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**Board of Directors
RTI, Inc.
108 Lake Denmark Road
Rockaway, New Jersey 07866**

12/18/90

Subject: Radiation Safety Audit Fourth Quarter 1990

Gentlemen:

Enclosed herein please find the fourth quarter 1990 radiation safety audit of the facility at Rockaway, New Jersey. This audit has been performed to comply with license condition 20 of USNRC license 29-13613-02.

Please do not hesitate to contact me should you have any questions or comments in this matter.

Sincerely


Michael J. Slobodien, CHP

cc: P. Shapiro, RTI
President, RTI
USNRC, Region I

B/29

RADIATION SAFETY AUDIT

FOURTH QUARTER 1990

A radiation safety audit was conducted at the Lake Denmark Road facility on December 6 and 17, 1990. The audit consisted of observation of operations, discussions with personnel, reviews of selected records, and confirmatory radiation measurements at the several locations within the plant.

REVIEW OF OPERATIONS ACTIVITIES

This audit was conducted on a Tuesday and a following Monday during the day shift. A full compliment of staff was at the facility. three persons. I observed operations of the irradiator including a planned shutdown, survey and entry into the irradiator cell by the authorized operator followed by materials handlers, removal of product from the irradiator, maintenance of the cell monorail, and irradiator startup. All operations were conducted in accordance with plant procedures. No deficiencies were identified.

During cell unloading I entered the cell upon approval of the operator to review housekeeping in the cell and in the storage pool. The cell was free of extraneous material and equipment. The pool water was clean. of surface debris. I inspected interlock mechanisms at random and found no deviations.

SAFETY SYSTEM TESTING

Interlock testing has been performed on a timely basis according to plant records. Discussions with the operator on duty indicated that there have not been any long standing uncorrected problems. A review of interlock testing records indicated that testing has been performed at the beginning of each day and prior to source operations.

During the on site visit on December 17, I discussed an operational occurrence in which the source lowered into the cell pool during a routine operating cycle without apparent cause. A prompt investigation was undertaken. Although the cause was not identified, the source lowering was believed to have resulted from activation of the cell door interlock by being jarred. Plant management identified that the operator failed to validate the source interlocks immediately after completing the investigation. The testing was performed 90 minutes later. This matter was discussed during the routine Radiation Safety Committee meeting on December 17, 1990. The operator was counseled in this matter and the action was documented. The plant management was proactive in calling

~~the Region I office of NRC to report the occurrence.~~

I did not identify any deviations other than those already recognized and corrected by the plant staff. Management attention to this issue was prompt and complete.

MAINTENANCE RECORDS

I reviewed the routine weekly, monthly, quarterly, and annual maintenance activities. All had been done on schedule. As of December 6, 1990, some of the actions required had yet to be completed. Maintenance activities are audited by plant management. Two annual maintenance activities - sprinkler system verification and hanger system rods and nuts inspection - remained to be completed.

REVIEW OF POSTINGS AND NOTICES

I observed postings throughout the facility. I noted that postings at the entrance to the irradiator cell were in both English and Spanish. Copies of 10CFR 19 and 20 were prominent and the form NRC-3 was present.

REVIEW OF RADIATION MEASURING INSTRUMENTATION

~~The following instrumentation was observed to be operational~~
and suitable for use:

<u>Device</u>	<u>Serial No.</u>	<u>Range</u>	<u>Cal Due</u>
Ludlum Model 3 GM	48678	0 - 200 mR/hr	1-31-91
Eberline E-120 GM	9029	0 - 50 mR/hr	3-19-91
Eberline PIC 6B	175	0 - 1000 R/hr	4-29-91
Ludlum uR meter	47108	0 - 5000 mR/hr	8-02-91
Eberline PIC 6A	1302	0 - 1000 R/hr	1-29-91

REVIEW OF PERSONNEL DOSIMETRY EXPOSURES

I reviewed available records posted for personnel exposure histories. There were no unusual exposures.

SURVEILLANCE ACTIVITIES

Weekly, monthly and quarterly surveillances have been conducted according to schedule.

REVIEW OF QUALITY DEPARTMENT AUDIT

I reviewed the audit completed for the fourth quarter 1990. The standard audit plan was followed. No findings of radiological significance were identified. The audit program can be improved by adding a list of documents reviewed in the applicable notes section of the audit report. This will aid in demonstrating the scope and thoroughness of the audit.

RADIATION SAFETY COMMITTEE ACTIVITIES

In addition to the Radiation Safety Committee actions described above, I reviewed the meeting minutes from August 30, October 31, and November 27 1990. The minutes clearly demonstrate that senior management pays particular attention to facility and equipment changes that could affect radiological safety, safety equipment operability, operating experience at other facilities, and NRC information notices.

SOIL REMOVAL AND ENVIRONMENTAL REMEDIATION

The contaminated soil in areas A, B, C, and D of plant environmental survey drawings has been removed such that ambient exposure rates are less than the acceptance criterion established by calculation. The soil has been placed in DOT specification containers and is to be sent to shallow land burial at an authorized burial site. None of the drums has measurable exposure rate above background. The area adjacent to the irradiator cell has been back filled.

DOCUMENTS REVIEWED

- o ~~Radiation Safety Committee minutes 8-30-90~~
- o Radiation Safety Committee minutes 10-31-90
- o Radiation Safety Committee minutes 11-27-90
- o Radiation Safety Committee minutes 12-17-90
- o Quarterly Surveys:
 - 6-27-90 contamination survey
 - 4-30-90 cell water and demineralizer survey
 - 5-30-90 pH and water radioactivity
 - 4-18-90 Facility radiation survey

 - 4-30-90 ozone monitoring
 - 9-18-90 quarterly water chemistry
 - 9-28-90 quarterly contamination survey
 - 9-28-90 quarterly area radiation survey
 - 9-20-90 quarterly ozone survey
- o Training Records for Michael Homeijer
 - o operator qualification card
 - o operator final examination 8-31-90
 - o operator training schedule
 - o OJT training log 6-18-90 - 8-29-90
 - o Training attendance record sheets
 - o Practical work sheets and quizzes
 - o Monthly operations safety meeting
 - o General Radiation Worker Exam 6-18-90
 - o Fitness for duty training record
 - o Soil remediation survey records
 - o Personnel exposure records through 3rd quarter 1990

PERSONS CONTACTED

The following persons were contacted during this audit:

- M. Homeijer, Operator
- J. Schlecht, RSO, Plant Manager
- A. Friedrich, Operations Supervisor
- A. Beetle, Quality Laboratory Technician
- P. Shapiro, VP - Quality
- J. Scandalios, President