U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-237/82-30(DRMS); 50-249/82-31(DRMS)

Docket Nos. 50-237; 50-249 Licenses No. DPR-19; DPR-25

Licensee: Commonwealth Edison Company
Post Office Box 767
Chicago, IL 60690

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

Inspection At: Dresden Site, Morris, IL

Inspection Conducted: December 6-8, 14-17, 1982, January 3-5 and 7, 1983

Inspectors: R. A. Paul — February 14, 1983
W. B. Grant — 2/14/83

Approved By: L. R. Greger, Chief — 2/14/83
Facilities Radiation
Protection Section

Inspection Summary

Inspection on December 6-8, 14-17, 1982, January 3-5, and 7, 1983 (Reports No. 50-237/82-30(DRMS); 50-249/82-31(DRMS))

Areas Inspected: Routine, unannounced inspection of radiation protection program, including: qualifications; training; licensee audits; radiation protection procedures; exposure control; posting and control; surveys; radiation work permits; notifications and reports. The inspection also included a review of the status of previous inspection findings and the status of post-TMI requirements. The inspection involved 187 inspector-hours onsite by two NRC inspectors.

Results: Of the eleven areas inspected, no items of noncompliance were identified in ten areas; one item of noncompliance was identified in the remaining area (failure to prevent the transfer of contaminated material from a controlled to an uncontrolled area - Section 12).

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DETAILS

1. Persons Contacted

T. Ciesla, Technical Staff
*D. Ferrar, Assistant Superintendent, Administration and Support Services
*T. Gilman, Lead Health Physicist
J. Kinsella, Rad/Chem Technician
J. Kotowski, Technical Staff
*S. McDonald, Lead Chemist
*G. Myrick, Radiation Chemistry Supervisor
S. Olejniczak, Training Department
*D. Scott, Station Superintendent
S. Smith, Technical Staff
R. Tolbert, Quality Assurance
B. Wellman, Chemist

T. Tongue, NRC Senior Resident Inspector
*M. Jordan, NRC Resident Inspector

*Denotes those attending the exit meeting.

2. General

This inspection, which began at 10:00 a.m. on December 6, 1982, was conducted to examine the licensee's radiation protection activities during normal operations, to review the status of NUREG-0737 items, and to review the status of previous inspection findings. The inspection included several plant tours, review of posting and labeling, discussions with licensee and non-licensee personnel, and independent radiation measurements. Housekeeping has improved; however, further needed improvements were noted and brought to the attention of Station management.

3. Licensee Action on Previous Inspection Findings

(Closed) Open Item (50-237/82-09-01; 50-249/82-10-01): Intentional exposure of film badges. The licensee has changed their method for issue and control of film badges. Film badges are now issued at the gatehouse and are kept with the security badge, in the gatehouse, when not in use.

(Closed) Unresolved Item (50-010/82-02-01; 50-237/82-03-02; 50-249/82-03-02): Contaminated SWP gloves found in an uncontrolled area of the Station. Licensee was issued noncompliance (50-237/82-30-01; 50-249/82-31-01) for failure to control contaminated clothing and material use in an uncontrolled area in accordance with the Radiation Control Standards.

(Closed) Open Item (50-010/79-02-02; 50-237/79-02-02; 50-249/79-02-02): Alternate method needed to determine tritium airborne releases from gaseous discharge paths. The licensee began collecting monthly grab

samples of tritium from the D-2/3 chimney and D-2/3 reactor building vent in January 1983. Chemistry Procedures (DCP 1600-15, 16, 17) concerning sampling, preparation and analysis of the tritium have been developed and implemented.

(Closed) Open Item (50-237/82-13-01; 50-249/82-14-01): Determine counting efficiencies and develop procedures for calibration of inplant air sample counting equipment. Counting efficiencies have been determined, and Procedure DCP-2500-14, "Calibration of Well Counters For Converting Iodine-131 in Charcoal Cartridges," has been developed and implemented.

