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SUBJECT: Suppls response to NRC 900216 ltr re violations noted in Insp Rept 50-400/89-23.

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CP&L

Carolina Power & Light Company

P. O. Box 165 • New Hill, N. C. 27562

R. B. RICHEY
Manager
Harris Nuclear Project

MAR 29 1990

Letter Number: HO-900049 (0)

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

NRC-703

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400
LICENSE NO. NPF-63
SUPPLEMENTAL RESPONSE TO A NOTICE OF VIOLATION

Gentlemen:

In reference to your letter of February 16, 1990, referring to I.E. Report RII: 50-400/89-23, the attached is Carolina Power and Light Company's supplemental response to the violation identified in the Enclosure.

It is considered that the corrective actions taken are satisfactory for resolution of the item.

Thank you for your consideration in this matter.

Very truly yours,

CS Hinant for

R. B. Richey, Manager
Harris Nuclear Project

MGW:dgr

Enclosure

cc: Mr. R. A. Becker (NRC)
Mr. S. D. Ebnetter (NRC - RII)
Mr. J. E. Tedrow (NRC - SHNPP)

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PDR ADCK 05000400
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Attachment to CP&L Letter of Response to NRC I.E.
Report RII: 50-400/89-23

Reported Violation:

Licensee Technical Specification 6.8 requires written procedures to be established, implemented, and maintained to cover the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978.

Regulatory Guide 1.33, Revision 2, February 1978, Appendix A recommends radiation control procedures for access control to radiation areas including a radiation work permit system, radiation surveys, and personnel monitoring.

Licensee procedure, Plant Program Procedure PLP-511, Radiation Control and Protection Program, Revision 3, states in part, that routine radiation surveys of accessible plant areas shall be performed on an appropriate frequency, depending on the probability of radiation and contamination levels changing and the frequency of the areas visited. Furthermore, the procedure states, that surveys relating to specific operations and maintenance activities in support of radiation work permits (RWPs) shall be performed to keep the exposures ALARA and to keep personnel informed of changing plant radiological conditions.

Licensee procedure AP-503, Entry Into Radiological Areas, Revision 5, states in part, that each individual working in an RCA is responsible for complying with the instructions on the RWP and oral instructions given by Radiation Control personnel.

Contrary to the above, the licensee failed to follow radiation control procedures concerning area and personnel contamination surveys and RWP special instruction in that:

- a. On August 9 and 11, 1989, the licensee failed to make radioactive contamination surveys at a frequency necessary to detect changing radiological conditions, in that, the clean area on the licensee's 286 foot fuel handling floor became contaminated causing personnel to become contaminated with radioactive material.
- b. (Example b. withdrawn from Notice of Violation per NRC Report Number 50-400/89-23 dated February 16, 1990.)
- c. On August 16, 1989, a licensee employee working in the RCA failed to comply with oral instructions given by radiation control personnel on the 286 foot elevation of the Fuel Handling Building when the worker began removing a contaminated concrete form prior to receiving authorization to begin work from radiation control personnel.

This is a Severity Level IV Violation (Supplement IV).



Denial or Admission and Reason for the Violation:

- a. The violation is correct as stated.

The failure of two lifting straps during the handling of a spent fuel cask was suspected to have caused damage to the cask sealing surface. To reduce dose to the personnel performing an inspection of the cask, plans were made to remove the basket (a 3 R/hr source) from the cask. The basket was to be removed from the cask in the Cask Unloading Pool, moved across the floor on the 286' elevation of the Fuel Handling Building (FHB) and resubmerged in the unit 2-3 transfer canal. A Special Radiation Work Permit was written for this evolution and, on August 9, 1989, radiation control personnel were stationed to monitor dose rates and airborne activity as the basket was moved. During two unsuccessful attempts to lift the basket, it was sprayed with water from the Cask Unloading Pool spray ring. A water mist rose about fifteen feet above the floor as this spraying was done. No spray was used during the third attempt when the basket was moved to the transfer canal. Since no airborne activity was observed during the movement, no spread of contamination was suspected and no surveys were performed following the move. Two workers were contaminated in clean areas of the FHB.

Following the inspection discussed above, the basket was to be placed back into the cask. Additional precautions, which included securing FHB ventilation, using a portable HEPA unit in the area adjacent to the basket's path, trying to reduce basket contamination by moving it back and forth in the transfer canal, and not using spray, were taken during this movement. Additional air sampling equipment was also used and, again, no significant airborne activity was detected. Gross masslinn surveys performed during and immediately following movement of the basket showed no contamination in the area. These contamination surveys were not documented. Since it was believed that adequate precautions had been taken to prevent the spread of contamination, no surveys were performed prior to restoring general access. Two low-level (200 cpm) shoe contaminations occurred in clean areas of the Fuel Handling Building.

These contamination incidents resulted from a failure to perform the surveys needed to detect a change in radiological conditions.

- c. The violation is correct as stated.

