U. S. NUCLEAR REGULATORY COMMISSION REGION I

Report No. 50-219/89-15

Docket No. 50-219

License No. DFR-16

Licensee: GPU Nuclear Corporation P. O. Box 388 Forked River, New Jersey 08731

Facility Name: Oyster Creek Nuclear Generating Station

Inspection At: Forked River, New Jersey

Inspection Conducted: June 27 - 30, 1989

Inspector:

Radiation Specialist Sherbini, Senior

Facilities Radiation Protection Section

Approved by:

N. Pasciak, Chief, Facilities Radiation Protection Section

Inspection Summary: Inspection on June 27-30, 1989 (Report No. 50-219/89-15)

<u>Areas Inspected</u>: A routine, unannounced inspection of the radiological controls program on site. Areas inspected included organization and qualifications of the radiological controls personnel in the site organization.

Results: Within the scope of this inspection, no violations were identified.

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1.0 Personnel Contacted

- 1.1 Licensee Personnel
 - R. Beck, Radiological Controls/Chemistry Training Supervisor
 - * M. Douches, QA Monitor
 - * E. Fitzpatrick, Vice President/Director, Cyster Creek
 - * J. Rogers, Licensing Engineer

 - * M. Slobodien, Director, Radiological Controls D. Smith, Manager, Radiological Controls Field Operations
 - * R. Sullivan, Emergancy Preparedness T. Washburn, Radiological Engineer
 - K. Wolfe, Manager, Radiological Engineering

1.2 NRC Personnel

- * E. Collins, Senior Resident Inspector
 - D. Lew, Resident Inspector
 - M. Banerjee, Resident Inspector
- * Denotes attendance at the exit meeting.

2.0 Purpose and Scope of the Inspection:

Previous NRC inspections identified several problem areas in the radiological controls practices on site. These problems included inadequate procedures and procedures with technical errors that were not identified by the licensee; quality assurance and quality control functions that were not adequately monitored by technical personnel; poor radiation survey practices in some situations; and many instances of failures to follow procedures. The purpose of this inspection was to review the radiological program on site to determine if there were programmatic weaknesses that may be indirectly contributing to these observed deficiencies.

3.0 Organization

The Radiological Controls Department at Oyster Creek is under the management of the Director, Radiological Controls. The Director reports to a corporate officer, the Director, Radiological and Environmental Controls, who reports to the Office of the President. The site Radiological Controls Department is therefore an organization that is administratively

independent of the site organization under the Vice President/Director Oyster Creek. An additional measure of independence of the radiological controls function on site is provided by the Industrial Safety and Radiological Assessor. The Assessor's function is to observe activities and practices on site and prepare reports on these observations. The Assessor is independent of the site organization and of the site Radiological Controls Department and reports directly to the corporate Director, Radiological and Environmental Controls.

The site Radiological Controls organization includes four managers reporting to the Director: Radiological Health, Radiological Engineering, Radiological Controls Field Operations, and Industrial Safety and Health. An Administrator also reports to the Director. The staffing and qualifications of the Industrial Safety and Health section were not reviewed during this inspection, but will be reviewed during a future inspection.

The Radiological Health section is a support group in charge of dosimetry issue and maintenance of dosimetry records, the respirator fit facility, the whole body counting facility, and instrument calibration and repair. The section also administers the vendor bioassay program. Two group supervisors report to the section manager; one is in charge of instrument repair and calibration (I&C) with five permanent technician positions under him, and one is in charge of dosimetry, with six permanent technician positions under him. The total permanent section staff is 14.

The Radiological Engineering section is also a support group. The section provides technical support to the other sections, implements the ALARA program and performs ALARA reviews, incorporates engineering controls to minimize exposure, sets exposure goals, writes procedures for the other sections, and performs periodic audits of the various functional areas of the department. The section also administers the temporary shielding program. One of the radiological engineers acts as the site coordinator for the respiratory protective program. Eight Radiological Engineers report to the section manager. Although the engineers are not formally assigned special permanent duties, each engineer is considered responsible for, and cognizant of, one area of the plant, such as the Reactor Building, the Drywell, and so on. One of the engineers is assigned exclusively to the technical oversight of the whole body counter and respirator fit facilities, the gamma spectrometer, and the bioassay program. The total permanent section staff is nine.

The Radiological Controls Field Operations section is responsible for radiological controls at the job sites. This includes posting, surveys, RWP preparation, access control, job coverage, and contamination control. The section manager is assisted by a Deputy Manager. Reporting to the manager are seven Group Radiological Controls Supervisors (GRCS). They are the first line supervisors and they direct and supervise the activities of 32 permanent Radiological Controls Technicians (RCT). Seven of the RCTs are

junior technicians and 25 are seniors. Each GRCS is typically assigned five RCTs, and one GRCS assists the manager and deputy manager. During routine operating periods there are normally 3-4 GRCSs on duty during the day shift and one GRCS on each of the other two shifts. The GRCSs work frequently with the radiological engineers to discuss technical problems, ALARA measures, ALARA reviews, and procedures. There are 41 permanent positions in the section.

