Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

October 6, 1980

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

Subject: Dresden Station Units 2 and 3
Response to Special Health Physics
Appraisal Report Nos. 50-237/80-13
and 50-249/80-17
NRC Docket Nos. 50-237/249

80-13

Reference (a): J. Keppler letter to J. O'Connor
dated September 12, 1980

Dear Mr. Keppler:

Reference (a) transmitted an inspection report concerning a special NRC evaluation of the health physics program at Dresden Station conducted by Messrs. M. Schumacher, R. Paul, D. Murphy, R. Baltzo, and Ms. M. Oestmann, from June 18 to July 2, 1980. The report identified three apparent items of non-compliance with NRC requirements. Commonwealth Edison Company's response to those items is contained in Attachment A to this letter.

The NRC Health Physics Appraisal also identified several apparent significant weaknesses in the existing Health Physics program. Attachment B to this letter contains Commonwealth Edison Company's response to each of those weaknesses including corrective steps taken or to be taken and schedules for completion.

Very truly yours,

C. Reed

C. Reed
Vice President

Attachments

cc: RIII Inspector - Dresden

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NRC Docket No. 50-237
50-249

ATTACHMENT A

Commonwealth Edison
Attachment
Response to Notice of Violation

The apparent items of non-compliance identified in Appendix B of the NRC letter dated September 12, 1980, are responded to in the following paragraphs:

1. Technical Specification 6.2.B requires that radiation control procedures be maintained , made available to all personnel, and adhered to. The document "Dresden Nuclear Power Station Radiation Control Standards" is the procedure that establishes control over personnel radiation exposures. The following examples of failure to follow this procedure were identified during the appraisal.

   Contrary to the above requirements:

   a. Laundered protective clothing in the clean laundry storage bins in the Unit 1 tracy way was found reading to 22,000 counts per minute (cpm) in contrast to the "standards" limit of 3000 cpm.

   b. Material reading 10 mR per hour at three feet was found in the scrap yard in contrast to the "standards" unconditional release limit of 100 cpm.

Corrective Action Taken and Results Achieved

Upon discovery of the contaminated protective clothing, the immediate corrective action was to remove that protective clothing in the Unit 1 trackway SWP clothing supply area that was found to be above the "standards" limit of 3000 cpm. Additionally, the rest of the protective clothing in other supply areas was resurveyed, and any clothing found to be above the limits was removed and either re-laundered or discarded.

The contaminated material in the scrapyard has been discovered prior to this appraisal, and we were in the process of removing it from the dumpsite at the time of the appraisal. Upon discovery of the material, the immediate corrective actions including roping off and posting the area as required by 10 CFR, and removing the material to the restricted area. All the material was removed by July 12, 1980.

Corrective Actions to Avoid Further Non-Compliance

The laundry monitors were evaluated and were considered to be adequate but their use by the stationmen was apparently inadequate. A training session will be conducted for the stationmen

and their foremen, on the operation and use of the laundry monitors. In addition, a weekly surveillance by the Radiation Chemistry Technicians will be established to ensure that the quality of the laundry survey operation remains acceptably high.

We were unable to determine precisely when the contaminated material was left in the scrapyard. However, to improve the quality of the surveys of materials leaving the site, at the next monthly Radiation Chemistry Department meeting the Radiation Chemistry Technicians will be reminded of the need to thoroughly survey all materials being released, in an area of suitably low background radiation. These surveys, when properly conducted, will prevent a recurrence of contaminated material inadvertently being released from the site.

Date When Full Compliance Will Be Achieved

The weekly surveillance of the protective clothing bins will begin by October 6, 1980. The training sessions for the stationmen, stationmen foremen, and Radiation Chemistry Technicians will be completed by October 13, 1980.

2. 10 CFR 20.203(c)(2) lists three alternative requirements for control of access to high radiation areas.

   Contrary to these requirements, on June 21, 1980, the barricade to entry to a high radiation area at the Unit 2 west CRD accumulator bank was not secured, locked, equipped with an audible alarm system, or equipped with a control device to reduce the radiation level.

