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U-602839
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September 24, 1997

Docket No. 50-461

Document Control Desk
Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Reply to Notices of Violation Contained in
Inspection Report 50-461/97017 (DRS)

Dear Madam or Sir:

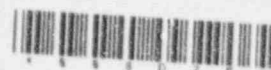
The purpose of this letter is to provide the Illinois Power (IP) response to the two Notices of Violation documented in NRC inspection report 50-461/97017 (DRS). IP admits that the violations occurred.

The first Notice of Violation identifies the failure to perform surveys to assure compliance with 10CFR20.1201(a). The response to this Notice of Violation is contained in Attachment A of this letter. The second Notice of Violation identifies three examples of failure to implement procedural requirements. These requirements were contained in procedures recommended by Regulatory Guide (RG) 1.33, "Quality Assurance Program Requirements (Operation)," Appendix A, "Typical Procedures for Pressurized Water Reactors and Boiling Water Reactors." Attachment B to this letter contains the response to the failure to perform a "Gamma 10 Portal Calibration Test." Attachment C contains the response to the failure to perform a "Personnel Contamination Monitor (PCM 1B) Functional Calibration Test." Attachment D to this letter contains the response to the failure to perform the annual comparison of gaseous effluent grab samples to continuous air monitors.

This response to the above Notices of Violation contains the following commitments:

- IP will perform a comprehensive review of preventive maintenance tasks to ensure that the overrun in the Power Plant Maintenance and Planning System (PPMPS) is correct.

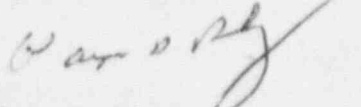
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- The Offsite Dose Calculation Manual (ODCM) will be revised by December 15, 1997 to include annual comparison of grab sample data to the gaseous effluent monitors. Additionally, a surveillance procedure will be developed to implement this new ODCM requirement by December 15, 1997.

IP believes that the actions described in the attached responses address the concerns identified in these Notices of Violation.

Sincerely yours,



Wayne D. Romberg
Assistant Vice President

JRF/krk

Attachments

cc: NRC Clinton Project Manager
Branch Chief, Region III, USNRC
NRC Resident Office, V-690
Regional Administrator, Region III, USNRC
Illinois Department of Nuclear Safety

Response to Notice of Violation 50-461/97017-1

The violation states in part:

- "1. 10 CFR 20.1501 requires that each licensee make or cause to be made surveys that may be necessary for the licensee to comply with the regulations in Part 20 and that are reasonable under the circumstances to evaluate the extent of radiation levels, concentrations or quantities of radioactive materials, and the potential radiological hazards that could be present.

Pursuant to 10 CFR 20.1003, *survey* means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation.

Contrary to the above, on June 18, 1997, the licensee did not make surveys to assure compliance with 10 CFR 20.1201(a), which limits radiation exposure to the skin. Specifically, the licensee did not adequately identify or quantify licensed radioactive material on the arm of an individual who alarmed a personnel contamination monitor and was released from the restricted area."

Background and Reason for the Violation

On June 18, 1997, at approximately 1030 hours, an individual became contaminated with radioactive material on the right thigh area of his shorts and the inside right forearm. The contamination on the forearm was near the elbow. This event occurred as the individual was moving air hoses inside the Radiological Control Area (RCA) from a non-contaminated area to a contaminated area. The individual handed the hoses to a co-worker already inside the contamination area and then donned protective clothing and entered the area to help lay out and tape down the hoses. After completing this task, the individual processed through a whole body personnel radioactive contamination monitor (PCM-1B) and received contamination alarms on the right thigh area of his shorts and right palm. The worker contacted the Radiation Protection office and a Radiation Protection Technician (RPT) was dispatched to assess the contamination alarm.

The RPT surveyed the right thigh and right hand of the individual with a hand held frisker. No detectable radioactive contamination was found. The RPT then attempted to remove any minimal contamination from the individual's shorts using a tape press and directed the individual to go wash his hands while he responded to other workers who were alarming the PCM-1Bs in the area. The worker was inexperienced and mistakenly understood this direction to mean to exit the RCA and wash his hands in the maintenance shop men's bathroom. The RPT who directed the individual to wash his hands subsequently discovered that the individual had left the RCA and a search was initiated. The worker was located after a short period of time and was escorted back inside the RCA. Travel path surveys of the areas he had traversed while outside the RCA detected no radioactive contamination. Condition Report 1-97-06-211 was initiated to investigate and track this issue.