The organization of the Radiological Controls Department has been observed during previous inspections to function well in many respects. However, some areas of concern have also been noted:

. The Radiological Engineering section is the technical support group for the department. However, there is no formal mechanism to provide for continuing technical oversight to be provided by the radiological engineers except for a required cyclic audit. This audit follows a five year cycle, which means that each area is closely examined about once every five years. This lack of a structured oversight has resulted in procedures containing unrecognized technical errors, undefined quality control parameters, and unreviewed quality control results. The licensee stated that an opportunity for direct input by Radiological Engineering is when the section writes or reviews procedures for other sections. The licensee also stated that the radiological engineers provide ongoing examination of technical issues during their normal duties, even though there is no formal program to do so.

The organization of the Radiological Controls Department provides independence from the site organization by having the Director report directly to a corporate officer. However, radiological controls problems are not always fully analyzed to identify root causes, and the causes that are identified tend to be narrow in scope and not directed toward identifying and solving the generic problem areas that allowed the incident to occur. Possible solutions have not always been fully explored and forcefully implemented. An example is the repeated incidents of locked high radiation area doors being left open and unattended, in violation of Technical Specifications requirements. This problem has existed on site for some time. A review of the Radiological Incident Reports during this inspection shows that these incidents still occur with some frequency. One known contributing factor is the poor state of maintenance of some of these doors. However, there is still no ongoing program to ensure that these doors are kept in good condition. Another contributing problem appears to be a less than adequate attitude toward compliance with radiological procedures. This attitude problem has also manifested itself in other areas, including failures to observe radiological posting requirements in radiologically controlled areas. The solutions that have been repeatedly attempted, including individual counseling and augmented training, have not been very successful. The initiative to propose and implement long term, permanent solutions to such problems belongs to the Radiological Controls Department, but this initiative is not always taken.

4.0 Qualifications

The qualifications of each member of the Radiological Controls Department (except Industrial Safety) were reviewed and compared with applicable standards and criteria. The qualifications for the Radiological Controls Technician (RCT) and GRCS are specified in Radiological Controls Procedure 9300-ADM-2622.01, Rev. 5, "Radiological Controls Field Operations personnel Qualifications/Training Standard". According to this procedure, a Junior RCT (Step 2) may be promoted to a Senior RCT after a minimum of 12 months as a Junior RCT and successful completion of prescribed examinations. A person may be promoted to a Junior RCT from an entry level (Step 1) position after a minimum of six months in step 1 and completion of prescribed examinations. The job description for that position specifies a high school diploma or equivalent. According to the Technical Specifications, a senior RCT is required to have at least one year of experience in applied radiation protection work and be certified by the Radiological Controls Director based on an NRC-approved training program.

The procedure specifies that contractor supplied senior RCTs shall have at least two years of radiological work experience, and junior RCTs at least 6 months radiological work experience.

Appointment to GRCS requires, according to procedure, "four years experience in Radiological Control Field Operations and successful completion of prescribed qualification requirements". A review of the procedure showed a number of deficiencies:

- . The procedure does not specify what experience, if any, or education is required for a step 1 appointment.
- . The minimum requirements for contractor supplied GRCS are not specified.
- . The requirements for permanent appointment to GRCS from outside the utility are not specified.
- . The requirements for appointment directly to senior non-contractor RCT from outside the utility are not specified.
- . The type of work experience that may be accepted toward classification as senior RCT or GRCS is not specified. Also unspecified is the maximum rate at which applicable experience may be acquired. The licensee stated that they have started informally to use guidelines provided by the Institute for Nuclear Power Operations (INPO) in crediting experience for contractor technicians.
- . The formal training requirements, if any, that a senior RCT or a GRCS needs for appointment to these positions is not specified.
- . The type of acceptable experience acquired during military service, and

the manner of crediting such experience, is not specified.

. The procedure exempts contractor technicians who have previously worked at 'IMI or Oyster Creek from a screening examination normally given before appointment. However, there is no specification of the time limit since last working at these sites beyond which such an exemption becomes inappropriate. Furthermore, until very recently (the last outage) no formal mechanism was in place to document the quality of performance and supervisor evaluations of contractor technicians to assist in future decisions on hiring these technicians.

- . The procedure does not address verification of the experience of contractor technicians. The licensee stated that they currently verify experience with former work sites.
- . The procedure allows exemption of contractor technicians and supervisors from written, oral and practical factors examinations for up to a year if they are hired for work during an outage or other short assignment. No reasons are given to justify such an exemption, which in effect applies to practically all contractor technicians working on site on anything other than a semi-permanent basis.
- . The cyclic training requirements specified in the procedure are weak. GRCSs receive cyclic training at the discretion of their supervisor. A review of the training record showed that some GRCSs attended cyclic training with their technicians but some did not.

The licensee stated that they will review and revise the procedure as appropriate. The revised procedure will be reviewed during a future inspection.

