

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-255/91011(DRSS)

Docket No. 50-255

License No. DPR-20

Licensee: Consumers Power Company
27780 Blue Star Memorial Highway
Covert, MI 49043

Facility Name: Palisades Nuclear Generating Plant

Inspection At: Palisades Site, Covert, Michigan

Inspection Conducted: June 25-27, 1991

Inspector: *R. J. Caniano Sr.*
A. W. Markley, Radiation Specialist

7-19-91
Date

Approved By: *Roy J. Caniano*
Roy J. Caniano, Chief,
Radiological Controls and
Emergency Preparedness Section

7-19-91
Date

Inspection Summary

Inspection on June 25-27, 1991 (Report No. 50-255/91011(DRSS))

Areas Inspected: Special, unannounced inspection to review allegations concerning inadequate implementation of the radiation protection and training programs. The allegations related to the utilization of unqualified contract radiation protection technicians, failure to perform surveys during the reactor head set evolution, and a deliberate hot particle exposure.

Results: One violation was identified pertaining to a contract health physics technician performing duties prior to completing qualification requirements. The concern regarding the deliberate hot particle exposure with no documentation and a lack of management response was partially substantiated in that a deliberate hot particle exposure did occur and the event was not documented. The concern regarding the failure to perform and document surveys to identify an 8 R/hour hot spot during the reactor head set evolution was not substantiated. However, a concern was identified regarding the timeliness of review and dissemination of radiological information associated with the reactor head set evolution (Section 2).

DETAILS

1. Persons Contacted

- * A. Clark, General Health Physicist
- * P. Donnelly, Director, Plant Safety and Licensing
- J. Fontaine, Senior Health Physicist
- * K. Haas, Radiological Services Manager
- * R. Henry, Radiation Protection Supervisor
- R. Hill, Radiological Services Technician
- **L. Kenaga, Health Physics Superintendent
- G. List, Refueling Engineering Supervisor
- * D. Malone, ALARA Supervisor
- * M. Mennucci, Senior Health Physicist
- * T. Neal, Radioactive Materials Administrator
- * T. Palmisano, Administrative and Planning Manager
- * J. Petro, Quality Assurance
- * P. Rigozzi, Training Supervisor
- * D. Rogers, Training Administrator
- * G. Slade, Plant General Manager

- * R. Roton, Resident Inspector
- * E. Schweibinz, Senior Project Engineer

The inspectors also interviewed other licensee and contractor personnel during the course of the inspection.

* Denotes those present at the exit meeting on June 27, 1991.

** Contacted by telephone on July 2, 1991.

2. Allegation Follow-up (IP 99024)

Discussed below are several specific allegations relating to the inadequate implementation of the radiation protection and training programs which were evaluated during this inspection. The evaluation consisted of record and procedure reviews and interviews with licensee personnel.

(Closed) Allegation (AMS No. RIII-91-A-0036)

Concern: Contracted health physics technicians performed duties and functions prior to having completed their qualification requirements.

Discussion: The inspectors reviewed the Palisades Steam Generator Replacement Project Radiological Plan and licensee procedures to determine the nature of the contract health physics technician (HPT) training and qualification requirements. The entrance examination was determined to be administrative in nature and was used for initial screening and knowledge level evaluation. The Palisades Steam Generator Replacement Project (SGRP) Radiological Plan Section III.D.2 states that Qualification training will consist of three phases: Formal classroom procedure training, on-the-job training (OJT) and informal continuing training throughout the project. Section III.D.2.a. requires that

senior HPTs must pass the procedure qualification exam with a score of at least 80 percent and junior HPTs must score at least 70 percent. Section III.D.2.a also allows waivers for the procedure exam to be granted for contract HPTs who have been incumbent within the last twelve months. Waived technicians must receive training on procedure changes which may have occurred during the past twelve months and may impact radiation protection (RP) functions. Procedure HP 1.1, Sections 3.6 and 4.2, and Attachment 14, Item F require that radiation safety technicians shall successfully complete required classroom training prior to performing On-the-Job tasks and complete procedure training before being permitted to work independently.

