

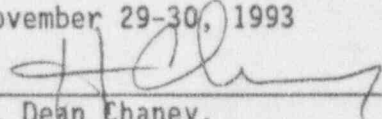
U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos.: 50-344/93-17
License Nos.: NPF-1
Licensee: Portland General Electric Company (PGE)
121 S. W. Salmon Street
Portland, Oregon 97204
Facility: Trojan Nuclear Plant (TNP) - Rainier, Oregon
Inspection at: TNP site, Columbia County, Oregon

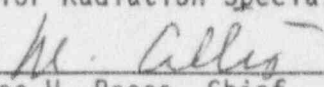
Inspection Dates: November 29-30, 1993

Inspector:


H. Dean Chaney,
Senior Radiation Specialist

2/4/94
Date Signed

Approved By:


James H. Reese, Chief,
Facilities Radiological Protection Branch

2/8/94
Date Signed

Summary:

Areas Inspected: A special announced inspection of the licensee's preparations for the January 1, 1994 implementation of changes to 10 CFR Part 20, as set forth in Federal Register 56 FR 23377, dated May 21, 1991.

Results: Overall, the licensee appears to be capable of implementing all the changes to 10 CFR Part 20 on January 1, 1994. No violations or deviations were identified.

DETAILS

1. PERSONS CONTACTED

Licensee

S. Quennoz, General Manager, Trojan Plant
*T. Walt, General Manager, Technical Functions
*L. Houghtby, General Manager, Plant Support
*G. Huey, Manager, Radiation Protection (RP) Technical Support
*T. Meek, Manager, Personnel Protection/RP
*D. Nordstrom, General Manager, Nuclear Oversight
*S. Schneider, Manager, Operations
*B. Hugo, Compliance Engineer
L. Rocha, RP Engineer

Oregon Department of Energy

A. Bless, Resident Safety Manager
V. Sarte, Resident Inspector

*Denotes those attending the exit meeting.

2. OCCUPATIONAL RADIATION EXPOSURE (83750)

The licensee's preparations for the January 1, 1994, implementation of revisions to 10 CFR 20 were examined. This review focused on the following areas of licensee's effort to implement the new 10 CFR 20 (renumbered Sections 20.1001-20.2402):

- Radiation Protection Program programmatic changes involving:
 - Annual radiation exposure limits (occupational and nonoccupational) and the total dose concept.
 - New radiation dose terminology.
 - Internal radiation exposure control and monitoring.
 - Planned Special Exposures.
 - Very High Radiation Area Controls.
 - Declared pregnant women and dose to the embryo/fetus.
 - Revised radioisotope exposure and effluent concentration limits.
 - Airborne radioactivity assessment and tracking.
 - Respiratory protection equipment use assessment.
 - Routine reports and event notifications.
- Also, previously existing RP Program attributes and supporting activities involving the following were reviewed:
 - Periodic RP Program reviews and assessments.
 - Employee radiation protection training.
 - RP instrument calibration.
 - ALARA program and prospective job dose assessments

- Radioactive effluent release limits.
- Radiological posting and monitoring.
- High radiation area controls
- Enhancements to the radiation dose assessment and radiological controlled area access control computer system.

The inspector determined that the licensee had accomplished the following with regard to implementing the revisions to 10 CFR 20 (new Part 20):

- Established a dedicated team of Trojan RP staff members for development of the implementing program.
- Performed a detailed review of each Part 20 change and established an individual technical position for each change. These positions were developed in concert with a full nuclear power industry effort, including a concerted Region V nuclear power licensees review and development effort aimed at achieving implementation consistency among the Region V facilities.
- Actively participated in the NRC's question and answer program, aimed at establishing an NRC and industry consensus on Part 20 changes and their meaning. Review and comment on NRC draft Regulatory Guides was actively pursued.
- Had a recognized industry expert present formal overviews of Part 20 changes to the RP staff.
- Issued a purchase order for development and installation of a new computerized radiation exposure management and access control system (RIMS).
- Converted their implementing positions into written requirements and identified specific portions of existing procedures that would need revision or the need to create new procedures.
- Established a training program for general employees, radiation workers, and the RP Staff covering implementation program results.

