



Serial: RNP-RA/05-0107

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United States Nuclear Regulatory Commission
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H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23

REQUEST FOR TECHNICAL SPECIFICATIONS CHANGE TO
SECTION 3.8.1 FOR THE DIESEL GENERATOR AUTOMATIC TRIPS BYPASS

Ladies and Gentlemen:

In accordance with the provisions of the Code of Federal Regulations, Title 10, Part 50.90, Carolina Power and Light Company, also known as Progress Energy Carolinas, Inc., is submitting a request for an amendment to the Technical Specifications (TS) contained in Appendix A of the Operating License for H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2.

The proposed amendment revises the frequency of the diesel generator automatic trips bypass surveillance requirement (SR) 3.8.1.11 from 18 months to 24 months.

Attachment I provides an Affirmation as required by 10 CFR 50.30(b).

Attachment II provides a description of the current condition, a description and justification of the proposed change, a No Significant Hazards Consideration Determination, and an Environmental Impact Consideration.

Attachment III provides a markup of the affected TS page.

Attachment IV provides a retyped version of the affected TS page.

In accordance with 10 CFR 50.91(b), Carolina Power and Light Company, also known as Progress Energy Carolinas, Inc., is providing the State of South Carolina with a copy of this license amendment request.

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This change is requested by August 1, 2006, to allow implementation at that time.

If you have any questions concerning this matter, please contact Mr. C. T. Baucom at 843-857-1253.

Sincerely,



J. F. Lucas

Manager – Support Services – Nuclear

Attachments:

- I. Affirmation
- II. Request for Technical Specifications Change to Section 3.8.1
- III. Markup of Technical Specifications Page
- IV. Retyped Technical Specifications Page


CTB/cac

- c: Mr. T. P. O'Kelley, Director, Bureau of Radiological Health (SC)
Mr. H. J. Porter, Director, Division of Radioactive Waste Management (SC)
Dr. W. D. Travers, NRC, Region II
Mr. C. P. Patel, NRC, NRR
NRC Resident Inspector, HBRSEP
Attorney General (SC)

AFFIRMATION

The information contained in letter RNP-RA/05-0107 is true and correct to the best of my information, knowledge, and belief; and the sources of my information are officers, employees, contractors, and agents of Carolina Power and Light Company, also known as Progress Energy Carolinas, Inc. I declare under penalty of perjury that the foregoing is true and correct.

Executed On: 30 November 2005



J. W. Moyer
Vice President, HBRSEP, Unit No. 2

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

REQUEST FOR TECHNICAL SPECIFICATIONS CHANGE TO SECTION 3.8.1

Description of Current Condition

Appendix A, Technical Specifications (TS), to Operating License (OL) No. DPR-23, for H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2, establishes the Limiting Conditions for Operation (LCO) requirements for diesel generator (DG) operability in TS section 3.8.1. Surveillance requirement (SR) 3.8.1.11 is the current TS requirement to verify each DG's automatic trips are bypassed, except engine overspeed, at a frequency of 18 months. SR 3.8.1.11 demonstrates that DG non-critical protective functions (e.g., high coolant water temperature) are bypassed.

Description and Justification of the Proposed Change

The proposed change decreases the frequency of SR 3.8.1.11, verification of the DG automatic trips bypass, from 18 months to 24 months. This change is needed because in 2002 a change from an 18 to 24 month inspection frequency for DG inspection was adopted for HBRSEP, Unit No. 2, as recommended by the Fairbanks-Morse Owners Group. The difference in the frequency of DG inspection and trips bypass testing prevents concurrent scheduling of these DG surveillance requirements.

DG inspection is normally scheduled during plant operation by utilizing Condition B of LCO 3.8.1, which requires restoration of an inoperable DG within 7 days. During the DG inspection, maintenance and testing of the DG is conducted. The performance of SR 3.8.1.11 during the DG inspection outage is preferable because the DG is already unavailable for the other required maintenance and testing associated with the DG inspection (also called overhaul).

