



Portland General Electric

One World Trade Center
121 SW Salmon Street
Portland, OR 97204

March 3, 1998

VPN-013-98

Trojan Nuclear Plant
Docket 50-344
License NPF-1

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Dear Sirs:

Reply to a Notice of Violation

The purpose of this letter is to transmit Portland General Electric Company's (PGE's) response to Notice of Violation 50-344/9705-01 which was transmitted to PGE with Nuclear Regulatory Commission Inspection Report 50-344/97-05, dated January 15, 1998. The response is provided in the Attachment to this letter.

NRC letter, dated January 15, 1998, requested PGE provide a response within 30 days and requested that several specific areas of concern be addressed in the PGE response to the Notice of Violation. The Attachment to this letter includes the requested information. This violation response is being provided within the extension period documented by PGE letter (VPN-016-98), dated February 17, 1998, and confirmed by NRC letter, dated February 18, 1998.

Sincerely,

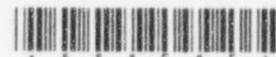
Stephen M. Quennoz
Trojan Site Executive

Attachment

- c: M. T. Masnik, NRC NRR
Regional Administrator, NRC Region IV
- R. A. Scarano, NRC Region IV
- J. V. Everett, NRC Region IV
- D. Stewart-Smith, OOE

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REPLY TO NOTICE OF VIOLATION
NOV 50-344/9705-01

Violation

During an NRC inspection conducted on December 1-3, 1997, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violation is listed below:

Trojan Technical Specification 5.7.2.1 states, "Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR 20 and shall be approved, maintained, and adhered to for all operations involving personnel radiation exposure." 10 CFR 20.1501(a)(2)(ii) states, in part, that each licensee shall make or cause to be made, surveys that evaluate concentrations and quantities of radioactive material.

Limits for the release of contaminated material from radiologically controlled areas at Trojan are established in the NRC-approved Trojan Decommissioning Plan, Table 4.2.1, as 5,000 dpm/100 cm² average, 15,000 dpm/100 cm² maximum, and 1,000 dpm/100 cm² smearable. The 5,000 dpm/100 cm² fixed and 1,000 dpm/100 cm² smearable limits were also specified in Step 6.1 of Trojan Procedure 20-19, "Release of Materials from Radiologically Controlled Areas," Revision 1.

Contrary to the above, the licensee failed to ensure that adequate surveys of certain contaminated tools and scaffolding had been made prior to removal from the radiologically controlled area to ensure that release limits were not exceeded. These tools were later discovered outside the radiologically controlled area during a site radiological survey conducted between September 15, 1997 and the date of the onsite inspection with contamination levels exceeding both the average and maximum fixed contamination limits for release from the radiologically controlled area.

This is a Severity Level IV violation (Supplement IV).

Response to Violation

Portland General Electric (PGE) acknowledges the violation.

On September 17, 1997 a Corrective Action Request (CAR 97-0024) was initiated by Trojan personnel describing the discovery of the additional radiologically contaminated material outside the radiologically controlled area. The PGE response to the Notice of Violation issued with Inspection Report 50-344/97-03, letter VPN-064-97, dated November 26, 1997, includes (1) a description of the additional items identified and the circumstances related to how they may have been inappropriately released from the radiologically controlled area, (2) a number of corrective actions that had been implemented and others that were planned to address the inappropriate release of material, (3) a discussion of an independent assessment of the radiation protection organization that had been performed, (4) a dose assessment discussion that demonstrated the limited nature of any potential public exposure from any material that may have been inappropriately released, and (5) documented training conducted for Radiation Protection Technicians to improve free release survey techniques.

As noted in the Inspection Report (Section 4), PGE was, at the time it identified the subject contaminated items, in the process of an extensive site survey effort to determine if any contaminated material had been improperly released from the radiologically controlled area. These actions were part of the corrective actions committed to by PGE in the response to the Notice of Violation issued with Inspection Report 50-344/97-03, dated September 9, 1997. The following includes information that has been acquired since the original Notice of Violation response.

The discovery of additional radioactive material outside the radiologically controlled area but inside the site Industrial Area at Trojan, in the form of miscellaneous tools and scaffolding, appears to have been generated prior to the incident that occurred in the Free Release Facility (March 1997), which was the subject of Notice of Violation 97-03.

Scaffolding

The practice of releasing scaffolding from the radiologically controlled area was severely limited following a hot particle incident that occurred in April 1987. Scaffold material that had been used in the radiologically controlled area was stored in radiologically controlled areas (either the primary RCA or separate RCAs). The source of the contaminated scaffolding has not yet been positively determined. PGE is continuing to survey scaffolding presently located in the Trojan site industrial area (IA). The release of

scaffolding from the industrial area has been stopped and the scaffolding loaned to individuals for use offsite has been returned for storage in the industrial area.

PGE Asset Recovery records indicate that the Trojan scaffolding was sold to other PGE facilities. The scaffold materials sold as part of the asset recovery program came from clean scaffold storage locations and was not free released from the RCA scaffold material. PGE is continuing to survey scaffolding sold to other PGE facilities. Surveys of samples of returned scaffold and scaffolding sold to the PGE Beaver Plant have been free of contamination above the free release limits.

Miscellaneous Tools

We believe the subject contaminated tools were released as part of an effort to reduce the inventory of tools and equipment stored in the Fuel Building 93' tool room in 1996. No similar significant effort to survey tools for release from the RCA was performed prior to 1996. Contamination surveys of the tools, which were allowed to be used in noncontaminated areas in the RCA, were conducted in 1996 to permit the release of these tools for use in unrestricted areas. Tools were surveyed for loose and fixed contamination and those which were below Trojan free release limits were moved out of the RCA for storage in the 'clean' tool room. Many of the contaminated tools found in the clean tool rooms had evidence of purple paint indicating the tools had been controlled in the hot tool room (inside the RCA) at some time in the past.

