



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 15 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 December 14, 1987, Public Service Electric & Gas Company (the licensee) requested an amendment to Facility Operating License No. NPF-57 for the Hope Creek Generating Station (HCGS). The proposed amendment would alter the plant Technical Specifications to permit operation for Cycle 2, provide for use of Extended Load Line Limit operations and increased core flow operation.

2.0 EVALUATION

The Cycle 2 design discharges two fuel types used in the initial core and replaces them with two new fuel types. A total of 232 new fuel assemblies are introduced into the core. The reload analysis for Cycle 2 was performed by General Electric who prepared a reload report that was submitted in support of the license amendment. The methods used for the analysis are those which are described in NEDE-24011-P-A-8, GESTAR, which has been reviewed and approved by the staff. The results are presented in the Supplemental Reload Licensing submittal for HCGS Unit 1 Cycle 2 (23A5854, Revision 1). The staff has reviewed the submittal and concludes that the results are consistent with values usually obtained and are acceptable. The licensee has selected the following margin improvement options: Recirculation Pump Trip, Thermal Power Monitor, ODYN Option B, and Exposure Dependent Limits. Single-loop operation is the only operating flexibility option described in the submittal. Appropriate analyses are presented in the licensing submittal to justify use of these options and the staff concludes that use of these options is acceptable.

Only one of the two new fuel types is included in GESTAR. By Supplement 1 to the licensing submittal, the licensee provided a description of the fuel assembly type for which information is not yet included in GESTAR. This is common practice for such assemblies and is acceptable.

The licensee also submitted a report, NEDC-31487, "Final Report, Increased Core Flow and Extended Load Line Limit Analysis for Hope Creek Nuclear Generating Station, Unit 1 Cycle 2," in support of a request to include these features among the operating flexibility options. These options

are among those that have been employed by several plants. The report provides analyses to support operation in these modes and to identify necessary changes to the Technical Specifications. The analyses were performed with approved techniques and methods and the staff finds their use for HCGS acceptable.

A number of Technical Specification changes were proposed for Cycle 2 of HCGS. The following comments address the changes.

Specification 2.1.2 Safety Limits: The value of the Minimum Critical Power Ratio (MCPR) safety limit was increased from 1.06 to 1.07 for two-loop operation and from 1.07 to 1.08 for single loop operation. These changes are required when going from the initial cycle to succeeding cycles for all BWRs and is acceptable for HCGS. The increase is required because the uncertainty in TIP readings increases for exposed fuel. The Bases Table B2.1.2-1 is changed to reflect the increased uncertainties.

Figures 3.2.1-1 and 3.2.1-2: These figures have been changed to contain the Maximum Average Planar Heat Generation Rate (MAPLHGR) curves for the two new fuel types instead of the two types that were discharged. The new MAPLHGR curves are consistent with the results of the LOCA analyses and are acceptable.

Specification 3/4.2.3 Minimum Critical Power Ratio (MCPR): A number of changes have been made to this specification. The single figure (3.2.3-1) of operating MCPR as a function of normalized scram time has been replaced by two such figures. This change was necessitated by the choice of the exposure dependent limits option. Two exposure bands were chosen-hence two figures. This is a widely used option and is acceptable for HCGS. The original figure 3.2.3-2 has been renumbered 3.2.3-3.

The option of operating with reduced feedwater temperature has been deleted along with Table 3.2.3-1. This is in compliance with license condition 2.c(11) and is acceptable.

Specification 3/4.4.1.1 Recirculation Loops: This specification presents the action requirements in the event that a recirculation loop becomes inoperable. In this specification, the value of the safety limit MCPR is increased from 1.07 to 1.08. This is acceptable (see discussion under Specification 2.1.2 above).

### 3.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.32, an environmental assessment has been published (53 FR 8289) in the Federal Register on March 14, 1988. Accordingly, the Commission has determined that the issuance of this amendment will not result in any environmental impacts other than those evaluated in the Final Environmental Statement.

#### 4.0 CONCLUSION

The Commission has issued a Notice of Consideration of Issuance of Amendment to Facility Operating License and Opportunity for Prior Hearing which was published in the Federal Register (53 FR 972) on January 14, 1988. No petition to intervene or request for hearing has been filed on this action.

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 nor to the health and safety of the public.

Principal Contributor: W. Brooks

Dated: March 15, 1988