#### U. S. NUCLEAR REGULATORY COMMISSION

#### REGION V

Report No. 50-344/88-04

Docket No. 50-344

License No. NPF-1

Licensee: Portland General Electric Company 121 S. W. Salmon Street Portland, Oregon 97204

Facility Name: Trojan Nuclear Plant

Inspection at: Rainier, Oregon

Inspection Conducted: February 8-12 and February 29-March 4, 1988

Inspector:

C. A. Hooker, Radiation Specialist

3/28/88 Date Signed

Approved:

3/28/88 Date Signed

G. P. Yuhad, Chief Facilities Radiological Protection Section

#### Summary:

# Inspection on February 8-12, 1988 and February 29-March 4, 1988 (Report No. 50-344/88-04)

Areas Inspected: Routine, unannounced inspection of licensee action on previous inspection findings, organization and management, training and qualifications, solid wastes, transportation, and facility tours (surveys and monitoring). Inspection Procedures 30703, 92701, 83722, 83723, 84722, 86721, and 83726 were addressed.

Results: In the areas inspected, the licensee's programs appeared adequate to accomplish their safety objectives. Generally, the licensee's performance in the radiation protection area continues to improve. The licensee has not been timely in completion of their Integrated Plan to Improve Radiation Protection Performance and resolution of the deficiencies involving the solid radioactive waste Quality Assurance audit findings.

One apparent violation was identified in one area: Technical Specification 6.11, failure to follow procedures (paragraph ?).

#### DETAILS

## 1. Persons Contacted

A. Portland General Electric (PGE)

\*C. A. Olmstead, General Manager, Trojan

T. D. Walt, Manager, Nuclear Safety and Regulation Department (NSRD)

+\*D. W. Swan, Manager, Technical Services

- \*J. W. Lentsch, Manager, Personnel Protection
- +\*N. C. Dyer, Manager, Radiological Safety Branch (RSB)
- + J. D. Reid, Manager, Plant Services
- +\*T. O. Meek, Manager, Radiation Protection (RP)
- +\*C. H. Brown, Manager, Quality Assurance (QA) Operations Branch
- +\*D. L. Nordstrom, Compliance Engineer
  - J. F. Ulmer, Assistant Reactor Engineer
- +\*G. R. Huey, Unit Supervisor, RP Technical Support
  - L. D. Larson, Unit Supervisor, Radwaste

# B. NRC Resident Inspectors

R. C. Barr, Senior Resident Inspector \*G. Y. Suh, Resident Inspector

\*Denotes individuals attending the exit interview on February 12, 1988.

+Denotes individuals attending the exit interview on March 4, 1988.

In addition to the individuals noted above, the inspector met and held discussions with other members of the licensee's and contractor's staffs.

# 2. Licensee Action on Previous Inspection Findings (92701)

(Closed) Followup (50-344/87-26-02): Inspection Report No. 50-344/87-26 documented the need for the licensee to improve their General Employee Training (GET) Program. Based on improvements observed during this inspection, which are described in paragraph 4.D below, the inspector considers this matter closed.

(Closed) Followup (50-344/87-42-01): Inspection Report No. 50-344/87-42 described a licensee identified problem involving several boric acid drains that were misrouted to the dirty radwaste system via the dirty waste drain tank. These drains, according to the Final Safety Analysis Report (FSAR) and Piping and Instrument Diagram (M-202), are described as being routed to the clean radwaste system via the auxiliary building drain tank. The licensee determined that this problem was the result of a construction error. Based on review of the licensee's internal Event Report (No. 87-186), associated safety analysis and 10 CFR 50.59 evaluation, the inspector determined that the licensee had taken appropriate corrective actions and had adequately evaluated the safety significance in a timely manner. Plant drawings were being updated and a design change had been submitted to reroute drains to the original construction design. The inspector also noted that licensee had addressed needed FSAR changes as appropriate. The inspector had no further questions regarding this matter.