The TS Bases for SR 3.8.1.11 states that this surveillance demonstrates DG non-critical (also called non-essential) protective functions (e.g., high coolant water temperature) are bypassed. Prior to TS Amendment No. 174 in 1996, the HBRSEP, Unit No. 2, TS required that this SR be performed as part of DG testing during each refueling outage. On September 11, 1996, the TS requirements were changed by Amendment No. 174 to allow verification of the automatic trips bypass function during periodic overhaul of each DG, which at that time was required at an 18 month frequency. As stated previously, in 2002 the DG inspection (also called overhaul) frequency was changed to 24 months. This was accomplished by a change to the HBRSEP, Unit No. 2, Technical Requirements Manual (TRM). This TRM change was justified by use of the Fairbanks-Morse Owners Group information and recommendation, combined with a review of the HBRSEP, Unit No. 2, DG inspection results.

As part of Amendment No. 174, substantial technical information was provided to the NRC pertaining to the trips bypass (also called trips defeat) switch, including a simplified circuit diagram which is provided as Figure 1 in this attachment. The basic test sequence for the completion of SR 3.8.1.11 is provided, as follows:

1. The trips defeat switch is verified to be in the "Trips Defeat" position.

2. The emergency DG trouble alarm is verified to be clear (not illuminated).
3. A jumper is connected across the Alarm Delay Relay (terminals 1 and 5). This simulates engine running conditions for the non-critical trip functions.
4. A voltmeter is connected across the coil on the Stopping Relay.
5. The four non-critical trip functions are actuated one at a time by placement of a jumper in the actuation circuit for each non-critical trip. The associated alarm for each non-critical trip function is verified and the voltage on the Stopping Relay coil is verified to remain 0 volts. This verifies that actuation of each of the non-critical trips is occurring and that the Stopping Relay is not actuated.

A review of maintenance and testing records from 1997 to the present showed there were no failures of the SR during that period. Additionally, a search of maintenance history records revealed no failures of this circuitry prior to 1997, when the testing was conducted as part of the DG tests during each refueling outage. This result is not unexpected because of the simplicity of this circuitry. The trips bypass circuit is a key-switch that is placed in the "Trips Defeat" position, which opens the only circuit path that can automatically energize the Stopping Relay. This test is fundamentally a verification that the key-switch creates the open circuit, thus preventing the non-critical trip functions. Based on the maintenance history and the design of this circuitry, it is concluded that the proposed frequency change from 18 to 24 months will not affect the reliability of this circuit or the HBRSEP, Unit No. 2, emergency DGs.

The purpose of the trips defeat switch is to improve the likelihood that the DG will not trip during an emergency condition in which the DG is required to provide power to the associated emergency bus. The trips bypass function is only needed if a spurious or unexpected trip of any of the non-critical trip functions were to occur. Although not quantified, it is unlikely that one of the non-critical trips would occur under emergency conditions. Further, if a valid non-critical trip were to occur during required emergency operation of the DG, there is some (not quantified but finite) probability that the malfunction causing the non-critical trip would result in DG failure regardless of the function of the trips defeat circuitry. The failure of a single DG is within the design basis for HBRSEP, Unit No. 2. There are two DGs and only one is required for accident mitigation.

The TS Bases for SR 3.8.1.11 state:

"This Surveillance demonstrates that DG noncritical protective functions (e.g., high coolant water temperature) are bypassed and critical protective functions (engine overspeed) trip the DG to avert substantial damage to the DG unit. A manual switch is provided which bypasses the non-critical trips. The noncritical trips are normally bypassed during DBAs [design basis accidents] and provide an alarm on an abnormal engine condition. This alarm provides the operator with sufficient time to react appropriately. The DG availability to mitigate the DBA is more critical than protecting the engine against minor problems that are not immediately detrimental to emergency operation of the DG. This SR is satisfied by simulating a trip signal to each of the non-critical trip devices and observing the DG does not receive a trip signal.

The 18 month Frequency is based on engineering judgment, taking into consideration unit conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths. Operating experience has shown that these components usually pass the SR when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.”

