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RECORD #22

TITLE: Qualification of HP Tech Working in Power Reactors

DEC 01 1981

*P. Case
Page I*

Docket No. 50-261
License No. DPR-23
EA 82-07

Carolina Power and Light Company
ATTN: Mr. J. A. Jones, Senior Executive
Vice President and Chief
Operating Officer
411 Fayetteville Street
Raleigh, NC 27602

Gentlemen:

A special inspection conducted by the NRC Region II office on August 25-26, 1981, of activities at the H. B. Robinson facility Unit 2 indicated that programmatic inadequacies in external radiation exposure control, which resulted in a civil penalty (EA 81-46) in May 1981, have not been fully corrected. The circumstances and immediate cause of the violation described in the Appendix to this letter, regarding the exposure during August 1981, of an individual in excess of NRC regulatory limits, were similar to an incident which occurred on May 30, 1981. (Since the latter incident occurred before you had responded to EA 81-46, your response also covered the May 30, 1981 incident.) In both instances the exposure of workers marking steam generator tubes was controlled by use of chest-worn, self-reading pocket dosimeters, despite the fact that evaluation of working conditions had revealed that the head would receive a higher exposure than the chest. The failure to follow those plant procedures, that had been modified following the May 1981 civil penalty, appears to be a principal cause of this occurrence. Additionally, the use of a radiation control technician who did not meet the minimum experience level required by the technical specifications, appears to be among the causes of the exposure in excess of NRC limits. The radiation control technician only had eleven months experience consisting primarily of observing other workers surveying themselves with "friskers." That experience is at a level far below that required for performing survey work during steam generator maintenance.

While the magnitude of the radiation dose received by the employee only slightly exceeded the regulatory limit in this instance, we are concerned that, notwithstanding the previous civil penalty for a similar problem, you did not adequately evaluate radiological conditions, establish effective protective measures, and implement applicable plant procedures. These concerns were expressed in an enforcement conference held on September 16, 1981, at our Region II (Atlanta) office. One of the issues discussed was the requirement for continuous health physics coverage of steam generator maintenance work. During the enforcement conference, the Manager, Environmental and Radiation Control, denied the allegation of failure to provide continuous health physics

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coverage of the steam generator tube marking operation. We acknowledge the presence of a health physics technician. However, more than mere presence is required. It is evident that the technician present did not give continuous attention to this high exposure task. Had he been more vigilant and experienced, he most likely would have been aware of and controlled four entries into the steam generator made by the overexposed worker. ✓

The NRC proposes to impose civil penalties in the cumulative amount of Fifty Thousand Dollars for the three items in the Notice of Violation. These items have been categorized at the Severity Levels described in accordance with the Interim Enforcement Policy published in the Federal Register, 45 FR 66754 (October 7, 1980). Because you could have reasonably been expected to have taken effective preventive measures as a result of the enforcement actions and inspection reports associated with the previous event, the base penalty of Forty Thousand Dollars is increased by twenty-five percent as provided in the policy.

You are required to respond to the Appendix, and in preparing your response you should follow the instructions specified in the Appendix. In addition to your response to the specific violations, please inform us of the underlying causes of the failure of your radiation control program to prevent this type of occurrence and how you plan to correct this failure. Your reply to this letter and Appendix will be the basis for determining whether additional enforcement actions are warranted.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice", Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosure will be placed in the NRC Public Document Room.

The responses directed by this letter and accompanying Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

Sincerely,

"Original Signed By
R. C. DeYoung"

Richard C. DeYoung, Director
Office of Inspection and Enforcement

Enclosure:
Appendix - Notice of Violation and
Proposed Imposition of Civil Penalties

cc w/encl:
H. B. Starkey, Jr., Plant Manager

WPU:JD	EI:IE <i>RMW</i>	EI:IE <i>RMW</i>	ELD <i>RMW</i>	D:EI:IE <i>RMW</i>	D:IE <i>RMW</i>
11/20/81	JMetzger	RWessman	JMurray	DThompson	RCDeYoung
5520	11/20/81	11/20/81	11/18/81	11/20/81	11/20/81

by plus RMW

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Route 5 P.O. Box 266-1A
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Utilities Commission
ATTN: Mr. Robert Koger
Chairman
Dobbs Building
430 N. Salisbury St.
Raleigh, NC 27611

