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May 31, 1998

SERIAL: BSEP 98-0112

U. S. Nuclear Regulatory Commission, Region II
ATTN: Mr. Luis A. Reyes, Regional Administrator
Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
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BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
STATUS OF ENVIRONMENTAL QUALIFICATION PROGRAM RECONSTITUTION

Dear Mr. Reyes:

This letter provides the status of the actions taken to support reconstitution of the Environmental Qualification (EQ) program at the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2. In addition, information related to continuing actions to ensure compliance with the requirements of 10 CFR 50.49 is also discussed.

ACTIONS TAKEN:

In a letter dated December 19, 1996, (Serial: BSEP 96-0476) Carolina Power & Light (CP&L) Company identified the long term plan for EQ program reconstitution and established ten commitments to the NRC in support of this plan. Field validation of EQ-related components, review and upgrade of the Qualification Data Packages (QDPs), EQ programmatic improvements, and EQ program self-assessment were the major elements of this plan.

With the exception of the field validations, the commitments delineated in the December 19, 1996, Enclosure 2, List of Regulatory Commitments, are complete. The process established to control EQ-related equipment configuration validation required either inspection of installed equipment, or, in the case of exceptions such as inaccessible equipment, evaluation of equipment design installation and maintenance information. Field validation of EQ-related components installed in Unit 2 is complete. The Unit 1 field validation effort is in progress and will be completed by the established committed due date of July 31, 1998.

Review and upgrade of the QDPs was completed by April 30, 1998. Completion of this commitment represents a significant milestone with respect to EQ program reconstitution at BSEP. Subsequent QDP revisions will be implemented in accordance with the normal engineering change processes.

The EQ programmatic improvements include enhanced procedures to ensure that the proper EQ guidance exists to support program implementation. Procurement specifications were reviewed to ensure that a sound basis exists for maintaining configuration control of installed EQ-related components. In addition, procedure EGR-NGGC-0156, "Environmental Qualification Of Electrical Equipment Important To Safety," has been issued to clearly identify EQ program ownership and specific expectations and accountabilities for maintaining the EQ program To ensure continued improvement of the EQ program, long term training for the engineering and maintenance organizations was developed and implemented. The Engineering Support Personnel Training Program was modified to include EQ continuing training. This training was initially given during the fourth quarter of 1997. Similarly, the Maintenance Continuing Training Program has been revised to include EQ training for electrical/instrumentation and control technicians and mechanical maintenance personnel. This training was initiated in the third quarter of 1997, and will continue to be provided once every full continuing training cycle. In addition, the Material and Contract Services procurement engineers and on-shift Operations personnel received EQ training during the last quarter of 1997.

CONTINUING ACTIONS:

During a meeting between the NRC and CP&L representatives on November 14, 1997, CP&L identified that 24 EQ-related Justification for Continued Operation (JCO) evaluations had been prepared; 10 of which were closed and nine JCOs that would be closed in conjunction with the QDP upgrade effort. The nine JCOs referenced in that presentation have been completed. Since November 14, 1997, four additional EQ-related JCO evaluations were prepared. With the exception of three JCOs, the JCOs identified during the reconstitution effort have been closed. Additional information related to the three remaining open JCOs and the schedule for resolution of the related issues is enclosed.

During a pre-decisional enforcement conference on October 21, 1996, CP&L identified a long term corrective action plan for the EQ program. One of the items identified in this plan involved the implementation of a drywell radiation and temperature monitoring program. Concerns with the affect of localized temperature and radiation hot spots within the drywells predicated the need for such programs. The temperature monitoring program has been implemented with the installation of temperature monitoring equipment in the Unit 1 and 2 drywells and Main Steam Isolation Valve (MSIV) pits. CP&L will collect data for one operating cycle in each of these areas. Data from the Unit 1 drywell and Unit 2 MSIV pit have been retrieved and evaluated. No qualification issues have been identified with respect to the Unit 1 drywell. The data from the Unit 2 MSIV pit indicates that the temperature values used to qualify MSIV limit switches are less than actual MSIV pit temperature values. However, evaluation has determined that the qualified life of the currently installed switches has not been exceeded and therefore, no operability issues exist.

CP&L has determined that a program to monitor drywell radiation is not necessary. Based on the conservative dose used in equipment qualification and the margin that exists between the

environment and the as-tested dose for equipment located in the highest radiation zones of the drywells, the need to monitor for localized radiation hot spots is not required.

