



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATING TO DENIAL OF REQUEST FOR LICENSE AMENDMENT

PUBLIC SERVICE ELECTRIC & GAS COMPANY

AND

ATLANTIC CITY ELECTRIC COMPANY

HOPE CREEK GENERATING STATION

DOCKET NO. 50-354

1.0 INTRODUCTION

By letter dated August 30, 1996 the Public Service Electric & Gas Company (the licensee) requested a license amendment in which the licensee proposed changes to the Hope Creek Updated Final Safety Analysis Report (UFSAR) related to the design basis for the station service water system (SSWS) and ultimate heat sink (UHS). While the proposed amendment did not change the Technical Specifications, the licensee had determined that the proposed changes involved an Unreviewed Safety Question which required prior NRC approval.

2.0 DISCUSSION

The licensee proposed to revise UFSAR Section 9.2.5 such that the UHS limiting temperature bases could be decoupled from coincident loss-of-coolant accident (LOCA) and safe shutdown earthquake (SSE) scenarios. The proposed changes would allow a higher UHS temperature limit to be established by taking credit for the normal SSWS discharge path to the cooling tower. This normal discharge path is not designed to Seismic Category I (SC-I) requirements.

The licensee's justification for the proposed changes is that the application of coincident design basis events (SSE and LOCA) for SSWS heat removal analysis is in excess of the staff's design basis requirements (e.g., General Design Criteria [GDC], the Standard Review Plan [SRP], and Regulatory Guides [RGs]).

3.0 EVALUATION

The licensee's justification does not recognize that a LOCA, in addition to being a design basis event, is also a design basis accident (DBA) for which all mitigating systems and components are required to be designed to SC-I requirements in accordance with Appendix A to 10 CFR Part 100. Credit for any non-seismic equipment to mitigate the consequences of a LOCA would require an exemption to Part 100 requirements. Additionally, one of the licensee's

stated safety design bases in UFSAR Section 9.2.1, Station Service Water System, is that all SSWS components that are required to operate in the event of a LOCA are designed to SC-I requirements. The proposed changes would allow credit for non-seismic portions of the SSWS and, therefore, also do not meet the design and licensing basis for the SSWS.

We are also concerned about the licensee's new, narrower interpretations of the regulations and staff's guidelines in order to compensate for specific weaknesses in the overall design of the plant's cooling water systems. For instance, the licensee maintained that "these [new] interpretations are consistent with RG 1.27, 'Ultimate Heat Sink,' which states that the evaluation of the UHS design basis requirements are determined using the probability of concurrent phenomena." The licensee's new interpretation is that "concurrent phenomena" can apply to combining the LOCA and the SSE. The licensee fails to discuss the rest of RG 1.27 which plainly identifies that "phenomena," as used in the RG, applies to external events such as natural phenomena or accidental phenomena (site-related events such as shipping and transportation accidents).

The regulations do not specifically address nor do they require the simultaneous postulation of an SSE and a design basis accident (unless it can be caused by the SSE). However, the NRC's regulations and guidelines clearly stipulate that structures, systems, and components necessary to mitigate the effects of a LOCA shall be designed to SC-I requirements. Reliance on only safety-related SC-I equipment following a LOCA is also consistent with staff practice prior to issuance of the associated regulations and guidelines. The purpose of the requirement for reliance on only safety-related SC-I equipment, following a LOCA, is not to protect against a concurrent SSE and LOCA, but to provide assurances that post-accident equipment is high in quality and, therefore, highly reliable. The licensee's proposed changes are, therefore, unacceptable.

4.0 CONCLUSION

Based upon the above, the licensee's application dated August 30, 1996 is unacceptable and the application is, therefore, denied.

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Date: December 24, 1996