Corrective Action Taken and Results Achieved

A section of the fence restricting access to the CRD accumulators had been physically removed to gain temporary access for equipment in the work area. The immediate corrective action was to resecure the fence at the Unit 2 CRD accumulator bank. The fences around the other accumulator banks were also checked, and were found to be secure.

Corrective Actions to Avoid Further Non-Compliance

Since this was not a normal access to a high radiation area, it is considered a unique occurence and the high radiation area access control program was not judged to require further corrective action as a result of this particular occurrence. However, the permanent installed fence does unnecessarily restrict movement of equipment into the area when needed. We have, therefore, decided to replace the fixed fence with a normally locked gate, which can be opened as necessary when maintenance is required in the area.

Date When Full Compliance Will Be Achieved

We believe full compliance has been achieved at this time. However, we anticipate replacing the fence with the gate before January 1, 1981.

3. 10 CFR 20.105 prohibits possession, use, or transfer of licensed material in a manner that would create in an unrestricted area the potential for an individual to receive a dose greater than two millirems in one hour or greater than 100 millirems in seven consecutive days.

   Contrary to the above, the licensee found in the scrapyard, an unrestricted area, material that produced an exposure rate of approximately ten mR per hour at a distance of three feet.

Corrective Actions Taken and Results Achieved

As discussed in our response to item 1, the immediate corrective action included roping off and posting the area. All contaminated material in the dump was removed to the restricted area and a satisfactory survey of the dump completed by July 12, 1980.

Corrective Actions to Be Taken to Avoid Further Non-Compliance

To restrict access to the dump site, two fences with lockable gates were constructed across the access roads to the dump.

A new procedure is being prepared to define the steps needed to gain access to the dump site with scrap material. Finally, a quarterly radiation survey surveillance program for the dump is being prepared.

Date When Full Compliance Will Be Achieved

The procedure and the surveillance are being prepared and are expected to be approved for use by October 10, 1980.

ATTACHMENT B

Commonwealth Edison
Attachment
Response to Significant Appraisal Findings

Based on the Health Physics Appraisal performed June 18 to July 2, 1980, the following areas appeared to require corrective actions. The steps which have been taken or which will be taken and a schedule for the completion of those actions is included below.

1) Organization and Management

The Health Physics program is generally weak, rigid in perspective, and lacking in the qualities of curiosity and aggressiveness characteristic of a good program. It suffers from lack of professional health physics guidance and review needed to maintain a progressive, up-to-date program and from insufficient in-plant presence of first line supervision. Strong antagonisms exist between the Radiation/Chemistry Technicians (RCT's) and the Health Physicists (HP's) and there is an evident lack of cooperation needed to build a strong program. Management's failure to define the role of the professional HP's and to support them on industrial relations issues has significantly undermined their influence on the program.

Response:

The professional Health Physicist guidance and review of the Health Physics program will be improved. Specific actions that have been or will be taken at the station include:

a) The monthly departmental meetings which began several months ago will be continued to improve communications and minimize the antagonisms which have developed. These meetings provide a forum for resolving differences which arise between department personnel.

b) One of the Health Physicists will be physically located in the R/C foreman's area. This assignment will be rotated through all of the HP's in an effort to provide increased opportunity for interaction between the Health Physicists, Foremen, and Radiation Chemistry Technicians. This program will begin by November 1, 1980.

c) The RCT Foremen will be required to make plant tours on an increased frequency, and to establish a daily log summarizing their activities and results of their tours. The log will be reviewed periodically by senior station management personnel. This program will be in place by October 13, 1980.

d) Technical Services Nuclear, with the assistance of the Nuclear Station personnel, is performing a task analysis of RCT job positions in the Radiation Chemistry Department. Following the completion of the task analyses of responsibilities of each position in the Radiation/Chemistry organization, station management will clearly define the strong functional role for Health Physicists in the technical direction of RCT's and Foremen. The task analyses are expected to be completed by November 1, 1980.

