

U.S. NUCLEAR REGULATORY COMMISSION

Reports No. 50-237/90026(DRSS); 50-249/90025(DRSS)

Docket Nos. 50-237; 50-249

Licenses No. DPR-19; DPR-25

Licensee: Commonwealth Edison Company
Opus West III
1400 Opus Place
Downers Grove, IL 60515

Facility Name: Dresden Nuclear Power Station, Units 2 and 3

Inspection At: Dresden Site, Morris, Illinois

Inspection Conducted: November 5-23, 1990

Inspectors: R.B. Holtzman for J.E. House 12/18/90
J. E. House, Ph.D. Date
Radiation Specialist

R.B. Holtzman for M.A. Kurowski 12/18/90
M. A. Kurowski Date
Senior Radiation Specialist

Approved By: R.B. Holtzman for M.C. Schumacher 12/18/90
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Radiological Controls and
Chemistry Section

Inspection Summary

Inspection on November 5-23, 1990 (Reports No. 50-237/90026(DRSS); 50-249/90025(DRSS))

Areas Inspected: Routine, unannounced inspection of the radiation protection program (Inspection Procedure (IP) 83750) during a Unit 2 refueling outage, including audits and appraisals; changes in personnel and training and qualifications of new personnel; external exposure controls including ALARA considerations; and control of radioactive materials and contamination. In addition, the liquid radioactive waste program (IP 84750), previous inspections findings (IP 92701), and several allegations were reviewed.

Results: Overall, the radiation protection program and the liquid radioactive waste program are adequate. Weaknesses were identified with the control of work in high radiation areas (Section 8) and procedure control (Section 9). The need for additional management attention was identified in the areas of radiation area work scheduling (Section 13.A.2) and housekeeping (Section 14). Three instances of a violation of a technical specification requirement to follow radiological control procedures were also identified (Sections 8, 12, and 13). The licensee's continued participation in chemical decontamination research and development efforts was identified as a strength (Section 8).

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DETAILS

1. Persons Contacted

- K. Boban, Badge Fabrication Supervisor
- T. Bennett, Radwaste Coordinator
- L. Di Carlos, Group Leader, Training Department
- @+E. D. Eenigenburg, Station Manager
- @+L. F. Gerner, Technical Superintendent
- A. Goldner, Project Superintendent, Fluor Constructors International, Inc. (Fluor)
- +K. Kociuba, Nuclear Quality Programs (NQP) Superintendent
- @J. Kotowski, Production Superintendent
- R. Lee, ALARA Coordinator
- @+D. Lowenstein, Regulatory Assurance
- E. Mantel, Services Director
- D. Morey, Chemistry Supervisor
- L. L. Oshier, Group Leader, Operations/ALARA, Health Physics Services
- +K. W. Peterman, Regulatory Assurance Supervisor
- @+D. Saccomando, Health Physics Services Supervisor
- +R. Stobert, Operating Engineer

- +D. Hills, NRC Acting Senior Resident Inspector
- +J. Monninger, NRC Reactor Inspector, Intern

+ Denotes those present at the exit meeting on November 9, 1990.
@ Denotes those present at the exit meeting on November 23, 1990.

2. General

This inspection was conducted to review the licensee's radiation protection program during a refueling outage. In addition, the liquid radioactive waste (radwaste) program and several allegations regarding the radiation protection program were reviewed. The inspection consisted of record and procedure review, interviews with personnel, tours of facilities, and independent dose rate measurements.

3. Licensee Actions on Previous Inspection Findings (IP 92701)

(Closed) Open Item (237/90012-01; 249/90011-01): Review the extent of management attention given to the disposition of Radiological Occurrence Reports (RORs), especially those RORs concerning worker adherence to high radiation area (HRA) controls. A review of RORs generated since the previous NRC radiation protection (RP) inspection in March-April, 1990, indicated that station upper management attention to RORs has increased significantly, with an increase in the quality of the corrective actions. Although management attention to RORs has increased, the licensee continues to have problems with HRA controls, as discussed in Section 8 of this report. Based on the improvement in management attention this item is closed and licensee corrective actions for the continued problems with HRA controls will be tracked as part of a violation (Section 8).

