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AUTH. NAME AUTHOR AFFILIATION
KRICH, R.M. Carolina Power & Light Co.
RECIP. NAME RECIPIENT AFFILIATION
 Document Control Branch (Document Control Desk)

SUBJECT: Application for amend to license DPR-23, revising TS 3.7.2(d)
to allow operation of plant w/one EDG inoperable w/o
entering condition prohibited by TS 3.0.

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10 CFR 50.90

Carolina Power & Light Company
Robinson Nuclear Plant
PO Box 790
Hartsville SC 29551

RNP File No: 13510HA
Serial: RNP/94-1500

JUL 29 1994

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

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23
REQUEST FOR LICENSE AMENDMENT
INOPERABLE EMERGENCY DIESEL GENERATOR DURING POWER OPERATION

Gentlemen:

In accordance with 10 CFR 50.90, Carolina Power & Light (CP&L) Company is submitting a request for a revision to the Technical Specifications (TS) for the H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2. The purpose of this revision is to allow operation of the plant with one Emergency Diesel Generator (EDG) inoperable without entering a condition prohibited by TS (i.e., entry into TS 3.0). On June 13, 1994, Licensee Event Report 94-011 was submitted as a result of operation in a condition prohibited by TS. This event occurred because the TS requires daily testing of the operable EDG when one EDG is inoperable. The performance of a surveillance test on the operable EDG renders the EDG inoperable for approximately two to four hours while the test is being performed, thus both EDGs are inoperable for that period, and the plant enters a condition prohibited by TS. This TS amendment request includes provisions to permit the operable EDG to be tested while one EDG is inoperable and includes provisions to avoid testing the operable EDG altogether under certain conditions, in order to ensure that one EDG is available to provide emergency power, if needed, and to preserve the EDG overall life and reliability. Elimination of the requirement to test the operable EDG under certain conditions is beneficial for the following reasons:

- 1) The number of entries into an equipment configuration where a loss of safety function exists during the period of the test is minimized;
- 2) The overall engine degradation (wear and stress) and the probability of failure due to degradation are reduced; and,

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Highway 151 and SC 23 Hartsville SC

ADD

- 3) The susceptibility to damage from an electrical grid fault, while the engine under test is running paralleled to the grid, is reduced.

The proposed revision reflects the revised NRC position on testing redundant safety equipment and is consistent with the improved Standard Technical Specifications for Westinghouse plants (NUREG-1431).

Enclosure 1 provides an affidavit as required by 10 CFR 50.30(b).

Enclosure 2 provides a detailed description of the proposed changes and the basis for the changes.

Enclosure 3 details, in accordance with 10 CFR 50.91(a), the basis for the CP&L's determination that the proposed changes do not involve a significant hazards consideration.

Enclosure 4 provides an environmental evaluation which demonstrates that the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental assessment needs to be prepared in connection with the issuance of the amendment.

Enclosure 5 provides page change instructions for incorporating the proposed revisions.

Enclosure 6 provides the proposed Technical Specification pages.

In accordance with 10 CFR 50.91(b), CP&L is providing the State of South Carolina with a copy of the proposed license amendment.

In order to allow time for procedure revision and orderly incorporation into copies of the Technical Specifications, CP&L requests that the proposed amendments, once approved by the NRC, be issued such that implementation will occur within 60 days of issuance of the amendment.

Please refer any questions regarding this submittal to Mr. K. R. Jury at (803) 383-1363.

Yours very truly,



R. M. Krich
Manager - Regulatory Affairs

c: Mr. Max K. Batavia, Chief, Bureau of Radiological Health (SC)
Mr. S. D. Ebnetter, Regional Administrator, USNRC, Region II
Ms. B. L. Mozafari, USNRC Project Manager, HBRSEP
Mr. W. T. Orders, USNRC Senior Resident Inspector, HBRSEP
Attorney General (SC)

Enclosures:

1. Affidavit
2. Basis for Change Request
3. 10 CFR 50.92 Evaluation
4. Environmental Considerations
5. Page Change Instructions
6. Technical Specification Pages

Enclosure 1
Affidavit

C. S. Hinnant, having been first duly sworn, did depose and say that the information contained in letter RNP/94-1500 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.