The individual was again directed to process through the PCM-1B. The PCM-1B alarmed indicating contamination on the right thigh area and right palm. The RPT directed the individual to remove his shorts and don a pair of surgical scrub pants. This action resulted in no further PCM-1B thigh area alarms although alarms were still received on the right palm detector. Several attempts were made to remove the contamination from the worker's right hand even though no contamination was detected in this area using a hand held frisker. The RPT then summoned the Radiation Protection Shift Supervisor (RPSS) for help in assessing the situation.

The RPSS evaluated the situation and was also unable to detect any radioactive contamination using a hand held frisker. Additional attempts were made to remove any radioactive contamination that could not be detected with a frisker from the person's hand; however, the PCM-1B right palm zone alarms continued. It was assumed that the radioactive contamination level was too low to be detected by hand frisking, but enough to be detected by the more sensitive PCM-1B. At this point the RPSS contacted the acting Supervisor-Radiological Operations (SRO) and the decision was made to release the individual from the RCA even though he was still alarming the PCM-1B on the right palm. The Radiation Protection Manager (RPM) was informed of this decision and concurred that the individual should be allowed to exit the RCA. The individual's dosimetry was obtained by the RPSS and he was directed to report to Radiation Protection personnel the next day for follow up surveys and evaluation.

The contaminated individual was released from the RCA in accordance with Clinton Power Station (CPS) procedure 7200.03, "Personnel Contamination." CPS procedure 7200.03 required that if after decontamination efforts, radioactive contamination is still detectable, the SRO shall determine release requirements for levels up to 1000 corrected counts per minute (ccpm). The release requirements for radioactive contamination levels greater than 1000 ccpm were to be made by the RPM.

On June 19, 1997, at approximately 1915 hours, the affected individual reported to Radiation Protection as directed. He was instructed to process through a PCM-1B which alarmed on the right palm on the first count evolution. He was then asked to process through a PCM-2, a new type of whole body radioactive contamination monitor recently purchased by CPS in which alarming areas are more precisely displayed. The individual alarmed on the right hand and forearm in the PCM-2. A contamination survey with a hand held frisker detected 800 ccpm of radioactive contamination on the right inside forearm near the elbow. The radioactive contamination was removed using a tape press and the individual then successfully passed through the PCM-2. The radioactive contamination captured on the tape press was kept for analysis and the individual was allowed to return to work inside the RCA.

This event was a violation of 10CFR20.1501. Surveys were not made to ensure compliance with the requirements of 10 CFR 20.1201(a).

The cause for this violation was lack of knowledge and false assumptions that resulted in numerous attempts to remove radioactive contamination in a location where none existed. Although rigor was demonstrated in using multiple PCM-1Bs, performing multiple hand frisks, and performing multiple decontamination efforts, a lack of understanding for the detection capability of the PCM-1B and false assumptions made during the assessment process resulted in the failure to detect the radioactive contamination. The RPT was not aware of the PCM-1B palm detector geometry. He did not know that the palm detector was seven inches wide and seventeen inches long and can detect radioactive contamination on the inside of the forearm as well as in the palm area. The RPT thought the palm detector was smaller and only monitored the palm area. The RPSS was aware of the palm detector size, but his previous experience with palm alarms on the PCM-1Bs resulted from radioactive contamination on the hand. Therefore, the RPSS assumed that the radioactive contamination must have been on the hand and only surveyed the hand and a portion of the individual's wrist.

A contributing cause for this event was a lack of a questioning attitude that resulted in the failure to resolve the numerous PCM-1B alarms when no radioactive contamination was found. This resulted in the non-conservative decision to release the individual from the RCA after persistent PCM-1B alarms. Also, numerous PCM-1B alarms had been received yet the acting SRO and the RPM allowed the individual to exit the RCA and leave the site. The acting SRO and RPM placed an over reliance on the skill and judgment of the RPSS and as a result, a proper review of the incident was not performed.