We have reviewed the sale of tools and equipment from Trojan as part of the Asset Recovery program and determined that the majority of materials were sold in the 1993 and 1994 time frame. This would imply that the tools for sale did not come from the same population of tools released from the hot tool room during the tool room clean up efforts in 1996. The tools sold as part of the Asset Recovery Program would have come from the tools used in the unrestricted part of the Trojan facility and, therefore, have a much lower probability of containing radioactive contamination above the specified limits.

To date, no material above the contamination limits has been identified outside of the Trojan site Industrial Area.

Trojan personnel have been making every reasonable effort to identify tools and equipment sold during the asset recovery sales by reviewing sales records. PGE has identified materials sold to other PGE facilities and are in the process of performing contamination surveys of the purchased materials at the various sites. Surveys of tools and equipment (all that could be identified by facility personnel as having been purchased at Trojan) at the Beaver Generating Plant in Clatskanie, Oregon have been completed.

No contamination above free release limits was identified. Contamination surveys of tools and equipment at the Boardman Coal Plant were completed during February 1998. No contamination above free release limits was identified. PGE employees who purchased tools and/or equipment from the Trojan facility have been asked to bring the materials to the plant for contamination surveys. Sale records do not identify the specific material sold or the purchaser unless a check was used for payment. PGE is continuing its efforts to identify and survey a sample of the tools and equipment sold from Trojan during the asset recovery sales of 1993 and 1994.

The materials identified during our recent contamination surveys are indicative of materials released by radiation protection technicians. Trojan procedures and practices do not allow workers to frisk tools and equipment for free release that have inaccessible surfaces or have been inside contaminated areas.

Trojan decommissioning practices have been changed to place less reliance on free release of bulk materials removed from the plant radiologically controlled areas. Structural steel, piping and other debris that had previously been surveyed for release will now be shipped for disposal at the low level waste facility in Richland, Washington. The change in practice significantly reduces the risk of releasing radioactive material to unrestricted areas where the general public could be exposed.

1. Reason for Violation

The reason for the violation was inadequate survey techniques used by Radiation Protection Technicians performing free release surveys. The instruments used for the surveys contributed to the release of radioactive material to unrestricted areas. The free release instruments (mostly RM-14 rate meters and HP-210 probes or equivalent) used during the time period discussed in the inspection report were being used at the practical limit of detection during scans to detect radioactivity at the 5000 dpm/100 cm² limit.

2. Corrective Steps That Have Been Taken and the Results Achieved

- a. Contamination survey of tools and equipment stored outside the RCA at Trojan has been completed. The survey identified 78 items out of a total of approximately 65,000 (0.12%) items surveyed. The average contamination level found was 5000 dpm/20 cm². The highest level contamination was 200,000 dpm/20 cm² found on the bottom of a plastic bucket. The average contamination level found on the tools and equipment, not including the bucket, was 2500 dpm/20 cm². A best effort has been conducted to identify the tools and equipment stored at Trojan. The main tool room, satellite tool rooms, various tool lockers

and gang boxes, equipment storage areas and wood and plywood storage areas have been surveyed.

- b. Arranged for the return of Trojan scaffolding that had been loaned out for personal use and surveyed a sample of scaffolding sold to the PGE Beaver and Boardman plants. No contaminated scaffolding was identified in the returned or other plant samples.
 - c. Purchased a small article monitor and a scaffold/pipe monitor to improve the detectability of low levels of contamination on material to be free released. The small article monitor is especially good for small tools.
 - d. Completed a review of the instruments used for free release to ensure the selection of instruments and procedures used are adequate to prevent the release of radioactive material to unrestricted areas.
 - e. Implemented double surveys of material to be released from the Survey for Release facility. Each item is surveyed a second time by a different radiation protection technician prior to being placed in the container for unrestricted release.
 - f. Implemented a policy to survey tools being returned to the main tool room prior to restocking to identify radioactively contaminated tools quickly to allow for a rapid investigation to determine the source of the contamination.
 - g. A radiation protection technician is stationed at the RCA exit to survey tools and equipment being taken out of the RCA. Workers are only allowed to survey personal items such as hard hats and papers.
 - h. Completed an evaluation of the potential dose to an individual using a hypothetically contaminated tool that had been released for unrestricted use from Trojan.
3. Corrective Steps That Will Be Taken to Avoid Further Violations
- a. Complete surveys of samples of tools and equipment sold to nonlicensed facilities and individuals to determine potential for dose to members of the public.
 - b. Complete surveys of scaffold materials that had been stored outside the RCA at Trojan and/or had been released from the site for personal use.

- c. Institute a policy to require surveys of tools and equipment being taken from the Industrial Area.
 - d. Evaluate new radiation instrumentation to improve detectability of low levels of radioactivity on tools and equipment.
 - e. Require all tools and equipment to be released from radiologically controlled areas to be processed through the Survey for Release facility (including double surveys) except for hand carried personal items.
 - f. Increase the frequency of routine spot check surveys of tools/equipment in storage outside radiologically controlled areas to monthly.
 - g. Develop and implement a performance monitoring/testing program related to the survey for release process for radiation protection technicians. The program will include discussion of the limitations of the instruments used for free release surveys and hands-on surveys to identify known contaminated objects. Radiation protection technicians allowed to perform free release surveys will complete this program by the end of April 1998. An annual review/test will also be required.
4. Date When Full Compliance Will Be Achieved

The completion of all actions to prevent the reoccurrence of this problem are to be completed by June 25, 1998.