#### 3. RP and Chemistry, Organization, and Management (83722)

The inspector reviewed the licensee's current organization, staff position assignments, and position descriptions to determine the licensee's compliance with Technical Specification (TS) Sections 6.2 and 6.3, and the licensee's procedures. This inspection was focused primarily in the area of RP. The reviews of this functional area were conducted during the periods of February 8-12 and February 29-March 4, 1988.

## A. Organization and Staffing

Inspection Report No. 50-344/87-33 described interim organizational changes, effective August 1, 1987, the licensee had made in the RP Department to facilitate program improvements in this area. The report also documented the licensee's intention of making further changes early in 1988, within the entire RP and Chemistry Department. Reorganization was also a part of the licensee's action to improve management controls of their RP program, further described in paragraph 3.8 below.

During this inspection, the inspector observed that the licensee had made major organizational and position title changes within the RP and Chemistry Departments. It was also noted that the licensee had submitted a License Change Application, No. 162, dated January 15, 1988, and a subsequent revision, dated February 15, 1988, for proposed changes to revise the PGE Offsite and Facility Organizational Charts in the TS. One of the new changes provides for the position of a Manager, Personnel Protection (MPF) who will assume the responsibility for RP, chemistry, and plant safety. The new MPP will report directly to Trojan's General Manager. Currently, the individual designated for this position is acting in this position in an advisory capacity and reports to the Manager, Technical Services.

The Personnel Protection Department is currently divided into two major branches, RP and Chemistry. The responsible individual for the Chemistry Department has been retitled from Supervisor to Branch Manager. The individual who was the previous RP Supervisor is now the RP Branch Manager, essentially a new position, since the RP Supervisor's position (currently vacant) is still maintained. The RP Branch Manager is also acting in the RP Supervisor's position which the licensee expects to be filled by June 1986.

The inspector also made the following observations regarding organizational changes and job responsibilities:

- A new section consisting of a Unit Supervisor of Radiation Protection Support, who reports directly to the RP Branch Manager, two permanent RP Engineers, with one vacancy, and an RP Specialist. The vacancy is expected to be filled soon. Previously, the RP Engineers and Specialist reported directly to the RP Supervisor.
- A new section consisting of a Unit Supervisor of RP Planning who reports to the RP Supervisor. This section has two vacant salaried positions for RP Planners, and three assigned RP Technicians to assist in planning and scheduling activities. The licensee does not expect to fill the vacant RP Planners positions until after their annual refueling outage, which will commence on or about April 12, 1988.
- One additional Unit RP Supervisor augmenting this previously one-person position who, both of whom will report to the RP Supervisor. Currently, both positions were being filled by upgraded Senior RP Technicians. The licensee plans on having both of these supervisor positions filled by March 21, 1988. The inspector noted that one of these individuals was assigned to handle office administrative duties and the other was in the plant (about 30%) overseeing work activities. The RP Technician staff consisted of eleven permanent PGE employees, with one vacancy (in the process of being filled), and four vacant positions for Junior RP Technicians which will be filled after the refueling outage. In addition, this section was currently augmented by a contract Technician Site Coordinator, contract RP Technician Supervisor, twelve Senior and four Junior Contract RP Technicians.
- One Unit Radwaste Supervisor who reports to the RP Branch Manager, one permanently assigned RP Technician, a contract Radwaste Coordinator, and nine Utility Workers with four vacant positions.
- The Chemistry Department consisted of a Chemistry Branch Manager who reports to the PPM, three Chemists assigned and responsible for specific functional activities, and Effluent Analyst, and a Laboratory Supervisor. The Chemistry technician staff consisted of thirteen permanent Chemistry Technicians with no vacancies. The primary change to this branch was the addition of a Hazardous Waste Coordinator. The Chemistry Department was also augmented by three contract professionals who were providing technical assistance in the development of the licensee's hazardous waste program.
- The Plant Safety Coordinator reported directly to the MPP. It was also noted that the Corporate Safety Coordinator interfaced with the MPP.
- Regarding staff filled positions, the new organization was currently staffed, with about 57 permanent PGE employees with

authorization for 71, which includes clerical support and augmented with about 25 contract employees (RP area).

Prior to the licensee's 1987 refueling outage, the RP and Chemistry Department's staffing consisted of about 52 permanent PGE employees with three vacancies in the Chemistry Department.

