



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA STREET, N.W.
 ATLANTA, GEORGIA 30323

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Report Nos.: 50-424/90-22 and 50-425/90-22

Licensee: Georgia Power Company
 P. O. Box 1295
 Birmingham, AL 29250

Docket Nos.: 50-424 and 50-425 License No.: NPF-68 and NPF-81

Facility Name: Vogtle 1 and 2

Inspection Conducted: October 1-5, 1990

Inspector: M. P. Elliott 11/1/90
 M. P. Elliott Date Signed

Inspector: W. B. Gleason 11/1/90
 W. B. Gleason Date Signed

Approved by: J. F. Potter 11/2/90
 J. F. Potter, Chief Date Signed
 Facilities Radiation Protection Section
 Emergency Preparedness and Radiological
 Protection Branch
 Division of Radiation Safety and Safeguards

SUMMARY

Scope:

This routine unannounced inspection involved a review of licensed radiation protection (RP) program activities including management involvement, staffing and organization, training, contamination control, internal and external exposure assessments, audits, worker practices, and radioactive transportation activities during an outage.

Results:

Within the scope of the inspection no violations or deviations were identified. The health physics (HP) staffing levels and expertise were adequate to perform HP activities. Contractor employee training and qualifications met requirements. All reported internal and external exposures were within 10 CFR 20 limits. Transportation activities were conducted in accordance with applicable Federal requirements and written procedures. Weaknesses in worker practices were noted by several isolated violations of written procedures which were identified as a non-cited violation (NCV). Overall, HP program activities were considered adequate to protect worker health and safety.

Within the areas inspected, the following non-cited violation was identified:

- Failure to follow procedures concerning radiation and contamination control (Paragraph 2.f). Violation of Technical Specification 6.7.1(a) requirements.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *H. Beacher, Senior Engineer, NSAC
- G. Breneborg, Health Physics Support Supervisor
- *G. Bockhold, General Manager
- *S. Chesnut, Technical Support Manager
- *E. Dannemiller II, Nuclear Security Manager
- *R. Folker, Acting QA Supervisor, SAER
- *T. Green, Assistant General Manager
- *K. Holmes, Training and Emergency Preparedness Manager
- *W. Kitchens, Assistant General Manager
- *I. Kochery, Health Physics Superintendent
- *R. LeGrand, Health Physics and Chemistry Manager
- J. Lucot, Health Physics Operations Supervisor
- *R. Oden, Nuclear Safety and Compliance Supervisor
- M. Seepe, Radwaste Supervisor
- *C. Stinespring, Plant Administration Manager
- *J. Willcox, Nuclear Specialist, SAER

Other licensee employees contacted included technicians, operators, and office personnel.

NRC Personnel attending exit interview

- R. Aiello, Resident Inspector
- P. Balmain, Resident Inspector
- J. Potter, Chief, Facilities Radiation Protection Section
- J. Starkey, Resident Inspector

*Attended Exit Interview

2. Radiation Protection (83822)

The inspectors reviewed the current organization and staffing of the onsite Health Physics (HP) group and determined that staffing levels and expertise were adequate to perform HP responsibilities.

a. Organization and Management

The inspectors discussed with licensee management the HP group's responsibilities and verified that the current organization met the criteria specified in the Technical Specification. The inspector also determined that management was supportive of the HP group's activities.

No violations or deviations were identified.

b. Staff, Planning and Preparation

The inspectors reviewed the licensee's augmentation of the HP staff to support the Unit 2 first refueling (U2R1) outage. The licensee hired 86 contract HP technicians to supplement the permanent staff of 37 HP technicians. It should be noted that the licensee had requested 105 HP contract technician positions, but was unable to fill all the positions due to an apparent industry shortage of HP technicians. The ratio of HP technicians to radiation workers was approximately 1:14. In comparison, the ratio during the previous Unit 1 second refueling (U1R2) outage was approximately 1:16. In addition, as of September 30, 1990, it was not necessary for the licensee to authorize overtime to work greater than 72 hours in seven days as required by Technical Specification (TS) 6.2.

The inspectors and licensee representatives also briefly discussed the tentative schedule to remove the resistance temperature detector (RTD) bypass manifolds during the next refueling outages for Units 1 and 2. In preparation for that work evolution, the licensee was planning to send radiation protection personnel to other sites scheduled to remove the RTD bypass manifolds in order to acquire knowledge on the ALARA planning, procedures used, job scope, and lessons learned.