SUMMARY:

During previous discussions, the NRC has clearly communicated that the continued maintenance of the EQ program at BSEP is a primary concern. I assure you that this concern is shared by all levels of CP&L management. CP&L's actions to develop improved EQ program procedures and design documents, as well as, the EQ-related training of site personnel will support continued compliance with the regulations. In addition, CP&L will continue to use the self-assessment process to determine the effectiveness of the EQ program and identify and correct program deficiencies. In February of 1998, the Nuclear Assessment Section (NAS) completed a review of the EQ program; QDP quality was the focus of this assessment. In addition, the Chief Engineer Section completed a self-assessment of the EQ recovery process in June 1997. As part of material control and engineering assessments which are scheduled to be performed during the third quarter of 1998, NAS will again assess the EQ program as it relates to these areas of responsibility.

No regulatory commitments are contained in this document. Please refer any questions regarding this submittal to Mr. Keith R. Jury, Manager - Regulatory Affairs, at (910) 457-2783.

Sincerely,

C S Hinnant

C. S. Hinnant

SFT/sft

Enclosure: Open Environmental Qualification Justification For Continued Operation Evaluations

cc (with enclosure):

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ENCLOSURE

BRUNSWICK STEAM ELECTRIC PLANT, UNITS NOS. 1 AND 2
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OPEN ENVIRONMENTAL QUALIFICATION JUSTIFICATION FOR CONTINUED OPERATION EVALUATIONS

As of the date of this letter, three Environmental Qualification (EQ) Justification For Continued Operation (JCO) evaluations are open. Closure of these JCOs is pending implementation of hardware changes. Specific information regarding actions taken to date and the scheduled JCO closure dates is provided below.

WEED Resistance Temperature Detector (RTD)

Engineering Service Request (ESR) 98-00093 was generated to justify the continued operation of both units with the WEED RTD configurations currently installed in EQ applications in the Unit 1 and 2 drywells and suppression pools. The RTD deficiency was identified on February 24, 1998, and involves the use of a vendor specified unqualified RTD termination sealant on one Unit 1 RTD and nine Unit 2 RTDs. Evaluation demonstrates that moisture will not impact the safety function of the RTDs in their currently installed configuration. The actions required to close the JCO evaluation and restore the qualification of the RTDs include replacement of the existing RTDs with qualified configurations. Replacement of the Unit 1 RTD was completed during the on-going Unit 1 refuel outage. Unit 2 RTD replacement is identified as outage contingency work in the event a forced shutdown of sufficient length to support replacement is implemented. Otherwise, the RTDs will be replaced prior to completion of the Unit 2 refuel outage currently scheduled to begin in April 1999.

NAMCO Limit Switch Conduit Seals

ESR 98-00125 was generated to justify the continued operation of both units with the current conduit seal configurations installed on EQ-related NAMCO limit switches. The limit switch deficiency was identified on March 17, 1998, and involves unqualified conduit sealing configurations on two Unit 1 and one Unit 2 Residual Heat Removal system room cooler limit switches. Based on the results of material evaluation, the current conduit configurations will prevent moisture intrusion in the event of a High Energy Line Break event. The actions required to close the JCO and restore qualification include the installation of environmentally qualified conduit seals on the affected limit switches. Installation of environmentally qualified conduit seals on the affected Unit 1 limit switches is complete. Replacement of the affected Unit 2 conduit seal is scheduled to be completed by June 30, 1998.

Unqualified Terminal Blocks

On June 5, 1997, during performance of EQ equipment walkdowns, terminal blocks of an unknown type or manufacturer were identified to be installed on the logic circuits associated with the reactor building isolation valve assemblies. As part of the initial corrective action plan for this issue, JCO evaluation ESR 97-00343 was generated on July 8, 1997, to justify the continued operation of both units with terminal blocks that were not previously included in the EQ program. The JCO evaluation close-out plan included additional walkdowns of the terminal blocks installed on the Units 1 and 2 reactor building isolation valve assemblies to support positive identification of terminal block type and manufacturer. At this time EQ program management decided that a Qualification Data Package (QDP) would be developed to document qualification of the existing terminal blocks. On October 8, 1997, during the Unit 2 refuel outage, walkdowns to provide positive identification of the terminal blocks were completed.

On December 8, 1997, ESR 97-00343, Revision 1 was generated to document the findings of the terminal block walkdowns. The decision was made at this time to replace the terminal blocks with qualified components rather than develop a QDP to document qualification of the existing terminal blocks. Based on the results of this evaluation, there is reasonable assurance that the existing terminal blocks will perform their intended safety function during a DBE. The actions required to close the JCO include replacement of the existing terminal blocks with environmentally qualified components. Replacement of the Unit 1 affected terminal blocks has been completed. The Unit 2 terminal block replacements have been identified as outage contingency work in the event a forced shutdown of sufficient length to support replacement is implemented. Otherwise, the terminal blocks are currently scheduled to be replaced prior to completion of the Unit 2 refuel outage currently scheduled to begin in April 1999.