Additionally, comprehensive follow-up actions to identify any potential spread of radioactive contamination was not performed in a timely manner. The worker's hotel room and vehicle were surveyed in the following two days, but the hotel room survey was performed after the hotel staff had cleaned the room and linens. The individual's clothing, permanent residence, and a laundry facility used by the affected individual were not surveyed until the NRC had expressed concern regarding the follow up actions that had been performed.

Corrective Steps Taken and Results Achieved

Follow-up surveys were performed to ensure that radioactive contamination had not spread to areas outside the RCA as a result of this incident. The individual's work area outside the RCA, vehicle, motel room, permanent residence, T-shirt worn the day of the event, and a laundry facility used by the individual were surveyed. No radioactive contamination was detected.

A skin dose evaluation for the affected individual was performed in accordance with CPS procedure 7003.02, "Skin Dose Calculation." The results of this evaluation resulted in a skin dose assignment of 256 mrad averaged over an 11.4 centimeter squared area to the individual's arm. This dose is significantly below regulatory limits.

The RP Operations Group performed a stand down briefing to ensure that RP personnel were aware of this event. This briefing consisted of a review of the incident, the apparent cause and contributing factors, and changes being planned to prevent a future incident of this type.

Corrective Steps to Avoid Further Violation

CPS Procedure 7200.03, "Personnel Contamination," was revised to include the limitations of PCM alarm displays in that the detector positions in relationship to each individual's body size may provide misleading information. The procedure also requires that when investigating PCM alarms, adjacent areas in addition to the affected areas identified in the PCM display are to be surveyed. Finally, if after decontamination efforts, radioactive contamination is still detectable, the procedure requires the RPM to generate a release plan with appropriate controls and follow up actions.

A comprehensive review of procedurally allowed decision making authority under abnormal conditions was performed. This review was to ensure that procedures adequately capture expectations for conservative decision making under abnormal conditions.

RPTs and RPSSs attended a training seminar to ensure understanding of PCM operations including detector coverage limitations, relationship between PCM and portable monitoring instrument sensitivity, and the lessons learned from this event.

The 'Monitor and Decontaminate Personnel' on the job training and evaluation measure was revised to discuss PCM detector geometry differences due to individual body structures and the need to survey adjacent areas when performing manual frisking following a PCM alarm.

A training seminar for RPSSs was given to emphasize thoroughness of initial problem assessments and appropriate follow-up. This seminar included responsibilities of the RPSS, problem assessment, prioritization, follow-up, and data collection techniques.

Date When Full Compliance Will Be Achieved

Clinton Power Station is currently in full compliance with 10CFR20.1501(a).

Response to Notice of Violation 50-461/97017-03b

The Notice of Violation states in part:

- "2. Technical Specification 5.4.1 requires, in part, that written procedures be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide (RG) 1.33, Appendix A, Revision 2 (February 1978).

RG 1.33, Appendix A recommends that radiation protection procedures be implemented which address personnel monitoring and that chemistry procedures be developed which address sample collection and analysis, and instrument performance.

- a. Step 2.1.1 of procedure no. CPS 8801.60 (revision (rev. 23) "Gamma 10, Portal Calibration Test," which provides the instructions for the calibration of personnel contamination monitors, states that the monitors be calibrated at least once every 12 months.

Contrary to the above, the NRC inspection identified that:

- a. On July 16, 1997, a gamma 10 portal monitor (serial number 85496E) had not been calibrated since February 26, 1996."

Background and Reason for the Violation

On July 16, 1997, NRC inspectors discovered that a portal monitor, Gamma-10 serial number 85496E, had not been calibrated within its required 12 month frequency but was still in service. The calibration had last been performed on February 26, 1996. During the time the monitor was past its calibration due date, weekly response checks in accordance with CPS procedure 7410.32, "Operation of Gamma-10 Portal Monitor," continued to be performed. These response checks are in place to ensure proper continued operation of in-service monitors. A prerequisite in this procedure requires that the monitor has been calibrated within the last 12 months. Failure to perform this verification is a violation of a procedure required by Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operations)," Appendix A, "Typical Procedures for Pressurized Water Reactors and Boiling Water Reactors."

The cause for this event was human error. Specifically, committed actions in a procedure were not performed.

