

U. S. ATOMIC ENERGY COMMISSIO.  
REGION III  
DIVISION OF COMPLIANCE

May 15, 1964

CO REPORT NO. 10/64-4

Title: COMMONWEALTH EDISON COMPANY  
LICENSE NO. DPR-2  
Date of Visit: May 11, 1964

By : H. D. Thornburg, Reactor Inspector

SUMMARY

During the course of a recent visit to the site, union personnel made allegations that the Dresden Station management had implemented procedures for the control of access to high radiation areas which did not comply with a waiver of the provisions of 10 CFR 20.203(c)(2) granted to the Commonwealth Edison Company by the Division of Licensing and Regulation. They alleged further that the procedure which had been written to implement the provisions of the waiver had been violated by Station personnel to the point where radiation safety had been compromised.

A study of radiation area access control in the light of the above allegations was made by the inspector on May 11, 1964 with the following results:

1. It was apparent that confusion had arisen with respect to the control of keys to high radiation areas during earlier periods of the shut-down; however, it appeared that the procedure was working properly on May 11. It does not appear that the earlier loss of control amounted to a hazard to operating personnel or other members of the public.
2. Conditions observed at the site do not indicate that the implementation of radiation protection procedures has been substandard.
3. A finding with regard to whether the procedure outlined in Appendix B complies with that outlined in Appendix A requires careful reading of the language combined with an evaluation of management's intent and the intent of the provisions of 10 CFR 20.203(c)(2). A second question raised is whether or not the violations of the existing procedures by individuals constitutes noncompliance with the waiver granted in August 1962.

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Summary (continued)

It is the inspector's opinion that the first consideration does not constitute noncompliance with the waiver of the provisions of 10 CFR 20.203(c)(2). The second consideration may in fact involve noncompliance. However, on the basis that the procedure is presently operating properly, it is the inspector's opinion that enforcement action is not necessary. This opinion is influenced by the fact that enforcement action might indirectly bring disciplinary action by the company against the procedure violators.

DETAILS

I. Scope of Visit

A visit was made to the Dresden Nuclear Power Station on May 8, 1964 to provide an orientation trip for Mr. J. Cermak at the request of DRL supervision. During the course of the visit, union personnel made certain allegations with respect to access control to high radiation areas. A visit was made to the site on May 11, 1964 to obtain information pertaining to these allegations.

(This report does not contain information obtained with regard to shutdown activities on this and other visits. Such information will be contained in a subsequent Compliance report.)

The following personnel were contacted during the course of the visit:

H. K. Hoyt, Station Superintendent  
C. B. Zitek, Assistant Station Superintendent  
J. Hughes, Division Safety and Radiation Protection Engineer  
E. Moran, Instrument Mechanic, IBEW Local No. 1460, Member Executive Committee  
J. McAsey, Radiation Protection Man, IBEW Local No. 1460, Chief Steward, Dresden Station

II. Results of Visit

A. Background

It will be noted in the previous report, CC Report No. 10/64-3, that a waiver of the provisions of 10 CFR 20.203(c)(2) was granted by the Division of Licensing and Regulation to Commonwealth Edison (at Dresden) on August 23, 1962. The waiver was granted on the basis that

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Results of Visit (continued)

the doors to certain areas<sup>1/</sup> of the plant which met the requirements of the Part 20 definition of a high radiation area [Section 20.202(b)(3)]<sup>7</sup> were to be maintained locked. A procedure for limiting access to these areas was proposed by Commonwealth Edison and approved by the Division of Licensing and Regulation in the above referenced waiver. (See attached Appendix A.) Commonwealth Edison implemented the procedures outlined in their application for waiver in Station Order N-300. (See attached Appendix B.) The implementation was placed in effect in September 1962.

B. Positions of Union Personnel

On May 8, union representatives contacted the inspector and alleged the following with regard to Commonwealth Edison's implementation of the above described waiver:

1. Station Order N-300 does not properly reflect the procedures approved by the Commission.
  - a. When the alternate key is controlled by a member of plant supervision (for example a Maintenance Foreman) a single call is made upon the first entry into the high radiation area. The subsequent entries and exits of each worker into and from the high radiation area are recorded on a form which is maintained at the entry to the area.