CS Hinnant

Sandra W. Rhodes

Notary (Seal)

My commission expires: 3-27-99

ENCLOSURE 2

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
NRC DOCKET NO. 50-261/LICENSE NO. DPR-23
REQUEST FOR LICENSE AMENDMENT
INOPERABLE EMERGENCY DIESEL GENERATOR
DURING POWER OPERATION

BASIS FOR CHANGE REQUEST

Background

In accordance with 10 CFR 50.90, Carolina Power & Light Company is submitting a request for a revision to the Technical Specifications (TS) for the H. B. Robinson Steam Electric Plant, Unit No. 2. The purpose of this revision is to allow operation of the plant with one Emergency Diesel Generator (EDG) inoperable without entering a condition prohibited by TS. On June 13, 1994, Licensee Event Report 94-011 was submitted as a result of operation in a condition prohibited by TS (i.e., entry into TS 3.0). This event occurred because the TS requires daily testing of the operable EDG when one EDG is inoperable. The performance of a surveillance test on the operable EDG renders the EDG inoperable for approximately two to four hours while the test is being performed, thus both EDGs are inoperable for that period, and the plant enters a condition prohibited by TS. This amendment request includes provisions in TS to permit the operable EDG to be tested with one EDG inoperable and includes provisions to avoid testing the operable EDG altogether under certain conditions, in order to ensure that one EDG is available to provide emergency power, if needed, and to preserve the EDG overall life and reliability.

Proposed Change

TS 3.7.2(d) provides for one EDG to remain inoperable for a period of up to 7 days provided the operable EDG is tested daily. The current EDG surveillance test involves a pre-lube period, manual start, and manual synchronization of the EDG. The TS requirement for testing of the operable EDG was based on an earlier NRC position. The intent of the prior position was to provide positive demonstration that a loss of safety function had not occurred. To satisfy the current TS requirement, the operable EDG must be taken out of service to demonstrate operability through supplemental testing. The detrimental effects of the testing exceed the benefit derived from any added assurance of operability the test provided. Supplemental testing results in both an increased probability of equipment failure due to unnecessary wear and a loss of safety function exists during the period of performance of the test.

Industry operating experience has since demonstrated that testing EDGs, when one train is operable, is not necessary to provide assurance of system operability. Deleting the requirement to demonstrate the operability of an otherwise operable EDG, once a determination has been made that no common mode failure exists, has no effect on the

design or performance characteristics of the EDG.

To avoid unnecessary wear and tear on the EDG, an alternative to performance of a surveillance test on the operable EDG under most conditions is requested. Under all conditions, the availability of off-site power will be verified within one hour. If it can be determined that the remaining operable EDG is not inoperable due to common cause failure within 24 hours, the operable EDG is not tested for the duration of the Limiting Condition for Operation (LCO). Otherwise, the requirements are to demonstrate the operability of the remaining operable EDG by performance of TS Surveillance Requirement (SR) 4.6.1.1 within 24 hours, and once per 72 hours thereafter. To allow testing of the operable EDG without entering a condition prohibited by TS prior to the expiration of the required Action time, allowances for pre-lubing and the length of test are included in the TS Action. When performing the SR to meet this requirement, the EDG start may be preceded by an engine pre-lube period and be followed by a warm up period prior to loading. The EDG being tested may be out of service for a total of four hours to perform the required test.

Basis

Two EDGs have sufficient capacity at design load to start and run all of the Engineered Safety Features(s) (ESF) equipment. The safety features operated from one EDG can adequately mitigate the effects of any design basis accident.

The required Actions associated with a single EDG being inoperable is intended to provide assurance that a loss of off-site power, during the period that an EDG is inoperable, does not result in a complete loss of the ESF equipment. These features are designed with redundant safety related trains, including motor driven auxiliary feedwater pumps. Single train systems, such as turbine driven auxiliary feedwater pumps, are not included. Redundant ESF failures consist of inoperable features associated with a train that is redundant to the train that has the inoperable EDG.

The required source of off-site power is the 115 kV Start-Up Transformer (SUT). The 115 kV SUT receives power from several sources in the 115 kV switchyard as discussed in Section 8.2 of the Updated Final Safety Analysis Report. Currently, no provision exists in TS to verify the required off-site power source when testing the EDGs. The required off-site power source will be verified once per twelve hours, corresponding to once per shift. This proposed change provides additional assurance to minimize the probability of a loss of power during the period of time that an EDG is inoperable.

All EDG inoperabilities must be investigated for common cause failures regardless of how long the period of time that the EDG is inoperable. This investigation is performed by evaluation or by actually testing the operable EDG. If the cause for the inoperable EDG exists for both EDGs, both EDGs must be declared inoperable and TS 3.0 applies. If the cause for the inoperable EDG is scheduled maintenance, then the cause does not apply to

the operable EDG. If the cause of the inoperable EDG cannot be confirmed not to exist on the other operable EDG, performance of SR 4.6.1.1 suffices to provide assurance of continued operability of that EDG. TS 3.0 is not entered during the period of time that testing of the remaining EDG is being performed, approximately two to four hours. The purpose of this provision is to avoid entry into TS 3.0 solely for the purpose of testing of the remaining EDG. During that time, the EDG being tested cannot start automatically on loss of off-site power; however, the short time necessary to perform this test is acceptable in comparison to the low probability of a Loss of Coolant Accident coincident with a loss of off-site power.