Corrective Actions Taken and Results Achieved

The Gamma-10 was taken out of service, calibrated and placed back in service. A review of other inservice PCMs and Gamma-10s was performed to ensure that they were in calibration. No other unidentified out of calibration monitors were found in service.

Corrective Steps to Avoid Further Violation

CPS procedure 7410.32, "Operation of Gamma-10 Portal Monitor," was revised to include technician initials on the Gamma-10 Daily Source Response Check Data Sheet to verify the monitor has a current calibration and to ensure that the monitor's calibration due date will not expire prior to the next response check.

CPS procedure 7410.33, "Operation of the PCM-1B and PCM-2," was revised to include technician initials on the Source Response Checklist to verify the monitor has a current calibration and to ensure that the monitor's calibration will not expire prior to the next response check.

The Calibration procedures for PCMs and Gamma-10s were revised to require that a calibration sticker be placed on the monitor after a successful calibration. The calibration sticker provides local indication of a monitor's calibration due date. The calibration stickers are to be used when performing response checks to verify the monitor has not gone past its calibration date.

Control and Instrumentation (C&I) Group Leaders and technicians qualified to work on PCM and Gamma-10 monitors were briefed on the prerequisites for CPS procedures 7410.33 and 7410.32. This briefing included verifying that the PCM and Gamma-10 monitors have a current calibration and the changes to CPS procedures 7410.32 and 7410.33.

Date When Full Compliance Will Be Achieved

CPS is currently in full compliance with procedures required by Regulatory Guide 1.33, Appendix A, related to Gamma-10 operation.

Response to Notice of Violation 50-461/97017-03a

The Notice of Violation states in part:

- "2. Technical Specification 5.4.1 requires, in part, that written procedures be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide (RG) 1.33, Appendix A, Revision 2 (February 1978).

RG 1.33, Appendix A recommends that radiation protection procedures be implemented which address personnel monitoring and that chemistry procedures be developed which address sample collection and analysis, and instrument performance.

- b. Step 2.1.1 of procedure no. CPS 8801.62 (rev. 37), "Personnel Contamination Monitor (PCM1B) Functional Calibration Test," which provides the instructions for the calibration of personnel contamination monitors, states that the monitors be calibrated at least once every 12 months.

Contrary to the above, the NRC inspection identified that:

- b. On July 16, 1997, a personnel contamination monitor 1B (serial number 1203) had not been calibrated since January 3, 1996."

Background and Reason for the Violation

On July 16, 1997, NRC inspectors discovered that a Personnel Contamination Monitor, PCM-1B serial number 1203, had not been calibrated since January 3, 1996. Clinton Power Station (CPS) procedure 8801.62, "Personnel Contamination Monitor (PCM 1B) Functional/Calibration Test," requires a PCM-1B to be calibrated at least once every 12 months. PCM-1B serial number 1203's calibration due date is tracked by Preventive Maintenance (PM) task PCIPRM203 in the Power Plant Maintenance and Planning System (PPMPS). PPMPS is a computer data base used at CPS for tracking and scheduling maintenance tasks. PPMPS tracks the due date and a late date of a PM according to its frequency. The due date is determined by adding the prescribed frequency to the date the task was last performed. The late date is calculated by adding an additional 25 percent of the task's frequency to the due date. This would have made the due date for calibrating the affected PCM-1B January 3, 1997, with a late date of April 3, 1997.

Prior to exceeding the late date for calibration of the affected PCM, a deferral request was submitted to engineering in accordance with CPS procedure 1029.01, "Preparation and Routing of Maintenance Work Documents," to extend PM PCIPRM203's due date for 6 months because of manpower restraints. This deferral was approved by the system engineer on March 26, 1997, and inputted into PPMPS on April 2, 1997. PPMPS calculated the new due date for the PCM-1B to be June 2, 1997, with a late date of September 2, 1997.

During the investigation into this event the system engineer discovered that the American National Standards N323-1978, "Radiation Protection Instrumentation Test and Calibration," requires that portable radiation protection instruments be calibrated annually. Not performing the calibration of PCM-1B serial number 1203 within 12 months is a violation of a procedure required by Regulatory Guide 1.33 Appendix A.

