



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

OCT 10 1989

Report Nos.: 50-280/89-27 and 50-281/89-27

Licensee: Virginia Electric and Power Company
Glen Allen, VA 23060

Docket Nos.: 50-280 and 50-281

License Nos.: DPR-32 and DPR-37

Facility Name: Surry 1 and 2

Inspection Conducted: September 11-15, 1989

Inspector: *J. P. Potter*
R. B. Shortridge

9/28/89
Date Signed

Accompanying Personnel: J. P. Potter

Approved by: *J. P. Potter*
J. P. Potter, Chief
Facilities Radiation Protection Section
Emergency Preparedness and Radiological
Protection Branch
Division of Radiation Safety and Safeguards

9/28/89
Date Signed

SUMMARY

Scope:

This routine, unannounced inspection involved a review of the licensee's radiation protection program including followup on previously identified inspector followup items.

Results:

The inspector observed continuing progress in health physics performance. As managements expectations are communicated to the technicians, attitude, performance, and moral improves. Improvements are still needed in station personnel compliance with radiation protection requirements.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *R. Bilyeu, Engineer, Licensing
- *W. Cook, Operations Supervisor, Health Physics
- *D. Erickson, Superintendent, Health Physics
- *E. Grecheck, Assistant Station Manager, Nuclear Safety and Licensing
- *D. Hart, Supervisor, Quality Assurance
- *M. Kansler, Station Manager
- *L. Morris, Supervisor, Health Physics
- *F. Thomasson, Supervisor, Corporate Health Physics

Other licensee employees contacted during this inspection included craftsmen, engineers, operators, mechanics, and administrative personnel.

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- *W. Holland, Senior Resident Inspector
- *Attended exit interview

2. Occupational Exposure (83750)

a. Training and Qualification

In the past year Surry has experienced an inordinate number of violations of regulatory requirements that could be directly attributed to the performance of health physics (HP) supervision and technicians. The inspector conducted interviews with five HP technicians representing day and night shifts. Questions were asked that related to required reading material for the past six weeks and questions from recent HP continuous training classes. Based on HP technician answers, the inspector determined that HP technician knowledge of radiological industry events and knowledge of some areas regarding basic HP requirements needs improvement. The inspector discussed this with the Superintendent of Health Physics.

In interviews with the HP training specialist and manager of training, the inspector learned that, of the approximately 500 tasks on the industry-wide tasks list for HP technician performance based training, the licensee had selected 320 tasks. The inspector reviewed the training matrix and noted that the knowledge and skills associated with tasks were cross referenced and tracked through classroom training, lesson plans, examinations, and on-the-job training. Licensee representatives stated that they did not offer any laboratory modules for HP technicians but that they were being

considered for inclusion into the performance based training program. Four HP instructors and 11 on-the-job training evaluators were responsible for providing training to HP technicians in accordance with their accredited training program.

Two successive inspection reports have identified weaknesses with respect to workers complying with station HP requirements when working in radiologically controlled areas (RCAs) of the plant. To improve worker compliance with HP requirements and first line supervisor accountability for assigned personnel, the licensee is providing a workshop on radiological protection. The workshop is specifically for supervisors who have workers that access the RCA and is designed to address changing attitudes and provide an understanding of management's standards and expectations of supervisor's responsibilities for worker radiation protection. The four hour workshop is scheduled for station supervisor attendance from mid-September through mid-December and will have an introduction and summary by the Vice President of Nuclear Operations.

b. Exposure Control

The licensee, in response to a HP performance improvement program (PIP) action item, has strengthened exposure controls by revising the Radiation Work Permit (RWP) program. New requirements have restricted verbal or annotated changes to RWPs in the field. Now, when changes to radiological requirements are needed a RWP revision is issued. ALARA holdpoints are used more frequently. Pre-job ALARA briefings are now required by RWP. If the anticipated dose on a job is greater than 1,000 mrem, an ALARA coordinator must attend the job briefing. In practice, the ALARA coordinator has been attending briefings when 500 mrem is the anticipated collective job dose. The licensee representatives also stated that by formalizing the RWP program, HP technician performance had improved. When interviewed by the inspector, HP technicians stated that RWPs provided clear requirements and not guidelines as in the past. Also, the technician stated that procedure changes and revisions were resulting in requirements that provided a clear baseline for them to operate by. HP shift supervisors stated that there are still some complaints from workers on inconsistent HP requirements between shifts, but that their program was much stronger as a result of formalizing RWP requirements and improved HP procedures.