A review of available position descriptions for GRCS showed that there were two sets of requirements in use: one set, dated 1981, specifies as a minimum a high school diploma or equivalent and four years of experience in nuclear power plant related radiological control work; the second set of requirements, dated 1987, specifies a high school diploma or equivalent and ten years of experience of which five should be nuclear power plant related experience.

A review of the qualifications of the site GRCSs showed that, as of the date of this inspection, all met the 1981 experience requirements but not all of them met the 1987 experience requirements. The licensee stated that the more stringent requirements were developed by the utility's Human Resources Division for use in hiring new GRCSs. However, company policy allows waiving these requirements and using less stringent ones in the case of a worker being promoted into that position from within the company. A similar situation was encountered in attempting to determine whether the department's other staff members met the qualification requirements of their positions. One set of requirements for the Radiological Engineer position specifies a bachelor's degree in engineering, health physics, or a relevant science discipline plus one year of experience in radiological engineering or health physics. A second position description for Radiological Engineers specifies a bachelor's degree in engineering or a related physical science, or a combination of technical training and radiological experience with one year experience substituting for one year formal training. The required experience depends on grade and may ' from zero to eight years in nuclear power or radiological controls. It is not clear whether the required experience is in addition to the degree requirement or a substitute for it. A review of the qualifications of the radiological engineering staff showed that all had the least two years of nuclear power experience, and some had over 15 years of nuclear power experience, but some did not meet the degree requirements. Most of the experience of the radiological engineering staff was accumulated as radiological controls technicians or supervisors at the licensee's facilities or during service in the Navy.

The position descriptions for the section managers specify a bachelor degree in health physics, science or engineering for the Radiological Engineering and Radiological Health Managers plus 12 years experience in applied radiation protection, of which 7 years must be as a supervisor or manager of technical personnel. The Manager Field Operations position description allows substitution of a high school diploma and 15 years of experience for the bachelor degree and 12 years experience. A second position description for the Manager Field Operations requires 8-15 years experience of which five are of nuclear power plant and related radiological controls work.

A review of the qualifications of the section managers showed that the situation was similar to that for the other groups reviewed in that some did not meet either one or the other of the stated degree or experience requirements. The licensee stated that, as in the case of other positions, the company allows waiving position requirements in the case of promotion within the company. The licensee stated that personnel occupying these positions were appointed because they possessed exceptional technical and management skills that allowed them to competently fulfill the functions of these positions even though they did not meet the formal requirements specified in the position descriptions.

According to the station's Technical Specifications, "Each member of the radiation protection organization for which there is a comparable position described in ANSI N18.1-1971 shall meet or exceed the minimum qualifications therein...". The inspector compared the qualifications requirements for the Technical Manager and Radiation Protection Professional - Technical positions in ANSI N18.1-1971 with the positions in the licensee's organization that appeared to correspond to these positions.

Several individuals were found not to meet these requirements. However, the licensee stated that the correlation between the positions described in ANSI N18.1-1971 and the positions in the Radiological Controls Department was not easy to determine. The licensee further stated that such correlation to determine compliance had apparently not been established by the licensee. The inspector stated that this item will remain unresolved pending determination of such correspondence by the licensee (50-219/89-15-01).

A review of the experience of the section managers, radiological engineers and GRCSs showed that with minor exceptions the staff's experience at an operating nuclear power facility was acquired entirely at JCP&L and later GPUN, the licensee operator of Oyster Creek and Three Mile Island. The licensee stated that they encourage a stable staff by making available opportunities for promotion within the company. However, although a stable staff does contribute toward a strong program, the inspector noted two areas of concern in the licensee's staffing policy:

. The ficensee's policy of waiving the qualifications requirements of a position as stated in position descriptions when promoting personnel into that position is not supplemented by a policy designed to develop the promoted person's qualifications to bring them up to the position's requirements within a reasonable time period. For example, a review of the training programs for the managers, supervisors, and radiological engineers showed that the training programs did not provide needed supplemental training. There is a training program for radiological engineers, but it is limited to periodic presentations on selected topics.

. The licensee has not developed an effective program to ensure that the Radiological Controls staff is exposed to the changes in the industry and to the latest methods and philosophies in the radiation protection field. This is particularly important since the staff's experience in the nuclear power field, with minor exceptions, has been acquired in the licensee's facilities. The licensee stated that they are taking advantage of the INPO cross training program. In this program, a company person is assigned to INPO as an inspector for periods of a year or more. During this time the person is offered the opportunity of closely observing the programs at many power reactor sites all over the country. However, to date the Radiological Controls staff have not participated in this program. Furthermore, program participation is usually limited to only one person at a time, but the need for industry exposure affects the entire staff.

The licensee does not have any definite plans to address either of the above concerns. However, the licensee stated that they will review the issues raised and determine the appropriate actions to be taken.

4.0 Exit Meeting

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The inspector met with licensee representatives at the end of the inspection on 30 June, 1989. The inspector reviewed the purpose and scope of the inspection and discussed the findings.