

August 1, 1974



Mr. John F. O'Leary, Director
Directorate of Licensing
Office of Regulation
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. O'Leary:

ABNORMAL OCCURRENCE NO. 250-74-8
JULY 31, 1974
OCCURRENCE DATE: FEBRUARY 19, 1974
TURKEY POINT UNIT NO. 3
UNPLANNED RADIATION EXPOSURE

A. CONDITIONS PRIOR TO OCCURRENCE

Unit No. 3 reactor was operating in steady-state at 75% reactor power. Flux mapping of the reactor core was in progress.

B. DESCRIPTION OF THE OCCURRENCE

At 12:20 a.m. on February 19, 1974, it was determined that the E detector of the flux mapping equipment could not be moved by the drive motor. The I & C Field Supervisor was notified and at 1:00 a.m. he and an I & C Specialist entered Unit No. 3 containment to effect a repair. The Health Physics authority for the entry was a valid Radiation Work Permit, RWP 74-058, that had been prepared for a previous entry.

The I & C personnel determined that the problem was due to a defective electro-dynamic brake and that the only solution was to move the detector by rotating the cable reel by hand. Both men rotated the reel initially and then the I & C Specialist rotated the reel slowly while the I & C Supervisor communicated with the Control Room. Movement with the drive motor was again attempted but the detector would not move. The I & C Specialist then rotated the cable reel at a high rate of speed until the detector came out of the tubing and fell on the floor beneath the reel. He then immediately exited to the Supervisor's position about 30 feet from the reel. They then left the containment building. Both individuals found that their pocket dosimeters (0-200 mR) read off scale and assumed them to be faulty. They estimated their exposure to be 20 mRem.

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August 1, 1974

Followup on the day shift by I & C management and Health Physics personnel revealed that a possible dose rate of 3200 Rem per hour could have existed at the work site at the time of the incident. This dose rate would result in a 40 Rem dose to the I & C Specialist.

The Thermoluminescent Dosimeters (TLDs) for both employees were immediately flown to Eberline Instrument Company in Santa Fe, New Mexico, for processing and the Florida Power and Light radiological medical consultant and the AEC were notified of a possible over exposure.

The TLD results revealed that no over exposure had occurred:

Specialist:	2730 mRem γ (whole body)
	660 mRem β (skin dose only)
Supervisor:	910 m Rem γ (whole body)
	180 m Rem β (skin dose only)

C. CAUSE OF OCCURRENCE

The cause of this occurrence was failure to comply with the Radiation Work Permit, the Operating Procedure for repair of the flux detector drive mechanism, and the Radiation Protection Manual. Specifically, survey instruments were not used as required by the RWP, a Health Physics survey was not called for when the detector was fully withdrawn as required by the procedure, and the pocket dosimeters were not read frequently as required by the Radiation Protection Manual.

D. ANALYSIS OF THE OCCURRENCE

This incident was not initially defined by FPL management as being an Abnormal Occurrence. It was defined as a Radiation Incident and as such a thorough investigation was made and Radiation Incident Report 74-1 was written. On July 23, 1974, however, FPL was notified by AEC Regulatory Operations that the incident was, in their opinion, an Abnormal Occurrence as defined in the Technical Specifications.

E. CORRECTIVE ACTION

The corrective action taken included:

1. The two individuals were required to attend the next session of the radiation protection class.
2. The shift supervisors were instructed to confer with appropriate department heads when faced with unique situations.

Mr. John F. O'Leary, Director

Page 3

August 1, 1974

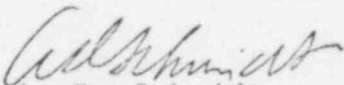
3. The control point guards were given additional on-the-job Health Physics training.
4. The incident was discussed with plant employees at the subsequent monthly safety meeting.
5. Signs were mounted on the Unit 3 and 4 containment access hatches stating that a radiation survey instrument is required for each work group entering containment when the reactor is at power.

In addition, we are presently evaluating the feasibility of modifying the existing Area Radiation Monitoring System.

F. FAILURE DATA

There is no failure data associated with this occurrence.

Very truly yours,



A. D. Schmidt
Director of Power Resources

DWR:cc

cc: Mr. Norman C. Moseley
Jack R. Newman, Esquire