With respect to shift staffing, RP coverage consisted of two Senior Technicians assigned to each back shift (swing and graveyard shifts) with rotational days off to ensure that one technician was on site at all times, including weekends and holidays.

Regarding the Chemistry Department, in Operational Modes 1-4, four Chemistry Technicians are assigned rotational shift duty that coincides with the Operations Department shift schedules (day, swing, and graveyard shifts) to ensure that one technician is on site at all times. During Operational Modes 5 and 6, the Chemistry Department does not man the graveyard shift except on an as-needed basis.

Based on the above observations and discussions with cognizant licensee representatives, the licensee's reorganization in this area should provide for more direct management and supervisory oversight and coordination of program activities to accomplish their safety objectives.

# B. Management Controls to Improve Program Performance

Inspection Report No. 50-344/87-33, paragraph 2, described the licensee's commitment regarding the development of a broad scope Integrated Plan for Improving RP Performance (IPIRPP). This commitment among others were as a result of the significant RP problems that occurred during Trojan's 1987 refueling outage. During this inspection, the inspector reviewed the licensee's performance in completion and implementation of their commitment.

The licensee's IPIRPP, dated July 31, 1987, outlined nine areas for improvement:

- System Radioactivity Control Definition
- Develop Improved Radiological Control
- Improve Management Direction of Radiation Protection Techniques
- Provide Definitions and Expected Level of Performance
- Program to Identify Off-Normal Events
- Review and Improvement of Radiological Protection Procedures
- Review and Improvement of Radiological Control Training

## Improve Auditing of Radiological Control Program

## Interface Between Plant and Corporate

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Each of the above areas outlined specific actions (a total of 23), the department responsible for implementation and dates when the actions should be completed.

The inspector reviewed numerous licensee's documents and records such as:

- Memoranda of audits, recommendations, and reviews of the Training and RP Departments performed by the Corporate RSB.
- <sup>o</sup> Memoranda of policies, planned updates, and RP training related to the plan from the RP Department.
- New and revised RP procedures.
- Procedure and schedules for loose fuel search and retrieval operations during the upcoming refueling outage.
- Personnel Protection Review Committee Meeting Minutes.
- Radiological Event Reports

Based on the above reviews and discussions with cognizant Plant and Corporate (NSRD and RSB) licensee representatives, the inspector made the following observations:

During February 8-12, 1988, the inspector noted that, as of December 1987, the RP Department had started the initiation of monthly updates for the majority of the individual action items outlined in the IPIRPP. However, it appeared that no person or Department had been assigned the uitimate responsibility to coordinate or evaluate the progress and adequacy of the work performed on all of the action items outlined in the IPIRPP.

This matter was discussed with the licensee during the meeting on February 12, 1988. The incensee acknowledged the inspector's observations. The inspector, just prior to this exit meeting, was informed that the Corporate RSB would assume the responsibility to oversee the plan.

During February 29-March 4, 1988, the inspector was informed by the RSB Manager than an evaluation of the status of the IPIRPP had been performed and should be issued soon.

During February 8-12, 1988, Action Item No. I.A. of the IPIRPP, "Prepare a management review of the radiological risks for Plant operations with loose fuel pellets in primary systems," with an expected completion date of February 1, 1988, had not been formally addressed and was not expected to be completed until the end of 1988. This matter was also discussed at the February 12, 1988, exit meeting. The inspector was informed that the Corporate RSB would also assume the responsibility to address this action. During the February 29-March 4, 1988, the inspector was informed by the RSB Manager that this item should be completed by May 1988.

During February 8-12, 1988, the inspector noted that no QA Department involvement, specific to the IPIRPP, could be identified. This matter was also discussed at the February 12, 1988, meeting. The inspector was informed by the QA Branch Manager that an audit of the RP Department was being scheduled for March 1988, and that they would include the IPIRPP for review.

During February 29-March 4, 1988, the inspector noted QA Audit Plan No. 531, Notification of Audit of Radiation Protection/ Source Material Activities, dated February 23, 1988, scheduled to be performed during March 14-22, 1988, addressed the IPIRPP, in part, as an activity to be audited.