e) Technical Services Nuclear health physics staff will be consulted for technical assitance in grievance discussions which impact specifically on health physics activities at the station.

f) Scientific Application, Inc. is currently under contract to assist Edison in development of job position descriptions and professional development programs for Health Physicists. Emphasis will be placed in the job descriptions on quality control of health physics activities as the responsibility of station Health Physicists. We anticipate that the position descriptions will be prepared by November 1, 1980.

g) Scientific Applications is further developing a formal ALARA program for all of the Commonwealth Edison stations. This program, which includes detailed involvement of station management and the Health Physicists will begin to be used by January 1, 1981.

h) As of October 6, 1980, the Lead Chemist will report to the Radiation Chemistry Supervisor. Technical direction for the chemistry program at the station will continue to be provided by the radioanalytic section of the Technical Services Nuclear department.

2. Qualification and Training

Weaknesses in training and retraining of RCT's contribute strongly to weaknesses observed in the health physics program. The evident need is for training in the use of basic health physics skills to recognize, investigate, and evaluate anomalies. A combination of resources including professional health physicists, experienced RCT's, and foremen is needed to develop such skills. Other weaknesses identified were neglect of retraining, incomplete emergency training, degradation of specific skills during the long period rotation between job assignments, and RCT scheduling without regard to qualification status.

Response:

A major program will be implemented for increased training in the application of basic Health Physics skills, and in specified Health Physicist techniques. In order to upgrade our program and the use of such skills by the RCT's, a re-training program for the RCT's has been initiated. This program has been structured to discuss technical aspects of the RCT's job, and we have placed an emphasis on training in response to emergency situations. This program is a three-day session, and we expect to have completed the retraining program for all of the RCT's by October 31, 1980. It will be completed annually thereafter.

To improve the quality of the laboratory routines, a lab foreman has recently been permanently assigned to the lab.

Additionally, training which is proceeding at present includes training of RCT's on the new Emergency Plan Implementing Procedues, which include emergency sampling procedures. This training is expected to be complete by October 30, 1980. Significant additional training is expected during the next six months for the new laboratory equipment which will be received by the beginning of the year and the new high-radiation sample buildings required by NUREG-0578, which will be in use as committed in our response to NUREG-0578. This training will be conducted by vendor personnel, corporate personnel, and station personnel.

In the longer range, standardized training programs for RCT's will be developed over the two-year period commencing in January, 1981. These standardized programs included generic programs expected to be taught at the Production Training Center, and also site specific programs for each individual station.

3. Access Controls

Access controls for high radiation areas (HRA's) do not provide sufficient assurance that all HRA entries are made with full knowledge of dose rate conditions nor do they require sufficient awareness to ensure that overdue exit is promptly recognized.

Access controls for contaminated areas suffer from confusion over required protective footwear, particularly in the area between double step-off pads.

Access control requirements must be clearly defined, promulgated, and enforced.

Response:

We believe that access controls for high radiation areas (HRA's) do in fact provide sufficient assurance that HRA entries are made with full knowledge of dose rate conditions and provide sufficient awareness to ensure that overdue exit is recognized for the following reasons:

a) Dresden Administrative Procedure DAP 12-4, "Control of High Radiation Areas" provides a program for controlling access to high radiation areas. Included in this procedure is the requirement that at the completion of each shift the unit NSO must verify that all workers who have been allowed access to any HRA during that shift have either checked out or will be continuing work in the area. The procedure is additionally subject to frequent Quality Assurance Audits.

b) Entries into HRA's for purposes of performing a work function, such as pump repair, addition of lubricating fluids, or modification work, routinely require prior radiation protection survey information, and the work will be performed either with a timekeeper present or under the specifications of a special work permit which explicitly defines the radiological conditions under which work will be performed.

c) Entries into HRA's by personnel such as operators and operating shift foremen are extremely brief in nature and prior surveys before each entry to any area are not deemed necessary. These individuals are instructed in their respective training and re-training programs of the importance of reviewing the latest survey information available in the Radiation Protection office prior to initiating rounds. In addition, operating personnel have the option of wearing self-reading dosimeters as a means of checking their accumulated exposure during the course of their rounds.

