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William R. Campbell
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Brunswick Nuclear Plant

June 28, 1996

SERIAL: BSEP 96-0243

U. S. Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
RESPONSE TO GENERIC LETTER 88-20, SUPPLEMENT 4
SUBMITTAL OF INDIVIDUAL PLANT EXAMINATION FOR EXTERNAL EVENTS (IPEEE)

Gentlemen:

By letter dated June 30, 1995 (Serial: BSEP 95-0314), Carolina Power & Light Company (CP&L) submitted the results of the Individual Plant Examination for External Events (IPEEE) for the Brunswick Steam Electric Plant (BSEP), Units 1 and 2. In that response, CP&L stated that the results of the fire and other external events evaluations would be reviewed and the results of the evaluations would be reported to the NRC by June 28, 1996.

From the IPEEE findings, which are discussed in section 8 of the IPEEE submittal, there are four key insights relative to the dominant risk scenarios. Enclosure 1 provides the results of a qualitative assessment of the dominant fire and high wind risk scenarios with a core damage frequency of greater than 1E-6. The conclusions of the IPEEE and the key insights do not change as a result of this qualitative assessment. In addition, this assessment provides assurance that the key accident scenarios in the quantitative IPEEE analysis are backed by procedures and training.

Please refer any questions regarding this submittal to Mr. Mark Turkal at (910) 457-3066.

Sincerely,

W. R. Campbell

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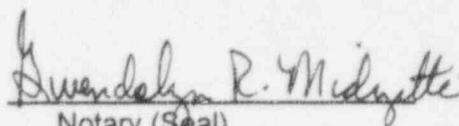
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Enclosures

1. Qualitative Assessment of Dominating Risk Scenarios in the IPEEE Analysis
2. Regulatory Commitments

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William R. Campbell, 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, and agents of Carolina Power & Light Company.


Notary (Seal)

My commission expires: *August 12, 1996*

cc: U. S. Nuclear Regulatory Commission
ATTN.: Mr. Stewart D. Ebnetter, Regional Administrator
101 Marietta Street, N.W., Suite 2900
Atlanta, GA 30323-0199

Mr. C. A. Patterson
NRC Senior Resident Inspector - Brunswick Units 1 and 2:

U.S. Nuclear Regulatory Commission
ATTN.: Mr. David C. Trimble, Jr. (Mail Stop OWFN 14H22)
11555 Rockville Pike
Rockville, MD 20852-2738

The Honorable H. Wells
Chairman - North Carolina Utilities Commission
P.O. Box 29510
Raleigh, NC 27626-0510

ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324
LICENSE NOS. DPR-71 AND DPR-62
RESPONSE TO GENERIC LETTER 88-20, SUPPLEMENT 4
SUBMITTAL OF INDIVIDUAL PLANT EXAMINATION FOR EXTERNAL EVENTS (IPEEE)

Qualitative Assessment of Dominating Risk Scenarios in the IPEEE Analysis

Background:

In the Brunswick Steam Electric Plant submittal of the IPEEE on June 30, 1995, CP&L committed to perform a qualitative assessment of the dominant fire and high wind risk scenarios, as defined by a core damage frequency (CDF) greater than 1 E-6/yr , of the IPEEE analysis. The following report assesses the key insights from the dominant external event accident scenarios to determine if existing procedures and training are adequate to address these insights, or if improvements should be made in the response actions to the dominant fire and high wind events.

Assessment:

From the IPEEE findings, which are discussed in section 8 of the IPEEE submittal, there are four key insights relative to the dominant risk scenarios: (1) control room and cable spread room fire prevention and early response are significant in addressing fire risk; (2) control room evacuation and remote shutdown procedures are significant in addressing fire risk; (3) the other dominant fire risk zones are the diesel building switchgear rooms and the reactor building 20 foot elevation zones in each unit that are adjacent to the control building and contain cables from both divisions; and, (4) the ability to cope with a long-term station (unit) blackout due to severe damage to the switchyard is significant.

Insight 1: Control room and cable spread room fire prevention and early response are significant in addressing fire risks.

This insight addresses the early detection, diagnosis and response to a fire ignition event in these rooms. Damaging fires in these rooms that are not detected or suppressed quickly could result in control room evacuation and remote shutdown. As discussed in section 4.5 of the IPEEE submittal, the estimates for fire initiation and growth are conservative due to a lack of industry experience on damaging fires in these areas. Furthermore, the failure probabilities for operator responses to the fires and to remote shutdown procedures are also conservative. The assignment of conservative, versus best-estimate, values is judged to be acceptable because there is no doubt that control room and cable spread room fires could have severe consequences. The IPEEE analysis concluded that it would have been extremely difficult, with

marginal benefit, to derive best-estimate failure probabilities. This is due to the lack of actual industry experience and due to the difficulty in attempting to model operator responses, including the timing and recovery options, that could occur during a fire.

