



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20565-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 84 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 May 4, 1995 the Public Service Electric & Gas Company (the licensee) submitted a request for a change to the Hope Creek Generating Station (HCGS), Technical Specifications (TSs). The proposed change to Technical Specification (TS) 3/4.6.1.8, "Drywell and Suppression Chamber Purge System", would increase the annual operational limit for the drywell and suppression chamber purge system from 120 to 500 hours.

2.0 DISCUSSION

The drywell and suppression chamber purge system is described in Section 6.2.5.2 of the HCGS Updated Final Safety Analysis Report (UFSAR). The purge supply lines for the system consist of (1) a 24-inch line, containing two isolation valves, from the containment prepurge cleanup system (CPCS) to the suppression chamber, and (2) a 26-inch line, containing two isolation valves, from the CPCS to the drywell. The purge vent lines consist of (1) a 24-inch line containing two isolation valves, from the suppression chamber to the CPCS, and (2) a 26-inch line containing two isolation valves, from the drywell to the CPCS. The outboard purge vent isolation valves, in the 24 and 26-inch lines, are each equipped with a 2-inch bypass line, each containing a valve.

During normal operation, the purge vent valves may be used to vent the containment to compensate for thermal expansion of the air volume. In addition, the containment is inerted with nitrogen, via a 6-inch supply valve, to assure that post loss-of-coolant-accident containment oxygen concentration will not be sufficient for hydrogen combustion. The drywell and suppression chamber purge system is also used for prepurge cleanup and deinerting.

At the present time, TS 3/4.6.1.8 states that, "The drywell and suppression chamber purge system, including the 6-inch nitrogen supply line, may be in operation for up to 120 hours each 365 days with the supply [purge] and exhaust [vent] isolation valves in one supply line and one exhaust line open for containment prepurge cleanup, inerting, deinerting, or pressure control." The NRC Staff approved TS 3/4.6.1.8 in License Amendment No. 16, dated March 30, 1988, based upon the following: (1) seismic qualification for the purge

and vent valves was found to be acceptable, (2) the licensee had demonstrated the ability of the purge and vent (24 and 26-inch) valves to close from the 90-degree, full open, position against the rise in containment pressure in the event of a DBA/LOCA, thereby meeting the requirements of TMI Action Item II.E.4.2, and (3) the licensee had justified the 120-hour annual operating limit (based on plant operational considerations) compared to the 90-hour annual operating limit of NRC's Standard Review Plan 6.2.4. The licensee's May 4, 1995 application proposes a 500-hour operating annual limit based upon new plant operational considerations and a revised accident analysis.

3.0 EVALUATION

The licensee's May 4, 1995 application was submitted as a result of operational experience which showed that operation of the drywell and suppression chamber purge system was required for 116 hours, during 1994, compared to the TS 3/4.6.1.8 annual limit of 120 hours. The licensee's request to extend the allowable operation time of the system from 120 to 500 hours per year is supported by an analysis which demonstrates that, for a drywell and suppression chamber purge system operating time of 4589 hours per year, the probability that 10 CFR Part 100 limits would be exceeded is $1.0E-07$. The proposed operating limit of 500 hours per year is, therefore, conservative with regard to 10 CFR Part 100 release limits.

The NRC staff recognizes the need to provide operational flexibility with regard to the use of the drywell and suppression chamber purge system for the uses specified in TS 3/4.6.8.1. The licensee's proposed operating time extension, from 120 to 500 hours per year, provides a reasonable margin to expected operational needs. Based upon the licensee's analysis, we conclude that there is sufficient confidence that the limits of 10 CFR Part 100 will not be exceeded for an allowable drywell and suppression chamber purge system operating time of 500 hours per year. Accordingly, the proposed changes to TS 3/4.6.8.1, and the associated Bases, are acceptable.

4.0 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 September 11, 1995, the New Jersey Department of Environmental Protection, Bureau of Nuclear Engineering (BNE) had the following comments concerning the May 4, 1995, application:

The BNE believes that since variances to the allowable operating limit for the containment purge system are based on plant specific equipment configurations, site meteorology, radiological source term for reactor type, etc., the bases for extending this limit to 500 hours should be provided. The NRC's Safety Evaluation for Amendment 16, which extended the annual 90 hour limit to 120 hours, contains a detailed explanation and justification for the increase of 30 hour per year. However, this request does not provide a similar justification. Also, PSE&G says that while

there is a slight increase in the possibility of purge operations at the onset of a LOCA, any resulting release would be insignificant and bounded by existing LOCA analysis. The BNE, however, suggests that although this resulting release could be insignificant, its radiological impact should be analyzed and discussed in this amendment request.

In addressing the BNE comments, the NRC staff notes that the licensee has adequately demonstrated that the requested drywell and suppression chamber purge system operation limit of 500 hours per year is justified by realistic operational considerations. Moreover, it is within the bounds of similar operation limits currently permitted at other nuclear power facilities. With regard to dose calculations, the licensee is bounded by the limits of 10 CFR Part 100 with regard to radiological releases during containment purging. In this regard, the licensee has adequately demonstrated that the probability of exceeding the dose limits of 10 CFR Part 100 is sufficiently low.

5.0 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 and changes the surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluent 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 (60 FR 42607). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 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 the amendment.

6.0 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: October 16, 1995