

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-322/92-01

Docket No. 50-322

License No. NPF-82

Licensee: Long Island Lighting Company
P.O. Box 618, North Country Road
Wading River, New York 11792

Facility Name: Shoreham Nuclear Power Station

Inspection At: Wading River and Melville, New York

Inspection Conducted: February 18 - 21, 1992

Inspector:

J. Kottan for
J. Kottan, Laboratory Specialist
Effluents Radiation Protection Section (ERPS)

3/2/92
date

Approved By:

R. Bores
R. Bores, Chief, ERPS
Facilities Radiological Safety and Safeguards Branch
Division of Radiation Safety and Safeguards

3/03/92
date

Areas Inspected: Announced safety inspection of the radioactive liquid and gaseous effluent control programs and the radiological environmental monitoring program, including: management controls, implementation of the radiological effluent technical specifications, and implementation of the radiological environmental monitoring program.

Results: Within the areas inspected, the licensee had effectively implemented the radioactive effluent control programs and the radiological environmental monitoring program. No safety concerns or violations were identified.

DETAILS

1.0 Individuals Contacted

Principal Licensee Employees

- M. Beer, Section Head, Radiological Analysis
- * P. Blancone, Radiochemistry Foreman
- L. Calone, Plant Manager
- S. Chan, Radiochemist
- * A. Notaro, I&C/Computer Plant Engineer
- * R. Pauly, Operational Compliance Engineer
- * M. Pechin, Operations Watch Supervisor
- * F. Petschauer, Radiological Controls Division Manager
- * J. Powers, Quality Control Manager
- * S. Schoenwiesner, Lic/Reg Compliance Department Manager, LIPA
- K. Sullivan, Environmental Scientist
- * M. Tucker, Radiochemistry Engineer
- * J. Wynne, Operations Manager

* Denotes those present at the exit meeting on February 21, 1992. The inspector also talked with and interviewed other personnel.

2.0 Purpose

The purpose of this inspection was to review the following areas.

1. The licensee's ability to control, quantify and monitor releases of radioactive material to the environment.
2. The licensee's ability to effectively implement the radiological environmental monitoring program.

3.0 Management Controls

3.1 Organization

The Shoreham Nuclear Power Station has been shut down since 1989 due to an agreement between the State of New York and the Long Island Lighting Company. The reactor has been defueled, and the fuel is being stored in the spent fuel pool.

The radioactive effluents control programs are primarily administered by the Chemistry Department which is part of the Radiological Controls Division. Effluent radiation monitor calibrations and checks are performed by the I&C/Computer Department which is a part of the Maintenance Division. The

Nuclear Engineering Division provides additional support to the radioactive effluents control programs.

The REMP is administered primarily by the Environmental Engineering Department with additional support provided by the Nuclear Engineering Department.

3.2 Audits

The inspector reviewed the following audits of the radioactive effluents control program and the REMP.

- Audit No. NK-91-04, Radiological and Non-radiological Environmental/Effluent Monitoring and QA Program, performed May 20-24, 1991
- Audit No. NQA-91-03, Radiological Controls, performed March 11-21, 1991

The above audits were performed by the licensee's Nuclear Quality Assurance Department and included detailed audit check lists and audit plans. The audits were of good technical depth, sufficient to probe for programmatic weaknesses, and the audit teams included technical specialists.

The inspector also reviewed Audit No. AR-91-TELIS-01, performed on May 30, 1991, of the vendor laboratory used by the licensee for the analysis of REMP samples. Again the audit was performed using an audit plan and detailed checklist and the audit team included a technical specialist. Additionally, the inspector reviewed surveillance activities of the radioactive effluents and REMP areas for 1990 and 1991. These surveillance activities focused primarily on chemistry department activities.

Finally, the inspector reviewed the 1992 audit schedule and noted that the effluent and REMP area would be audited in 1992.

4.0 Implementation of the Radiological Effluent Technical Specifications (RETS)

The licensee has relocated the RETS from the Station Technical Specifications (TS) to the Offsite Dose Calculation Manual (ODCM) as described in NRC Generic Letter 89-01, dated January 31, 1989.

4.1 Changes in the ODCM

The licensee had issued Revision No. 17 to the ODCM which became effective on June 24, 1991. This change reflected the current status of the Shoreham facility, that is, the radiological effluent monitoring requirements for the facility in its non-operating, defueled condition and with the current isotopic inventory of the plant and the stored spent fuel. These changes required the continued availability of three liquid radioactive effluent monitors: Liquid Radwaste, RE-13; RHR Heat Exchangers, RE-23A and RE-23B; and the Reactor Building Saltwater Drain Tank, RE-79. Only one gaseous radioactive effluent monitor was required: station ventilation exhaust noble gas, RE-42. The radioactive liquid waste sampling and analysis program remained essentially unchanged from that required during operation. The radioactive gaseous waste sampling and analysis program had changed in that radioiodine sample collection is no longer required since the radioiodine in the spent fuel had decayed away.