4. Organization and Staffing

The Rad/Chem Department consists of two sections; Radiation Protection and Chemistry. Each section has a lead professional who reports to the Rad/Chem Supervisor. The Rad/Chem Supervisor reports to an Assistant Superintendent who reports to the Plant Superintendent. Reporting to the lead health physics professional are four health physicists, three engineering assistants, a staff assistant, a lead rad foreman and eight rad foremen. Reporting to the lead chemistry professional are four chemists and a chem lab foreman. There are currently 36 rad/chem technicians (RCTs) performing chemistry and health physics functions.

Recent organizational changes include; appointment of a lead rad foreman, appointment of five additional rad foremen, round-the-clock health physics supervision by rad foremen, assignment of one health physicist and one rad foreman to each reactor unit, and direct reporting of the lead rad foreman and the chem lab foreman to the lead health physics professional and lead professional chemist, respectively.

The licensee plans to switch the lead radiation protection and chemistry professionals in the near future.

5. Staff Qualifications

In accordance with technical specifications, licensee personnel are required to meet the qualifications specified in ANSI N18.1-1971, "Selection and Training of Nuclear Power Plant Personnel." The inspectors reviewed the qualifications of persons currently occupying the following positions.

a. The Rad Chem Supervisor. This individual meets the "Professional - Technical: Radiation Protection," qualifications specified in Section 4.4.4 of ANSI N18.1-1971 and ANSI/ANS 3.1-1978, and the "Radiation Protection Manager" qualifications specified in Regulatory Guide 1.8.

b. The Lead Professionals - Radiation Protection and Chemistry. These individuals currently meet the "Supervisors Not Requiring NRC Licenses" and the "Professional - Technical" qualifications specified in Section 4.3.2 of ANSI N18.1-1971 and ANSI/ANS 3.1-1978. However, if the lead professionals switch job functions as currently planned by the licensee, further review of the individual's qualifications will

be necessary. This matter was discussed at the exit interview and will be reviewed further in a future inspection. (237/82-30-03; 249/82-31-03)

c. The Radiation Protection Lead and Shift Foremen, and the Laboratory Foreman. These individuals meet the "Supervisors Not Requiring NRC Licenses" qualifications specified in Section 4.3.2 of ANSI N18.1-1971 and ANSI/ANS 3.1-1978.

d. The RadChem Technicians (RCTs). With the exception of seven RCTs, all RCTs meet the technician qualifications specified in Section 4.5.2 of ANSI N18.1-1971 and ANSI/ANS 3.1-1978. The seven who do not meet the qualifications work under supervision.

6. Rad/Chem Department Retraining

The in-house retraining program for RCTs, which began in October 1982, includes; instruction in radiation protection and chemistry topics, plant systems, first aid, emergency planning and written testing. The instructors are mostly from the Rad/Chem Department. The Training Department provides overall guidance for the program and specific input as requested. The content of the course material appears adequate, however some modification may be needed based on comments and recommendations from course participants. A review of the written examinations indicated that, although several RCTs had to be retested, all eventually achieved the minimum score of 70 percent.

7. Annual Requalification Training

Requalification training is given annually to all employees. The training consists of videotaped lectures which include radiation protection, site emergency planning, and security information. The radiation protection segment discusses biological effects of radiation, posting and control of radiologically controlled areas, use and kinds of dosimetry, ALARA, and proper use of respirators. Also, there are demonstrations of proper use of protective clothing, step-off pads, and friskers. With the exception of the following items, no significant problems were identified in this area. There is no discussion or demonstration of the proper use of portal monitors or minimum protective clothing requirements. Also, the demonstration concerning the proper method of removing protective clothing and survey techniques at step-off pad areas implies that frisking is required and that friskers are available at each step-off pad. However, under normal conditions frisking is not required at each change area nor are frisking stations located at each area. These matters were discussed at the exit interview.

8. Audits

The inspectors reviewed the results of five audits conducted by the licensee's Quality Assurance Department during 1981 and 1982. The audits included review of portions of the radiation protection, radwaste, radiochemical, and chemical control programs. Minor procedural problems were identified during the audits and corrected by the licensee.