In reviewing procedures, the inspector noted that the requirement for posting an area for potential airborne contamination, using loose surface contamination as a criteria, was 400,000 dpm/100 cm². When interviewed, RWP writers and HP shift supervisors all stated that this criteria was too high and that they would post an area as a potential airborne contamination area at lower levels; however, each used a different loose surface contamination level. The inspector pointed out the differing policy and practices to the HP Operations Supervisor and Superintendent of Health Physics. Both licensee

representatives agreed with the inspector's comment and stated that the requirement would be revised downward.

The inspector noted during reviews of record keeping by HP technicians that technician performance in this area had improved measurably. Also, the inspector noted that the morale and attitude of the HP technicians was better than in previous years. The inspector attributed these to program improvements and new licensee management.

During tours of the auxiliary building, the inspector examined radiation levels and contamination survey results as posted by the licensee. When compared, the inspector measurements were in agreement with licensee postings. The inspector reviewed RWPs for appropriate radiological job protection requirements and monitored the area for unlocked high radiation gate/doors and personnel compliance with high radiation area access requirements. No discrepancies were noted.

c. Maintaining Dose ALARA

The inspector reviewed the licensee's program for maintaining radiation dose to workers ALARA. Through August, the licensee had acquired 750 person-rem collective dose. The licensee has had Unit 1 in an outage from September 1988 through June 1989, and Unit 2 in an outage from September 1988 through August 1988. During the inspection, Unit 2 was moving to hot shutdown and anticipated criticality. While the scope of work performed during both outages could not be quantified or compared to previous outages, it appeared to the inspector that Surry is improving in dose reduction. The licensee now manages collective dose based on dose estimates for specific jobs instead of managing dose on a daily outage or routine day goal. In discussions with the ALARA coordinator and staff, the inspector learned that the appointment of a new chairman to the station ALARA committee and new station and program management changes had resulted in improved management participation in the ALARA program. Also, that worker attitude changes toward, and department participation in, the ALARA program were increasing daily. The licensee representatives stated that the formalization and improvements in the RWP program better communicated ALARA requirements to the worker. A second sheet of the RWP contains dose reduction methods for the specific job and is required at the job site with the RWP.

The ALARA coordinator stated that job dose estimates submitted by departments, unnecessary dose due to surveys for RWPs that were never worked, and attendance at post job debriefings had been a problem in the past, but improvements were being made. Also, noted was that their work space was too restrictive, but plans were under way to move to a larger office space. Licensee ALARA representatives stated that the station goal for 1989 was 502 person-rem but that the length

of the outage had caused the goal overrun. Also, an additional 40 person-rem was in the approval circuit to reclaim approximately 3,300 ft² of contaminated area in the RCA. The inspector discussed the station's leak identification and repair program with the cognizant HP supervisor and ALARA staff. The program continues to be aggressive and is considered a program strength. The contaminated area of the RCA is approximately 17 percent. Areas reclaimed are coated with an epoxy paint that provides a very smooth surface and reduces adherence of contamination.

During previous inspections, a need for a procedure requirement to have ALARA coordinators from each station department, who would work full time on dose reduction, was discussed with licensee representatives. Full time department ALARA coordinators have been assigned by maintenance, operations, and site services departments to interface with the station's ALARA staff. However, both the company Radiation Protection Plan and HP procedure 5.4.10, Station ALARA Program, require that dedicated ALARA coordinators be assigned from training, technical services, and power engineering services. The inspector informed the licensee that the assignment of dedicated ALARA department coordinators would be reviewed during subsequent inspections and would be tracked by the NRC as Inspector Followup Item (IFI) 50-280/89-27-01.

No violations or deviations were identified.

3. Exit Interview

The inspection scope and findings were summarized on September 15, 1989, with those persons indicated in Paragraph 1. The inspector described the areas inspected and discussed the inspection findings with licensee management. No dissenting comments were received from the licensee. The licensee did not identify, as proprietary, any of the material provided to, or reviewed by the inspector, during this inspection.

Item Number

Description and Reference

50-280/89-27-01

IFI - Designation of dedicated department ALARA coordinators (Paragraph 2.c).