(Closed) Open Item (237/90012-02; 249/90011-02): Weaknesses in prejob dose evaluations for work near some hotspots and in areas with large dose rate gradients resulted in several unplanned exposures during December, 1989, to February 1990. In response to a request by the NRC, the licensee submitted a written description of actions to be taken to correct these weaknesses. The current inspection, however, indicated that these actions have not been entirely effective and a Notice of Violation will be issued for a recent problem (see Section 8 for details). This item is closed and a new item will be tracked for the violation.

(Closed) Unresolved Item (237/90012-03; 249/90011-03): Failure to survey equipment before release from the site. In February 1990, four drums of supposedly uncontaminated scaffold connectors (knuckles) were sent by Dresden to Braidwood. Subsequently, contamination was found on two of the knuckles. At the exit meeting for the NRC inspection during which this item was initially reviewed, licensee personnel at Dresden stated that this problem was licensee-identified, since Commonwealth Edison is the license holder for both Dresden and Braidwood, and thus warranted consideration for being a non-cited violation. After consideration of the licensee's statements, the NRC has determined that the problem was not licensee-identified in that personnel who identified the problem were working under the licenses issued for Braidwood Unit 1 and Unit 2, and not the licenses issued for Dresden Unit 2 and Unit 3. As discussed in Section 12 of the current inspection report, adequate corrective actions for the transfer of the unsurveyed knuckles have been taken. This item is closed.

(Closed) Open Item (237/89025-01; 249/89024-01): Licensee to determine a calibration factor for the liquid effluent release monitor during system calibration. Procedure DRS 2000-07, Revision 0, "Liquid Discharge Monitor Calibration," provides for the calculation of this factor which is used in determining the alarm setpoint of the liquid radwaste monitor. The inspectors reviewed the most recent calibrations, both of which contained the calibration factor determination, and found the factor to be appropriate. This item is closed.

4. Audits and Appraisals (IP 83750)

The inspectors reviewed the scope and results of an audit performed of the RP program by the onsite quality assurance (QA) group. The audit was performed during the current outage and generally was an extensive, performance-oriented review conducted by experienced auditors. Two findings were made relating to the personnel external contamination program. One of those findings dealt with poor documentation of staff health physicist review of contamination events and the other dealt with poor adherence to whole-body contamination monitoring requirements. The station's response to these findings was adequate. The inspectors note that notwithstanding these findings, the station's recent efforts, overall, in reducing the number of personnel contaminations have been good.

No violations of NRC requirements were identified by the NRC inspectors.

5. Changes in Personnel and Training and Qualifications of New Personnel (IP 83750)

The inspectors reviewed major personnel changes and the training and qualifications of new personnel. Three experienced staff health physicists have recently left the group. An individual with a graduate degree in industrial hygiene and experience as an RP technician at Byron has been hired to fill one of the positions, and a corporate health physicist has been detailed to the station on a part-time basis until the other two positions are filled. Observations by the inspectors indicated that because of the vacancies and the demands of the outage, the work load on the station's RP professional staff was high. Additional, supplementary staffing may be necessary during the upcoming Unit 3 refueling outage.

The inspectors discussed with the licensee several other personnel/organizational changes being considered which, if implemented, should improve the station's program. One change being considered is the appointment of a lead RP supervisor ("general foreman") to whom the other 5-6 supervisors would report to. Currently, the supervisors all report to the health physics services supervisor, who is the department head. Experience at other large utilities have shown that an organization with the supervisors of the technicians reporting directly to the department head involves that person in too many day-to-day matters. The other planned change is the addition to the onsite QA group of several individuals experienced in RP. The performance of the current QA group in auditing this area has been satisfactory.

No violations of NRC requirements were identified.