A licensee Quality Assurance Audit QA-12-82-75, conducted on November 19 and 22, 1982, identified a possible procedural infraction concerning lack of documented followup of some Radiation Occurrence Reports (RORs). The inspectors reviewed the licensee's proposed correction actions which included additional station management review, trending of RORs, and stronger management support. This matter was discussed at the exit meeting.

9. Exposure Control

a. External Exposure

In order to minimize the possibility of anyone intentionally exposing film badges, as discussed in a recent inspection report,[1] the licensee recently changed the method and procedure for issuing and control of film badges. Film badges are now issued in the gatehouse and are kept with the security badge in the gatehouse when not in use. The inspectors reviewed the new procedure and discussed the matter with licensee personnel. No problems were noted.

Self-reading dosimeters and film badges are used to monitor personal exposures. The dosimeters are read daily by rad/chem personnel. Computer summaries of the dosimeter results are compiled and reviewed by rad/chem personnel daily.

A review of the licensee's whole body exposure records for 1982 indicates no doses exceeding regulatory limits. The total whole body doses to date in 1982 for 1120 individuals is 2760 person-rems. The highest individual whole body doses for the year to date were 5410 mrems and 5740 mrems.

The individual who received 5410 mrems, a refueling foreman, has frequently received the highest annual exposure at the Station. The licensee's plans for reducing his future exposures were discussed at the exit meeting.

Forms NRC-4 were selectively reviewed for station and contract personnel; all were properly completed.

No items of noncompliance were noted.

b. Internal Exposures

The licensee controls internal exposures through engineering controls, air sampling and contamination surveillance programs, and use of approved respiratory protection equipment. A bioassay program is utilized to evaluate program effectiveness.

The respiratory protection program appears to meet the requirements of 10 CFR 20.103. Protection factors are applied when respiratory equipment is worn. A selective review of respiratory training/ qualification records was made. No problems were noted.

[1] 50-010/82-05; 50-237/82-09; 50-249/82-10.

The licensee uses a vendor (RMC) furnished and calibrated whole body counter (WBC) with a phantom for daily source checks. The most recent calibration was conducted on July 28, 1982. The WBC is calibrated annually; however, calibration results are not sent to the licensee and consequently were not available for review. This was discussed with a licensee representative and will be reviewed during a future inspection. (50-237/82-30-01; 50-249/82-31-01)

The inspectors observed whole body counting of several workers and selectively reviewed whole body count results. No recent significant internal depositions were identified. Station CECo personnel are routinely whole body counted at least once per year. Contractor and nonstation CECo personnel are counted when they complete their work at the Station.

It was noted that procedures for whole body counting do not present a method for relating whole body counting data to MPC-hours, nor do they show how to calculate lung burdens for isotopes such as cobalt-60 in nontransportable or insoluble forms. However, several staff health physicists demonstrated an understanding of the methodology for computing MPC-hours from whole body uptakes. This matter was discussed at the exit meeting.

10. Radiation Work Permit

The licensee recently implemented a Radiation Work Permit (RWP) system which replaces the Special Work Permit (SWP) system. The RWP system requires a permit to be issued for each specific task when personnel are expected to exceed a daily whole body dose of 50 mrem, or the task involves welding, flamecutting, grinding, sawing, or heating of radioactive materials. The former SWP system did not require a permit when an RCT was in continual attendance at the job site while the job was in progress. Use of the new permit system should increase job preplanning and documentation of work performed in radiologically controlled areas. A significant increase in administration workload is required to implement the new system.

RWPs issued in 1982 were selectively reviewed by the inspectors for accuracy, signature authorization, and duration. No problems were identified.

By rad/chem memo dated July 30, 1982, the licensee fulfilled the commitment made to the NRC in a letter dated March 18, 1982, concerning SWP/RWP surveillance. The memo outlined a SWP/RWP surveillance program to be conducted by rad/chem personnel whereby a selected number of SWP/RWPs would be reviewed at the job site and all requirements verified by an RCT. In addition, the memo set guidelines for ensuring that events or anomalous conditions that have a potential negative impact on health and safety are brought to the attention of rad/chem management in a timely manner. The inspectors reviewed the licensee's implementation of the memo. Except for failure to sign or initial some of the documentation, no discrepancies were noted.

