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FILE: INCIDENT REPORT FIL

FROM: Carolina Power & Light Co. Raleigh, N.C. 27602 E.E. Utley			DATE OF DOC 7-10-75	DATE REC'D 7-23-75	LTR XX	TWX	RPT	OTHER
TO: Mr. Norman C. Moseley			ORIG 1 signed	CC 39	OTHER	SENT AEC PDR XX SENT LOCAL PDR XX		
CLASS	UNCLASS XXX	PROP INFO	INPUT	NO CYS REC'D 40		DOCKET NO: 50-261		

DESCRIPTION: Ltr trans the following:

NO EMPLOYEE 'S NAME MENTIONED IN EXPOSURE
TO PLANT RADIATION

ENCLOSURES: Abnormal Occurrence AO-50-261/
75-13 on 6-25-75 re exposure to plant employee
in excess of 10CFR20 limits....

(40 cys encl rec'd)

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PLANT NAME: H.B. Robinson Unit 2

FOR ACTION/INFORMATION

DHL 7-28-75

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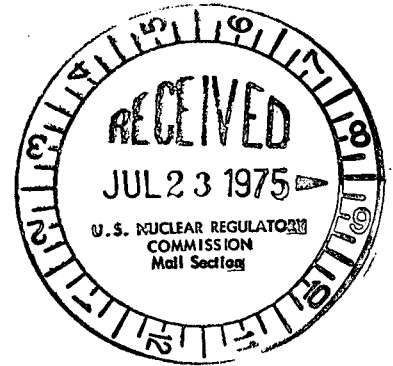
Carolina Power & Light Company

July 10, 1975

FILE: NG-3513 (R)

50-261
SERIAL: NG-75-1040

Mr. Norman C. Moseley, Director
U. S. Nuclear Regulatory Commission
Region II, Suite 818
230 Peachtree Street, N. W.
Atlanta, Georgia 30303



Dear Mr. Moseley:

H. B. ROBINSON UNIT NO. 2
LICENSE NO. DPR-23
EXPOSURE TO PLANT EMPLOYEE IN EXCESS OF 10CFR20 LIMITS

In accordance with 6.6.2.a of the Technical Specifications for H. B. Robinson Unit No. 2, the attached Abnormal Occurrence Report is submitted for your information. This report fulfills the requirement for a written report within ten days of an Abnormal Occurrence and is in accordance with the format set forth in Regulatory Guideline 1.16, Revision 1. In addition, this report also fulfills the requirements set forth in 10CFR20 Paragraph 20.405 for a written report within thirty days of an incident involving an exposure in excess of those limits prescribed by 10CFR20.

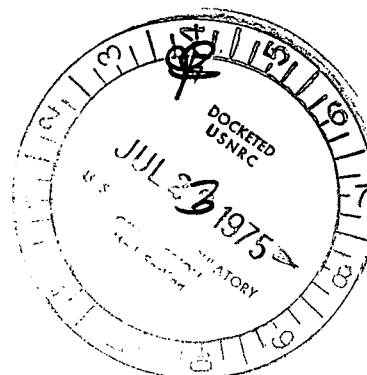
Yours very truly,

E. E. Utley
Vice-President
Bulk Power Supply

DBW:bn

Attachment

CC: Messrs. N. B. Bessac
P. W. Howe
J. A. Jones
R. E. Jones
W. B. Kincaid
D. Knuth
J. B. McGirt
D. B. Waters



ABNORMAL OCCURRENCE REPORT

1. Report No. 50-261/75-13
- 2a. Report Date July 1, 1975
- 2b. Occurrence Date June 25, 1975
3. Facility H. B. Robinson Unit No. 2
Hartsville, South Carolina 29550

4. Identification of Occurrence

Exposure of plant personnel to radiation in excess of limits set forth in 10CFR20 Paragraph 20.101.b constituting an abnormal occurrence as defined in Section 1.8.g of the plant Technical Specifications. This occurrence also constitutes a reportable incident under 10CFR20 Paragraph 20.405.

5. Conditions Prior to Occurrence

At the time of the exposure, the plant was at cold shutdown for the purpose of maintenance to a reactor coolant pump. However, due to an error in assigning an individual's radiation dose, the occurrence was not identified until the reported date. At that time the reactor was operating at full power with 670 Mwe net electrical output.

6. Description of Occurrence

At 1300 hours, June 25, 1975, it was determined that due to an error in assigning an individual's dose, one employee of the plant received a whole body exposure of 3080 mrem for the quarter ending June 30, 1975. The error occurred as a result of a misapplication of recorded exposures for two plant employees with similar names.

On May 6, 1975, during a unit outage to repair a reactor coolant pump, a large work force was being utilized because of the high radiation levels incurred due to the nature of the maintenance.

Exposure records were kept at the Health Physics record office. When a person exited the containment his pocket chamber dosimeter was read by a control point Health Physicist and recorded on a dosimeter "chit." This "chit" was then forwarded to the Health Physics personnel in charge of posting exposures. In addition to the pocket chamber each individual was issued an Eberline TLD for each entry. A Teledyne TLD badge was also worn as a continuous monitor and normally was used as the official record of accumulated dose. The Teledyne TLD was issued to each person and he wore the same TLD upon every entrance to the

radiation area. The Eberline TLD was issued at the control point and was returned to this point upon exiting the area. Therefore, the same Eberline TLD was not used by an individual for the duration of the subject outage.

It was not intended to be used for determining an accumulated dose, but was to be used to check exposures for individual entrances to radiation areas. In fact, the Eberline badge was not read on every occasion. The guidelines used for reading TLD's and recording exposures is indicated below.

