharge System Safety Evaluation, and do not represent a reduction in the ability of the system to perform the safety function. Thus, the staff concludes that the proposed changes to Section 3.1 and 4.2 of the Technical Specifications are acceptable.

The proposed Technical Specification changes would become effective upon completion of the modification prior to restart from the current cycle 10 refueling outage.

### 3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area. The staff has determined that the amendment involves no significant increase in the amounts of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupation 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 Section 51.22(c)(9). 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.

### 4.0 CONCLUSION

The staff has 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.

### 5.0 ACKNOWLEDGEMENT

This evaluation was prepared by R. Goel.

Dated: June 20, 1984