- Although the licensee had not completed all of their action items by February 1, 1988, they had expended a lot of resources and effort in identifying and making program improvements. The reorganization of the RP Department, described above, was also part of the licensee's effort to improve program performance. Other items noted for improvements for program performance were:
  - Improved training program for contract RP technicians,
  - New and revised procedures.
  - The new RP Work Planning Group, described above,
  - Improved support and communication with the Corporate Office, and
  - Implementation (March 1, 1988) of a new Radiological Control Access System.

Based on the above observations, the inspector determined that the licensee had completed, or will have, most of their actions completed prior to the refueling outage. The actions completed appeared to be adequate to accomplish their safety objectives. The licensee's ability to effectively implement all of the new organizational and program changes will be challenged during the upcoming refueling outage. The licensee's progress in completing the committed actions will be examined in a subsequent inspection (50-344/88-04-01, Open).

No violations or deviations were identified.

C. Refueling Outage, Organization and Program Controls

The inspector reviewed the licensee's RP outage organizational chart and discussed outage planning and coverage with cognizant licensee representatives. The inspector noted that the licensee had made major improvements in preplanning, prescoping, and prejob ALARA reviews for scheduled outage tasks. The outage organizational structure and management policies provides for more direct surrvisory oversight of work in radiologically controlled areas. The supervisory oversight will be shared by contract and PGE personnel. In regard to staffing, it appeared that the licensee had contracted for the minimum of personnel required to provide coverage for scheduled outage activities.

Based on the observations in this area, it appeared that the licensee's planned supervisory oversight and staffing were adequate to accomplish their safety objectives. However, the licensee recognized they will have to play close attention in coordination and planning to provide effective RP coverage during the refueling outage.

No violations or deviations were identified.

# 4. RP and Chemistry Training and Qualifications (83723)

No recent events had occurred that could be reviewed for potential training deficiencies. The inspector reviewed the licensce's training programs, selected procedures, and qualification records. The inspector also held discussions with training personnel, questioned workers during facility tours, and observed various RP activities to determine the licensee's compliance with TS and licensee procedures, and recommendations outlined in various industry standards.

A. Audits

The next scheduled QA Audit related to this area was scheduled to be performed during March 17-21, 1988.

No violations or deviations were identified.

## B. Changes

The inspector noted that the liconsee had received a certificate, dated December 14, 1988, from the Institute of Nuclear Power Operations awarding them accreditation for the following programs:

- Shift Technical Advisor
- Instrument and Control Technician
- Electrical Maintenance Personnel
- Chemistry Technician
- Radiological Protection Technician
- Technical Staff and Managers
- C. RP and Chemistry Staff Training

The RP and Chemistry Technician replacement and retraining programs are conducted by the licensee's Training Department for PGE employees only. Initial contract RP Technician training, with the exception of GET, is conducted by the RP Department due to the limited staffing of the Trojan's Training Department.

The replacement and retraining programs consist of classroom instructions and demonstration of practical abilities. Demonstration of practical ability is by actual task performance or by simulation when actual performance is not practical. The training programs are designed so that the RP and Chemistry Technicians meet or exceed the qualifications of ANSI N18.1-1971, <u>Selection and Training of Personnel for Nuclear Power Plants</u> <u>Retraining</u>, and consisted of three days of formal classroom training during the first, third, and fourth quarters annually on a continuing basis.

The inspector observed that several contract RP Technicians, who have been working solely at Trojan for two or more years, and were performing the same tasks as PGE Senior RP Technicians were not included in the licensee's retraining program. This matter was discussed with the RP management staff and at the exit interview on March 4, 1988, and the inspector's observations were acknowledged.