The above are only some of the licensee's activities directed at achieving the January 1, 1994, implementation date.

The following observations were made by the inspector regarding the licensee's implementing plans and procedures.

- The licensee elected to revise existing radiation protection program implementing procedures. Only one to three new procedures are expected to be created for the implementation. One new procedure that was deemed necessary was for addressing the "Declared Pregnant Worker" requirements.

- Most program implementing procedures were found to be in the rough draft stage and very few in a form suitable for approval. The licensee indicated that the marked up drafts included the final comments received for each procedure.
- Only the upper tier procedures (TPP) require signoff by the Plant Manger. Approximately 80 percent of the RP procedures (departmental) require only the RP managers signature. The licensee expects to have all procedures approved by December 24, 1993.
- The licensee's new computerized radiation exposure and access control system (RIMS - Radiation Information Management System) was still being developed and tested. This system is being developed for at least two other operating nuclear power plants west of the Mississippi River.

The inspector verified that the licensee is capable of implementing the new Part 20 requirements using a combination of their old access and electronic dosimeter system programs.

- The licensee elected not to provide for Plan. ' Special Exposures (20.1206) in their program.
- The licensee's revisions to Trojan Plant Procedure (TPP) 20-2, "Radiation Protection Program," appear to address all of the revisions to Part 20, including assessment of the program's effectiveness.
- The licensee's already existing procedures for control of radiation areas with dose rates greater than 25 rem/hour was utilized as a foundation for implementing the new Very High Radiation Area (VHRA) controls of 20.1602. The inspector noted that the current procedures do not adequately incorporate the guidance of NRC Regulatory Guide 8.38, "Control of Access to High And Very High Radiation Areas in Nuclear Power Plants."

No potential VHRAs had been identified in training documents and the existing "VHRA" control procedure did not give suitable information on acceptable isolation barriers. Also, the existing procedure was considered weak in controls over the procedurally allowed emergency access to VHRA's, and it is not clear how existing VHRA controls will be periodically inspected for adequacy.

- The licensee has elected to monitor occupationally exposed workers for both internal and external exposure, even though prospective analysis had shown internal exposures would be below the required monitoring threshold.

The licensee is implementing the following administrative dose limits (guidelines) on TEDE:

- Declared pregnant women: 500 millirem during the entire gestation period, at a rate of no more than 50 mrem per month.
- Annual whole-body dose: 1 rem TEDE

Due to Trojan being permanently shut down, the licensee will establish administrative internal exposure tracking limits (for triggering internal dose assessments) that are well below other licensee's (12 DAC-hours or 0.6 % of an ALI).

The licensee has performed an evaluation of historical air sampling results and is implementing an effective DAC for screening air sample results for further isotope specific analysis.

- The inspector noted to the licensee - that due to their radioactive material storage building being in proximity to the restricted area fence, they may have to apply special controls over placement of material in the facility to ensure that the dose limits for the public (20.1301) are not exceeded. The licensee stated that this area was being continuously monitored by thermoluminescent dosimetry and that reduced dose rate limits would be applied to the external of the building to ensure the new Part 20 limits would not be exceeded.
- The licensee's Quality Assurance Department had conducted a preliminary assessment of the new Part 20 implementation program. An RP technical expert from another Region V reactor facility was on the audit team. A follow-up assessment will be performed following the January 1, 1994, implementation date.

The inspector reviewed with the TNP Radiation Protection Department staff his observations on the content of their implementing procedures. A few technical errors involving terminology and implementation of regulatory guidance were addressed by the inspector.

The inspector determined that the licensee was capable of implementing all of the Part 20 changes on January 1, 1994, and that the licensee's Quality Assurance organization was deeply involved a continuing assessments of the Radiation Protection Departments efforts in this area.

5. Exit Meeting

An exit meeting was held on November 30, 1993, with members of the licensee staff identified in Paragraph 1 of this report. The items identified in this report were discussed at that time. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspector during the inspection.