Also discovered during this investigation was that PM deferrals are automatically given a 25 percent overrun in PPMPS. The engineers approving PM deferrals assume that the deferral date would be considered the late date when inputted into PPMPS. Maintenance Planning, the group responsible for the PM program, was not aware that deferrals should not have a 25 percent overrun.

The cause for this event was a failure to identify that PCM calibrations are required annually with no overrun when the Preventive Maintenance task was created in PPMPS. Based on this event and other occurrences involving the preventive maintenance program, a thorough evaluation of the PM program is currently in progress. Corrective actions applicable to the balance of the program will be determined based on the results of that evaluation.

Corrective Actions Taken and Results Achieved

The PCM-1B was taken out of service, calibrated, and returned to service. A review of other inservice PCMs and Gamma-10s was performed to ensure that they were in calibration. No other out of calibration monitors were found in service.

Corrective Steps to Avoid Further Violation

All PCM and Gamma-10 PMs were revised to allow for no overrun (the due date and the late date are the same).

The PPMPS scheduling program has been changed to allow for no overrun on future PM deferrals.

IP will perform a comprehensive review of preventive maintenance tasks to ensure that the overrun in PPMPS is correct.

Date When Full Compliance Will Be Achieved

CPS is currently in full compliance with procedures required by Regulatory Guide 1.33, Appendix A, related to PCM-1B operation.

Response to Notice of Violation 50-461/97017-03c

The Notice of Violation states in part:

- "2. Technical Specification 5.4.1 requires, in part, that written procedures be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide (RG) 1.33, Appendix A, Revision 2 (February 1978).

RG 1.33, Appendix A recommends that radiation protection procedures be implemented which address personnel monitoring and that chemistry procedures be developed which address sample collection and analysis, and instrument performance.

- c. Step 8.4.3 of procedure no. CPS 1024.35, "Control of Radioactive Effluents" and step 8.13 of procedure no. CPS 7410.75, "Operation of AR/PR Monitors" states that at least annually, data from grab samples shall be checked against data obtained from continuous radiation monitors to verify accuracy of the monitor and need for special calibration.

Contrary to the above, the NRC inspection identified that:

- c. Since 1988, the licensee had not at least annually been checking data from grab samples against data obtained from continuous radiation monitors to verify the accuracy of the monitor and the need for special calibration "

Background and Reason for the Violation

On July 17, 1997, NRC inspectors identified that step 8.4.3 of CPS administrative procedure 1024.35, "Control of Radioactive Effluents," was not being performed. Step 8.4.3 states that at least annually, data from grab samples shall be checked against data obtained from continuous radiation monitors to verify accuracy of the monitor and the need for special calibration. This requirement is implemented via CPS procedure 7410.75, "Operation of AR/PR Monitors." Investigation into this event identified that completion of this requirement is not in an auditable form and probably was never performed. This is a violation of a procedure required by Regulatory Guide 1.33, Appendix A.

The cause for this violation was a failure to include an annual requirement outlined in an administrative procedure in an appropriate scheduling program.

Corrective Actions Taken and Results Achieved

Illinois Power performed the comparison of gaseous effluent continuous air monitors with grab samples in accordance with step 8.4.3 of CPS procedure 7410.75 on July 18, 1997. Gaseous effluent activity levels were too low to provide statistically valid comparisons between the monitors and grab samples. Therefore, special calibration of the continuous air monitors was not warranted. Process Radiation Monitor accuracy is not in question since they are calibrated on a routine basis with National Institute of Standards and Testing (NIST) traceable sources.

Chemistry administrative procedures were sampled and CPS administrative procedure 1024.35 was reviewed in its entirety to ensure other recurring requirements were included in an appropriate scheduling program. No discrepancies were found as all recurring requirements were appropriately scheduled and tracked either through surveillance procedures, Preventive Maintenance schedules, or laboratory checklists.

Corrective Steps to Avoid Further Violation

The Offsite Dose Calculation Manual (ODCM) will be revised by December 15, 1997 to include annual comparison of grab sample data to the gaseous effluent monitors. Additionally, a surveillance procedure will be developed to implement this new ODCM requirement by December 15, 1997. These actions will ensure annual tracking and completion of this requirement.

Date When Full Compliance Will Be Achieved

CPS is currently in full compliance with procedures required by Regulatory Guide 1.33, Appendix A on this issue.