Except for the change from 18 to 24 months for the SR frequency, this information will remain valid after completion of the proposed change. It should also be noted that the test procedure for SR 3.8.1.11 does not verify that the critical protective function of engine overspeed is not bypassed because this is a mechanical trip function that cannot be bypassed. The statement that implies SR 3.8.1.11 demonstrates the engine overspeed trip is not bypassed is considered misleading and will be removed during the next revision to this Bases section.

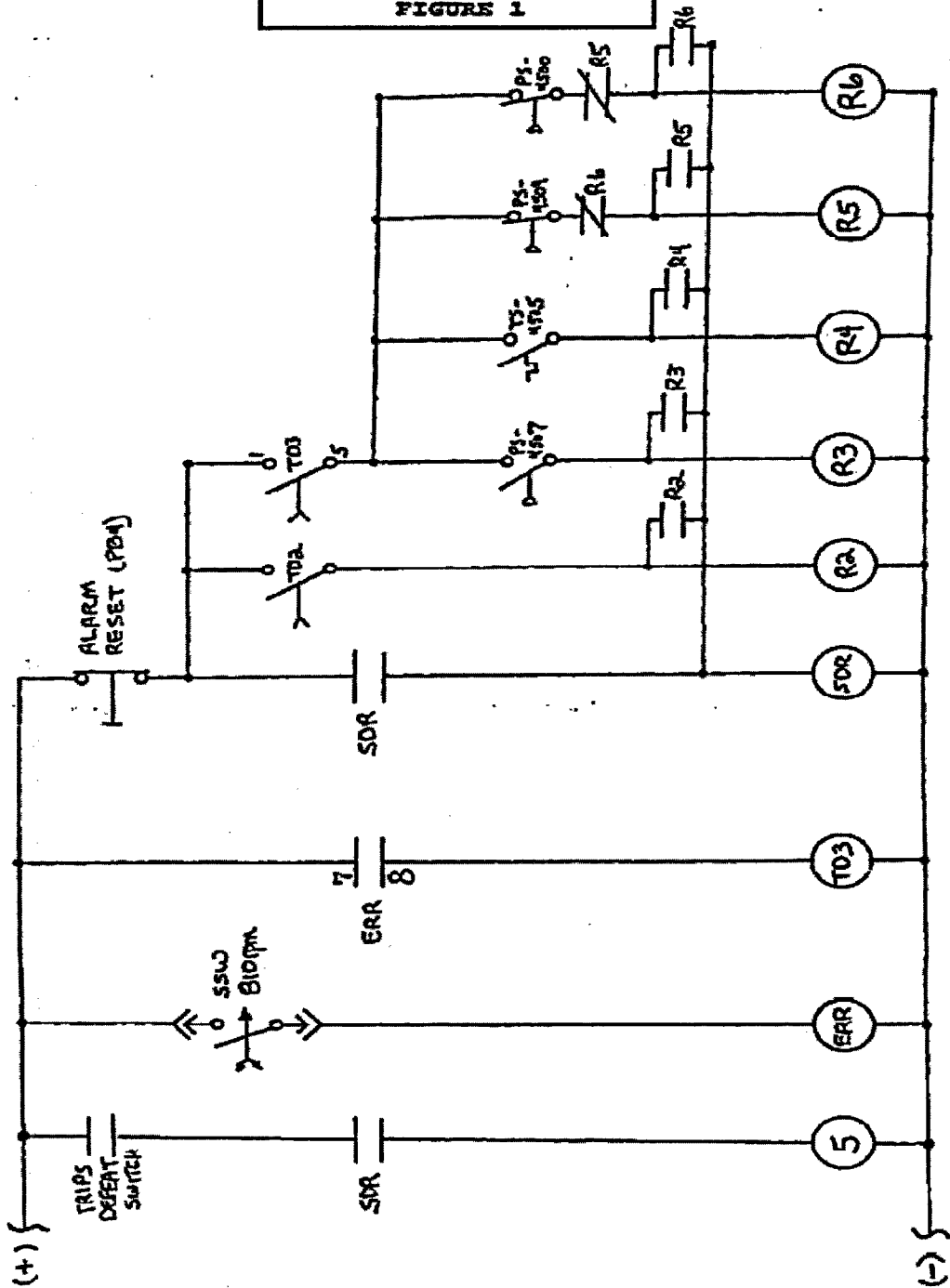
As further assurance of the reliability of the “Trips Defeat” function, there are controls on the position of the “Trips Defeat” switch. This switch can only be re-positioned by use of a key. The use of the key-switch helps prevent accidental or unintended changing of the switch position. Also, a Control Room alarm is actuated that annunciates “EDG trouble” for the associated DG, if the switch is placed in the “Trips in Service” position.