The inspector noted that the RP Department had upgraded the training program for temporary contract RP Technicians to include program changes developed from the IPIRPP. The upgraded program will also include a test to examine the technical competence of the individuals being hired. Training for temporary RP Technicians for the outage coverage was scheduled to commence within two weeks. During the February 8-12, 1988, the inspector questioned an early arrival contract RP Technician who had been performing various RP duties in the RCA. This individual had worked previous outages and left Trojan in July 1987, and returned January 25, 1988. During the questioning, the individual informed the inspector that he had not been provided the licensee's contract RP technician training and/or reviewed recently revised procedures; however, changes in RP practices had been verbally communicated to him prior to performing his assigned task. This matter was discussed with the RP Manager and at the exit meeting on February 12, 1988. The inspector's observations were acknowledged by the licensee. During the February 29-March 4, 1988, inspection, the inspector observed that early arrival contract RP technicians were being required to read procedures while waiting for their formal RP training classes to begin.

The RP and Chemistry Departments technical and technician staff formal procedure review process was examined. The inspector noted that new and revised procedures, routed for reading and acknowledgement of designated staff, took about one to six months to complete the process. The inspector discussed this apparent slow process with the RP and Chemistry Managers who acknowledged the inspector's observations. The inspector was informed that new and revised procedures were discussed during various Department meetings; however, an improved method for the formal reading process would be evaluated. This matter was also discussed at the exit briefing on March 4, 1988.

The inspector observed that Utility Workers, who perform duties such as radwaste handling, decontamination activities, and housekeeping were trained and qualified in accordance their respective training program. This training was provided by the Radwaste Supervisor in accordance with procedure RP-128, <u>Utility Worker Training/</u>Retraining.

During several facility tours, the inspector observed RP Technicians and Utility Workers performing various job assignments. The inspector did not observe any problems that would reflect inadequacies in their training and qualifications.

In regard to RP and Chemistry staff continuing training, the inspector noted that each department selectively sent personnel to seminars and/or specialized training programs respective to their assigned responsibilities. The inspector also noted that in January 1988, selected members of the Trojan RP and corporate staffs attended a two-day training course, <u>Hot Particle Dosimetry</u>, provided onsite by a well-known health physics professional.

The licensee's performance in this area appeared to be improving and seemed capable of ensuring that personnel were trained and qualified in accordance with their training programs.

No violations or deviations were identified.

D. GET

Inspection Report No. 50-344/87-26 documented several areas for improvement in the licensee's GET program.

During this inspection, the inspector discussed recent changes in the licensee's GET program and those awaiting approval with the Supervisor, Support Group Training. The inspector also examined revised GET handouts, observed selected portions of classroom instructions, training on the donning and removal of protective clothing, and reviewed a new site specific video for program improvements. The inspector made the following observations:

- The revised GET handout, dated November 1987, with the attachment, G1-F-02-HO, <u>Radiation Protection - Site Specific</u>, adequately covered the licensee's Discrete Radioactive Particle Program (DRP) issued in terms of the requirements expressed in 10 CFR 19.12, "Instructions to Workers."
- The new site specific video adequately addressed current plant radiation protection practices, equipment, and the DRP issue. The new video was well done and easy to follow.

- During brief reviews of selected ongoing classroom instructions, the inspector noted that the students were alert and attentive to the instructor's presentations.
- During the February 8-12, 1988, inspection, the inspector noted the area used for the practical factors training appeared to be limited in space for the number of students being processed. This matter was discussed at the exit meeting on February 12, 1988. The licensee acknowledged the inspector's observations.

During the February 29-March 4, 1988, inspection, the inspector observed that the licensee had moved the practical factors training area to another classroom, with noted improvements in the size of the demonstration area.

The inspector observed and held discussions with workers during tours of the RCAs. These individuals appeared to be knowledgeable of the requirements outlined on their Radiation Work Permits (RWPs), a:.d the radiation hazards associated with their work. The inspector did not observe any instances during this inspection of poor performance that would indicate the GET program was not being effective in meeting regulatory requirements and industry standards.

The licensee's performance in this area appeared to be improving and seemed capable of meeting their safety objectives.

No violations or deviations were identified.

# 5. Solid Waste (84722)

The inspector reviewed the licensee's radioactive solid waste program for compliance with the requirements of 10 CFR Parts 20 and 61, TS and licensee procedures.