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<sup>1/</sup> On the basis that it was not clear to which areas of the plant the waiver applied, a Form AEC-592 was issued on April 10, 1964.



Results of Visit (continued)

- b. Item (4) of attached Appendix A indicates that each individual entering a high radiation area should notify the Shift Engineer or his alternate in the control room.
  - c. The alternate keys are placed in service when the reactor is shutdown. The keys should only be used when the reactor switch is placed in the shutdown position.
2. Commonwealth Edison personnel have violated the provisions of both Station Order N-300 and the waiver granted by the Commission.
- a. Mr. Moran cited an instance in which he was dispatched to the high radiation area with both the key and the control room clip board upon which key checkout and high radiation entry and exit times are recorded.
  - b. A maintenance supervisor has allowed a maintenance mechanic to possess the key on occasion. Item (2) of Appendix A states that the alternate keys must be in the possession of some other plant supervisor.
  - c. Personnel had signed out keys with no record available of entry to or exit from a high radiation area.

Union personnel alleged further that the confusion resulting from the varying interpretations of the key control procedure had resulted in loss of control of access to high radiation areas, which amounted to a safety problem in their opinion.

The inspector stated that he would look into the allegations made by the union personnel on the following Monday, May 11, 1964.

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Results of Visit (continued)

C. Position of Management

The inspector discussed the situation with management subsequently. Mr. Hoyt stated that Station Order N-300 had been written to expand the procedures outlined in Commonwealth Edison's request for a waiver into an operating procedure. He stated further that Station Order N-300 represents the company's intent in this matter.

Mr. Hoyt indicated that confusion had arisen with respect to the proper use of the keys in question. He stated that Mr. Zitek had recently been assigned the task of reviewing the use of the keys with all personnel and personally auditing the use of the procedure for a period to assure himself that it was indeed being followed. He also stated that the procedure must be reviewed and clarified to eliminate the basis for confusion. Such a review will be performed shortly according to Mr. Hoyt.

D. Inspection Observations

On May 11, 1964, the inspector reviewed the control of high radiation area keys and radiation area procedures in general at Dresden. The following information was obtained:

1. Two keys were under the control of the Shift Engineer on duty. Proper entries had been made in the log on May 11, 1964.
2. One key was under the control of a maintenance foreman who had a crew working in the Sub Pile Room on May 11, 1964.
  - a. The foreman had signed the key out properly.
  - b. He had notified the control room of his entry into the room.
  - c. The names and times of entry and exit of all personnel in the maintenance crew were entered on a log sheet at the entrance to the radiation area.
3. Each high radiation area of the plant is covered by a Radiation Work Permit which outlines the procedures for gaining entry, describes the nature of the source of radiation, specifies general protective clothing requirements and monitoring instructions, and provides other information.

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Results of Visit (continued)

4. To gain entry to a high radiation area, one must contact Radiation Protection personnel to obtain survey data and protective clothing requirements. One man entering a high radiation area can monitor for himself if he is qualified to use an instrument. With more than one man present, Radiation Protection personnel must make the survey.
5. When one of the alternate keys is released to another plant supervisor to allow entry to a high radiation area, it is done with the approval of the Shift Engineer on duty.
6. The inspector examined the current plant exposure records<sup>2/</sup> and found that the highest individual exposure accumulated for the week of May 4 was approximately 120 mrem. The maximum accumulated individual exposure for the second quarter of 1964 was approximately 550 mrem.

The inspector entered radiation areas of the plant on several occasions during the present shutdown prior to May 11, 1964, to observe various operations in progress. It was the inspector's observation that normal radiation control procedures were in force. The following items were noted:

1. Exposure limits were specified by Radiation Protection personnel.
2. Protective clothing requirements appeared to be proper.
3. Personnel working in the areas appeared to be familiar with work procedures.
4. The entrances to radiation areas were equipped with stepoff pads, laundry hampers, and temporary floor covering. The radiation areas were not cluttered with contaminated clothing, equipment, etc.
5. Radiation Protection personnel were alert to the hazards existing in the radiation areas and did not hesitate to instruct personnel.