11. Portable Survey Instruments and Contamination Control Monitor

The licensee's "Radiation Protection Standards" were recently revised. One of the major revisions incorporated in the new standards was the changing of the units for contamination limits from cpm/100 cm^2 to dpm/100 cm^2. In order to meet the contamination limit criteria of the new standards, the licensee has developed a standard correction factor to convert detector response from cpm to dpm for the pancake type probes being used.

The licensee recently installed foot monitors on the four liquid scintillation portal monitors, located in the Unit 2 trackway, the hallway of the Access Control Building, and the gatehouse to improve the detection of low-level personal contamination. The licensee has posted new use instructions at each portal monitor. In addition to these instructions, the inspectors requested the licensee to consider further actions, discussed at the exit meeting, to ensure proper use of the monitors.

12. Contaminated Materials Control

On October 10, 1982, the licensee identified contaminated concrete material, ranging from 3,000 dpm to 150,000 dpm, in a trench located in the unrestricted onsite scrap material storage area. The material was found during a routine quarterly surveillance survey.

This is the second time contaminated materials have been found in the trench since the licensee initiated a routine quarterly surveillance program in 1980. All contaminated items were removed from the dump and disposed of as radioactive waste. During these surveys, the licensee has used more sensitive portable survey equipment (HP 210 pancake probe) than during previous surveys The licensee's corrective actions to strengthen control over material transferred to the storage area after contaminated material was previously identified included revising Dresden Administrative Procedure 12-5 to require that the keys to the storage area gates be controlled by radiation protection personnel; requiring RCTs to escort and survey all waste material brought into the storage area; and continuation of routine surveys. The licensee believes the material found on October 10, 1982, had been in the trench area of the dump prior to the implementation of these controls.

As a result of the contaminated material found on October 10, 1982, the licensee has taken further corrective action, including closing the onsite scrap material storage area to any further dumping; disposing of all non-radioactive waste into dumpster type containers for offsite disposal; fencing off the trench area of the onsite scrap yard; posting the gate to the scrap yard with a sign indicating that Rad/Chem Department approval is required before entry; and having the Rad/Chem Department control keys to the storage area gates.

Before unconditional release of materials from controlled areas is permitted, all materials are surveyed using instrumentation and techniques capable of detecting 5000 dpm/100 cm^2 total and 1000 dpm/100 cm^2 removable beta/gamma contamination, and 100 dpm/100 cm^2 fixed and 20 dpm/100 cm^2 removable alpha contamination. Material found to have positive values

below these limits are not released for unrestricted use. These measurements are taken in reasonably low background radiation areas of the Station.

During a previous inspection (Reports No. 50-010/82-02; 50-237/82-03; 50-249/82-03) an inspector identified two potential radiological problems.

One concerned the inspector's discovery of a pair of SWP contaminated gloves reading 3,000 to 5,000 counts per minute (cpm) beta-gamma in the walkway between the Access Control Building and the guardhouse. During the current inspection, the licensee confirmed that the contaminated gloves had been present in that area. During the current inspection, the inspectors also identified a pair of rubber gloves containing cotton glove inserts in the hallway outside of the rad/chem foreman's office in the Access Control Building. The inserts read 5,000-16,000 cpm, beta-gamma. In both instances, the contaminated articles were found in uncontrolled areas of the station. This consitutes noncompliance with Technical Specification 6.2.B and the Radiation Protection Standards. This matter was discussed with the licensee at the exit meeting. (50-237/82-30-02; 50-249/82-31-02)

To prevent recurrence of this noncompliance, the licensee has color coded SWP gloves that are for use only in controlled areas; labeled all SWP clothing and non-color coded gloves; issued non-SWP gloves for use in uncontrolled areas; and began issuing all SWP clothing from Unit 1 and 2/3 trackways, which are controlled areas.