No violations or deviations were identified.

c. Radiation Protection Procedures

TS 6.7.1(a) requires the licensee to establish, implement, and maintain written procedures described in Appendix A of Regulatory Guide 1.33, Revision (Rev.) 2, February 1978.

The inspectors verified that the procedures contained adequate guidance which was consistent with license and regulatory requirements and that a review of the procedures had been conducted in accordance with the TS requirements. The inspectors reviewed selected Radiation Work Permits (RWPs) and verified that both specific and general RWPs provided adequate information to workers regarding radiological working conditions and ALARA briefing requirements.

No violations or deviations were identified.

d. Audits

(1) Quality Assurance

TS 6.7.1(a) requires the licensee to establish, implement, and maintain written procedures described in Appendix A of Regulatory Guide 1.33, Rev. 2, February 1978.

Procedure VSAER-WP-03, "Safety Audit and Engineering Review Field Audits," Rev. 0, dated May 22, 1990, requires the licensee to perform audits of activities to assure compliance with Quality Assurance written procedures.

The inspectors reviewed selected audit reports of audits performed in the areas of HP during 1990. The inspectors noted that the audits were comprehensive and did identify problems to be corrected.

No violations or deviations were identified.

(2) Radiological Deficiency Reports

TS 6.7.1(a) requires the licensee to establish, implement, and maintain written procedures described in Appendix A of Regulatory Guide 1.33, Rev. 2, February 1978.

Procedure 00150-C, "Deficiency Control," Rev. 12, dated September 10, 1990, describes the requirements and responsibilities for identifying, evaluating, and reporting deficiencies at the Plant. The procedure defines a radiological deficiency as an unsatisfactory radiological condition or personnel performance which could lead to increased personnel exposure.

The inspectors reviewed radiological deficiency reports from the last NRC HP inspection in March 1990 to September 1990. The inspectors noted and discussed with the licensee the threshold level of initiating a deficiency report. The inspectors and the licensee representatives agreed that the deficiency reports should be initiated for less significant events. This would allow trend analysis which could help prevent problems from developing further. Licensee representatives stated that efforts were being made to enhance the deficiency control system with regards to radiological matters.

No violations or deviations were identified.

e. Training

10 CFR 19.12 requires the licensee to instruct all individuals working or frequenting any portions of the restricted areas in the health protection aspects associated with exposure to radioactive material or radiation, in precautions or procedures to minimize exposure, and in the purpose and function of protection devices employed, applicable provisions of the Commission Regulations, individuals responsibilities and the availability of radiation exposure data.

TS 6.7.1(a) requires the licensee to establish, implement, and maintain written procedures described in Appendix A of Regulatory Guide 1.33, Rev. 2, February 1978.

TS 6.3.1 requires the licensee to provide a retraining and replacement training program for plant staff and that personnel shall meet the minimum education and experience recommendations of ANSI N18.1-1971 before they are considered qualified to perform all duties independently.

Procedure 40001-C, "Health Physics Department Personnel Selection, Training and Qualification," Rev. 4, dated September 9, 1989, defines the educational, experience, and training requirements for qualification of HP Department personnel.

The inspectors reviewed the qualification and training for HP contractor employees employed for the U2R1 outage. All senior HP technicians met or exceeded the requirements of TS 6.3.1. In addition, all contractor employees were required to take a written examination and only those with a score of a least 70 percent could be qualified as a senior technician.

No violations or deviations were identified.

f. Posting, Labeling, and Radiation/Contamination Control

10 CFR 19.11(a-b) require, in part, that the licensee post current copies of Part 19, Part 20, the license, license conditions, documents incorporated into the license, license amendments and operating procedures, or that a licensee post a notice describing these documents and where they may be examined.

10 CFR 19.11(d) requires that a licensee post Form NRC-3, "Notice to Employees." Sufficient copies of the required forms are to be posted to permit licensee workers to observe them on the way to or from licensed activity locations

TS 6.7.1(a) requires the licensee to establish, implement, and maintain written procedures described in Appendix A of Regulatory Guide 1.33, Rev. 2, February 1978.

Procedure 00930-C, "Radiation and Contamination Control," Rev. 6, dated July 12, 1990, establishes requirements and responsibilities for monitoring and controlling exposure to radiation and contamination.

