



Serial: RNP-RA/06-0046

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United States Nuclear Regulatory Commission  
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Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/LICENSE NO. DPR-23

REQUEST FOR TECHNICAL SPECIFICATIONS  
CHANGE TO SECTION 3.5.2, EMERGENCY CORE COOLING SYSTEM

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 request revises the surveillance requirements (SR) for the emergency core cooling system suction inlet in the containment as specified in TS SR 3.5.2.6.

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 changes, 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), a copy of this license amendment request is being provided to the State of South Carolina.

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Nuclear Regulatory Commission approval of the proposed license amendment by January 15, 2007, is requested, based on the expected modification to the emergency core cooling system suction inlet during the upcoming Refueling Outage 24, which is currently scheduled to start on April 7, 2007.

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 3.5.2
- 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/06-0046 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: 6/1/06

T. D. Walt  
T. D. Walt  
Vice President, HBRSEP, Unit No. 2

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

### **REQUEST FOR TECHNICAL SPECIFICATIONS CHANGE TO SECTION 3.5.2**

#### **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 Condition for Operation (LCO) requirements for the emergency core cooling system (ECCS). Surveillance Requirement (SR) 3.5.2.6 provides ECCS containment sump suction inlet inspection requirements. TS SR 3.5.2.6 requires verification by visual inspection that the ECCS train containment sump suction inlet is not restricted by debris and the suction inlet trash racks and screens show no evidence of structural distress or abnormal corrosion. This SR has frequency of 18 months to allow performance each refueling outage.

The associated TS Bases state:

“Periodic inspections of the containment sump suction inlet ensure that it is unrestricted and stays in proper operating condition. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage, on the need to have access to the location, and because of the potential for an unplanned transient if the Surveillance were performed with the reactor at power. This Frequency has been found to be sufficient to detect abnormal degradation and is confirmed by operating experience.”

#### **Description and Justification of the Proposed Changes**

The proposed SR 3.5.2.6 changes are needed based on the planned modification to the ECCS containment sump suction inlet. Specifically, the ECCS containment sump suction inlet is being changed from a trash rack and screen-type arrangement to a larger strainer-type inlet. The requirements for inspection of the sump portion of the ECCS system will remain the same as currently required by SR 3.5.2.6. Specifically, the inspection requirements will continue to state that the ECCS containment sump suction inlet is to be visually inspected at an 18 month frequency to verify that it is not restricted by debris and shows no evidence of structural distress or abnormal corrosion.

The proposed changes modify the requirements of TS SR 3.5.2.6 by removal of the word “train” and by changing the terminology of “trash racks and screens” to “strainers” consistent with the new design. The removal of the word “train” is considered a clarification of the current TS requirement because the sump is a combined header for both ECCS trains; hence, use of the word “train” is not needed.

Additionally, the terminology change from “trash racks and screens” to “strainers” provides a more appropriate description of the expected configuration. The planned modification to the containment sump suction inlet is being conducted in accordance with evaluations and descriptions provided in

response to NRC Generic Letter 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors," and the HBRSEP, Unit No. 2, engineering change process. The new strainers are functionally equivalent to the existing trash racks and screens for meeting the requirements of 10 CFR 50.46(b)(5) for long term cooling and the HBRSEP, Unit No. 2, General Design Criterion 44 which states, "An Emergency Core Cooling System with the capability for accomplishing adequate emergency core cooling shall be provided. This core cooling system and the core shall be designed to prevent fuel and clad damage that would interfere with the emergency core cooling function and to limit the clad metal-water reaction to acceptable amounts for all sizes of breaks in the reactor coolant piping up to the equivalent of a double-ended rupture of the largest pipe. The performance of such emergency core cooling system shall be evaluated conservatively in each area of uncertainty." The functional equivalence of the new strainers will also provide support for operation of the containment spray system, if it is required for containment cooling during the containment sump recirculation phase of a loss of coolant accident.

The use of the term "strainers" will not affect the implementation of TS SR 3.5.2.6, and can be used for the implementation of corrective actions to address Generic Safety Issue (GSI)-191. GSI-191 was established by the NRC to determine whether transport and accumulation of debris in pressurized-water reactor containments following a loss of coolant accident (LOCA) would impede the long-term operation of emergency core cooling system or containment spray system. The proposed changes will provide terminology that is consistent with the modified containment sump suction inlet that is expected to be installed during Refueling Outage 24, which is currently scheduled to begin on April 7, 2007.