6. Planning and Preparation (IP 83750)

Planning and preparation for the current outage from an RP perspective were generally adequate. Many of the lessons learned from the recently completed Unit 3 refueling outage were incorporated into Unit 2 outage work activities. Early involvement of the RP group in outage planning and RP group knowledge of planned activities and emergent work were evident. RP technician staffing and supplies, equipment, and protective clothing were good. The licensee also made extensive and overall successful efforts in implementing a new Radiation Work Permit (RWP) system for the outage and made extensive use of electronic dosimeters (EDs) as secondary dosimeters in place of self-reading dosimeters (SRDs). Several problems were encountered with EDs, as discussed in Section 9.

No violations of NRC requirements were identified.

7. Hydrogen Water Chemistry

The inspectors reviewed the licensee's new Hydrogen Water Chemistry Verification System that is currently being installed. The new monitoring system, along with its ancillary computer, will provide

real time measurements of recirculation water conditions which can be correlated with hydrogen addition rates. The system includes an autoclave with electrodes for electrochemical potential measurement. Reactor water from the reactor water cleanup line of the B recirculation system has been routed to the autoclave sled. Crack growth behavior will be monitored by a sensitized type 304 stainless steel coupon. The licensee's 10 CFR 50.59 review for installation of this equipment was also reviewed by the inspectors and appeared to be adequate.

The licensee stated that current plans call for the implementation of a hydrogen water chemistry program for Unit 3 sometime in 1991, after the upcoming Unit 3 refueling outage.

No violations of NRC requirements were identified.

8. External Exposure Control, Including ALARA Considerations (IP 83750)

On September 24, 1990, the licensee began a scheduled 70-day refueling outage for Unit 2. The projected outage dose total was 750 person-rem, including approximately 100 person-rem for weld stress improvement work that subsequently was not performed during the outage. Major work performed included a chemical decontamination of the recirculation system, surface preparation and re-coating of the walls of the 4th floor of the drywell, and in-service inspection (ISI). As of December 10, 1990, the outage was approximately 13 days behind schedule and the dose total stood at 680 person-rem. Major delays in the outage resulted from problems with the source range monitor system, the need to repair an unexpectedly large number of flaws found in recirculation system pipes, and the increase in scope of the weld ISI program required by the large number of flaws.

As discussed in a previous report (Report Nos. 50-237/90012(DRSS); 50-249/90011(DRSS)), the licensee recently appointed a new ALARA Coordinator and an ALARA engineering assistant. In addition, for this outage, the licensee assigned a person with experience as an RP supervisor and as a licensed operator to act as an ALARA/RWP coordinator with the contract labor organization. Performance of these two ALARA groups during the outage was generally good; however, the overall performance of the licensee's ALARA efforts was more mixed, as discussed below.

Corporate and station upper management commitment to maintaining exposure ALARA was evident in the implementation of the successful chemical decontamination at the start of the outage (and concurrent participation in an EPRI study to evaluate an online resin regeneration system using electrochemical potential), the support of an "ALARA Awareness Day" at the station, the request for an INPO ALARA Assist visit, and the adoption of a recommendation from that group to lower the person-rem total trigger point for job review by the full Station ALARA Committee from 25 person-rem to 5 person-rem. Other notable efforts/accomplishments include establishment of an ALARA "hotline" for workers to call with questions or concerns, purchase and use of a remote camera/video monitor system with two-way audio capabilities and a wireless communication

system for drywell and other high dose area work, and the saving of approximately 20-25 person-rem with job rescheduling and the hydrolazing of the scram discharge volumes.

Several jobs that noticeably exceeded the estimated dose totals include the scaffolding, insulation, and weld overlay work associated with ISI, the recoating of the walls on the 4th floor of the drywell, reactor disassembly, and control rod drive removal and transport. For the ISI work, the licensee tentatively determined that expanded scope because of the flaws is mainly responsible for the higher than projected dose total. For the other work, equipment problems likely played a major role. The licensee's final review of these jobs will be examined during a future inspection.