(1) Personnel Contamination Events

The inspectors reviewed records of personnel contaminations for 1990 and the U2R1 outage. As of September 30, 1990, the licensee experienced 106 personnel contamination events (PCEs)

which was within the cumulative goal to date of 175 PCEs. The PCE goal for all of 1990 was 250. Although the licensee experienced only 72 PCEs during 1989, the higher number of PCEs in 1990 was attributable to the two refueling outages. There were 24 PCEs attributable to the U2R1 outage as of September 30, 1990, which was significantly less than the cumulative U2R1 outage goal to date of 45 PCEs. The total U2R1 outage goal is 90 PCEs.

The licensee's system for tracking PCEs by root cause, department, and body or clothing location was good. The inspector noted that as of September 30, 1990, approximately 35 percent of the PCEs were due to poor work practices, 13 percent due to improper use or removal of protective clothing (PC), 10 percent due to PC failure, and 9 percent due to changing conditions exceeding the capability of the PC.

(2) Tours

During tours of the facility, the inspectors observed work in progress, noted worker practices with respect to HP and RP.

In addition, the inspectors observed that required documents were posted in accordance with 10 CFR 19. The inspector also verified that the licensee had properly posted and labelled areas and containers in accordance with 10 CFR 20 requirements.

During tours of the Unit 2 containment, the inspectors interviewed several HP technicians who were either assigned to cover a specific elevation as a "rover" or assigned to a specific job. Out of approximately ten individuals interviewed, only one HP technician indicated that staffing was inadequate to cover the various jobs. The remaining individuals indicated that HP coverage was generally adequate, although there had been isolated situations in which several jobs had been scheduled simultaneously thus causing a shortage of HP technicians covering the various jobs. In those few cases, the work was temporarily slowed to ensure adequate health physics coverage was maintained. As noted in Paragraph 2.b. of this report, the licensee increased the number of contractor HP technicians hired for the U2R1 outage as compared to the U1R2 outage, therefore licensee management had not found it necessary to authorize HP technicians to work more than 72 hours in seven consecutive days. Licensee management had planned to hire enough HP technicians so that TS 6.2 authorizations could be avoided.

Section 2.3 of Procedure 00930 requires the licensee to post as a "Radiation Area" any area accessible to personnel in which radiation fields exist at such levels that the whole body could

receive a dose rate equal to or in excess of 2.5 millirems per hour (mrem/hr). On October 4, the inspectors identified an area that was roped and posted as a "Radiation Controlled Area" with radiation levels of 3-5 mrem/hr but was not also posted as a "Radiation Area." The inspectors notified the licensee representative present and the situation was immediately corrected. The inspectors informed the licensee that failure to properly post the area was an isolated example of a NRC identified non-cited violation of TS 6.7.1(a) requirements (50-424, 425/90-22-01).

Section 3.4.2 of Procedure 00930 requires personnel to comply with all radiation protection rules, regulations, and procedures. Section 5.1.2.3 of Procedure 00930 requires all personnel and materials to be surveyed prior to leaving a "Radiation Controlled Area (RCA)." On October 3, 1990, the inspectors observed material leaving the RCA without being surveyed. The inspectors informed the licensee that failure to survey material before leaving the RCA was an isolated example of a NRC identified non-cited violation of TS 6.7.1(a) requirements (50-424, 425/90-22-01).

Table 1 of Procedure 00930 requires PC coveralls and hoods be worn with all openings closed and taped (no tape required on velcro closures) when in areas requiring full PCs. On October 3, 1990, during tours of the Unit 2 containment, the inspectors observed several workers with PC coveralls and hoods opened exposing the skin. Also several workers were observed to be removing their PCs before arriving at the designated step-off pad. The inspectors informed the licensee that failure to properly wear PCs in areas requiring PCs was an isolated example of a NRC identified non-cited violation of TS 6.7.1(a) requirements (50-424, 425/90-22-01).

Section 3.4.2 of Procedure 00930-C requires personnel to comply with all radiation protection rules, regulations, and procedures. Section 5.1.10.1 of Procedure 00930-C requires airborne radioactivity areas to be posted with a sign or signs bearing the words: "Caution, Notify Health Physics Prior to Entry, Airborne Radioactivity Area, TLD Required for Entry." On September 29, 1990, an employee was observed by an HP technician to enter and exit a posted airborne radioactivity area without respiratory protection and without notifying HP. The inspectors informed the licensee that failure to obey HP barriers and postings was an isolated example of a licensee identified non-cited violation of TS 6.7.1(a) requirements (50-424, 425/90-22-01).

The licensee had implemented corrective actions for each isolated violation identified by the inspectors. The inspectors informed the licensee that the isolated examples of procedural

violations would not be cited because the criteria specified in Sections V.A and V.G.1 of the NRC Enforcement Policy were satisfied.

