10 CFR 50.54(f)

Progress Energy

Serial: RNP-RA/07-0002

JAN 31 2007

United States Nuclear Regulatory Commission
ATTN: Document Control Desk
11555 Rockville Pike
Rockville, Maryland 20852

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

RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION
RELATED TO GENERIC LETTER 2006-02, "GRID RELIABILITY AND
THE IMPACT ON PLANT RISK AND THE OPERABILITY OF OFFSITE POWER"

Ladies and Gentlemen:

By letter dated December 5, 2006, the NRC requested that Carolina Power and Light Company, also known as Progress Energy Carolinas, Inc. (PEC), respond within 30 days to a request for additional information (RAI) regarding NRC Generic Letter 2006-02, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power." The NRC subsequently extended the due date for the RAI response to January 31, 2007, in a letter dated December 13, 2006. Attachment II to this letter provides the RAI response for the H. B. Robinson Steam Electric Plant, Unit No. 2.

Attachment I provides an Affirmation in accordance with the provisions of Section 182a of the Atomic Energy Act of 1954, as amended, and 10 CFR 50.54(f).

There are no commitments associated with this letter.

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

Sincerely,

Jan F. Lucas
Manager – Support Services – Nuclear

ANH/anh

A123

Attachments:

I. Affirmation
II. Response to NRC Request for Additional Information Related to Generic Letter 2006-02, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power"

c: Dr. W. D. Travers, NRC, Region II
Mr. C. P. Patel, NRC, NRR
NRC Resident Inspector

AFFIRMATION

The information contained in letter RNP-RA/07-0002 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: 1/31/07

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

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

RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION RELATED TO GENERIC LETTER 2006-02, "GRID RELIABILITY AND THE IMPACT ON PLANT RISK AND THE OPERABILITY OF OFFSITE POWER"

NRC Question 3

Your response to question 2(g) indicates that you have not verified by procedure the voltages predicted by the online grid analysis tool (software program) with actual real plant trip voltage values. It is important that the programs used for predicting post-trip voltage be verified to be reasonably accurate and conservative. What is the range of accuracy for your GO's [Grid Operator] contingency analysis program? Why are you confident that the post-trip voltages calculated by the GO's contingency analysis program (that you are using to determine operability of the offsite power system) are reasonably accurate and conservative? What is your standard of acceptance?

Response:

Carolina Power and Light Company, also known as Progress Energy Carolinas, Inc. (PEC), agrees that it is important that the programs used for predicting post-trip voltage be verified to be reasonably accurate and conservative. Grid Operator methods are in place to manage the process of verifying predictive program results against actual nuclear plant trip event data. These methods ensure the predicted post-trip voltage is reasonably accurate and conservative for each nuclear plant trip event.

PEC's GO has determined that predicted results have compared favorably with actual plant trip event data when comparisons have been made in the past. The range of accuracy for our contingency analysis program has not been quantitatively derived.

Additionally, the post-trip voltages calculated by the GO's contingency analysis program are considered reasonably accurate and conservative because the program was modified to add a conservative post-trip voltage drop bias (derived from actual plant trip event experience) to load flow calculated voltage drops due to the postulated loss of nuclear generation to arrive at a total predicted voltage drop result.

PEC's standard of acceptance is that an N-1 nuclear plant trip contingency switchyard voltage result generated by the contingency analysis program will be conservative with respect to the actual post-trip switchyard voltage, plus a conservative reliability margin for each nuclear plant.

The contingency analysis program and its use are governed by North American Electric Reliability Corporation (NERC) Standards.

NERC Standard TOP-006-1, "Monitoring System Conditions," Requirement R6, specifies that each Balancing Authority and Transmission Operator shall use sufficient metering of suitable

range, accuracy, and sampling rate (if applicable) to ensure accurate and timely monitoring of operating conditions under both normal and emergency situations. Such instruments are used as inputs to the state estimation and pre- / post-contingency analysis tools, thus supporting sufficient accuracy of the results. PEC operates as both a Balancing Authority and Transmission Operator and uses NERC Standard TOP-006-1.

It is planned that the new NERC Standard NUC-001-1 will be implemented after approval. NERC Standard NUC-001-1, "Nuclear Plant Interface Coordination," is currently in the final stages of development and is expected to be approved in early 2007.

NRC Question 5

Certain regions during certain times of the year (seasonal variations) experience higher grid stress as is indicated in Electric Power Research Institute (EPRI) Report 1011759, Table 4-7, Grid LOOP Adjustment Factor, and NRC NUREG/CR-6890. Do you adjust the base LOOP frequency in your probabilistic risk assessment (PRA) and Maintenance Rule evaluations for various seasons? If you do not consider seasonal variations in base LOOP frequency in your PRA and Maintenance Rule evaluations, explain why it is acceptable not to do so.

Response:

The Loss of Offsite Power (LOOP) initiators used for PRA and Maintenance Rule are not generically adjusted for seasonal variations in LOOP frequency. This is acceptable because the Maintenance Rule (a)(4) LOOP initiator frequencies are procedurally required to be adjusted (i.e., increased) for actual weather conditions and Transmission System Operator based notifications regarding system load and grid conditions.

Prudent engineering judgment can conclude that basing LOOP risk generically on seasonal variations can result in unnecessary deferrals of switchyard or grid maintenance. Additionally, the seasonal approach can de-sensitize the plant staff to possibly elevated LOOP risk situations during other seasons that are not generically considered to carry higher LOOP risk.

The LOOP initiators used for PSA and Maintenance Rule evaluations are based on plant-specific Bayesian updates to applicable industry data that includes plant-centered LOOP events and switchyard LOOP events, as well as weather and grid-related events (i.e., seasonal or not).