In addition to this work which was performed under specific RWPs, the inspectors reviewed several general RWPs and observed that the one for inspection and minor work in Unit 1 had approximately 5.8 person-rem and 10000 person-hours charged to it, compared to an estimated 0.45 person-rem and 450 person-hours. Discussions with the licensee's ALARA staff indicated that although they were well aware of the status of the specific RWPs and the general RWPs associated with Unit 2 and the turbine building, they were unaware of the status of this RWP and could not readily explain the reason for the overage.

Other areas where a more proactive ALARA approach is necessary includes the staging of insulation and work scheduling. During a tour of the Unit 2 drywell, the inspectors observed that insulation had been stored near the work areas and hindered the passage of workers. Licensee representatives stated that prior to the outage, there were plans to stage the insulation outside of the drywell in the reactor building, but because of miscommunications, the insulation was stored inside. Regarding work scheduling, a review by the inspectors of an allegation (discussed in Section 13.A.2) identified that early in the outage, as in previous outages, workers without specific work to perform were spending time in the turbine and reactor buildings.

In addition to the areas discussed above, the inspectors reviewed licensee actions on a previously identified weakness with prejob dose evaluations for high radiation area work (Inspection Reports No. 50-237/90012(DRSS); 50-249/90011(DRSS)). This weakness had resulted in several whole-body exposures in excess of station administrative limits and one relatively high, unplanned extremity exposure. In addition, the previous inspection report identified problems with control of keys and maintaining locked and secured doors for locked high radiation areas. In a letter dated June 11, 1990, the licensee addressed the weakness and committed to provide guidance to workers about work in high radiation areas, to increase RP technician involvement in pre-job briefings, and to provide training to the technicians and their supervisors regarding pre-job dose evaluations, hot spot surveying techniques, and job coverage. A review of documents and discussions with licensee representatives during the current outage indicated that although specific problems in the RP group apparently have been adequately addressed, there continues to be problems with worker adherence to RP

requirements in high radiation areas, as described below. The need for improved training and/or more stringent worker selection criteria is apparent.

Since September 1990, the licensee found several doors to high radiation areas that were left unsecured, and three whole-body exposures in excess of the licensee's 100 millirem/day administrative limit occurred. One of the exposure problems occurred on September 27, 1990, when two craftsmen worked in an area in the Unit 2 drywell preparing welds without informing the drywell RP technician prior to beginning the job, contrary to requirements of the RWP, RWP No. 321A. The workers subsequently worked near a small diameter pipe with contact dose rate readings ranging from 0.8 to 2 rem/hour, and with their dosimetry on their chests instead of on their heads, the more appropriate location for working near the pipe. The workers exited the area after one of the workers heard his ED alarm. The licensee subsequently evaluated the exposures of the workers and assigned 246 millirem to one worker and 113 millirem to the other. The failure of the workers to follow the requirement of the RWP to notify the technician prior to the start of work is contrary to Dresden Procedure DAP 12-25, Revision 0, "Radiation Work Permit Program," which states that each worker performing a job under the RWP must follow the requirements of the RWP and all associated documents. Failure to follow this procedure is a violation of Technical Specification 6.2.B., which requires that radiation control procedures be adhered to (Violation 50-237/90026-01A(DRSS); 50-249/90025-01A(DRSS)).

Although this violation was identified by the licensee, it occurred because of a failure of the licensee's corrective actions taken for the unplanned exposures previously documented in NRC Inspection Reports No. 50-237/90012(DRSS); 50-249/90011(DRSS). In accordance with the NRC Enforcement Policy, discretion in issuing a Notice of Violation for licensee identified problems is not exercised if corrective action for a previous, similar problem was applicable but not effectively implemented. This violation, the other incident in which an unplanned exposure occurred, and the problems with the unsecured doors represent a continuing weakness in high radiation area job exposure control.

