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March 18, 1982

Mr. James G. Keppler, Regional Administrator
Directorate of Inspection and
Enforcement - Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Dresden Station Unit 3
Response to I.E. Inspection
Report No. 50-249/81-30
NRC Docket No. 249

Reference (a): J. Keppler letter to Cordell Reed
dated February 16, 1982.

Dear Mr. Keppler:

Reference (a) transmitted the results of an inspection conducted by Messrs. R. Paul and P. Lovendale on December 11, 18, and 31, 1981, of activities at Dresden Station Unit 3. Appendix A to Reference (a) identified two items of non-compliance with NRC requirements, and our response to those items of non-compliance is provided in Attachment A to this letter.

To the best of my knowledge and belief the statements contained in the attachment are true and correct. In some respects these statements are not based on my personal knowledge but upon information furnished by other Commonwealth Edison employees. Such information has been reviewed in accordance with Company practice and I believe it to be reliable.

Very truly yours,

Wayne L. Stiede

Wayne L. Stiede
Asst. Vice-President

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cc: Region III Inspector - Dresden

SUBSCRIBED and SWORN to
before me this 18th day
of March, 1982

Rosalie A. Prenta
Notary Public

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ATTACHMENT A

Commonwealth Edison Company
Response to Notice of Violation

The items of non-compliance identified in Appendix A of the NRC letter dated February 16, 1982, are responded to in the following paragraphs:

a. 10 CFR 20.201(b) requires that each licensee make or cause to be made such surveys as may be necessary for the licensee to comply with the regulations in this Part, and are reasonable under the circumstances to evaluate the extent of radiation hazards that may be present.

Contrary to the above, surveys and evaluations to assure compliance with 10 CFR 20.101 were not performed for work done by two individuals on December 4, 1981, near hanger 146, a high radiation area in the Unit 3 torus catwalk area. The workers received significant unplanned radiation doses as a result.

Additionally, although the two workers' pencil dosimeters were discharged upon completion of work on December 4, 1981, an adequate evalution of the workers' doses for compliance with personal dose limits of 10 CFR 20.101 was not conducted. The workers were allowed to resume work in radiation areas on December 5, 1981.

Discussion

On December 3, 4, and 5, 1981, contractor personnel employed by the M & M Mechanical Contractor Company, Inc., (M & M) were cleaning and making the final welds to several recently installed pipe hangers in the Dresden Unit 3 torus area. These new hangers are vertical piping supports hanging from an imbedded steel plate in the ceiling, and are being installed to support new pipes for water samples which will be collected in the new High Radiation Sample Station. The new sample pipes had been installed several months earlier, and the workmen were finishing the attachment welds on the hangers prior to a Quality Control completion inspection.

On December 3, the M & M foreman assigned to finish the work on the torus pipe hangers took the two members of his crew into the torus area and described how he wanted the work to proceed. On December 4, the two contractor employes in the crew returned to the area and began to make the necessary finishing welds on the hangers. Because the pipe hangers are hanging from the ceiling, the contractor employes were required to climb off of the torus catwalk and up on to several other existing pipes which run through the torus area. At times, the contractor employes sat on the other pipes, and at other times, braced themselves against the side of the reactor building with their feet against the older, contaminated pipes.

No radiation survey had been specifically taken for the work on December 4 and 5. As a matter of routine, the Dresden RCTs made a general area survey in the torus once each week. Since the doses in the general work area were low, the workers were expected to receive less than 100 mrem during the day, and so they were working under a Special Work Permit and were keeping track of their own time spent on the job. The SWP described general radiation protection conditions for the work, but was not truly descriptive of the area or the work which was proceeding on that particular hanger.

There were "radiation-hotspot" stickers attached to the pipes in the area, and the workers were very careful to always move their badge and indirect-reading dosimeters to be closest to where they felt the highest radiation fields existed. When they were standing on the pipes, they moved their film badge and dosimeters to their ankles. By so doing, they kept their film badge and dosimeters as close to the "radiation-hotspot" stickers as reasonably possible. Therefore, these personal monitoring devices did not necessarily represent whole body exposures. As noted by your office, and through discussions with the workers, use of detailed survey instrumentation and re-enactment of the event, the whole body calculated exposure was found to be 290 mrems less than the reported film badge results for the highest exposed workman. On this basis, the assigned whole body doses to both contractors did not exceed the quarterly exposure limits.

Corrective Action Taken to Avoid Further Non-Compliance

A committee of on and offsite management personnel plus the workmen involved was formed to review this event. The committee determined that many of the factors which led to these unplanned exposures were related to deficiencies in the use of the Special Work Permits (SWPs) for this particular job. The SWP described hanger repairs and general cleanup on the torus catwalk, but did not describe the actual work which was in progress. Similarly, the radiation survey data which was entered on the SWP described a general area survey, but did not describe the radiological conditions at the actual work locations. As stated above, the work required the contractors to climb off of the torus catwalk and onto several elevated pipes in the area.

On December 21, 1981, directions were re-emphasized to the Dresden RCTs and the onsite contractor management personnel that Special Work Permits must be of sufficient detail to clearly define the actual work to be accomplished as well as the working location. General area SWPs will not be permitted.

