



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 107 TO FACILITY OPERATING LICENSE NO. NPF-57  
PUBLIC SERVICE ELECTRIC & GAS COMPANY  
ATLANTIC CITY ELECTRIC COMPANY  
HOPE CREEK GENERATING STATION  
DOCKET NO. 50-354

1.0 INTRODUCTION

By letter dated March 31, 1997, as supplemented by letters dated July 16, August 26, and October 3, 1997, the Public Service Electric & Gas Company (the licensee) submitted a request for changes to the Hope Creek Generating Station, Technical Specifications (TSs). The requested amendment would change TS 2.1.2, "THERMAL POWER, High Pressure and High Flow," ACTION a.1.c for TS 3.4.1.1, "Recirculation Loops," and the Bases for TS 2.1, "Safety Limits." These changes are being made to implement an appropriately conservative Safety Limit Minimum Critical Power Ratio (SLMCPR), to include Cycle 8 specific analyses, for all Hope Creek core and fuel designs. The August 26 and October 3, 1997, letters provided clarifying information that did not change the initial proposed no significant hazards consideration determination.

2.0 EVALUATION

The licensee requested a change to the Hope Creek TS for Cycle 7 and Cycle 8 operation. The proposed revisions to the TS are evaluated herein.

- (1) The SLMCPR in TS 2.1.2 and Bases 2.0 is proposed to change as follows: for two recirculation loop operation - from 1.07 to 1.08 for Cycle 7 and from 1.07 to 1.10 for Cycle 8; and for single recirculation loop operation - from 1.08 to 1.09 for Cycle 7 and from 1.08 to 1.12 for Cycle 8 when the reactor steam dome pressure is  $\geq 785$  psig and core flow  $\geq 10\%$  rated core flow.

The NRC staff has reviewed the proposed changes to TS 2.1.2 and Bases 2.0, which are based on the analyses performed using Hope Creek cycle-specific inputs and approved methodologies including GESTAR II (NEDE-24011-P-A-13, Sections 1.1.5 and 1.2.5 and its reference NEDO-10958-A, January 1977), the relevant information related to the need for cycle-specific analysis for each reload and the assumptions used in performing cycle-specific analysis of GE fuel, which was provided in the proposed Amendment 25 to GESTAR II, NEDE-24011 (which is under the staff review) and the licensee's response to the request for additional information dated August 26, 1997. Both Cycle 7 and 8 cores have a full core of GE9B fuel, however, the Cycle 8 has a higher SLMCPR than

that of Cycle 7 due to its higher MCPR importance factors and maximum radial peaking factors. The core MCPR distribution and bundle R-factor distributions are also evaluated for non-equilibrium Cycle 7 and 8 core compared with that of the generic GE9B equilibrium core to ensure that 99.9% fuel rods in the core will not experience the boiling transition. Therefore, the staff has found the proposed TS changes are acceptable.

- (2) The value of the SLMCPR, for single recirculation loop operation, in Action Statement a.1.c of TS 3.4.1.1 is proposed to be deleted.

Since the revision to the SLMCPR in TS 2.1.2 contains the appropriate SLMCPR for single loop operation, this value need not be repeated in TS 3.4.1.1. Accordingly, the proposed deletion of the value of the SLMCPR in Action Statement a.1.c of TS 3.4.1.1 is acceptable.

The October 3, 1997, letter proposed an additional change to TS 2.1.2. This change would add a footnote indicating that the values for SLMCPR are "...applicable to Cycle 8 operation only." This footnote is consistent with the analyses and is acceptable. The second change would add a footnote to TS 6.9.1.9, "Core Operating Limits Report," to indicate that relevant information from proposed Amendment No. 25 to GESTAR II (NEDE-24011) was reviewed in this safety evaluation for Cycle 8. This change will ensure that values for cycle-specific parameters will be determined such that all applicable limits (e.g., nuclear limits, transient limits, and accident analysis limits) are met. Therefore, this change is acceptable.

Based on our review above, we conclude that the proposed changes to the TS are acceptable for Hope Creek Cycle 8 application since the changes are analyzed based on the NRC-approved method and the conservative cycle-specific parameters for SLMCPR analysis are used. Since Hope Creek was shut down for refueling at the time of issuance of this license amendment, and will operate for Cycle 8 upon restart, only the Cycle 8 values for SLMCPR are incorporated in the TS.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Jersey State Official was notified of the proposed issuance of the amendment. By letter dated May 6, 1997, the State official indicated that there were no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC 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 the amendment involves no significant hazards consideration, and there has been no



public comment on such finding (62 FR 43374). The amendment also changes reporting or recordkeeping requirements. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and (c)(10). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

#### 5.0 CONCLUSION

The Commission 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Date: November 4, 1997