The plant may transition between Action statement options of Actions 3.7.2(d)(2) and 3.7.2(d)(3), but none of the LCO Action times will change from the original initiation times. For example, if one EDG is out of service, and it cannot be determined within 24 hours that the other EDG is not impacted by a common mode failure, the plant will transition to Action 3.7.2(d)(3) at 24 hours into the Action for 3.7.2. If subsequent to the testing of the operable EDG, it is found that the operable EDG is not impacted by a common mode failure, the Actions for 3.7.2(d)(1) and 3.7.2(d)(3) are met and further testing of the operable EDG is not required for the remainder of the 7 day LCO. The original 7 day LCO for one EDG inoperable, 24 hour LCO for common mode determination, and one hour LCO for off-site power verification are not "reset" by the transition between the Action statement options.

Provision for ensuring that the most limiting LCO applies when a combination of an EDG and other ESF equipment are inoperable are already included in TS 1.3, "Definitions." In TS 1.3, any ESF equipment on the train that the inoperable EDG exists is declared inoperable immediately when the corresponding redundant equipment on the other train (i.e., supplied by the operable EDG) becomes inoperable.

The proposed revision is consistent with the improved Standard Technical Specifications for Westinghouse plants (NUREG-1431).

Conclusions

The intent of the existing TS was to allow operation with one EDG inoperable for a period of seven days and to verify the operability of the other EDG with daily testing. The impact of increased industry-wide emphasis on EDG reliability has resulted in several necessary steps in EDG surveillance testing that were not anticipated when the TS were originally written. These additional steps indeed prevent the EDG from performing its required function automatically in the event that a loss of off-site power should occur. The probability of a loss of off-site power is minimized by the provision of ensuring that required off-site power is available. The low probability of a loss of off-site power coincident with EDG testing has been accepted as a necessary risk to improved EDG reliability industry-wide as evidenced by Generic Letter 84-15 and NUREG-1431. The proposed TS amendment request incorporates the best industry guidance to allow one EDG to be inoperable without entering a condition prohibited by TS prior to the expiration of the required Action time.

ENCLOSURE 3

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
NRC DOCKET NO. 50-261/LICENSE NO. DPR-23
REQUEST FOR LICENSE AMENDMENT
INOPERABLE EMERGENCY DIESEL GENERATOR
DURING POWER OPERATION

10 CFR 50.92 EVALUATION

The NRC 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 proposed license amendment request and concludes that its adoption would not involve a significant hazards determination. The bases for this conclusion are as follows:

Proposed Change

Technical Specification (TS) 3.7.2(d) provides for one Emergency Diesel Generator (EDG) to remain inoperable for a period of up to 7 days provided the operable EDG is tested daily. The current EDG surveillance test involves a pre-lube period, manual start, and manual synchronization of the EDG.

To avoid unnecessary wear and tear on the EDG, an alternative to performance of a surveillance test on the operable EDG under most conditions is requested. Under all conditions, the availability of off-site power will be verified within one hour. If it can be determined that the remaining operable EDG is not inoperable due to common cause failure within 24 hours, the operable EDG is not tested for the duration of the Limiting Condition for Operation. Otherwise, the requirements are to demonstrate the operability of the remaining operable EDG by performance of TS Surveillance Requirement (SR) 4.6.1.1 within 24 hours, and once per 72 hours thereafter. To allow testing of the operable EDG without entering a condition prohibited by TS prior to the expiration of the required Action time, allowances for pre-lubing and the length of test are included in the TS Action. When performing the SR to meet this requirement, the EDG start may be preceded by an engine pre-lube period and be followed by a warm up period prior to loading. The EDG being tested may be declared inoperable for a total of four hours for testing.

Basis

This change does not involve a significant hazards consideration for the following reasons:

1. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed change involves changes in the testing frequency of the EDGs when one EDG is inoperable, as well as provision of additional measures to ensure that a source of off-site power is available. The proposed change will also avoid testing of an EDG when one EDG is inoperable if the EDG became inoperable for reasons other than a common cause. Since the changes involve the EDGs which perform an accident mitigation function and are not involved in any accident initiation sequence, there is no significant increase in the probability of a previously analyzed accident. Since the changes involve the EDGs which perform an accident mitigation function, and the changes provide additional assurance that emergency power will be available for accident mitigation, there is no significant increase in the consequences of a previously analyzed accident. Therefore, there would be no increase in the probability or consequences of an accident previously evaluated.
2. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed change involves changes in the testing frequency of the EDGs when one EDG is inoperable, as well as provision of additional measures to ensure that a source of off-site power is available. The proposed change will also avoid testing of an EDG when one EDG is inoperable if the EDG became inoperable for reasons other than a common cause. Since these changes do not involve changes in the operation of the plant, or physical or equipment changes and involve controls for accident mitigation equipment, the proposed amendment will not create the possibility of new or different kind of accident from any accident previously evaluated. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.
3. The proposed amendment does not involve a significant reduction in the margin of safety. The proposed change involves changes in the testing frequency of the EDGs when one EDG is inoperable, as well as provision of additional measures to ensure that a source of off-site power is available. The proposed change will also avoid testing of an EDG when one EDG is inoperable if the EDG became inoperable for reasons other than a common cause. The change reduces the required testing frequency of an operable EDG, hence reducing time that no EDG will be available for automatic starting and loading. These changes will provide assurance that emergency power will be available to mitigate the effects of any accident and will prevent excessive wear on the EDGs. Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

ENCLOSURE 4

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
NRC DOCKET NO. 50-261/LICENSE NO. DPR-23
REQUEST FOR LICENSE AMENDMENT
INOPERABLE EMERGENCY DIESEL GENERATOR
DURING POWER OPERATION

ENVIRONMENTAL CONSIDERATIONS

10 CFR 51.22(c)(9) provides criteria for identification of licensing and regulatory actions eligible for categorical exclusion from performing an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration; (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released off-site; (3) result in an increase in individual or cumulative occupational radiation exposure. Carolina Power & Light Company has reviewed this request and concluded that 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 needs to be prepared in connection with the issuance of the amendment. The basis for this conclusion is as follows:

Proposed Change

Technical Specification (TS) 3.7.2(d) provides for one Emergency Diesel Generator (EDG) to remain inoperable for a period of up to 7 days provided the operable EDG is tested daily. The current EDG surveillance test involves a pre-lube period, manual start, and manual synchronization of the EDG.

To avoid unnecessary wear and tear on the EDG, an alternative to performance of a surveillance test on the operable EDG under most conditions is requested. Under all conditions, the availability of off-site power will be verified within one hour. If it can be determined that the remaining operable EDG is not inoperable due to common cause failure within 24 hours, the operable EDG is not tested for the duration of the Limiting Condition for Operation. Otherwise, the requirements are to demonstrate the operability of the remaining operable EDG by performance of TS Surveillance Requirement (SR) 4.6.1.1 within 24 hours, and once per 72 hours thereafter. To allow testing of the operable EDG without entering a condition prohibited by TS prior to the expiration of the required Action time, allowances for pre-lubing and the length of test are included in the TS Action. When performing the test to meet this SR, the EDG start may be preceded by an engine pre-lube period and be followed by a warm up period prior to loading. The EDG being tested may be declared inoperable for a total of four hours for testing.

Basis

The change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) for the following reasons:

1. As demonstrated in Enclosure 3, the proposed amendment does not involve a significant hazards consideration.
2. The proposed amendment does not result in a significant change in the types or significant increase in the amounts of any effluents that may be released off-site. The proposed change involves changes in the testing frequency of the EDGs when one EDG is inoperable, as well as provision of additional measures to ensure that a source of off-site power is available. The proposed change will also avoid testing of an EDG when one EDG is inoperable if the EDG became inoperable for reasons other than a common cause. No radiological effluents are generated or released as a result of EDG testing. Other effluents (i.e., diesel engine exhaust) will be reduced due to the reduced frequency of EDG testing. As such, the proposed change does not affect the types or increase the amounts of any effluents that may be released off-site.
3. The proposed amendment does not result in an increase in individual or cumulative occupational radiation exposure. The proposed change involves changes in the testing frequency of the EDGs when one EDG is inoperable, as well as provision of additional measures to ensure that a source of off-site power is available. The proposed change will also avoid testing of an EDG when one EDG is inoperable if the EDG became inoperable for reasons other than a common cause. The EDGs are located in the Auxiliary Building inside of the Radiologically Controlled Area. Sources of radiological exposure or contamination are not normally present in the area where the EDGs are tested. The actual frequency of testing of the EDGs could be decreased as a result of this TS amendment request. Therefore, the amendment has no effect on either individual or cumulative occupational radiation exposure.

ENCLOSURE 5
H.B.ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
NRC DOCKET NO. 50-261/LICENSE NO. DPR-23
REQUEST FOR LICENSE AMENDMENT
INOPERABLE EMERGENCY DIESEL GENERATOR
DURING POWER OPERATION

PAGE CHANGE INSTRUCTIONS

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