The second problem concerned the improper use of portal monitors located inside the guardhouse and use of SWP clothing in areas where radioactive contamination precautions were not in force. Corrective actions concerning improper use of the portal monitors are described in Inspection Reports No. 50-237/82-05; 50-249/82-05; and Reports No. 50-010/82-09; 50-237/82-13; and 50-249/82-14. During plant tours, the inspector noted that considerable improvement has been made concerning improper use and discarding of SWP clothing in other than designated areas.

One item of noncompliance was identified.

13. Spill of Radioactive Liquid

On August 16, 1982, a barrel containing a filtration unit embedded in concrete fell from a truck resulting in a spill of 1-2 gallons of radioactive liquid onto the ground within the licensee's restricted area. The barrel contained a filtration unit used in the cutting operation of poison curtains. No personnel were contaminated as a result of the spill. The barrel was replaced onto the truck and the contaminated area was roped off and surveyed. Direct radiation readings of the ground indicated 120 mR/hr gamma and about 1100 mrad/hr beta. Soil samples taken at several points of the contaminated area indicated 5.6 E-7 microcuries per milliliter of cobalt-60. Direct readings of surface and six-inch deep soil samples indicated 598,000 cpm and 275,000 cpm, respectively, using a sodium iodide well counter. All contaminated soil was excavated and disposed of as low-level radioactive waste.

The licensee indicated the spill occurred because the barrel was placed onto the vehicle without safety restraints and without plugging the filtration unit's hoses. To prevent recurrence of this incident, the licensee developed a Special Procedure (82-8-76) covering proper transfer methods.

14. Surveys

The inspectors selectively reviewed records of direct radiation, surface contamination, and airborne radioactivity surveys performed during 1982. No significant problems were noted with the surveys reviewed.

15. Radiation Protection Procedures

The inspectors reviewed the following radiation protection procedures:

SP 82-8-76	Revision 0	Movement of the Encapsulated Underwater Saw Filters From Unit 2/3 Refueling Floor to 2/3 Radwaste
DRP 1340-2	Revision 6	Whole Body Counter Daily Routine Operations
DRP 1620-2	Revision 0	Review of the Proper Step-Off Pad Procedure and Removal of Protective Clothing
DRP 1620-1	Revision 0	Minimal Protective Clothing
DRP 1240-17	Revision 0	Operation of the IRT Portal Radiation Monitor; Model PRM 1105
DOP 1710	Revision 0	Procedure for obtaining and calculating a gaseous Release Rate from the U-2/3 chimney, U-1 chimney and U-2/3 combined Reactor Building Vent using the Eberline Control Terminal (CT).

Procedure DRP 1340-2 cannot be used to predict MPC-hours based on whole body uptakes. This matter was reviewed at the exit interview.

No significant problems were identified.

16. Surveillance

During tours of the plant, the following problems were identified: (1) Several instances of insufficient clothes hamper capacity at step-off pad areas. At most of these locations where work was being performed, clothes and shoe covers were on the floor. (2) Three instances of used and unreturned half-face respirators located in the reactor buildings. (3) Poor housekeeping in the shoe decontamination area. (4) Several instances of unlabelled laundry carts.

The inspectors expressed their concerns about the adequacy of the licensee's surveillance program at the exit interview.

17. Posting and Control

The inspectors reviewed the licensee's posting and control of radiation areas, high radiation areas, airborne radioactivity areas, and contaminated areas. Postings were adequate.

No significant problems were identified.

18. Review of Nonroutine Events

The inspectors reviewed the licensee's actions concerning the radiological aspects of the following licensee event reports. No items of noncompliance or deviations were identified.

LER 50-237/82-04	Contents of radwaste tank exceeding individual curie limit allowed by technical specifications
LER 50-237/82-14	Radwaste process line leak
LER 50-249/82-40	Refuel floor area radiation monitor trip point set above technical specification limit

None of the above events had significant radiological consequences.

19. Notifications and Reports

Reports to employees and the NRC appear to have conformed to the requirements of 10 CFR 19, 10 CFR 20, and the technical specifications.