One non-cited violation (NCV) for failure to follow procedures was identified.

g. Internal Dosimetry

10 CFR 20.103(a)(1) states that no licensee shall possess, use, or transfer licensed material in such a manner as to permit any individual in a restricted area to inhale a quantity of radioactive material in any period of one calendar quarter greater than the quantity which would result from inhalation for 40 hours per week for 13 weeks at uniform concentrations of radioactive material in air specified in Appendix B, Table 1, Column 1.

TS 6.7.1(a) requires the licensee to establish, implement, and maintain written procedures described in Appendix A of Regulatory Guide 1.33, Rev. 2, February 1978.

Procedure 44014-C, "Internal Dose Assessment," Rev. 3, dated May 2, 1989, provides the biological models and calculations techniques for interpreting in-vivo and in-vitro bioassay results.

Procedure 44021-C, "On-Site In-Vitro Bioassay Analysis," Rev.1, dated June 18, 1987, provides instructions for the collection and on-site radionuclide analysis of urine samples for in-vitro bioassay evaluations to be implemented when the whole body counter is unavailable for bioassay assessment.

The inspectors discussed with licensee representatives the whole body counting techniques, requirements, and past results. The licensee has had no measured uptakes greater than the administrative limit of 10 percent maximum permissible organ burden (MPOB) during 1990. There have also been no exposures greater than 40 maximum permissible concentration-hours (MPC-hrs) during one week or 520 MPC-hrs during one quarter since March 1990.

The inspectors noted that the licensee was in the process of enhancing the in-vivo bioassay program by obtaining and implementing the use of a "chair" counter. This will provide the licensee with greater diagnostic capabilities for in-vivo analyses.

The inspector reviewed the annual calibration and daily checks performed on the two Canberra "Fast Scan" units. All were calibrated and checked as required.

No violations or deviations were identified.

h. External Exposure Control

10 CFR 20.202 requires each licensee to supply appropriate monitoring equipment to specific individuals and requires the use of such equipment.

By direct observation, discussion with licensee representatives and a review of records, the inspectors determined that personnel dosimetry was used effectively and in accordance with the requirements for monitoring external exposure. During tours of the Auxiliary Building and Unit 2 Containment, the inspectors observed the proper use of thermoluminescent dosimeters (TLDs) and electronic direct reading dosimeters (EDRDs). Individuals wearing PC placed their EDRDs in their outside PC pocket so that radiation dose could be frequently monitored. TLDs were placed inside the PC. The inspectors reviewed selected dosimetry records to determine if any one exceeded 1,250 mrem during the third quarter 1990. During that time period, no individuals exceeded 1,250 mrem. No individuals exceeded any administrative dose limits and the licensee had made adequate use of personal dosimeter data for dose controls.

The inspectors also determined that the licensee was in compliance with 10 CFR 20.202(c) which requires that personnel dosimeters that are used in accordance with 10 CFR 20.202(a) be processed by a processor accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for the appropriate types of radiation. The licensee uses its own Georgia Power Company Environmental Lab to process the TLDs and was accredited in test Categories I through VIII which included accreditation to measure neutron dose equivalent. The phosphors used in the licensee's TLD system were calcium sulfate and lithium borate.

The timelines and availability of the EDRD dose report to individuals was considered adequate. During the U2R1 outage, The EDRD dose report was printed twice per day and was available in the dosimetry office, Health Physics office, and ALARA outage trailer for individuals to determine their dose. Additionally, EDRD reports were made available to departmental managers. The report provided information on weekly dose, quarterly dose, quarterly remaining dose, quarterly administrative dose limit, percent quarterly limit, and yearly dose by department with individuals listed alphabetically.

No violations or deviations were identified.

i. Maintaining Occupational Exposure ALARA

Paragraph 20.1(c) of 10 CFR 20 requires that licensees should make every reasonable effort to maintain radiation exposures as far below the limits specified in Part 20 as is reasonably achievable. Regulatory Guides 8.8 and 8.10 provide information relevant to attaining goals and objectives for planning and operating light-water

reactors and provide a general operating philosophy acceptable to the NRC as a necessary basis for a program of maintaining occupational exposures ALARA.

(1) Radiation Source and Field Control

The inspectors reviewed the licensee's efforts in utilizing proven industry-developed methods of controlling out-of-core radiation sources and fields. Since the licensee's facility is relatively new and there has been no significant fuel integrity problems, unusual efforts to reduce source term have not been necessary. However, the licensee was planning to remove the RTD bypass manifolds in the Unit 1 Reactor Building during the third (next) refueling outage and in Unit 2 during refueling outage number 2.