The inspectors reviewed the training records and examinations to identify contract radiation protection (RP) personnel who had failed entrance and procedure qualification exams. As a result of problems associated with examination grading and discussed in Inspection Report 50-255/90028(DRSS) and Enforcement Conference Report 50-255/90035(DRSS), a new answer key was developed and the procedure qualification examinations were regraded. This resulted in thirteen procedure qualification examination failures. These individuals had initially passed the procedure qualification exam that was given during the normal training sequence. Each individual had passed the on-the-job training portion of their qualification. However, the passing of the procedure qualification examination was a prerequisite to independent performance of duties and functions. The licensee identified all thirteen individuals as being restricted from performance of duties and functions until the procedure qualification examination could be passed. The two individuals who were named in the allegation had been incumbent as HPTs within the last twelve months and were waived from retaking the procedure examination. The waiving of the two individuals appears to have been performed in accordance with the licensee's procedures.

The inspectors evaluated the number of times each individual was given the opportunity to take entrance and procedural qualification exams. With respect to the procedure qualification exam, the inspectors found no evidence to indicate that any individual had taken this exam more than two times. In all cases evaluated, each individual passed the second procedure qualification exam. One individual was identified as unable to pass the entrance exam. This individual had been incumbent as an HPT within the last twelve months. This individual's performance was evaluated by licensee management, determined to be acceptable and was waived from the entrance examination. The performance of all individuals who had failed either the entrance or procedure qualification examinations was evaluated by licensee management. These reviews were completed on November 5, 1990 with no problems noted.

The inspectors reviewed radiation and contamination surveys, radiation occurrence reports, and radiation work permits for indications of independent performance of duties and functions. These records were compared to the list of individuals whose duties were restricted until the procedure qualification examination was passed. The inspectors identified three sets of radiological surveys, air sampling and

evaluations that were performed by an individual who was on the restricted duty list. This individual had not been previously identified in the allegation. The restricted time frame for this individual was from October 11-18, 1990. The surveys were performed on October 11, 1990 for the removal of the end bells of the spent fuel heat exchanger (Radiation Work Permit (RWP) No. 90-1039), October 13, 1990 for cleaning and rebuilding of the control rod drive mechanisms (RWP No. 90-1020), and October 16, 1990 for overhaul and decontamination of the control rod drive mechanisms (RWP No. 90-1020). No evidence was found or identified by the licensee that indicated that this individual had received direct supervision in the performance of the aforementioned tasks.

Finding: This allegation was partially substantiated. No evidence was found to indicate that individuals were given multiple opportunities to pass the procedure qualification examination. Each technician who was identified as having failed the procedure qualification exam either passed the exam on their second attempt or were waived in accordance with the licensee's procedures. One individual was identified as unable to pass the entrance examination. However, since this examination was administrative in nature and was not a part of the qualification program, there is no regulatory basis or requirement for utilizing or passing this exam.

One individual was identified who performed duties and functions as an HPT during the period in which his qualification had been suspended because of procedure qualification exam failure. The performance of duties and functions by contract HPTs prior to completion of qualification requirements is a violation (Violation No. 255/91011-01). The corrective actions that were specified in Enforcement Conference Report 50-255/90035(DRSS) appear adequate to prevent recurrence of this type of event.

(Open) Allegation (AMS No. RIII-91-A-0041, Item 1)

Concern: Deliberate hot particle exposure occurred with no documentation and a lack of management response.

Discussion: The planned scope of this inspection involving this concern was limited to determining whether the licensee's corrective action program required identification, determination of root cause and implementation of corrective actions to preclude recurrence of a potential license violation. Administrative Procedure 3.03, Corrective Action, Section 5.1 and 5.1.b require that an Event Report shall be issued for conditions that may be reportable to the NRC or other regulatory agencies, including potential violations of license requirements. The procedural requirements were then cross checked with radiation incident reports, radiological deficiency reports, deviation reports and event reports from September 1990 to date to determine whether the licensee had documented the deliberate hot particle exposure. As of the end of the inspection, the licensee had not documented this incident in a corrective action document.