The SWP was deficient in not specifying that temporary shielding needed to be installed for this job. According to the workmen's foreman, he had instructed the workers to place lead blankets on and around the drain lines near the hangers to reduce the general radiation fields, based on recent working experience around these hangers and his knowledge of the general radiation fields in the area. One of the two workmen had worked in this area earlier to install the pipes which were now being supported by these hangers.

At the time of the installation of the pipes, however, lead shielding had been placed around the other existing pipes in the area to reduce the radiation dose to the workers. By December 4, the lead blankets had been removed for other jobs in progress in the torus area, and thus the radiation exposure conditions were much different than they had been when the new pipes were installed. There was, however, no place on the SWP to indicate that temporary shielding needed to be used to comply with the radiation survey data for the job.

On December 21, 1981, the requirement to indicate the need for temporary shielding was again re-emphasized to appropriate station and contractor employes to ensure that future SWPs specifically identify shielding requirements. The revised SWP form which Commonwealth Edison expects to begin using in mid-1982 already contains a spot for temporary shielding requirements to be indicated on the SWP. We are also continuing to empasize to personnel in periodic meetings and training sessions that temporary shielding which has been placed for personnel protection for a job cannot be moved without concurrence by the Rad-Chem Department. Shielding requirements will be reviewed during the routine SWP surveillance which is being developed as discussed below.

Normally, an unplanned double discharge of dosimeters prompts a more thorough investigation of the working environment before work is allowed to continue. In this case, personnel were misled by the accuracy of the preceeding months' results and the general SWP radiation survey which seemed to indicate that nothing unusual had occurred on this job. We have, however, re-emphasized to the contractor personnel, the Dresden RCTs, and the Dresden RCT foremen our existing policy which requires a re-survey of the work area if at all possible (e.g. when specific work areas can be identified), whenever an unplanned or unexpected discharge of dosimeters being worn by personnel on the job occurs.

Corrective Action to be Taken to Avoid Further Non-Compliance and Date of Full Compliance

To ensure that the above mentioned steps properly tighten our controls over the implementation of Special Work Permits, a routine SWP surveillance by RCTs and/or Health Physics foremen will be implemented. Because as many as one hundred SWPs can now be in effect on any one day, the surveillance will include only those SWPs which are judged to describe variable working conditions or work in high dose rate radiation fields. The personnel conducting the surveillance will be required to ensure that workers are complying with the radiological protection requirements listed on the SWPs, that any required temporary shielding is in place, and a random check of dose rates in the working area will be made to ensure proper dose accountability will occur. This surveillance will be conducted at a minimum of twice a week. The implementation of the surveillance will begin by June 30, 1982.

To ensure that senior Radiation Protection Department managers are properly informed whenever similar anomalous conditions occur, a list of "threshold" events, which require immediate reporting to the Department management will be promulgated by April 2, 1982. These reporting requirements will ensure prompt involvement by appropriate senior personnel at the station.

b. 10 CFR 20.203(c)(2) requires that high radiation areas be equipped with control devices which reduce radiation levels or provide an alarm signal upon entry, or be maintained locked with positive control over each individual entry. Contrary to the above, on December 4 and 5, 1981, two workers unknowingly entered a high radiation area near hanger 146 in the Unit 3 torus catwalk area. There were no control devices to reduce radiation levels or provide an alarm signal upon entry, nor did the licensee provide other measures to ensure positive control over entry.

Discussion

Only a small portion of the Unit 3 torus catwalk area contains radiation levels exceeding 100 mrem/hr. Access to the entire area is controlled through a normally locked gate which is posted with a high radiation area sign. This gate is used to provide the high radiation area access controls required by 10 CFR 20.203(c)(2).

Corrective Action Taken and Results Achieved

Refer to our response to item a for a discussion of the investigation which was conducted subsequent to this event.

Corrective Action To Be Taken To Avoid Further Non-Compliance and Date of Full Compliance

Even though the individuals passed through the normally locked gate and the high radiation area sign, as acknowledged above, the Special Work Permit for the work in progress did not contain precautions regarding the specific high radiation area within the larger area, and the appropriate dose rate within that area was not recorded on the SWP. The actions taken above to require specific work locations and specific descriptions of work in progress on individual SWPs should ensure that proper dose rate information is used for each job.

Our present method of high radiation area access controls will be further reviewed to ensure that it provides appropriate controls for each high radiation area entry. Any deficiencies which we judge to exist with our controls will be promptly corrected. More specifically, the feasibility of identifying actual high radiation areas within the larger areas which are now controlled will be made. This review of our present access controls and the feasibility of additional steps to further identify the actual high radiation areas will be completed by September 1, 1982.

As indicated above, the workmen involved were very conscious of moving their dosimeters to the highest radiation fields, and thus they indicated an awareness of the radiation fields present at the work site. If the workers had been using self-reading dosimeters, they might have provided an additional check to prevent their un-anticipated exposure. Dresden has currently issued self-reading dosimeters to all station personnel. Additional self-reading dosimeters are being ordered, and every effort will be made to ensure their prompt receipt. When sufficient dosimeters have been received, they will also be issued to all contractor personnel on site. We are committed to issuing self-reading dosimeters as soon as possible and expect that they will be issued prior to the third quarter of 1982.

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