Access controls for contaminated areas do suffer from confusion over required protective footwear in the area between double step-off pads. The step-off pad procedure will be re-evaluated to determine action needed to correct the situation. Corrective action will be taken as needed and the access controls will be clearly defined by January 1, 1981. Workers are instructed in access control procedures in NGET and in annual retraining. The training programs will be revised in accordance with any action taken above to change the present step-off pad procedure.

4. Contamination Control

Several weaknesses were observed relating to control of contamination and contaminated material at the station:

a. The presence of contaminated materials in an unrestricted area dump.

b. An unlabeled, highly contaminated tool in a storage area in the Unit 3 Reactor Building.

c. Failure to maintain acceptable control of contamination on laundered protective clothing.

d. Frequent occurrence and casual acceptance of incidents of low level personal contamination.

e. Poor facilities for personal and shoe decontamination.

Overall, the general station attitude appears to be that contamination cleanup is the province of the stationmen and is not of much concern to anyone else.

Response:

We concur that there are several areas where the contamination control program at the station needs to be strengthened. We believe that the enhanced management controls and training delineated above in response to items 1 and 2 will assist us in improving the overall contamination control program at the station. Our response to the individual items in the report is included below:

a) This item was addressed in Appendix A, Section 1.b. of this letter. We believe that adequate corrective action has now been taken to prevent recurrence.

b) We believe that our current program for the control of contaminated tools is proper, but needs to be periodically reinforced through training. The storage cage where the pliers were found was not an allowed storage area, and it appears that the pliers were improperly left in the cage for expediency. We will continue to emphasize in the station training and retraining programs that contaminated tools must be properly stored.

c) Our response to this specific item is contained in Appendix A, items 1.a. to this letter. We believe that corrective action has been taken to prevent recurrence.

d) While not all incidents of personal or clothing contamination are documented, our review indicates that documentation and investigation of significant incidences are performed as required. The strengthened management controls discussed in item 1 should minimize the recurrence of repetitive problem areas.

e) A new shoe decontamination area has been constructed. Cleaning tools and instructions are present in this area to facilitate decontamination efforts. The current personnel decontamination area has been cleaned, and all unnecessary items which were stored there have been removed. Frequent surveys are now being made to ensure that areas are kept clean and are being used properly.

5. Surveillance

The surveillance program, while acceptably performed under routine conditions, is not sufficiently aggressive in the investigation and evaluation of anomalous or unexpected conditions. It appears to lack the elements of curiosity and concern essential to a high quality surveillance program. These characteristics were most noticeable in the handling of contamination incidents, where surveys were directed at defining control boundaries but not identifying and controlling of sources and routes by which contamination spreads. Contamination occurrences appear to be treated as singular events without relation to the overall pattern of contamination control. This performance clearly reflects weaknesses in training and management.

Response:

We agreee with your conclusion that the surveillance program is acceptably performed under routine conditions. Routine surveys in frequently occupied areas establish control boundaries and provide a basis for timekeeping. Surveys of infrequently occupied areas are preformed as needed to support operations or maintenance personnel.

As pointed out in Section 6 of the Health Physics Appraisal Report, the principal deficiencies inhibiting the development of a aggressive, high quality surveillance program appear to include RCT training deficiencies, lack of direct supervision by their Foremen, and isolation from professional Health Physicists. We believe that the corrective actions we have delineated in our response to Items 1. and 2. above will provide the changes needed to improve the quality of the surveillance program for non-routine issues.

6. Instrumentation

Control room printouts of area monitor readings are illegible or nearly so because of the large number of monitors on a single recorder. As a data source, such a record would be virtually useless. Also, the noninking condition of the reactor building vent monitor recorder on June 27 went unnoticed and uncorrected. Such situations indicate an unacceptable surveillance program for these instruments.