During the last Unit 1 outage, at shutdown, the licensee added hydrogen peroxide to the primary system to induce crud bursts for subsequent removal of radioactive cobalt which had become soluble during the peroxide addition. The licensee added hydrogen peroxide to the primary coolant after draining the system to the reactor vessel nozzle center lines (mid-plane method). During the U1R2 outage the chemical volume control system (CVCS) demineralizers were placed out of service on four occasions during critical periods after shutdown for a total of 23 hours. The CVCS demineralizers were out of service due to the scheduling of various emergency system tests and design changes. After the hydrogen peroxide induced crud bursts were initiated, insufficient ion exchange was utilized to remove the soluble radioactive cobalt. This resulted in increased dose rates in the reactor coolant system. During the U2R1 outage, the licensee arranged the schedule for maximum use of the CVCS demineralizers in order to achieve maximum cleanup and dose reduction.

The inspectors reviewed the licensee's Unit 1 Second Refueling ALARA Report, February - April 1990 which was considered thorough and well organized. The report discussed several exposure reduction techniques in addition to the hydrogen peroxide addition previously discussed. The licensee utilized temporary shielding for personnel exposure reduction and issued a total of 20 temporary shielding authorizations (TSAs). The licensee identified several TSAs with quantifiable net dose savings. The licensee estimated at least 21 person-rem was saved by using temporary shielding. The licensee also decontaminated the steam generator channelhead bowls using a spray/vacuum system, however the net dose savings was marginal at best. In addition, the licensee removed approximately 350 snubbers during the U1R2 outage. The snubber removal project should have long term

exposure savings since it will reduce the number of snubbers requiring removal and testing each outage, and it reduces the number of visual inspections.

Other miscellaneous exposure reduction techniques included: (1) utilization of low dose rate staging and waiting areas; (2) component and equipment decontamination which had the effect of relaxing respiratory protection and PC requirements, thus allowing workers to work more efficiently; (3) ALARA component locator books and the addition of azimuth markings inside containment to help reduce the time to locate components; and (4) the use of closed circuit video monitors to allow HP coverage of high exposure jobs from a low dose rate area.

(2) ALARA Goals and Objectives

The inspectors discussed with licensee representatives the 1990 station collective dose goal. The 1990 goal was established at 310 person-rem and was apparently based on an industry performance standard and not based on scheduled work. The establishment of realistic dose goals at the corporate level was previously discussed in Inspection Report No. 50-424, 425/90-09. As of September 30, 1990, the actual station collective dose was 323 person-rem. Approximately 212 person-rem was attributable to the Unit 1 refueling outage while 105 person-rem was attributable to the ongoing Unit 2 outage as of September 30, 1990. Although the station collective dose goal was not revised by the corporate office to reflect the increased outage scope and higher than expected dose rates in the reactor building, the licensee took the initiative to revise both the Unit 1 and Unit 2 outage goals. The goal for Unit 1 was revised to 200 person-rem midway through the Unit 1 outage (March 1990) after it was realized that the original goal of 145 person-rem was unachievable. As noted above, the licensee was close to attaining its revised U1R2 ALARA goal. The U2R1 ALARA goal was revised from 134 person-rem to 161 person-rem. Based on the information provided above, on September 30, 1990 the licensee was within the revised cumulative ALARA goal of 111 person-rem.

(3) ALARA Results

The inspectors and licensee representatives discussed the successes in achieving ALARA goals established for the U1R2 outage. The ALARA results for the U2R1 outage were not discussed during this inspection since the outage was ongoing and a significant amount of the high dose tasks had not been completed. A summary of the major tasks, actual dose, and estimated dose is listed below:

Major Tasks:	Collective Dose (Person-rem)	
	<u>U1 (actual)</u>	<u>U1 (estimated)</u>
Steam generator/eddy current testing and tube plugging/ installation and removal of nozzle dams and manway covers.	45	47
Corrective and preventive maintenance	45	43
HP and decontamination support.	38	36
General support/installation and removal of scaffolding and insulation/routine operations including equipment hatch and polar crane.	32	27
Refueling activities.	21	19
Snubber inspection, testing, and removal.	18	18
Inservice inspection/surveillance tests/leak rate tests.	8	8
Reactor coolant pump (RCP) inspections RCP seal inspection/ replacement.	4	4