During a review of this problem, the inspectors also observed that RWP 321A contained several documents that were unnecessary for workers performing work under that RWP. The inclusion of unnecessary documents in RWPs could result in an information overload of workers and a failure of workers to review radiological control information that is important. The inspectors also observed that RWP 321A contained an illegible copy of a document entitled "Guidelines for Work in High Dose Rate Gradients or Localized Hot Spot Areas." This document was developed by the licensee as part of the corrective action for the previous problems earlier in 1990. These observations regarding RWP 321A, and similar observations with several other RWPs, indicate a need for improved quality control of RWPs.

One violation of NRC requirements was identified.

9. Electronic Dosimeters (IP 83750)

As discussed in Section 6, at the start of the outage the licensee began using EDs as the secondary dosimeter, in place of SRDs. Dresden used mainly Merlin Gerin Model DMC-90 EDs, but also used an older model dosimeter, Model DM-61, which it had used for the past several years. Throughout much of the outage, the licensee identified that dosimeters of both models were experiencing an automatic shutdown or low battery condition. According to the licensee, because the failure rate was not significantly greater than that seen with SRDs, the licensee continued to use the EDs while troubleshooting by the radiation protection and ED vendor staffs proceeded. To ensure that the problem was not widespread and that the EDs were providing reasonably accurate monitoring of dose, the licensee processed TLDs for certain, high-exposure work groups more frequently than the typical monthly processing. No unusual problems were identified as a result of this special processing. After the licensee and the vendor spent much time troubleshooting the problems, the determination was made that the 3.5-3.6 volt, lithium batteries used in the two Merlin Gerin models of dosimeters needed to be depassivated prior to use. Batteries from several different manufacturers can be used with the dosimeters and, according to the licensee, the need for depassivation applies to all of these batteries.

Although the licensee's decision to continue to use the EDs when the problems persisted appears to have been reasonable, the inspectors identified a need for the licensee to document for future reference the basis of their decision. The licensee agreed to address this need. This documentation will be reviewed during a future inspection.

The inspectors also identified problems with several procedures pertinent to the EDs that do not accurately reflect current practice. Procedure DRP 1210-04, Revision 3, "Personnel Dosimetry Placement Guidelines," refers only to TLDs and SRDs; DRP 1240-7, Revision 1, "Source Check and Operation of the Merlin Gerin DM-61 and DMC-90 Digital Dosimetry Systems," states that the EDs will be used in conjunction with, but not in place of, a TLD and an SRD, and states that the EDs will be source checked at six month intervals (current practice does not involve a source check, only a full calibration); and DRP 1520-12, Revision 0, "Control of Secondary Dosimetry," refers only to Model DM-61. Collectively, the failure to maintain the procedures in agreement with current practices represents a programmatic weakness. Radiation protection department personnel stated that time restraints prevented them from revising the procedures prior to and during the outage, but that the procedures would soon be revised. The revised procedures will be reviewed at a future inspection (Open Item No. 50-237/90026-02(DRSS); 50-249/90025-02(DRSS)).

One other problem was noted by the inspectors regarding the EDs. In both recent incidents involving exposures over administrative limits and in several of the unplanned exposures discussed in Inspection Reports No. 50-237/90012(DRSS); 50-249/90011(DRSS), workers either ignored the ED alarms or could not hear them because of work activities. In one case, a worker, who was deaf in one ear, continued grinding for approximately an hour with his ED alarming. Discussions with licensee

representatives indicated that they have instructed workers not to depend on the EDs alarming, but to read the ED display often.

No violations of NRC requirements were identified; however, one programmatic weakness was identified.

10. Radwaste Sludge Tank and Spent Resin Tank Rooms (IP 92701)

The inspectors reviewed the licensee's progress on the cleanup of the radwaste sludge tank and spent resin tank rooms. Details of the circumstances of the contamination of these rooms are provided in NRC Meeting Report Nos. 50-237/89020(DRSS); No. 50-249/89019(DRSS), and a schedule of cleanup activities is described in a letter from the licensee dated October 6, 1989, and revised in a letter from the licensee dated October 20, 1990. The most recent letter stated that the cleanup should be completed by December 31, 1990. Discussions with licensee representatives and a review of surveys and photographs during the current inspection indicated that cleanup of the spent resin tank room had been completed and that the cleanup of the sludge tank room should be complete by or around December 31, 1990.