#### Audits

QA Audit Report, AP 508, PGE QA Audit of Radioactive Materials Handling and Shipping Activities at the Trojan Nuclear Plant, dated November 5, 1987, was examined. The audit was conducted October 12-16, 19 and 20, 1987. The audit identified several deficiencies that resulted in the issuance of four Nonconforming Activity Reports (NCARs) and six recommendations to the RP Department. The NCARs involved: the lack of evidence for independent verification of calculations for one waste shipment; using a non current procedure for drumming powdex resin; errors in calculating reportable quantities (total weight of all radionuclides equal to or greater than one pound); and the failure to include the plutonium isotopes along with other transuranics in waste classification. The RP Department's corrective actions in response to the NCARs were examined. Of the four NCARs, one (No. P87-138) presented a concern that caused further review. Based on discussions with cognizant licensee representatives and review of the RP Departments response to the NCAR, the inspector made the following observations:

Apparently, in early 1987, the licensee made changes in their radwaste computer program so that Special Nuclear Materials could be totalized and reported separately to the waste buríal site. An error made during the change that resulted in dropping the plutonium isotopes from the waste classification calculations.

The licensee's review of all waste shipped for burial in 1997 identified two drums of compacted waste that were improperly classified. The drums, by a minute fraction, should have been class "C" waste as required by 10 CFR 61.55; however, they were shipped as class "A" waste.

The licensee typically used the most conservative scaling factor for all drummed waste instead of the actual sample results of the waste involved. The licensee expects that new scaling factors from their sample analysis will show that the drums are actually class "A" waste. The licensee had discontinued all waste shipments as of February 1, 1988, until this matter could be resolved.

Based on further review of this matter, the inspector made the following additional observations:

The RP Department's Radiation Protection Manual Procedure, RPMP-4, Determination of Radioactive Material Shipping and Waste Classifications, is designated as a quality-related procedure.

PGE's Nuclear Division Procedure, NPD No. 200-5, <u>Quality-Related</u> <u>Computer Programs</u>, sets forth the procedures to be followed for the preparation, documentation, revision, verification, and approval of computer programs used in quality-related calculations. Section 2.0, <u>Applicability</u>, states, "This procedure applies to all PGE parsonnel who work with computer programs used for quality-related (as defined in PGE-8010) analysis and design calculations."

PGE-8010, Nuclear Quality Assurance Program, Glossary, Quality-Related, lists packaging of radioactive material for transport, and radioactive waste management systems as quality-related systems.

The licensee's computer program had never been formally reviewed and installed in accordance with the licensee's procedures for quality-related programs.

- As of March 2, 1988, the RP Department had not solved the waste classification problem and were just getting familiar with their procedure requirements for quality-related computer programs.
- The site was backlogged with waste that had not been shipped due to the waste classification problem not being solved.
- It appeared that the RP Department had not been timely and put very little priority on solving this problem.

Based on the above observations, the inspector brought to the licensee's attention the appearance of the lack of management attention and

oversight, and diminished performance in their radwaste program. This matter was also discussed at the exit meeting on March 4, 1988. The licensee acknowledged the inspector's observations. The inspector considers this matter unresolved (50-344/88-04-02).

<u>Unresolved Item</u> - An unresolved item is a matter about which more information is required to ascertain whether it is an acceptable item, a deviation, or a violation

No violations or deviations were identified.

#### 6. Transportation (86721)

Inspection Report No. 50-344/87-33 documents previous inspection efforts in this area.

# A. Audits

The licensee's QA audit of this area was described in paragraph 3.A above.

QA Surveillance Report No. P160, dated December 17, 1987, was examined. The surveillance was conducted November 12, 17, and 30, and December 3, 1987, to observe activities associated with the handling and use of the OH-142 shipping cask being loaded with a high integrity container (HIC). Activities observed included placement of the HIC into the cask, and the transfer of spent resin to the HIC. No discrepancies were identified during the surveillance.

No v' lations or deviacions were identified.

#### B. Shipment of Radioactive Materials

The inspector examined the documents of shipment Nos. 87-98 and 88-05 involving the use of Type "B" packages loaded with HICs of spent resin. Based on this review, the inspector noted that Quality Control was good, shipping papers were complete, instructions to the exclusive use vehicle driver were appropriate, and the proper certifications and notifications had been included.