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<sup>2/</sup> It should be noted that radiation exposure records are maintained at Dresden which include the latest film badge data to which the daily dosimeter data times a factor of 1.5 is added.



Results of Visit (continued)

E. Discussions with Union and Management Personnel Following the Investigation

The inspector attempted to inform the union representatives of the disposition of their allegations and answer several specific questions following the investigation on May 11, 1964. The inspector also called Mr. McAsey at home on May 12, 1964, in an effort to communicate effectively.

Essentially, the inspector informed union personnel that an investigation had been made of their allegations. The inspector would forward a report through normal channels to Compliance Headquarters containing the allegations and the inspection findings. The inspector stated that no action would be taken in the field because, in the inspector's opinion, no clear and present threat to the public health and safety was apparent. Union personnel were also informed that the report would be reviewed by Compliance and Enforcement personnel.

An attempt was made on May 11 by union personnel to have the inspector discuss the individual allegations. During the discussion, the inspector was asked the following questions by union personnel and made the following replies:

Question: Should the three keys be distributed only when the reactor switch is in the shutdown<sup>3/</sup> position or can they be distributed any time the reactor is shut down?

Answer: It would appear that from the radiation safety standpoint and from the general usage of reactor jargon that shutdown in this case applies to the situation where the nuclear reaction has been terminated and gas and fluid flow through the principal process systems has been discontinued.

Question: Which procedure should we use at present?

Answer: The one approved by management as long as no clear and present danger to the public health and safety exists. Compliance with the terms of the license and the Federal Regulations is a matter between the Commission and management at this point.

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<sup>3/</sup> See Item (2) of attached Appendix A. (During shutdown periods ....)

Results of Visit (continued)

Mr. Moran did not acknowledge that no hazard to the public health and safety existed.

The inspector discussed with management radiation area access control and the compliance aspects of the above allegations. It was noted that the period during which the maintenance supervisor is contacting Radiation Protection personnel for survey data and protective clothing requirements prior to the entry to a radiation area is not formalized to the point of requiring the use of a special form. Management stated that a Radiation Work Permit existed for all radiation areas and a Special Work Permit would be used in cases where it was estimated that any individual's exposure would exceed 50 mrem or other special radiation safety considerations were necessary (e.g., respiratory equipment, etc.)

Mr. Hoyt indicated that disciplinary action (loss of one day's work) might possibly be taken against procedure violators by the company if conditions warrant. It did not appear that such action would be taken against individuals at the time of the visit.

The inspector stated that a Form AEC-592 would not be used because: (1) the sensitive nature of the allegations, (2) the fact that Commonwealth Edison's waiver from the requirements of 10 CFR 20.203 are under consideration of DRL personnel at present, and (3) the intricate interpretation necessary to resolve the procedural questions.

The inspector indicated to both union and management personnel that the views which were expressed represented the inspector's opinion and not the official position of the U. S. Atomic Energy Commission. It was also stressed that the inspector's report would be reviewed by the Headquarters Regulatory Staff.

