CP&L

Carolina Power & Light Company

P. O. Box 1551 • Raleigh, N. C. 27602

February 22, 1993 SERIAL: NLS-93-031

R. A. WATSON
Senior Vice President
Nuclear Generation

United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 & 50-324/LICENSE NOS. DPR-71 & DPR-62
REPLY TO NOTICE OF VIOLATION AND PROPOSED IMPOSITION
OF CIVIL PENALTY (EA 92-217)

Gentlemen:

On January 21, 1993, the Nuclear Regulatory Commission issued a Notice of Violation (EA 92-217) for an issue at the Brunswick Steam Electric Plant, Unit Nos. 1 and 2. Details of the NRC inspections are provided in Inspection Report Nos. 50-325/92-32 and 50-324/92-32 dated November 24, 1992. Carolina Power & Light Company hereby responds to the Notice of Violation. The enclosure to this letter provides CP&L's reply to the Notice of Violation in accordance with the provisions of 10 CFR 2.201. Also enclosed is a check payable to the Treasurer of the United States in the amount of Fifty Thousand Dollars ($50,000.00).

Please refer any questions regarding this submittal to Mr. D. B. Waters at (919) 546-3678.

Yours very truly,

R A Watson

R. A. Watson

WRM/wrm (nls93031.000)

Enclosures

R. A. Watson, 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, contractors, and agents of Carolina Power & Light Company.

Susie G. Bunn

Notary (Seal)

My commission expires: 4/20/97

SUSIE G. BUNN NOTARY PUBLIC

cc: Mr. S. D. Ebneter
Mr. P. D. Milano
Mr. R. L. Prevatte

Rec'd w/ck# 681593 $50,000.00

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ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2
NRC DOCKET NOS. 50-325 & 50-324
OPERATING LICENSE NOS. DPR-71 & DPR-62
REPLY TO NOTICE OF VIOLATION AND PROPOSED IMPOSITION
OF CIVIL PENALTY (EA 92-217)

VIOLATIONS:

A. 10 CFR 20.203(f), "Containers," requires, in part, that (1) except as provided in paragraph (f)(3) of this section, each container of licensed material shall bear a durable, clearly visible label identifying the radioactive contents. Paragraph (f)(3) specifies, in part, that notwithstanding the provisions of paragraph (f)(1), labeling is not required for containers which are accessible only to individuals authorized to handle them, or to work in the vicinity thereof, provided that the contents are identified to such individuals by a readily available written record.

Contrary to the above, on September 22, 1992, the licensee retrieved and handled a startup source holder containing a 5.4 Curie americium-241 source from the Unit 2 Spent Fuel Pool that was neither properly labeled nor identified on a readily available written record.

B. 10 CFR 20.201(b) requires that each licensee shall make or cause to be made such surveys as (1) may be necessary for the licensee to comply with the regulations in this part, and (2) are reasonable under the circumstances to evaluate the extent of radiation hazards that may be present.

Contrary to the above, on September 22, 1992, the licensee failed to perform surveys that are reasonable under the circumstances to evaluate the extent of radioactive hazards that were present prior to cutting a startup source holder that may have contained a startup source and was later determined to contain a 5.4 Curie americium-241 source.

RESPONSE TO VIOLATIONS A and B:

Admission or Denial of Violations:

Carolina Power & Light admits the violations.

Reasons for the Violations:

Due to a less-than-adequate Fuel Pool inventory control process dating from the 1970s, the contents of the source holder were not documented. Consequently, personnel involved with the Fuel Pool cleanup activity were unaware that the startup source holder contained a source. Accordingly, they cut the source holder using routine precautions that were appropriate for the anticipated risk presented by an empty source holder.

Project planning did not provide work controls commensurate with the actual risk. For example, formal guidance for handling materials of uncertain risk was not provided. Individual risk assessment should have been performed for each miscellaneous item.

Corrective Steps Which Have Been Taken and Results Achieved

Recovery actions to identify the extent of the alpha contamination, control the spread of contamination, and clean up the contamination were initiated immediately following identification of the alpha contamination. To support the recovery, a Site Incident Investigation Team was convened, a consultant experienced with alpha contamination and dose measurement was retained, and a recovery team established.

Alpha contamination surveys of the plant, plant effluent, environment, and the automobiles, homes, and clothing of the involved workers were performed. Comprehensive bioassays were also performed on the workers considered most at risk for an internal contamination. The results of the surveys indicated no detectable exposure to the public, occupational exposure was well within regulatory limits, and the on-site contamination was manageable.

Computer software upgrades have been performed to enhance the plant's alpha survey capability. The Americium source has been secured and added to the site source inventory. A review of the event with Health Physics personnel emphasizing the risks associated with neutron sources and the techniques for measuring alpha contamination has been performed. Additionally, lessons learned from the event have been reviewed with Technical Support and Outage Maintenance and Modification personnel.

To address site nuclear source inventory control weaknesses, the responsibility for Spent Fuel Pool inventory control has been centralized within the Technical Support Unit. Additionally, an inventory control program designed to maintain positive control of the Spent Fuel Pool inventory has been developed. A baseline Spent Fuel Pool inventory of identified irradiated material has been completed. Other site radioactive material control programs have been reviewed to ensure a positive link between receipt of on-site radioactive material and its appropriate incorporation into an inventory program.

To ensure adequate surveys and technical evaluation of potential radioactive hazards prior to handling irradiated material from the Spent Fuel Pool, existing Spent Fuel Pool cleanup and inventory procedures have been revised to require documented risk assessment.

Management recognizes that adequate controls were not established to prevent the occurrence of this event, and that without such controls the success of the Spent Fuel Pool cleanup effort depended to a great degree upon the experience of the involved contractor and Health Physics personnel. The establishment of a centralized Spent Fuel Pool positive inventory control program and required risk assessment provides the controls needed to prevent recurrence.

Corrective Actions That Will Be Taken To Avoid Further Violations:

On September 20, 1992, a decontamination team was assembled to facilitate the storage of the source and necessary cleanup of alpha contamination resulting from the event. To date the decontamination effort has resulted in the removal of the significant alpha contamination located in

the overhead and on the walls, overhead crane, and the majority of the floor within the Unit 2 Reactor Building 117 foot elevation. This decontamination effort and implementation of corrective actions to safely store the damaged source will be completed by April 30, 1993.

Additionally, an evaluation is in progress to determine those actions, if any, which are needed to decontaminate the Unit 2 Reactor Building ventilation system ductwork.

Date When Full Compliance Will Be Achieved:

Carolina Power & Light is in compliance. The failure to control licensed material resulting in the potential for radiation exposure in excess of regulatory limits has been adequately addressed through enhancements to source accountability and inclusion of risk assessment.