The licensee's actions to date appear adequate. This matter will be reviewed during future inspections.

No deviations or violations of NRC requirements were identified.

11. Liquid Radwaste (IP 84750)

The inspectors reviewed the licensee's liquid radwaste program as defined in procedures DOP 2000-28, Revision 11, "Radioactive Waste Discharge To River With The Off-Stream Liquid Effluent Monitor Operable," DCP 2000-28, Revision 2, "River Discharge Card," and DRS 2000-07, Revision 0, "Liquid Monitor Calibration." Areas reviewed included determination whether liquid radioactive waste effluents were in accordance with regulatory requirements, adequacy of required records and reports, and calibration and operation of the liquid effluent monitor. A review of selected liquid radioactive water release records indicated that Technical Specification requirements for sampling and analyses had been complied with.

No violations of NRC requirements were identified.

12. Control of Radioactive Materials and Contamination (IP 83750)

As discussed in NRC Report Nos. 50-237/90012(DRSS); 50-249/90011(DRSS), Dresden personnel inadvertently sent two contaminated scaffold connectors (knuckles) to Braidwood. This problem was tracked by the NRC as an unresolved item pending resolution of an assertion by Dresden personnel that the problem was "licensee-identified." Further NRC review has determined that the licensee-identified allowance of the NRC enforcement policy did not apply, and that a violation of Technical Specification 6.2.B., requiring adherence to station radiation control procedures, had occurred when the contaminated knuckles were not surveyed prior to unconditional release from the Dresden radiologically controlled area

(Violation No. 50-237/90026-01B(DRSS); 50-249/90025-01B(DRSS)). Dresden procedure DRP 1480-1, Revision 8, "Contamination Surveys," states that any material unconditionally released from the controlled area must be surveyed prior to release.

Review during this inspection and previously during the inspection in which this problem was first identified indicated that adequate corrective actions have been taken by the licensee. The licensee held a meeting with the RP technicians to discuss the event and applicable requirements, a memo was issued to all RP personnel re-emphasizing the unconditional release requirements, and training was conducted for all station personnel on the subject. In addition, the procedure governing unconditional releases was revised to incorporate the use of a security tape to seal drums (and other containers) containing material that had been surveyed to indicate the possible addition of material that had not been surveyed; and the use of a two-part, sequentially numbered tag for better tracking of unconditional released items. This problem is considered closed.

One violation of NRC requirements was identified.

13. Allegation Followup

A. (Open) Allegation (AMS No. RIII-90-A-104)

The NRC Senior Resident Inspector at Dresden received several allegations from an individual that are being tracked by one AMS Number. Two of those allegations pertain to the accuracy of a whole-body count record and to the unnecessary exposure of workers. These allegations are discussed below. They were evaluated during the current inspection through record and procedure review, discussions with licensee and contractor personnel, and through observations in the main radiologically controlled area (RCA). The remaining allegations will be discussed in a future inspection report.

- (1) Allegation: A record of the allegeder's whole body count on October 10, 1990, was falsified.

Discussion: The allegeder, who was a contract employee, was terminated on Friday, October 5, 1990, along with several other contract workers. The workers all received termination or "exit" whole-body counts, as required by licensee procedure DRP 1340-3, Revision 4, "Bioassay Frequency Scheduling." Subsequently, four of the workers, including the allegeder, were rehired by the contractor and were back onsite Monday, October 8, 1990, where they were processed as new employees. Three of the four workers received an "entrance" WBC (on October 10, 1990), but the allegeder did not.

The requirements for processing new employees are described in station procedure DAP 13-01, Revision 12, "Station Access," which includes Form 13-1A, the so-called "blue sheet." The blue sheet contains signature, date, and initial blocks for

various security, training, and RP requirements that must be met prior to granting the person access to the plant. The blue sheets for the four workers all contained initials (of RP personnel) indicating that WBC requirements were met. The inspectors noted that initialing of the RP section of the blue sheet indicates that WBC requirements are met, not necessarily that a WBC count was given. Granting a waiver would also satisfy the requirements.