The licensee seemed to maintain their previous level of performance in this area and their program appeared adequate to accomplish their safety objectives.

No violations or deviations were identified.

#### 7. Facility Tours (83726)

The inspector toured various areas of the Auxiliary, Fuel Handling and Turbine Buildings on several occasions during the inspection. The inspector made independent measurements with an NRC RO-2 portable ion chamber, S/N 2691, due for calibration on April 6, 1988. In addition to

observations discussed in other paragraphs of this report, the inspector observed the following:

During a tour of the 77 ft. level of the Auxiliary Building on February 9, 1988, accompanied by the RP Branch Manager, the inspector checked radiation levels in a pipe chase where workers were in the process of installing new radwaste lines. The work was being performed from a temporary platform along the south wall. The inspector's measurements indicated that the radiation level on the work platform was about 15 mrem/hr. The inspector also made measurements through the tunnel area and noted that four separate resin transfer lines, coming out of the north wall at floor level, exhibited hot spot radiation levels that ranged from 800 - 1200 mrem/hr at contact. The hot spots were localized to the area where the pipes came through the wall. The maximum radiation level from any of the hot spots at 18 inches was 80 mrem/hr. The radiation levels measured by the RP Branch Manager, using a licensee RO-2 portable ion chamber, were in close agreement with the inspector's readings. One of the hot spots that measured 1200 mrem/hr was only about five feet from the workers' platform. The inspector also observed that the hot spots were not identified by any markings to note their presence. A worker that had been in this area was questioned regarding his knowledge of the hot spots. The worker informed the inspector that he was not aware of the hot spots: however, he had been informed by the RP Technicians that he was to keep along the south wall when entering or leaving the area, and work from the platform only. The worker further stated that he had been following those instructions.

Based on review of radiation survey records and discussions with cognizant RP Technicians and their supervisor it appeared that radiation hot spots were known to exist in the area following the flushing operation. However, these individuals did not resurvey the hot spots on February 9, 1988 prior to the start of work.

The licensee's Radiation Protection Manual, Section II.D.2.e, <u>Hot Spots</u>, states, in part, "Hot Spots will be posted with conspicuous yellow and magenta labels bearing the radiation caution symbol. Hot Spot signs will be posted when the contact radiation level is equal to or greater than five times the general area radiation level and the contact radiation level exceeds 100 mr/hr." Failure to mark the hot spots in this work area was identified as an apparent violation of TS 6.11 (50-344/88-04-03).

In response to unmarked hot spots, the RP Branch Manager immediately had the area secured, resurveyed, and hot spots marked. During a tour of the area on the following day, the inspector observed that the hot spots were appropriately marked.

On March 1, 1988, the inspector observed preparations for an entry into the containment. The licensee had been experiencing high radioactive gaseous activity of about 98 MPCs (noble gases). Radioactive particulate and iodine air activities were less than 0.5 MPCs. The entry was being made to look for the source of high gaseous activity. The licensee suspected lines in the pressurizer cubicle since work had been performed in this area prior to the high activity problem. The source was not found.

The inspector noted that no respiratory protection was worn for the containment entry. Pue to the temporary retention of small amounts of noble gases, the individuals who made the entries alarmed the whole body friskers (PCM-1B's) when exiting the RCA. Whole body counts were given to verify the absence of any radioactivity other than noble gases. The inspector examined the whole body count results of these individuals and observed no radiological concern. The inspector also did not identify any problems with the RWP or procedural requirements associated with the containment entry.

Housekeeping practices were generally good in the areas toured. All radiation areas and high radiation areas were posted as required by 10 CFR Part 20, and access controls were consistent with TS 6.12 and licensee procedures.

One apparent violation was identified in this area.

#### 8. Exit Interview (30703)

The scope and findings of the inspection were discussed with the individuals denoted in paragraph 1 on February 12 and March 4, 1988.

The licensee was informed that one apparent violation of TS 6.11 was identified. The inspector's observations described in this report were acknowledged by the licensee.