4.2 Effluent Radiation Monitors

The inspector reviewed selected 1990 and 1991 channel calibration and channel functional test data for the radioactive liquid effluent monitors RE-13 and RE-79. These calibrations and functional tests were performed at the required frequencies and the results were within the procedural acceptance criteria. The RHR system was drained and was not in service during this inspection, therefore, the RE-23A and RE-23B effluent radiation monitor calibration data were not reviewed during this inspection. The inspector also reviewed selected 1990 and 1991 calibration and functional test data for RE-42, the noble gas station ventilation monitor, and noted that for these data, the tests and calibrations were performed at the required frequencies and the results were within procedural acceptance criteria.

Additionally, the inspector reviewed the alarm/trip setpoints for the above monitors and noted that the monitors were set to alarm/trip at the appropriate ODCM required points. In particular, the inspector noted that noble gas station ventilation radiation monitor alarm set points were calculated based on the mixture of noble gases that would be present during power operation and were, therefore, conservative for Kr-85, which is the only noble gas present in the stored spent fuel.

4.3 Reports

The inspector reviewed the semi-annual effluent release report for the first half of 1991. The report met the TS and ODCM reporting requirements. During the first half of 1991 there were no liquid or gaseous radioactive effluent

releases. The inspector also reviewed the available radioactive effluent data for the second half of 1991 and noted that only one liquid radioactive effluent release was made during this time period. There were no gaseous radioactive effluent releases during this period.

In reviewing the radioactive effluent release data the inspector noted that the yearly dose commitments to members of the public were a small percentage of the TS/ODCM limits and were due to the one liquid radioactive effluent release. The inspector also noted that the licensee was meeting the ODCM requirements with respect to sampling, analysis and lower limits of detection for effluent samples. In addition the licensee had in place an effective laboratory QA/QC program for the measurement of radioactivity in effluent samples. This program consisted of control charts for the counting instrumentation, participation in an interlaboratory program, and periodic calibrations with traceable standards.

5.0 Implementation of the REMP

The licensee had also relocated the REMP from the TS to the ODCM as discussed in Section 4 of this report.

5.1 Changes in the ODCM

Revision No. 17 of the ODCM, which became effective on June 24, 1991, contained a revised REMP which reflected the current status of the Shoreham facility. Requirements for sampling milk have been deleted since the milk radioiodine pathway no longer exists. Also, the ground water pathway has been deleted and the outer ring of direct radiation monitoring stations (TLDs) has been eliminated.

5.2 REMP Implementation

The inspector examined four of the five airborne particulate sampling locations and selected direct radiation monitoring locations. All of the observed air sampling equipment was operational and the TLDs were placed at the designated locations. The inspector reviewed the licensee's procedures for sample collection, sample preparation, sample shipment, TLD placement and retrieval, and air sampler calibrations. These procedures were complete, well written, and detailed. Additionally, the inspector reviewed the licensee's 1990 Annual Environmental Monitoring Report for omissions and obvious mistakes. None were noted. The inspector also reviewed available 1991 REMP data. These reviews indicated that the licensee was meeting the ODCM REMP requirements for sampling, analysis, detection limits, and reporting.

The licensee used a vendor laboratory for REMP sample analysis and TLD assessment. QA/QC of the vendor laboratory was accomplished through the use of split samples where possible, duplicate analysis of the same sample, and review of the vendor laboratory's QC program. The licensee required the vendor laboratory to submit quarterly reports containing the results of the vendor laboratory's intralaboratory and interlaboratory QC programs. The licensee also maintained controlled copies of the vendor laboratory's procedures.

5.3 Meteorological Monitoring Program

The inspector reviewed the licensee's meteorological monitoring program in order to verify instrument operability and maintenance. The inspector examined the meteorological monitoring instrumentation in the control room in order to verify operability. This included both the analog chart recorder and the computer outputs. A comparison of the outputs from both devices indicated good agreement. The inspector reviewed the most recent calibration results, performed December 10, 1991, for wind speed, wind direction, and delta temperature. All calibration results were within the licensee's procedural acceptance criteria. The calibrations were performed on a quarterly basis by a contractor for the licensee. Based on the above reviews and through discussions with the licensee, the inspector determined that the licensee was effectively implementing the meteorological monitoring program.

6.0 Exit Meeting

The inspector met with the licensee representatives denoted in Section 1.0 at the conclusion of the inspection on February 21, 1992. The inspector summarized the purpose, scope, and finding of the inspection.