Attachments:  
Appendices A & B



## APPENDIX A

### PROCEDURES FOR THE CONTROL OF KEYS TO LOCKED HIGH RADIATION AREAS AT DRESDEN

1. Requested by Commonwealth Edison Company on April 17, 1962.
2. Approved by Director, Division of Licensing and Regulation on August 23, 1962.
  - (1) The keys to locks for high radiation areas are the responsibility of the Shift Engineer. The Shift Engineer is a member of management and holds full responsibility for the safe and proper operation of the plant during his assigned shift.
  - (2) During any time the plant is in operation the one key available is under the control of the Shift Engineer. During shutdown periods the other two keys may be in the possession of some other plant supervisor.
  - (3) Access to high radiation areas at any time is not permitted unless authorized by the Shift Engineer.
  - (4) In addition to the receipt of an authorization to enter a high radiation area and the special key, the individual must contact the Shift Engineer, or his designated alternate in the control room, immediately prior to entry into and immediately upon exiting from the high radiation area. These calls are recorded on a log sheet and also the time at which the key was obtained and returned. Said requirements operate as a method of timekeeping and serve as a safety check in the event an individual should become ill or physically injured while present in the high radiation area.
  - (5) All personnel entering areas of unknown radiation levels are required to carry radiation survey instruments.
  - (6) As a routine operation, personnel open the locked doors to the high radiation areas and proceed only into the shielded labyrinth to listen for abnormal sounds, especially those produced by steam leaks or malfunctioning equipment. These entries are usually made on a once per day frequency and are limited to a few minutes duration.

Occasionally, conditions within a high radiation area will necessitate more detailed examination.

APPENDIX A

Operating personnel request a radiation survey of the area by the radiation protection personnel before undertaking further exposure. This work is all under the direct supervision and with full knowledge of the Shift Engineer.

- (7) High radiation areas are not surveyed for radiation levels on a routine basis. Spot checks are made at the outside surface of the compartment doors only. Special surveys of the interior of the compartments are made only upon instructions from the Radiation Protection Engineer or when required to permit work to be performed in the compartment.
- (8) All surveys performed by radiation protection personnel are reported on special record forms which are serially numbered and filed with all permanent radiation protection records. Unusual or abnormal conditions are referred to the Radiation Protection Engineer and the Shift Engineer.
- (9) In the event a fuel element leak occurred, the radiation monitors at many points would indicate this increase, in addition to those monitoring the air ejector effluent. The Operators and the Shift Engineer would be aware of any increase and therefore permission for entry would be refused and the key to the air ejector compartment or other affected high radiation area withheld until the area was surveyed by radiation protection personnel.

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STATION INSTRUCTION NO. N-300  
USE OF KEYS TO HIGH RADIATION AREAS

To conform to AEC license regulations concerning entrance of personnel into areas of high radiation, the following rules governing the use of "R" keys to such areas must be adhered to:

NOTE: To provide more accurate registration of the "R" keys on the daily log sheets, three "R" keys have been provided, with numbers and color codes as follows: #1 - black; #2 - white; #3 - yellow.

A. During Normal Operation

1. Only the #1 black "R" key will be in service for all plant personnel; the #2 key will be in custody of the Station Operating Engineer-Mechanical; and the #3 key in custody of the Station Operating Engineer-Electrical.
2. The Shift Engineer on duty will be responsible for the #1 key. He may assign the issuing of the key to the Senior Control Operator with proper communication and the Control Operator on duty will be responsible for the entries into the "R" key log.
3. All personnel given permission to use the "R" key to enter a high radiation area shall make the proper initial entries in the "R" key log in the Control Room.
4. The person to whom the "R" key was assigned shall contact the Shift Engineer or his designated alternate in the Control Room immediately prior to entry into and immediately upon exiting from the high radiation area. These times shall be recorded in the "R" key log.

B. During Shutdown Periods

1. The #1 "R" key will continue in service as listed in Part A and will be used primarily by the operating group.
2. The #2 and #3 keys will be brought into the Control Room and assigned to other plant supervisors as required. Such assignments will be logged in the "R" key log. These extra keys may also be used by the Shift Engineer for operating personnel.
3. The supervisor or his designated alternate shall contact the Shift Engineer or his designated alternate in the Control Room prior to the initial entry into and after the last exit from

APPENDIX B

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(N-300 Cont.)

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a high radiation area by his work group to perform inspections or maintenance. The other entrances and exits shall be logged on regular "R" key log sheets at the entrance to the individual high radiation area by the supervisor or his designated alternates. These sheets are to be returned to the Shift Engineer later for the records.

4. Prior to plant startup the #2 and #3 "R" keys must be returned to the Shift Engineer in the Control Room, logged in, and returned to the respective custodians as stated in A-1.