On August 16, 1989, two workers entered the Fuel Handling Building (FHB) to perform work in areas adjacent to the Cask Unloading Pool. Prior to entering the FHB, the workers stopped at the Radiation Work Permit (RWP) Office to inquire about conditions in the work area and radiological controls needed for performing the work. The RC Technicians in the office told the workers to sign in on a general RWP and contact the radiation control technician in the Fuel Handling Building prior to starting work. Information



on radiological conditions at the work site was not available in the RWP Office since all survey information associated with spent fuel cask handling was being treated as safeguards information. The workers located the FHB RC technician, who was performing a survey around the Cask Unloading Pool (CUP). They discussed the work, which was to remove concrete forms on the east and south sides of the CUP. To prevent any material from falling into the pool, the workers indicated that they would need to place a plastic cover over the pool. The RC Technician informed the workers that they could enter on the north and east sides of the pool, but the south side (a High Contamination Area) could not be entered until a more thorough contamination survey had been performed. It was the RC technician's understanding that the workers would only begin preparations for the job and he took smears on the south side of the pool and exited the area to have them counted. When the radiation control technician returned, he found that one of the workers had already removed part of the form on the east side of the pool. The form he had surveyed on the south side of the pool was contaminated to a level of 25,000 dpm/100 cm² and the technician concluded that similar levels probably existed on the east side form. The RC technician stopped the job and told the workers to leave the area until a Special RWP with appropriate radiological controls could be issued to cover the work. Miscommunication between the workers and the RC Technician concerning what work could actually be done prior to completion of the survey was the cause of this violation.

Contributing to this failure to communicate was the amount of work being performed by the RC Technician in the Fuel Handling Building and the RWP Office's lack of information concerning the radiological conditions in the FHB. The HP Technician was unable to take the necessary time to cover the work and the RWP Office could not assist in determining the radiological controls needed.

Corrective Steps Taken and Results Achieved:

- a. For both occurrences the following immediate corrective actions were taken:
 1. Radiological control boundaries were established in the Fuel Handling Building to prevent the further spread of contamination.
 2. Surveys were performed to determine the extent and level of contamination.
 3. Area decontamination was performed as necessary.
 4. Personnel involved were decontaminated.

These corrective actions were completed on August 12, 1989.

- c. The job was stopped and the workers exited the area. This action was completed on August 16, 1989.



Corrective Steps Taken to Avoid Further Violations

a. The following actions have been taken:

1. Procedure HPP-152, "Receipt of Spent Fuel" has been revised to require that decontamination personnel be assigned 24 hours per day during fuel/cask handling to maintain cleanliness in the FHB. Normally, four personnel should be assigned to this task. Routine wipedowns of handrails and floor surfaces conducted by these personnel on the fuel handling deck have significantly reduced the number of contamination events in the FHB.

2. Procedural controls have been developed to incorporate the radiological controls necessary to prevent recurrence of the violations discussed above. These controls are in the form of Job Recipe #07-02 which includes the following information:
 - a brief job description
 - reference to the job procedure
 - a list of materials needed for job coverage
 - recommendations for dress/dosimetry/RWP
 - a description of set-up for the work area
 - precautions/recommendations for job coverage
 - postjob instructions
 - a history of past problems with the job

Job recipes are used to assist in the writing of RWPs and to provide guidance during job briefings and job coverage. They are developed for repetitive jobs which involve significant doses, contamination and/or other radiological hazards or jobs which are complicated and involve extensive job coverage.

These actions were completed prior to the next basket move which occurred after January 4, 1990.

3. The RC Program was reviewed and, to prevent problems caused by removing postings without proper surveys in the FHB and other plant areas, it was decided to revise Procedure HPP-035, "Posting and Barricading of Radiological Areas". The revised procedure requires that appropriate surveys be performed and documented before postings or barricades are removed. This applies to postings and barricades established both for actual and anticipated radiological conditions.

This action was completed on January 31, 1990.

The RC Program review did not indicate the need to revise any other procedures.



c. The following actions have been taken:

1. HPP-152, "Receipt of Spent Fuel" was revised to require that during cask/fuel handling (day shift) a control point will be set up on Fuel Handling Building (FHB) elevation 286' south. Establishing a control point in the FHB will help ensure that adequate RC personnel are available to cover the work in progress. This control point will be manned by one or more radiation control technicians who are knowledgeable of the radiological conditions in the area and who will direct the RC job coverage. As required by HPP-021, "Establishing and Maintaining RC Access Points" the RC Foreman will be responsible for determining the manning requirements for the control point.
2. HPP-152 was also revised to require that only cask receipt surveys be considered as safeguards information. All other surveys performed in the FHB during fuel/cask handling evolutions will be documented in accordance with normal survey procedures. These surveys will be available to all personnel working in the FHB.
3. A manager has been assigned the responsibility for coordinating the fuel/cask handling program to provide overall control of spent fuel receipt evolutions.

These actions were completed on December 21, 1989.

Date When Full Compliance Was Achieved:

Full compliance was achieved on January 31, 1990.