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FACIL: 50-400 Shearon Harris Nuclear Power Plant, Unit 1, Carolina 05000400
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SUBJECT: Application for amend to License NPF-63, revising Surveillance Requirement 4.8.1.1.2.f.11 to ensure that generator voltage does not exceed 110 % of diesel generator voltage at start of test.

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HARRIS NUCLEAR PROJECT
P. O. Box 165
New Hill, North Carolina 27562

October 15, 1987 10CFR50.90

File Number: SHF/10-13510
Letter Number: HO-8705200

United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR EXIGENT LICENSE AMENDMENT
DIESEL GENERATOR SURVEILLANCE

Gentlemen:

SUMMARY

In accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 2.101, Carolina Power & Light Company hereby requests an exigent amendment to the Technical Specifications for the Shearon Harris Nuclear Power Plant (SHNPP). The proposed amendment revises Surveillance Requirement 4.8.1.1.2.f.11 to ensure that during a load rejection test, the generator voltage does not exceed 110 percent of the diesel generator voltage at the start of the test, rather than the 7590 volts currently required by the specification.

DISCUSSION

Surveillance Requirement 4.1.1.2.f.11 currently requires:

> Verifying the generator capability to reject a load of between 6200 and 6400 kW without tripping. The generator voltage shall not exceed 7590 volts during and following the load rejection;

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The purpose of the surveillance is to demonstrate that a load rejection does not result in (1) an emergency diesel generator overspeed trip and (2) that the voltage regulator is functioning properly such that the diesel generator is available for emergency service if needed immediately following a load rejection. The 7590 volt generator voltage limit was established at 110 percent of a nominal generator starting voltage of 6900 volts. Verification of the maximum generator voltage is performed to check the operability of the voltage regulator. If the regulator is operating properly during a load reject situation, generator voltage will momentarily increase to some value (typically less than 110 percent of the starting voltage) and then decrease to the no-load voltage. As such, a specific maximum value for generator voltage is not required to ensure diesel generator voltage regulator operability.

On October 13, 1987, Carolina Power & Light Company attempted to perform this 18 month surveillance requirement for diesel 1B-SB. The test was unsuccessful due to exceeding the 7590 volts generator voltage limit. The diesel generator operated as required; however, existing conditions at the time the surveillance was performed made it impossible to satisfy the surveillance requirement. Plant loads are established so that the design loading limits of the diesel generators are not challenged during emergency operation. As such, these loads are not sufficient to achieve a load of between 6200 and 6400 kW on the generator. Therefore, it is necessary to parallel the diesel generator to the system grid to increase the generator load to the technical specification required value. While connected to the grid the voltage on the generator must be maintained in excess of system voltage to ensure proper operation of the emergency diesel generator in accordance with its design limit for power factor. Demand on the system grid was relatively low at the time of performing Surveillance Requirement 4.8.1.1.2.f.11, resulting in an overall high system voltage. As such, voltage on the generator was approximately 7350 volts at the start of the test, well above the 6900 volt nominal starting voltage used to establish the 110 percent limit of 7590 volts in the technical specification. During the surveillance, the voltage on the generator reached 7850 volts, exceeding the Technical Specification limit of 7590 volts but not exceeding 8085 volts, 110 percent of the initial test voltage of 7350 volts.

The proposed change to Surveillance Requirement 4.8.1.1.2.f.11 will limit generator voltage to less than or equal to 110 percent of the voltage on the generator at the start of the test. The proposed limit of 110 percent is well within the

design capability of the diesel generator. The revised surveillance requirement will ensure verification of diesel generator capability to satisfactorily withstand a full load rejection within the original intent of the Surveillance Requirement 4.8.1.1.2.f.11 while allowing sufficient flexibility to perform the surveillance independent of system grid voltage conditions.

SIGNIFICANT HAZARDS ANALYSIS

The Commission has provided standards in 10 CFR 50.92(c) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. Carolina Power & Light Company has reviewed this request and determined that:

1. The proposed amendment does not involve a significant increase in the probability or consequences of any accident previously evaluated because the change does not affect the method in which the diesel generators, or any other safety system, perform their intended safety function. Diesel generator and voltage regulator operability is still ensured and the intent of Surveillance Requirement 4.8.1.1.2.f.11 to verify the ability of the diesel generator to perform satisfactorily during a full load rejection is still fulfilled by the revised surveillance requirement. The revision merely allows the operational flexibility to perform the required surveillance without reliance on system grid voltage conditions.

2. The proposed amendment does not create the possibility of a new or different kind of accident than previously evaluated. As stated above, no physical change to any safety related system, nor change in the method in which any safety system performs its intended function result from the proposed amendment. Therefore, the proposed amendment cannot create the possibility of a new or different kind of accident than previously evaluated.

3. The proposed amendment does not involve a significant reduction in a margin of safety. Diesel generator and voltage regulator operability and the ability to incur a load rejection without a diesel generator overspeed trip or excess voltage is adequately ensured by the revised surveillance requirement. As such, the margin of safety is not affected by the proposed amendment.

Based on the above reasoning, CP&L has determined that the proposed amendment does not involve a significant hazards consideration.

ENVIRONMENTAL ASSESSMENT

Carolina Power & Light Company has reviewed this request and determined that the proposed amendment changes a requirement with respect to the use of a facility component located within the restricted area, as defined in 10 CFR Part 20, and changes a surveillance requirement. Operation in accordance with the proposed revision will not result in a significant increase in the amounts or a significant change in the types of any effluents that may be released offsite nor will it result in a significant increase in individual or cumulative occupational radiation exposure. The Company has previously determined that the proposed amendment does not involve a significant hazards consideration. Based on the above reasoning, the proposed 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 to be prepared in connection with the issuance of the amendment.

DISCUSSION OF EXIGENCY

SHNPP is currently in a maintenance outage and scheduled to return to service on November 4, 1987. Diesel generator surveillance testing is critical path, any delay in completion will directly affect the length of the outage. Testing of diesel generator 1A-SA cannot begin until diesel generator 1B-SB can be declared operable. The Company had no previous reason to suspect that failure of this surveillance requirement would occur. Previous testing was performed when system grid demand was much higher and, therefore, system voltage and diesel generator voltage was proportionally lower. As such, sufficient margin existed to successfully perform the surveillance requirement. Therefore, an emergency license amendment is required to be issued by October 16, 1987 in order to avoid delay of startup of the unit.

ADMINISTRATIVE INFORMATION

The revised SHNPP TS page is provided in Enclosure 1. The Company has evaluated this request in accordance with the provisions of 10 CFR 170.12 and determined that a license amendment application fee is required. A check for $150 is enclosed in payment of this fee. In accordance with 10 CFR 50.91, the Company has forwarded a copy of this request to Mr. Dayne H. Brown of the State of North Carolina.

Please refer questions regarding this submittal to Mr. David C. McCarthy at (919) 836-7715.

Yours very truly,

R. A. Watson
Vice President
Harris Nuclear Project

RAW:dj

Enclosures

cc: Mr. D. H. Brown (State of NC)
Mr. B. C. Buckley (NRC)
Dr. J. Nelson Grace (NRC-R
Mr. G. F. Maxwell (NRC-SHNPP)

R. A. Watson, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, contractors, and agents of Carolina Power & Light Company.

Notary (Seal)

My commission expires: 3/28/92