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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 50 TO FACILITY LICENSE NO. DPR-71 AND

AMENDMENT NO. 75 TO FACILITY LICENSE NO. DPR-62

CAROLINA POWER & LIGHT COMPANY

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2

DOCKET NOS. 50-325 AND 50-324

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1.0 Introduction

By telecopied letter dated July 3, 1982, Carolina Power & Light Company (the licensee) proposed revisions to Facility Operating License Nos. DPR-71 and DPR-62 for the Brunswick Steam Electric Plant (BSEP), Units 1 and 2. The proposed revisions provided for a temporary extension from 72 hours to seven days the period of time that a diesel generator could remain inoperable before a plant shutdown would have to be initiated. The licensee proposed that the extension remain effective from July 1, 1982 through August 31, 1982.

2.0 Background

While running diesel generator No. 2 on July 1, 1982 for routine surveillance, the licensee noticed that the jacket water cooling pump was not operating. The licensee secured the diesel generator, declared it inoperable and disassembled it to determine the problem. Subsequent inspection of the jacket water cooling pump shaft revealed that the flexible drive coupling plate had separated from the diesel crankshaft and was free-wheeling. The licensee expected that repair of the diesel generator, which included the custom manufacturing of a new plate, would take until July 8, 1982; well in excess of the applicable 72-hour limiting condition for operation (LCO) contained in the BSEP technical specifications.

3.0 Evaluation

The licensee based its request upon the following:

(1) The custom technical specifications, under which BSEP was licensed and operated prior to conversion to standard technical specifications, provided a seven-day LCO for an inoperable diesel generator;

(2) the reliability of off-site power both historically and at the time, was good;

(3) the BSEP emergency power supply design is such that a generator failure will not jeopardize the effectiveness of core standby cooling systems; and,

(4) diesel capacity is such that any three of the four diesel generators can supply all required loads for the safe shutdown of one unit and a design basis accident on the other unit.

We have reviewed each of the licensee's bases and verified that the system design and capacity can accommodate a design basis accident in one unit and a safe shutdown of the other unit, assuming a loss of off-site power and the failure of one diesel generator. (See Safety Evaluation of the Brunswick Steam Electric Station Units 1 and 2, November 1978.) Additional conservatism was added by the fact that BSEP Unit No. 2 would remain shutdown for the duration of the diesel generator repair period.

We noted the licensee's assessment of off-site power reliability and we also noted, from previously collected data, that diesel generator reliability at BSEP is consistant with reliability at other plants.

The licensee initially proposed that the extension of the LCO to seven days be effective from July 1, 1982 through August 31, 1982. This would have permitted the licensee to inspect each of the other diesel generators for indications of the same failure mechanism without restricting plant operations. We shared the licensee's concern for the potential failure of the remaining diesel generators to the extent that we did not consider unrestricted operation of both units to be warranted prior to inspection of the remaining diesel generators. Consequently, we requested that the licensee revise its request to be effective only through July 8, 1982. The licensee agreed. Additionally, the licensee committed to inspect and repair as necessary the remaining diesel generators prior to restart of either unit; BSEP Unit 1 having been shutdown, in the interim, for unrelated reasons.

Additionally, we consider the probability of occurrence of an event requiring diesel generator operation during a given seven-day period to be remote. We thus consider the probability of a second diesel generator failure, which would be required for a potentially unsafe condition to exist, during such an event to be even more remote.

We have concluded therefore, that, based upon the evaluation presented above, but particularly upon the adequacy of the system design with one unit shutdown, the proposed amendments are acceptable.

4.0 Environmental Consideration

We have determined that the amendments do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendments involve an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

5.0 Conclusion

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendments do not involve a significant increase in the probability or consequences of an accident previously evaluated, do not create the possibility of an accident of a type different from any evaluated previously, and do not involve a significant reduction in a margin of safety, the amendments do not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Dated: September 9, 1982