The appraisal team also noted weaknesses of quality control practices in the laboratory and counting room.

Response:

Control Room indicators such as the chimney monitor recorder and the reactor building vent monitor recorders are already reviewed on a once per shift basis by operators. Unusual conditions or inoperative status of recorders are investigated as deemed appropriate.

In order to improve Health Physicist cognizance of anomalous readings or possible significant negative trending indicated by the Area Radiation Monitoring (ARM) program, a change will be initiated in the RCT routines requiring a weekly surveillance of the ARM readouts which have indicators in the Control Room. The surveillance results will also be reviewed by the Health Physicists. The new surveillance will be in effect by November 1, 1980.

New analytical equipment for the counting room, including GeLi and alpha/beta proportional counting equipment, has been purchased and will be installed at Dresden as a replacement for the current equipment. The installation for the equipment is currently scheduled for the first quarter, 1981. Associated with the new equipment are extensive quality control checks which will enable better management control of equipment and personnel performance.

Finally, to improve the quality of the laboratory routines, a lab foreman has recently been permanently assigned to the chemistry lab.

7. Emergency Response

The following weaknesses in the station's preparedness for emergency monitoring and sampling were identified:

a. Lack of shielding at sampling stations for containment and reactor coolant samples and in the hot laboratory.

b. Incomplete training of RCT's in emergency procedures for sampling and monitoring.

c. Poor hot samples handling practices indicating incomplete rehearsal of emergency procedures.

d. Inadequate procedure (EPIP 300-11) for estimating emergency noble gas release.

e. Lack of guidance on the use of portable instruments for plume monitoring.

Response:

Finding 7.a., lack of adequate shielding for emergency samples, will be corrected by the following methods:

1) Shielding of the emergency sampling stations for reactor coolant and containment atmosphere will be greatly improved with the use of the High Radiation Sampling System (HRSS) presently under construction. This system, which consists of a separate sampling building outside the containment, contains all the necessary shielding and equipment for obtaining the required coolant and containment samples. This system will be placed in service as required to meet the schedule specified in our response to NUREG-0578.

2) Additional shielding for obtaining coolant and containment air samples by means of the interim procedures has been ordered or already obtained. This includes additional heavy duty carts with lead brick shields and individual lead bricks for use on an as needed basis.

3) A portable "rad-barrier"consisting of a lead shield with a double leaded glass viewing window has been ordered. This may be used in a laboratory fume hood to provide a ventilated, well-shielded area for working with hot samples.

4) Additional shielding and handling tools, such as lead shields for syringes and long tongs for remote sample handling have been ordered. These should provide additional dose reduction when working with extremely hot samples.

In response to finding 7.b., incomplete high-rad sample training, a new training program for the Rad-Chem TEchnicaians (RCT's) has been implemented. This training program includes revisions made to EPIP's 300-8 through 300-11 (the emergency sampling procedures) since the appraisal was conducted. As of October 3, 1980, 23 of 33 RCT's will have completed the new program, with the remaining 10 to complete the training by November 10, 1980.

Finding 7.c., regarding poor sample handling practices, is being remedied by the new training program previously discussed in the esponse to finding 7.b. As the new training program covers familiarization with the sample handling equipment as well as a "hands-on" walk aroung in the plant; it is felt that the RCT's should now be able to perform adequtely in response to an emergency situation.

The inadequate procedure for the estimation of emergency noble gas release, finding 7.d., has been revised to remove the observed inadequacy. The new procedure incorporates new graphs of the required conversion factors for enhanced visual clarity.

Lack of guidance for plume monitoring, finding 7.e., ceases to be a problem with the implementation of the corporate "Environmental Emergency Plan Implementing Procedures". One of these procedures, ED-10, addresses the question of plume dose calculation. The corporate office has agreeed to provide the necessary training on the use of the above mentioned procedures by November 10, 1980.

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