Division of Facility Services
ATTN: Dayne H. Brown, Chief
Radiation Protection Service
P.O. Box 12200
Raleigh, NC 17605

Office of the Attorney General
ATTN: Hon. Rufus L. Edmisten
Attorney General
Justice Building
P.O. Box 629
Raleigh, NC 27602

APPENDIX
NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTIES

Carolina Power and Light Company
H. B. Robinson, Unit 2

Docket No. 50-261
License No. DPR-23
EA 82-07

A special NRC inspection was conducted on August 25-26, 1981, to ascertain the circumstances surrounding a radiation dose at the licensee's H. B. Robinson Unit 2 facility to a worker while the worker was marking steam generator tubes, an operation described by the licensee as a high exposure task. Survey data prior to the task indicated, and exposure records of persons performing similar work confirmed, that the head would receive a higher dose than the chest. Despite this knowledge and a procedure requiring placement of the self-reading pocket dosimeters in a position on the body at or near the field of highest exposure rate, the licensee specified chest-worn pocket dosimeters to control exposures. Utilizing the chest dosimeters resulted in exceeding the exposure limits for the head. This event was similar to an overexposure which occurred at the Robinson facility on May 30 1981 and to overexposures in 1980 for which the NRC levied civil penalties.

In order to emphasize the need for the licensee's management to implement its health physics program, including adequate evaluations and control of potentially hazardous operations to avoid unnecessary exposures, and because of the licensee's failure to assure that procedures adopted in response to the previous civil penalty be followed, the Nuclear Regulatory Commission proposes to impose civil penalties in the cumulative amount of Fifty Thousand Dollars for this matter. In accordance with the Interim Enforcement Policy, 45 FR 66754 (October 7, 1980), and pursuant to section 234 of the Atomic Energy Act of 1954, as amended ("Act"), 42 U.S.C. 2282, PL 96-295, and 10 CFR 2.205, the particular violations and their associated penalties are set forth below:

- A. Technical Specification 6.8.1 states, in part, that written procedures shall be established, implemented and maintained that meet or exceed the requirements and recommendations of Appendix A of U.S. NRC Regulatory Guide 1.33 dated November 3, 1972. Section G and I of Appendix A to Regulatory Guide 1.33 list procedures for repair of PWR steam generator tubes and for special radiation work permits.

Contrary to the above, on August 15, 1981, between 3:00 a.m. and 6:35 a.m., the licensee failed in conjunction with marking steam generator tubes to comply with required plant procedures for steam generator repairs and radiation permits. The failure, which resulted in an overexposure (item B below) is exemplified by the four departures from the procedures described below, any or all of which constitute a violation of TS 6.8.1.:

1. Section 3.5.2 of HP-12, Revision 8, requires that the health physics technician ensure that high and low range dosimeters are worn by persons engaged in primary side steam generator work. The dosimeters shall be worn on the body at or near the field of the highest dose rates. Section 3.5.2 indicates that the highest dose rates occur in the region of the head, and self-reading dosimeters may be worn on the shoulders. However, the health physics technician on duty specified that high and low range self-reading dosimeters be worn on the chest and not on the shoulders or head of the person engaged in primary side steam generator work.
2. Special Plant Procedure SP-319 incorporates Westinghouse procedure No. MRS 2.2.2 GEN-12 which in Section 7.2 requires that a minimum of two health physics technicians provide continuous health physics coverage. However, during the time referenced above, only one health physics technician at a time provided coverage.
3. Special Radiation Work Permit SRWP 815-6 and Section 7.2 of MRS 2.2.2 Gen-12 require continuous health physics coverage of steam generator marking operations. Section 5.0 of MRS 2.2.2 states that steam generator tube marking is a "high exposure task and requires vigilance on the part of the health physics technicians to carefully monitor the marking team and to keep track of the exposure dose rate and total dose." However, the tube marking operation was neither continuously nor vigilantly monitored by the assigned health physics technician since he did not maintain continuous visual contact with workers performing tube marking operations. Additionally, he did not control and record entries into the steam generator.
4. Section 3.2 of plant Procedures HP-12, Revision 8, requires the "Steam Generator Entry Log" to be filled in and completed whenever a steam generator entry is performed. However, the health physics technician on duty did not record the four entries into the steam generator made by one worker.

