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ComEd

July 31, 1997

JSPLTR: 97-0144

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Subject: Dresden Nuclear Power Station Units 2 and 3 Reply to Notice of Violation; Inspection Report 50-010; 237; 249/97010.
NRC Docket Numbers 50-010, 50-237, and 50-249

Reference: (1) J. A. Grobe letter to J. S. Perry, dated June 2, 1997, transmitting NRC Inspection Report 50-010; 237; 249/97010 and Notice of Violation

(2) J. S. Perry letter to USNRC, dated November 13, 1996 transmitting response to Notice of Violation for Inspection Report 237; 249/96009.

The purpose of this letter is to provide ComEd's reply to the Notice of Violation transmitted in the referenced letter. Specifically, the violations involved the failure to provide individuals an exit from a locked high radiation area and failure to make an evaluation to determine the radiological conditions before initiating decontamination work in the Unit 2 torus basement.

In regards to the violation associated with failure to perform an adequate evaluation before starting decontamination work you asked us to respond as to why our corrective actions for a previous violation described in reference (2) failed to prevent this violation.

The previous violation documented in reference (2) had a contributing root cause of poor communication only in that the Radiation Protection Shift Supervisor (RPSS) was not aware of the work being performed. At the time, the process did not necessarily require that the RPSS be knowledgeable. That weakness has been corrected.

In this event the RPSS was knowledgeable and in fact initiated the actions leading to the event. The program was in place to ensure the proper radiological controls were implemented. The program was not followed. The Root Cause Investigation determined the RPSS had made a knowledge based error.

This letter contains the following new commitments:

- Review the current training for the Decontamination Laborer Supervisors and Decontamination Laborers for adequacy of RP knowledge and RP practices (NTS #237-200-97-03704).

- The Radiation Protection Curriculum Review Committee will review training requirements for offsite RPTs. (NTS #237-100-97-01002A)

The attachment to this letter provides Dresden's reply to the Notice of Violation along with corrective actions to preclude recurrence.

If there are any questions concerning this letter, please refer them to Mr. Frank Spangenberg, Dresden Station Regulatory Assurance Manager, at (815) 942-2920, extension 3800.

Sincerely,

J. Stephen Perry
Site Vice President
Dresden Station

Attachment

cc: A. Bill Beach, Regional Administrator, Region III
W. J. Kropp, Branch Chief, Division of Reactor Projects, Region III
J. F. Stang, Project Manager, NRR (Unit 2/3)
K. Riemer, Senior Resident Inspector, Dresden
Office of Nuclear Facility Safety - IDNS
File: Numerical

ATTACHMENT
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-237; 249/97010

Violation: (237; 249/97010-01)

10 CFR 20.1601(d) requires that the licensee establish the access controls for high radiation areas in a way that does not prevent individuals from leaving the High Radiation Area.

Contrary to the above, on April 21, 1997, the licensee failed to provide individuals an exit from a Locked High Radiation Area in the anteroom of the Unit 2 drywell.

Reason for Violation:

On April 21, 1997 maintenance personnel were working in the Unit 2 drywell. A Radiation Protection Technician (RPT) was performing duties as the Locked High Radiation Area (LHRA) Attendant. The RPT lost track of the number of people working in the drywell. When the RPT thought the last remaining group in the drywell had exited the hasp on the drywell anteroom door was locked. When the anteroom door was locked two maintenance personnel were still working inside and were locked in the anteroom of the Unit 2 drywell.

A root cause investigation was performed on this event. The cause of the event was determined to be personnel error by an RPT, who, as the LHRA Attendant, failed to adequately follow through when he was unsure of how many people were left in the drywell.

The primary root cause was a lack of information validation/verification. The RPT lost confidence in his mental log of who was in the drywell. He considered starting a written log; however, this was not done. The RPT did not consider having an inspection of the drywell performed to account for everyone. The RPT talked to the maintenance personnel exiting the drywell. Based on his discussion, the RPT did not pursue further verification. The maintenance personnel are not responsible for worker accountability and should not be considered a "reliable" source since they were not all working together as one group. The action taken by the RPT to reestablish control was insufficient to validate/verify that all people were out of the drywell.

A contributing root cause of the event was inadequate tracking. The mental tracking system used by the RPT was inadequate to properly account for the volume of traffic into and out of the LHRA. The RPT considered starting a log; however, this was not done. Had a more appropriate tracking mechanism been utilized, personnel accountability would have been verified and the event may have been prevented.

Corrective Steps Taken and Results Achieved:

Maintenance personnel who had left the drywell earlier saw the lock on the door moving and discovered two workers were locked inside the anteroom. Radiation Protection was notified, the door was unlocked and the workers exited.

The lock on the hasp was removed. The core from that lock was moved to the door handle to allow free and unobstructed egress from the Drywell Anteroom.