### **No Significant Hazards Consideration Determination**

Carolina Power and Light Company 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 revises the emergency core cooling system containment sump inlet surveillance requirements as described in Technical Specifications Section 3.5.2.6.

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 surveillance change will continue to ensure that the emergency core cooling system (ECCS) containment sump inlet is inspected in a manner that will verify operability. Performance of the required system surveillances, in conjunction with the applicable operational and design requirements for the ECCS, provide assurance that the system will be capable of performing the required design

functions for accident mitigation and that the system will perform in accordance with the functional requirements for the system as described in the Updated Final Safety Analysis Report for HBRSEP, Unit No. 2. The proposed rewording of the surveillance requirement will continue to ensure that the ECCS containment sump suction inlet is not restricted by debris and suction inlet strainers show no evidence of structural distress or abnormal corrosion for HBRSEP, Unit No. 2. This ensures that the rate of occurrence and consequences of analyzed accidents will not change. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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. HBRSEP, Unit No. 2, is replacing the existing ECCS containment sump inlet trash racks and screens with new strainers in accordance with the response to Generic Letter 2004-02. The strainer is a passive component in the ECCS, which is a standby safety system used for accident mitigation. As such, the strainer cannot be an accident initiator. A change to Technical Specifications Surveillance Requirement 3.5.2.6 is needed to accommodate the change to the ECCS containment sump inlet design. This change does not alter the nature of events postulated in the HBRSEP, Unit No. 2, Updated Final Safety Analysis Report, nor does it introduce any unique precursor mechanisms. Therefore, this 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 to the ECCS containment sump inlet surveillance requirement provides appropriate and applicable surveillance for this system. The proposed change to this surveillance requirement for the ECCS system will continue to ensure system operability. The proposed change does not adversely affect any plant safety limits, setpoints, or design parameters. The change also does not adversely affect the fuel, fuel cladding, Reactor Coolant System (RCS), or containment integrity. Therefore, this change does not affect any margin of safety for HBRSEP, Unit No. 2.

Based on the preceding discussion, it has been 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 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 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 change will revise the emergency core cooling system (ECCS) containment sump inlet surveillance requirements as described in Technical Specifications Section 3.5.2.6.

#### 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 to the ECCS surveillance requirement removes the word "train" and substitutes the new terminology of "strainers" for the previously used terminology of "trash racks and screens." The proposed 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, as previously described, 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 change that would result in significant 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/06-0046  
2 Pages (including cover page)

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

**REQUEST FOR TECHNICAL SPECIFICATIONS CHANGE TO SECTION 3.5.2**

**MARKUP OF TECHNICAL SPECIFICATIONS PAGE**

**SURVEILLANCE REQUIREMENTS (continued)**

| SURVEILLANCE |  | FREQUENCY  |
|--------------|--|--|
| SR 3.5.2.3   | Verify each ECCS pump's developed head at the test flow point is greater than or equal to the required developed head.   | In accordance with the Inservice Testing Program |
| SR 3.5.2.4   | Verify each ECCS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.   | 18 months  |
| SR 3.5.2.5   | Verify each ECCS pump starts automatically on an actual or simulated actuation signal.   | 18 months  |
| SR 3.5.2.6   | Verify, by visual inspection, the ECCS <del>train</del> containment sump suction inlet is not restricted by debris and the suction inlet <del>trash racks and screens</del> show no evidence of structural distress or abnormal corrosion. | 18 months  |

strainers →

(continued)

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Attachment IV to Serial: RNP-RA/06-0046  
2 Pages (including cover page)

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

**REQUEST FOR TECHNICAL SPECIFICATIONS CHANGE TO SECTION 3.5.2**

**RETYPED TECHNICAL SPECIFICATIONS PAGE**

**SURVEILLANCE REQUIREMENTS (continued)**

| <b>SURVEILLANCE</b> |  | <b>FREQUENCY</b>                                 |
|---------------------|--|--|
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| SR 3.5.2.4          | Verify each ECCS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.     | 18 months  |
| SR 3.5.2.5          | Verify each ECCS pump starts automatically on an actual or simulated actuation signal.   | 18 months  |
| SR 3.5.2.6          | Verify, by visual inspection, the ECCS containment sump suction inlet is not restricted by debris and the suction inlet strainers show no evidence of structural distress or abnormal corrosion. | 18 months  |

(continued)