This change will introduce a minor formatting deviation in the HBRSEP, Unit No. 2, TS. The normal convention for listing SRs in standard TS is based on shortest to longest frequency. By this convention, the adoption of 24 months for SR 3.8.1.11 would require placing this SR near the end of the surveillance list for this TS LCO section. This would also require renumbering the intervening surveillances. These changes would also impact LCO 3.8.2, AC Sources – Shutdown, and numerous other plant documents. This minor deviation from conventional TS formatting is not expected to cause any adverse conditions associated with TS usage. This is a long frequency SR (i.e., greater than 12 months) and it will remain listed with other SRs of a generally similar frequency (i.e., 18 months).

Conclusion

Based on the preceding information, the proposed change to extend the frequency of SR 3.8.1.11 from 18 to 24 months is appropriate and justified for HBRSEP, Unit No. 2. This change in frequency will allow this SR to be conducted along with required DG periodic maintenance and inspection, which has a nominal frequency of 24 months. Additionally, the failure of this trip bypass circuitry would only result in a failure of the DG to perform its required function if a non-critical trip were to occur during emergency operation of the DG. The configuration controls for the trips bypass circuitry provide adequate assurance that the circuit is properly aligned for DG operability. Therefore, the proposed change will not result in any reduction in DG reliability or functionality.

**EMERGENCY DIESEL GENERATOR
 PROTECTIVE BYPASSES
 FIGURE 1**



- | | |
|-----------------------------------|-------------------------------------|
| 5 = Stopping Relay | R2 = Start Failure Relay |
| ERR = Engine Running Relay | R3 = Crank Case Pressure High Relay |
| TD3 = Alarm Delay Relay (20 Sec.) | R4 = Coolant Temperature High Relay |
| SDR = Shutdown Relay | R5 = Coolant Pressure Low Relay |
| | R6 = Lube Oil Pressure Low Relay |

No Significant Hazards Consideration Determination

Carolina Power and Light Company, also known as Progress Energy Carolinas, Inc., is proposing a change to Appendix A, Technical Specifications, of Facility Operating License No. DPR-23, for the H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2. The proposed change decreases the frequency of surveillance requirement (SR) 3.8.1.11, verification of the diesel generator (DG) automatic trips bypass, from 18 months to 24 months.

An evaluation of the proposed change has been performed in accordance with 10 CFR 50.91(a)(1) regarding no significant hazards considerations using the standards in 10 CFR 50.92(c). A discussion of these standards as they relate to this amendment request follows:

1. Do the Proposed Changes Involve a Significant Increase in the Probability or Consequences of an Accident Previously Evaluated?

No. The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed change decreases the frequency of SR 3.8.1.11, verification of the DG automatic trips bypass, from 18 months to 24 months. The DG automatic trips bypass circuitry is required for DG operability and reliability during emergency operation of the DG. The proposed test frequency will continue to assure that the DG will perform as required. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated, because the factors that are used to determine the probability and consequences of accidents are not being affected.

2. Do the Proposed Changes Create the Possibility of a New or Different Kind of Accident From Any Previously Evaluated?

No. The proposed change does not create the possibility of a new or different kind of accident from any previously evaluated. There are no new or different accident initiators or sequences being created by the proposed Technical Specifications change. The required surveillance performed at the proposed frequency will continue to provide assurance that the trips bypass function is operable and is properly supporting operation of the associated DG. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Do the Proposed Changes Involve a Significant Reduction in the Margin of Safety?

No. The proposed change does not involve a significant reduction in the margin of safety. The proposed change will continue to ensure that the DG trips bypass function operates as designed. The functionality and operability of emergency power system is not being changed. Therefore, the proposed change does not involve a significant reduction in the margin of safety.