The RP staff person (a department senior manager) who initialed the alleged's blue sheet stated to the inspectors that he did not specifically remember initialing the sheet, but that entrance WBCs were not infrequently waived for individuals who were gone from site for only a short period of time, for example, when a worker is terminated by one contractor and hired one to several days later by another contractor. He added that he probably waived the WBC for this individual because the individual had just received an exit WBC several days earlier.

Procedure DRP 1340-3 allows the RP department to waive WBCs and recommends that the waivers are documented. The waiver granted to the alleged was not documented and the RP manager stated that he probably was too busy at the time with other outage demands to document it (as discussed in Section 5, the work load of the RP staff was heavy during this outage). A review by the inspectors of other documented WBC waivers indicated that the procedure recommendation was being followed at times. Nonetheless, the licensee agreed to be more diligent in documenting waivers and to incorporate a form for documenting waivers in the procedure. This matter will be reviewed during future inspections.

The review of this allegation also indicated that procedure DAP 13-01 lacked specific guidance for RP personnel for initialing and signing the blue sheet. The licensee agreed to revise the procedure to incorporate such guidance. This matter will be reviewed at a future inspection.

Findings: The allegation was not substantiated. An RP manager apparently made a conscious, but undocumented, decision to waive the entrance WBC for the alleged. This waiver was allowed by procedure. Based on this waiver, the manager properly initialed a record that indicated that WBC requirements were met. Record review by the inspectors indicated that the WBCs given to the alleged on October 5, and on October 12, when the alleged was again terminated, indicated no intake of radioactive material had occurred while onsite. No violations of NRC requirements were identified.

- (2) Allegation: Contrary to ALARA, Fluor Constructors International, Inc. (Fluor), a contract work group at Dresden, was directing their workers to enter a posted radiation area, the reactor building, although there was no specific work to perform at the time.

Discussion: In discussions with several Fluor managers, supervisors, and workers, statements were made to the inspectors that indicated concern over the appearance of workers on the payroll sitting and waiting in the trailers. Fluor management indicated that they preferred that the workers wait in a nearby machine shop (the machine shop is not an RCA) when not assigned to a job. The assertion that Fluor management encouraged or directed workers to wait in the RCA was not corroborated. However, discussions with licensee personnel indicated that during the first two weeks of this outage, as in the early weeks of previous outages, many workers from Fluor and other work groups loitered in the reactor and turbine buildings, both of which were posted as radiation areas. For this outage, action was taken by the licensee that significantly reduced the problem after the first two weeks. Licensee management needs to plan better for future outages to avoid workers spending unproductive time in radiation areas, particularly during early weeks.

The allexer also stated that while assigned to a specific job in the reactor building, electrical power was lost and he could not do his work. He stated that a foreman told him that he and others on the crew should wait at the jobsite until power was restored, which might not be for an hour. In a discussion with the inspectors, the foreman denied this assertion. A review of dose records for this job indicated that the accumulated dose was slightly higher than originally estimated, but not high enough to definitely conclude that some of the dose was unnecessary.

The allexer also implied that a motive to get workers out of trailers and into the reactor building was to avoid CECO QA auditors. Two major audits that affected Fluor were conducted during the outage, one in the radiation protection area and one specifically of Fluor in various areas including quality control, engineering, and training and qualifications of personnel. QA personnel stated that they had no indication that Fluor personnel were avoiding them and added that they readily entered the reactor building or other RCA if necessary to conduct audit activities.

Findings: The allegation was partially substantiated. Licensee representatives indicated that in the early weeks of the current outage, as with previous outages, excess numbers of workers were spending time, and thus possibly accumulating dose, in the reactor and turbine buildings, both which are posted radiation areas. No violations of NRC requirements were identified; however, a weakness in the licensee's ALARA program was identified.