During the course of this inspection, the licensee provided an unrequested written summary regarding the alleged deliberate hot particle exposure. This information acknowledged that on November 15, 1990, a contract senior HPT had deliberately taped a hot particle (180,000 dpm) that was contained within a plastic planchet which was within a plastic bag onto the back of a contract health physics operations supervisor. The licensee indicated that dose assessments were performed. The licensee's assessment determined since the particle was low in activity, was sealed in a planchet and plastic bag and was on the outside of the individuals's clothing there was no radiological consequences surrounding the event and exposure to the individual was below any regulatory limit. The licensee's summary also indicated that the licensee had desired to terminate the contract senior HPT's employment for poor performance. However, the individual was officially released from employment to reduce staff.

Finding: This concern was partially substantiated in that a deliberate placement of radioactive material on the back of an individual occurred. It does not appear, however, that this event resulted in an exposure to the individual in excess of any regulatory limit. Since the placement of the hot particle on a person is not an authorized licensed activity, it appears that the licensee was under an obligation to document this incident in a corrective action document yet failed to do so. Additional inspection efforts will be forthcoming to further review this issue and also to review the adequacy of management's response to the event. This allegation therefore will remain open (AMS No. RIII-91-A-0041)

(Closed) Allegation (AMS No. RIII-91-A-0041, Item 2)

Concern: Failure to perform and document surveys to identify an 8 R/hour hot spot in the reactor flange area during the reactor head set evolution in January 1991.

Discussion: The inspectors reviewed radiological surveys associated with the reactor head set, cavity decontamination and cavity seal removal evolutions. In addition, radiation protection logs were reviewed and interviews were conducted with licensee personnel involved with these activities. Copies of surveys were obtained from the Document Control Facility. The licensee provided the following chronology of events. At 10:30 AM on January 30, 1991, the reactor head was set on the flange and the guide pins were removed. At 11:00 AM on January 30, 1991, a cavity after-head-placement/pre-decon survey was documented that identified 8 R/hr and 1 R/hr hot spots in the flange/seal area of the reactor cavity. General equipment movement and placement of the upper guide structure lift rig to the southeast corner of the cavity occurred during the time period from 11:00 AM until after midnight on January 31, 1991. Cavity decontamination commenced until a cavity post decon survey was documented at 7:00 AM on January 31, 1991. This survey did not identify any unusually high dose rates or contamination levels. The 8 R/hr hot spot appears to have been removed during the reactor cavity decontamination efforts.

A radiation work permit (RWP) No. 91-1327 was written to perform reactor cavity seal removal at 11:00 AM on January 31, 1991. RWP No. 91-1327 reflected the radiological conditions that existed prior to cavity decontamination. Further reviews of this RWP indicated that it was revised in the field to reflect post decontamination radiological conditions prior to job performance. The inspectors also reviewed personnel dosimetry results, both whole body and extremity, associated with these activities. No unusually high exposures were identified.

Finding: This concern was not substantiated. The 8 R/hr hot spot appears to have been removed during the reactor cavity decontamination. Documented surveys identify both the finding and elimination of the 8 R/hr hot spot as well as a 1 R/hr hot spot. However, improvements may be warranted in the timeliness of review and dissemination of radiological information. Four hours had elapsed between the post decontamination survey and the generation of an RWP that required this updated information to specify radiological safety requirements. This delay would cause more concern had the radiological conditions deteriorated rather than improved. During the course of the inspection the licensee indicated that this matter will be reviewed to determine what appropriate actions may be necessary to improve on the timeliness of reviewing and disseminating radiological information. (Open Item No. 255/91011-02)

One violation and two open items were identified.

3. Exit Interview (IP 83750)

The inspectors met with licensee representatives (denoted in Section 1) at the conclusion of the inspection on June 27, 1991, to discuss the scope and findings of the inspection.

During the exit interview, the inspectors discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspectors during the inspection. Licensee representatives did not identify any such documents or processes as proprietary. The following items were specifically discussed with the licensee.

- a. The need for additional inspection and review of the deliberate hot particle exposure event by NRC.
- b. The apparent violation associated with a contract HPT performing duties prior to completing qualification requirements.
- c. Inspector concerns regarding the timeliness of review and dissemination of radiological survey information.