Per procedure HP-9 of Volume 8 of the Plant Operating Manual, Radiation Protection Manual, the guidelines for recording exposures are as follows:

- (a) Pocket dosimeter indicated dose equal to or greater than 500 mrem per single exposure - The Eberline TLD shall be read and recorded as the received exposure.
- (b) Pocket dosimeter indicated dose less than 500 mrem per single exposure. Record the pocket chamber reading.
- (c) When an accumulated quarterly exposure of pocket dosimeter and/or Eberline TLD reaches 2.0R the Teledyne TLD shall be read and recorded as accumulated dose.
- (d) When accumulated exposure of pocket dosimeter and/or Eberline TLD and Teledyne TLD reaches 2.5R the Teledyne TLD shall be read, added to the prior exposure and recorded as the accumulated dose.

In addition to these procedural requirements, a policy was established during the subject outage to increase the frequency of TLD reading. The additional policy guidelines were as follows:

- (a) At a pocket chamber and/or Eberline TLD accumulated dose of 1000 mrem the Teledyne TLD was read and recorded.
- (b) When the pocket chamber and/or Eberline and Teledyne TLD accumulated dose reached 1750 mrem, both the Teledyne and Eberline TLD's were read and recorded. Then on each subsequent exit from the containment area the Eberline TLD was read and recorded.

These measures provided positive controls and frequent checks on each individual's exposure.

The error in recording exposures occurred on May 6, 1975 when the Teledyne TLD badge of the individual in question was sent for routine processing. When the results were sent to the exposure record area, the Health Physics Technician in charge of posting doses mistakenly recorded the exposure of 721 mrem for the employee on the exposure sheet of another employee with a similar name. The exposure was uniquely identified by a number assigned

to the individual, but the person posting the exposure relied on the person's name rather than cross checking the number. The names of the two people involved were both listed with the same first initial and last name.

On May 25, 1975, the employee in question accumulated a whole body recorded exposure for the quarter of 2359 mrem. With the additional 721 mrem which should have been on his record, his actual exposure at that time was 3080 mrem. He received no further exposure for the quarter after May 25, 1975.

The other party involved had an indicated dose of 2490 mrem on June 20, 1975. Subtracting the 721 mrem erroneously applied to his exposure resulted in a true exposure of 1769 mrem.

The error was discovered when TLD processing records were being reviewed in preparation of the outage report. These records were checked against TLD badge number as well as name. The employee was removed from radiation work and records were examined to verify the error. Dose "chits", used for containment entry, were reviewed and the error was positively identified on June 25, 1975.

7. Designation of Apparent Cause of Occurrence

The exposure to the individual, exceeding the limits of 10CFR20, occurred as a result of the individual's accumulated exposure record being in error. The error was created by the improper assigning of the individual's exposure to another employee with a similar name.

8. Analysis of Occurrence

Plant safety was not involved, and at no time was there any danger to the general public. The exposure to the individual exceeded those limits set forth in 10CFR20 Paragraph 20.101.b. As noted, this constitutes an inadequacy in the implementation of procedural controls causing or threatening to cause the existence of an unsafe condition in connection with operation of the plant; the unsafe condition being the overexposure of the subject employee. In accordance with the 30-day report requirements of Paragraph 20.405, the required information on the individual is attached.

9. Corrective Action

The person receiving the overexposure was restricted from entry into potential radiation areas (Unit No. 2 protected area boundary) when the possibility of his overexposure became apparent. In fact, this exclusion practice had been applied to anyone who received an exposure of 2500 mrem or greater as a safety precaution. To re-enter the area, the person in question was required to obtain Plant Manager's permission. Corrective action was also taken to update the exposure records of the two employees involved to give a true representation of their exposures. Additionally, all personnel records involved with the subject outage are being checked to identify any potentially significant discrepancies.

A review of the procedure regarding exposure records has indicated that it has no major deficiency. However, in an effort to strengthen it and prevent recurrence of exposure posting errors such as led to this incident, a procedure change has been submitted. The change specifies that when there is a significant difference between the recorded accumulated pocket chamber dosimeter/TLD exposure and the reported official TLD exposure, an investigation shall be made to assure there is no error involved. In the subject occurrence, the dosimeter/TLD readings indicated an exposure of 1520 mrem and the reported official (Teledyne) exposure was 902 mrem. In this case, the corrective action specified above would have highlighted the discrepancy, and an investigation should have revealed the posting error.

To further reinforce the procedure, the following changes have also been submitted:

- (a) Requirement that posting of exposures be exclusively by badge number rather than depending upon an individual's name alone.
- (b) Require that official Teledyne TLD be read and recorded at indicated accumulated exposures of 1000 mrem and 1750 mrem.
- (c) Require that all official TLD readings be conspicuously recorded in red.
- (d) Require that when 500 mrem is accumulated since last official exposure reading, the running total and new official exposure must agree within 25% or RC&T Foreman shall be notified to investigate the discrepancy.
- (e) When "unofficial" TLD result and pocket chamber results are simultaneously obtained and pocket chamber results are greater by factor of 25%, the pocket chamber results shall be utilized.

In addition to this action a memorandum shall be routed to the H. B. Robinson Radiation Control and Test Technicians to reiterate the importance of procedures and emphasize their responsibility to limit and control personnel exposures. It is felt that this action shall minimize recording errors; and when they do occur, should identify them promptly to prevent recurrence of overexposures.

10. Failure Data

Previous overexposures involving abnormal occurrences are listed below.

January 15, 1975	Violation of Administrative Procedure (employee exposures to 672 mrem and 340 mrem),
March 27, 1973	Violation of Administrative Procedure (employee exposure to 2303 mrem),
August 8, 1973	Violation of Administrative Procedure (employee exposure to 824 mrem),
March 14, 1975	Violation of Administrative Procedure (contractor personnel exposure to 639 mrem).