B. (Closed) Allegation (AMS No. RIII-90-A-0124)

A Region III radiation specialist, who was onsite at Dresden, received an allegation about the improper issuance of a respirator. The allegation was evaluated through record and procedure review, and discussions with licensee and contractor personnel.

- (1) Allegation: A worker was issued a respirator several times during a two-week period although he had not received the required training.

Discussion: The licensee's Nuclear General Employee Training (NGET) program requires annual training in the use of respirators. Successful completion of the training is indicated on the front of NGET cards issued to licensee employees, including contractors. Procedure DAP 12-3, Revision 12, "Station Policy on Control of Respiratory Equipment," states that a respirator will not be issued to a person unless NGET respiratory protection training requirements are met, as indicated on the person's NGET card.

A review of the licensee's respirator issue log and training records confirmed that a respirator was issued on November 5, 6, 8, 9, 10, and 12, 1990, to a worker who had not had the required annual respiratory protection training since March 1988. In a discussion with the inspectors, the worker stated that he did not realize that his training had expired until a technician at the respirator issue room informed him of this on November 13. The worker stated that he had many years experience with respirators in the nuclear power industry and indicated that he believed that his health and safety was not compromised because he wore the respirator with a lapse in training. A review of records indicated that the worker did not become contaminated as a result of wearing the respirator in November. Nonetheless, the failure to follow the requirements of DAP 12-3 is a violation of Technical Specification 6.2.B., which requires that radiation control procedures be adhered to (Violation 50-237/90026-01C(DRSS); 50-249/90025-01C(DRSS)). Upon notification from the NRC inspectors of the problem, the licensee immediately issued to all technicians responsible for issuing respirators a memo describing the problem and reminding them of the requirements. A review of training records for approximately 150 other workers who were issued respirators during the current outage, and discussions with technicians and observations at the respirator issue rooms identified no additional examples of respirators being issued to workers who did not have the required training.

Findings: The allegation was substantiated. One violation of NRC requirements was identified.

14. Tours (IP 83750)

Tours were made of various station facilities, including the Unit 2 drywell. Independent dose rate measurements were made by the inspectors and were in agreement with licensee postings. The inspectors observed several instances where hoses, electrical cords, and other equipment lying across contaminated area boundaries were not secured to prevent contamination of "clean" areas and equipment; a large puddle of water extended outside a contaminated area boundary; in areas of the drywell, lamps and/or lamp fixtures were out of service; several instances of workers wearing their EDs at their waists and their TLDS on their chests-contrary to licensee recommendations and common industry practice; and an instance where a "hot spot" sign had not been updated to reflect a significantly lower dose rate. Altogether, housekeeping was poor.

In addition, the inspectors observed an area of slightly contaminated gravel and ground outdoors near the isolation condenser exhaust pipes. This area had previously been decontaminated (Inspection Reports No. 50-237/89025(DRSS); 50-249/89024(DRSS)). In discussions with the inspectors, the licensee could not readily explain why the area was again contaminated. The licensee stated that they have covered the area with a tarp and will excavate it in spring 1991. This matter will be reviewed during a future inspection (Open Item No. 50-237/90026-03(DRSS); 50-249/90025-03(DRSS)).

No violations of NRC requirements were identified; however, housekeeping was poor.

15. Exit Meeting (IPs 83750 and 84750)

The inspectors met with the individuals, denoted in Section 1, at the conclusion of the onsite inspection on November 9 and on November 23, and summarized the tentative findings. Specifically, the inspectors discussed the observations made during the tours (Section 14), including the problem with staging of insulation (Section 8); specific items in ALARA (Sections 8 and 13); the radiation protection department organization structure (Section 5); the three examples of violations of procedural adherence requirements (Sections 8, 12, and 13); licensee actions regarding hydrogen water chemistry (Section 7); and the resolution of several allegations (Section 13). The licensee acknowledged the findings and did not identify any tentative inspection report material as proprietary.