Based on the preceding discussion, Carolina Power and Light Company, also known as Progress Energy Carolinas, Inc., has determined that the requested change does not involve a significant hazards consideration.

Environmental Impact Consideration

10 CFR 51.22(c)(9) provides criteria for identification of licensing and regulatory actions for categorical exclusion from performing an environmental assessment. A proposed change for an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed change would not (1) involve a significant hazards consideration; (2) result in a significant change in the types or significant increases in the amounts of any effluents that may be released offsite; (3) result in a significant increase in individual or cumulative occupational radiation exposure. Carolina Power and Light Company, also known as Progress Energy Carolinas, Inc., has reviewed this request and determined that the proposed change 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 determination follows.

Proposed Change

Carolina Power and Light Company, also known as Progress Energy Carolinas, Inc., is proposing a change to Appendix A, Technical Specifications, of Facility Operating License No. DPR-23, for the H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2. This proposed change decreases the frequency of surveillance requirement (SR) 3.8.1.11, verification of the diesel generator (DG) automatic trips bypass, from 18 months to 24 months.

Basis

The proposed 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 the No Significant Hazards Consideration Determination, the proposed change does not involve a significant hazards consideration.
2. The proposed change decreases the frequency of SR 3.8.1.11, verification of the DG automatic trips bypass, from 18 months to 24 months. This change does not affect the generation or control of effluents. Therefore, the proposed change will not result in a significant change in the types or significant increases in the amounts of any effluents that may be released offsite.
3. The proposed change does not affect any parameters that would cause an increase in occupational radiation exposure. There are no proposed physical changes to the facility or any process changes that would result in additional radiation exposure. Therefore, the proposed change will not result in a significant increase in individual or cumulative occupational radiation exposure.

United States Nuclear Regulatory Commission
Attachment III to Serial: RNP-RA/05-0107
2 Pages (including cover page)

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

REQUEST FOR TECHNICAL SPECIFICATIONS CHANGE TO SECTION 3.8.1

MARKUP OF TECHNICAL SPECIFICATIONS PAGE

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.11 Verify each DG's automatic trips are bypassed except engine overspeed.</p>	<p>16 months 24</p>
<p>SR 3.8.1.12 -----NOTES-----</p> <ol style="list-style-type: none"> 1. Momentary transients outside the load and power factor ranges do not invalidate this test. 2. This Surveillance shall not be performed in MODE 1 or 2. 3. During periods when a diesel generator is being operated for testing purposes, its protective trips need not be bypassed after the diesel generator has properly assumed the load on its bus. <p>-----</p> <p>Verify each DG operating at a power factor ≤ 0.9 operates for ≥ 24 hours:</p> <ol style="list-style-type: none"> a. For ≥ 1.75 hours loaded ≥ 2650 kW and ≤ 2750 kW; and b. For the remaining hours of the test loaded ≥ 2400 kW and ≤ 2500 kW. 	<p>18 months</p>

(continued)

United States Nuclear Regulatory Commission
Attachment IV to Serial: RNP-RA/05-0107
2 Pages (including cover page)

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

REQUEST FOR TECHNICAL SPECIFICATIONS CHANGE TO SECTION 3.8.1

RETYPE TECHNICAL SPECIFICATIONS PAGE

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.11	Verify each DG's automatic trips are bypassed except engine overspeed.	24 months
SR 3.8.1.12	<p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Momentary transients outside the load and power factor ranges do not invalidate this test. 2. This Surveillance shall not be performed in MODE 1 or 2. 3. During periods when a diesel generator is being operated for testing purposes, its protective trips need not be bypassed after the diesel generator has properly assumed the load on its bus. <p>-----</p> <p>Verify each DG operating at a power factor ≤ 0.9 operates for ≥ 24 hours:</p> <ol style="list-style-type: none"> a. For ≥ 1.75 hours loaded ≥ 2650 kW and ≤ 2750 kW; and b. For the remaining hours of the test loaded ≥ 2400 kW and ≤ 2500 kW. 	18 months

(continued)