The core damage frequency estimates for the dominant scenarios do not require modifications to the plant, in accordance with the NUMARC 91-04 guidelines.

The existing programs, procedures and training are described in Sections 4.3.2 and 4.4.3 of the IPEEE submittal. They are extensive, effective, and are judged to be adequate for the purpose of addressing early detection and suppression of control room and cable spread room fires. Fire detection and suppression devices are in place, and experience has proven them to be effective.

No changes to existing detection and suppression systems or fire response procedures were required.

Insight 2: Control room evacuation and remote shutdown procedures are significant in addressing fire risk.

Guidance on evacuating the Control Room and on Remote Shutdown are significant due to their complex nature and the multiple locations involved. The alternate safe shutdown procedures that were developed in accordance with the Station Blackout Rule specifically address the response to control building fires. Procedure ASSD-02 provides guidance on when to evacuate the control room, and what actions to take to ensure safe shutdown from remote locations. Once per year an operator training drill is conducted on a control room fire or remote shutdown scenario including a walkdown at the locations of the remote shutdown stations in the plant. The alternate safe shutdown training program includes discussions on the consequences of fires in plant areas that contain cable or equipment from both safety divisions. This is consistent with the IPEEE findings.

This evaluation found that the existing procedures adequately address insight 2.

Insight 3: The other dominant fire risk zones are the diesel building switchgear rooms and the reactor building 20 foot elevation zones in each unit that are adjacent to the control building and contain cables from both divisions.

A damaging fire that is not detected or suppressed quickly in other key plant areas could result in significant equipment damage. Control of transient combustibles and adequate detection capability are key needs for these areas. A review of existing training, procedures, and other measures found them to be extensive, effective, and these are judged to be adequate for the purpose of addressing fires in all key plant areas, including the reactor building and the diesel building.

Insight 4: The ability to cope with a long-term station (unit) blackout due to severe damage to the switchyard is significant.

Damaging winds or floods could render offsite power unavailable for several days (offsite power was unavailable for almost one week at Turkey Point after Hurricane Andrew). The IPEEE submittal stated that the ability to operate for extended periods without offsite power should be evaluated with respect to diesel fuel supply, instrument air supply, removal of heat loads from essential rooms in the plant, and confinement of radioactivity in restricted areas to maintain area accessibility as required for safe shutdown of the plant.

There are provisions in the procedures for supporting extended periods without offsite power. Procedure AOP-13 provides guidance on advance notification of diesel fuel oil suppliers of potential delivery arrangements if there is an approaching hurricane. OP-39 contains provisions for long duration diesel runs, including steps to supply lube oil and to supply fuel directly to the four-day tank if the seven-day tank is unavailable. Other long term actions, such as maintaining instrument air, containing airborne radioactivity, and maintaining room cooling are addressed in existing procedures as well. The following procedures contain provisions for addressing extended periods without offsite power:

AI-68	Brunswick Nuclear Plant Response to Severe Weather Warnings
AOP-5.0	Radioactive Spills, High Radiation, and Airborne Activity
AOP-13.0	Operation During Hurricanes, Flood Conditions, Tornado, or Earthquake
AOP-20	Pneumatic (Air/Nitrogen) System Failures
AOP-32.0	Plant Shutdown From Outside Control Room
AOP-36.2	Station Blackout
OP-39	Diesel Generator Operating Procedure

The existing procedures and training adequately address the ability to cope with a long term station blackout event.

Summary:

This is a qualitative assessment of the key insights from the dominant fire and high wind risk scenarios (CDF >1 E-6/yr) of the IPEEE. Its purpose was to assess the effectiveness of plant-specific procedures and training, or other cost effective improvements in addressing the key insights. Existing procedures and training were found to adequately address these key insights.

The conclusions of the IPEEE and the key insights do not change as a result of this assessment. This assessment provided assurance that the key accident scenarios in the quantitative IPEEE analysis were backed by procedures and training. In some cases, the failure probabilities were conservative, as discussed above. It was not the intent of this assessment to change those values to more realistic values.

ENCLOSURE 2

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
NRC DOCKET NOS. 50-325 AND 50-324
OPERATING LICENSE NOS. DPR-71 AND DPR-62
RESPONSE TO GENERIC LETTER 88-20, SUPPLEMENT 4
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LIST OF REGULATORY COMMITMENTS

The following table identifies those actions committed to by Carolina Power & Light Company in this document. Any other actions discussed in the submittal represent intended or planned actions by Carolina Power & Light Company. They are described to the NRC for the NRC's information and are not regulatory commitments. Please notify the Manager-Regulatory Affairs at the Brunswick Nuclear Plant of any questions regarding this document or any associated regulatory commitments.

Commitment	Committed date or outage
1. None	N/A