This is a Severity III Violation (Supplement IV).
(Civil Penalty - \$25,000).

- B. 10 CFR 20.201(b) requires licensees to make or cause to be made such surveys as may be necessary to comply with the regulations in 10 CFR 20. A survey as defined in 20.201(a) is an evaluation of the radiation hazards under a specific set of conditions. 10 CFR 20.101(a) requires licensees to restrict the total occupational dose to the head of each individual in a restricted area to 1.25 rems during any calendar quarter except as provided in paragraph (b) of 10 CFR 20.101.

Contrary to the above, between August 11 and 16, 1981, surveys of the radiation hazards associated with marking steam generator tubes were not conducted adequately to assure compliance with the head dose limit specified in 10 CFR 20.101(a) in that radiation exposure to individuals

marking steam generator tubes was controlled based on readings from self-reading pocket dosimeters worn on the chest instead of the head where the exposure to radiation levels was higher. One individual received a radiation dose to the head of 1.3 rems during the third calendar quarter of 1981, specifically, on August 15, 1981, which was in excess of the applicable limit.

This is a Severity Level III Violation (Supplement IV).
(Civil Penalty - \$15,000).

- C. Technical Specification 6.3.1 requires that each member of the facility staff shall meet or exceed ANSI N18.1-1971 with regard to the minimum qualifications for comparable positions. Paragraph 4.5.2 of ANSI N18.1-1971 states, in part, that technicians in responsible positions shall have a minimum of two years working experience in their specialty.

Contrary to the above, between approximately 4:30 a.m. and 6:35 a.m. on August 15, 1981, a radiation control technician was serving in a responsible position who had approximately 11 months experience, most of which consisted of observing personnel monitoring themselves for contamination as they left the controlled area. This technician was solely responsible for monitoring and controlling doses to four individuals on the "B" steam generator platform. Two of these individuals were marking steam generator tubes, a task that was identified by the licensee as a high exposure task requiring vigilance on the part of the health physics technician to carefully monitor and control radiation dose rates and total worker doses.

This is a Severity Level IV Violation (Supplement IV).
(Civil Penalty - \$10,000).

Pursuant to the provisions of 10 CFR 2.201, Carolina Power and Light Company is hereby required to submit to this office within thirty days of the date of this Notice a written statement or explanation in reply, including for each violation: (1) admission or denial of the alleged violation; (2) the reasons for the violation if admitted; (3) the corrective steps which have been taken and the results achieved; (4) the corrective steps which will be taken to avoid further violations; and (5) the date when full compliance will be achieved. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, Carolina Power and Light Company may pay the civil penalties in the cumulative amount of Fifty Thousand Dollars or may protest imposition of the civil penalties in whole or in part by a written answer. Should Carolina Power and Light Company fail to answer within the time specified, this office will issue an order imposing the civil penalties in the amount proposed above. Should Carolina Power and Light Company elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalties, such answer may: (1) deny the violations listed in this Notice in whole or in part; (2) demonstrate

extenuating circumstances; (3) show error in this Notice; or (4) show other reasons why the penalties should not be imposed. In addition to protesting the civil penalties in whole or in part, such answer may request remission or mitigation of the penalties. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate by specific reference (e.g., giving page and paragraph numbers) to avoid repetition. Carolina Power and Light Company's attention is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalties due, which have been subsequently determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalties unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282.

FOR THE NUCLEAR REGULATORY COMMISSION



Richard C. DeYoung, Director
Office of Inspection and Enforcement

Dated at Bethesda, Maryland
this 1 day of December 1981