When compared to the data provided in NUREG/CR-4254, "Occupational Dose Reduction and ALARA at Nuclear Power Plants: Study on High Dose Jobs, Radwaste Handling and ALARA Incentives," dated May 1985, the licensee's collective dose for the various high dose jobs noted above is significantly lower. Direct comparisons to the data in NUREG/CR-4254 is difficult due to different methods in categorizing jobs and the scope of a particular job; however, the following comparisons were derived for a Westinghouse pressurized water reactor:

<u>Task</u>	Collective Dose (Person-rem)	
	<u>Vogtle (U1R2)</u>	<u>NUREG/CR-4254 (average)</u>
Snubber inspections	18	110
Steam Generator Eddy Current Testing	12	50

Steam Generator Manway Removal/ Replacement	5	16
Reactor Disassembly /Assembly	11	48
In-Service Inspections	8	46
Plant Decontamination	16	45
Scaffold Installation/Removal	8	30
Insulation Removal/Replacement	9	18
Reactor Coolant Pump Seal Replacement	2	17
Crane Movement Activities	3	9
Reactor Cavity Decontamination	4	6

4. Licensee Awareness and Involvement

The inspectors also discussed with licensee representatives' workers awareness and involvement in the ALARA program. The inspectors observed that the licensee had an ALARA suggestion program established; however, there has been no formal participation in the program. Currently, there was no ALARA suggestion incentive program. The licensee agreed that this aspect of the ALARA program could be improved by evaluating the need for an incentive program.

No violations or deviations were identified.

j. Transportation

10 CFR 71.5 requires that each licensee who transports licensed material outside the confines of its plant or other place of use, shall comply with the applicable requirements of the regulations appropriate to the mode of transport of the Department of Transportation (DOT) in 49 CFR Parts 170-189.

49 CFR 172.200 requires each person who offers a hazardous material for transportation shall describe the hazardous material on the shipping paper in the manner described by this subpart.

The inspectors reviewed the shipping papers and other related documents for the following shipments:

90-03-008 on May 22, 1990, contaminated equipment.

90-CL-033 on October 1, 1990, contaminated laundry.

90-CL-030 on September 26, 1990, contaminated laundry.

The inspectors reviewed the shipping papers and observed the vehicles being surveyed, the package labeling, blocking and bracing, and the vehicle placarding for the following shipments prior to shipment:

90-10-001, contaminated equipment.
90-CL-034, contaminated laundry.

No violations or deviations were identified.

3. Licensee Action on Previously Identified Open Items (92701)

(Closed) IFI 50-424/89-34-01, 50-425/89-39-01: Modify procedures to specify the frequency of carrier standardization; to specify the frequency for generation of control limits; and to specify the acceptance criteria for efficiency determinations.

During Inspection 89-32, during a review of the laboratory quality control program and instrument operation procedures, the inspector noted that (1) the frequency to generate control limits for instrument performance checks was not procedurally specified although actual laboratory practices were acceptable, (2) Procedure PSL-12450.703, "Calibration and Operation of Intrinsic Germanium Spectroscopy System," Revision 1, May 27, 1987, required the comparison of current efficiencies to previously determined efficiencies during calibration but did not specify acceptance criteria for the comparison, and (3) the potassium iodate carrier solution used in iodine-131 determinations had not been standardized for an excessively long period of time.

During the present inspection, a review of updated quality control and instrument quality control procedures noted that (1) PSL-12450.612, "Environmental Radiochemistry Section Quality Control," Revision 1, February 2, 1990, had been updated to specify the conditions under which new control charts were generated, (2) Procedure PSL-12450.703 had been updated requiring that the calculated activity of a known standard determined from the new calibration curve be within 10 percent of the calculated activity determined from the previous calibration curve, and (3) Procedures ENV-628, "Determination of I-131 in Water" and ENV-629, "Determination of I-131 in Milk" had been revised to require the annual standardization of the potassium iodate carrier solution.

This item is considered closed.

4. Exit Meeting

The inspection scope and findings were summarized on October 5, 1990, with those persons denoted in Paragraph 1. The inspectors described the findings of the inspection, including the NCV. The inspectors also discussed the likely content of the inspection report with respect to the inspection observations, violations, and unresolved items. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspectors during the inspection. Dissenting comments were not received from the licensee.

<u>Item Number</u>	<u>Description and Reference</u>
50-424, 425/90-22-01	NCV: Failure to follow written procedures (Paragraph 2.f).