In accordance with 10 CFR 20.205 requirements, the licensee properly notified the NRC of receipt of a Vandenburg cask from Barnwell, South Carolina which was contaminated in excess of transportation limits. The cask was decontaminated to within acceptable limits and reused. The cause of the loose contamination appeared to be leaching from the base plate of the cask.

No items of noncompliance were identified.

20. TMI Action Plan Items II.B.2.2, II.B.3.2, II F.1.1.B.2, II.F.1.2.B.2, and II.F.1.3.B.2

a. Plant Shielding (II.B.2.2)

The inspectors examined the recommendations contained in the licensee's shielding design review, dated January 2, 1980, which was performed by Sargent and Lundy Engineers. The inspectors also reviewed CECo (SNED) recommendations for incorporating the shielding design review findings into the Dresden Nuclear Power Station post-accident access requirements. The CECo recommendations had been forwarded to the Dresden Nuclear Power Station by memorandum dated June 29, 1982, from J. L. Woldridge to D. Scott. The following changes were made in accordance with these recommendations.

The reactor building floor drain and equipment drain sumps were modified to prevent automatic pumping of these systems to the radwaste storage and process area during an accident that initiates a Group II isolation signal. Testing of the completed modification was conducted by the licensee under Tests M 12-2-80-20 and M 12-3-80-20 which were completed on February 4 and August 19, 1982, respectively. The inspectors reviewed the test records which showed that the modifications (including logic interlock and installation of valve reset buttons in the control room) were completed and satisfactorily tested. The inspectors verified by observation that the control room panel and piping modifications were completed in Unit 2. The inspectors also reviewed Procedure DOA 902(3)-4 A-17 and B-17, Revision 1, "Post-Accident Sump Pumping Operations." No problems were identified.

The inspectors reviewed the Dresden Sampling Building Procedure (DSPB) 2000-1 series and traced the planned path from the Access Control Building to the High Range Sampling System (HRSS) and back to the counting facility in the Access Control Building. During this review, it was noted that the licensee could implement the appropriate procedures to obtain and analyze post-accident reactor coolant samples without radiation exposures to any individual exceeding GDC-19 (5 rems whole body, 75 rems extremity). However, no evaluation had been made to determine personnel exposures during access and egress to and from the HRSS caused by direct radiation fields from radioactivity in liquid-containing systems located in the reactor buildings. This matter was discussed at the exit interview and will be reviewed further during a future inspection. This Task Action Item remains open pending the licensee's completion of the access-egress exposure evaluation.

b. Post Accident Sampling (II.B.3.2)

The licensee has installed High Range Sample Systems (HRSS), supplied by Sentry System, in Units 2 and 3. The HRSS for each unit is located in a separate shielded building adjacent to its respective reactor building. Each HRSS is capable of obtaining reactor coolant and containment atmosphere samples with sufficient dilution to permit analysis. The system has been tested and is considered operational.

Procedures DSRP-2000-1 Series, which address the operation of the sampling and analysis equipment in the HRSS were reviewed and found to be complete with the exception of some minor discrepancies the licensee is in the process of correcting. Training has been given to all RCTs and chemists. The course outline, lecture notes, student evaluation, and tests given for this training were reviewed by the inspectors and no problems were noted. At the request of the inspectors, an RCT and a chemist acceptably demonstrated their ability to collect a reactor coolant sample using the applicable procedures. On the basis of the demonstration, it appeared to the inspectors that persons who do not frequently use this equipment and who are required to obtain the samples using the applicable

procedures, would have difficulty without supervision by someone familiar with the system. This matter was discussed with the licensee who stated that a member of the chemistry group would be available for use of the system during accident conditions.

It was also noted that although the HRSS building is equipped with a charcoal/HEPA filter ventilation exhaust system, the ventilation intake is not filtered. The licensee agreed to revise their procedures to specify sampling of the HRSS atmosphere before sample collection to ensure that personnel are not exposed to excessive airborne concentrations of radioactive material during sample collection and analyses.