The RPT involved in this event has been counseled in accordance with the contractor policy.

Corrective Steps Taken to Avoid Further Violation:

In order to track personnel accountability for Locked High Radiation Area/Very High Radiation Area entries Dresden Administrative Procedure 12-04, "Control of Access to High Radiation Areas," was revised to include the following:

- A log shall be used to track each entry/exit of individuals for all LHRA/VHRA entries.

- Prior to locking a door which would prevent free and unobstructed egress a physical action shall be taken to verify that all people who have entered, have exited. The only acceptable methods are to perform a head count or conduct a physical search of the area.

Date When Full Compliance will be Achieved:

Full compliance was achieved on April 21, 1997, when the individuals exited the Locked High Radiation Area.

Violation: (237; 249/97010-02)

10 CFR 20.1501 requires each licensee make or cause to be made surveys that may be necessary for the licensee to comply with the regulations in Part 20 and that are reasonable under the circumstances to evaluate the extent of radiation levels, concentrations or quantities of radioactive materials, and the potential radiological hazards that could be present.

Pursuant to 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation.

Contrary to the above, as of May 5, 1997, Dresden Station Radiation Protection did not make surveys to assure compliance with 10 CFR 20.1201(a)(i), which limits the total effective dose equivalent to 5 rems per year. Specifically, no evaluation was made to determine the radiological conditions before initiating a decontamination of highly contaminated areas in the Unit 2 torus basement.

Reason for Violation:

A root cause investigation was performed on this event. The cause was determined to be personnel error by a Radiation Protection Shift Supervisor (RPSS).

The primary root causes of this event were: (1) committed actions not carried out-shortcuts evoked and (2) misjudgment-wrong assumptions. A RPSS failed to follow Dresden Administrative Procedure (DAP) 12-09, "Dresden Station ALARA Program." The RPSS communicated to the Decontamination Laborer Supervisor to "take care of this 500,000 dpm/100 cm^2 spot, decontaminating it and trying to get it down." DAP 12-09 requires an ALARA Pre-job brief for activities where smearable contamination levels are $\geq$ 100,000 dpm/100 cm^2. This did not occur. Additionally, per DAP 12-09, an area $\geq$ 500,000 dpm/100 cm^2 is designated as a high risk activity and an ALARA Action Review or waiver must be performed. This did not occur.

The RPSS failed to properly indicate appropriate actions and conservative decision making for this particular situation. The RPSS failed to adhere to the requirements for a Pre-job ALARA brief for a job where contamination levels exceeded 100,000 dpm/ 100 cm^2 and for an ALARA Action Review or waiver for contamination levels $\geq$ 500,000 dpm/100 cm^2. This short task also was emergent, unscheduled work. For work of this type, a job specific survey should have been performed instead of a "routine" survey.

The routine survey was inadequate for laborers to properly identify contamination levels they would be working around. RPSSs are knowledgeable on Pre-job briefs and when ALARA Action Reviews are required. The RPSS believed that this was a simple job and that DAP 12-09 gave him the latitude to make this decision to not require a pre-job brief or ALARA Action Review. In discussions with the RPSS, after this event, he discovered that the procedure did not give him this latitude. Based on the specific requirements in DAP 12-09, this is categorized as a knowledge-based error.

This event consisted of a series of failures and missed opportunities. Contributing root causes included inadequate communication within the organization, inadequate training lack of familiarity with job performance standards, misjudgment involving lack of information validation, and inadequate interface requirements.

Corrective Steps Taken and Results Achieved:

Work in the area was stopped. The area was surveyed and appropriately posted. The decontamination continued without further incidents.

The Lead RPSS required balance of plant work, outside of the Unit 3 Refuel Outage, to commence through the RP Desk not the Unit 3 Reactor Building Control Point.

All decontamination work was required to be funneled through the ComEd Cognizant Radiation Protection Decontamination Supervisors not contractor labor supervisors.

The Decontamination Laborer was decontaminated and bioassays (in vivo and in vitro) were performed to assess dose estimates. The dose received was under regulatory limits.

Corrective Steps Taken to Avoid Further Violation:

- Review the current training for the Decontamination Laborer Supervisors and Decontamination Laborers for adequacy of RP knowledge and RP practices. (NTS #237-200-97-03704).

- All RPSSs reviewed DAP 12-09 for required high risk work and are now knowledgeable on the requirements for high risk work as annotated in DAP 12-09.

- This event was discussed with all remaining Decontamination Laborers onsite.

- The Radiation Protection Curriculum Review Committee will review training requirements for offsite RPTs. (NTS #237-100-97-01002A)

Date When Full Compliance will be Achieved:

Full compliance was achieved on May 5, 1997 when work in the area was stopped, the area surveyed and appropriately posted.