No deviations from the criteria specified in NUREG-0737 for this item were noted.

c. Noble Gas Effluent Monitor (II.F.1.1.B.2)

The licensee has installed two SPING-4 extended range noble gas effluent monitors to meet the criteria in NUREG-0737. The monitors are installed on the Unit 2/3 Main Chimney and the Unit 2/3 Reactor Building Vent Stack. The monitors have three noble gas monitoring channels (low, medium, and high) and are designed to measure 1E-7 µCi/cc to 1E5 µCi/cc. The high range channels had been calibrated by the manufacturer prior to shipment. In addition, all three monitors were calibrated by a licensee vendor after they were installed at the station. The isotopes selected to cover the calibration range of interest were krypton-85, xenon-127, and xenon-133. The calibrations of the detectors appear acceptable.

Calibration and use procedures have been developed. All persons required to perform quarterly calibrations and to use the SPING-4's have been trained. At the request of the inspectors, several persons acceptably demonstrated their knowledge of retrieving computer information and converting the data into stack release rates, based on Dresden Operating Procedures 1700-10 and 1700-11.

In a letter to the Division of Licensing, dated April 15, 1982, the licensee provided a revised completion schedule for this Task Action Item because of difficulties in meeting the requirements of Clarification Item 4.(b). Since then, the licensee has revised the schedule several times. The current scheduled completion date is July 1, 1983. These extensions have been requested because vendor information necessary to modify station procedures has been delayed.

This Task Action Item remains open and will be reviewed after completion of Clarification Item 4.(b) requirements.

d. Sampling and Analysis of Plant Effluents (II.F.1.2.B.2)

The licensee has installed two SPING-4 particulate and iodine effluent monitors to meet the criteria of NUREG-0737. The units are installed on the Unit 2/3 Main Chimney and the Unit 2/3 Reactor Building Vent Stack.

In a letter to the Division of Licensing, dated October 14, 1982, the licensee provided a revised completion date of July 1, 1983, for this Task Item. This extension was requested because the five rems exposure limit to personnel, during an accident, could not be achieved using the SPING-4. In order to meet the criteria, the licensee will install a Victoreen accident range particulate and iodine shielded sampling system.

This Task Item remains open and will be reviewed subsequent to the installation of the Victoreen sampling system.

e. Containment High Range Monitor (II.F.1.3.B.2)

The licensee has installed two General Atomics high range containment radiation monitors in Units 2 and 3 drywell penetrations. The detectors are gamma ionization chambers sealed in stainless steel housings. Each detector has two channels which provide a range of 1 R/hr to 1E8 R/hr.

In situ calibration of the monitors was accomplished on August 2-5, 1982, using a Shephard Beam Calibrator. The monitors were calibrated at ranges of 6.5 R/hr, 54 R/hr, 239 R/hr and 2500 R/hr. The monitors have a linear energy response (±20%) for photons of 0.1 MEV to 3 MEV.

A review of the physical locations, calibrations data, and specifications of the monitors indicates the licensee appears to meet the intent of Task Item II.F.1.3.B.2.

21. Exit Interview

The inspectors met with licensee representatives (denoted in Section 1) at the conclusion of the inspection on January 7, 1983. The inspectors summarized the scope and findings of the inspection. In response to certain items discussed by the inspectors, the licensee:

a. Stated that more management attention will be given to Radiation Occurrence Reports. (Section 8)

b. Acknowledged the item of noncompliance. (Section 12)

c. Stated that reduction of a refueling foreman's annual radiation exposure will be pursued in 1983. (Section 9)

d. Stated that a directive presenting the method for relating whole body counting data to MPC-hours and for calculating lung burdens for isotopes such as cobalt-60 in nontransportable or insoluble forms would be issued to the Rad/Chem Department health physicists. (Sections 9 and 15)

e. Stated that ways to identify and correct radiological housekeeping problems by radiation protection personnel during routine surveillance will continue to be investigated. (Section 16)

f. Stated that instructions concerning the proper use of portal monitors would be given to workers by CECo and contractor foremen. (Section 11)

g. Stated that a review of the annual requalification training tape would be performed to determine if modifications are needed. (Section 7)

h. Stated that evaluation of personnel radiation exposures during ingress and egress of the HRSS would be conducted. (Section 20)