FCRL:FC
(29-13613-02)

JAN 18 1978

Radiation Technology, Inc.
ATTN: Siegfried Walt, Ph.D.
Lake Denmark Road
Rockaway, NJ 07866

Gentlemen:

Amendment No. 12 to License No. 29-13613-02, which was forwarded under separate cover, authorizies installation and testing of a safety interlock system for the input-output conveyor.

Please note that Condition 20 only authorizes operation of the conveyor system in a continuous mode incident to testing of the installed interlock system. Your application for routine use of the automatic system should contain a detailed description of the conveyor interlock system. The application should be supplemented with drawings showing the location of the photoelectric sensors and dimensions of the system. Your application should also contain a detailed narrative description of the operation of the as-built conveyor interlock system.

Please note that we have also amended Condition 13 of your license. This condition was inadvertently changed in Amendment 11.

We shall be pleased to review an application for continuous operation of your conveyor system which is filed, in duplicate, in accordance with the above information.

Sincerely,

Nathan Bassin
Radioisotopes Licensing Branch
Division of Fuel Cycle and
Material Safety



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# Radiation Technology, Inc.

LAKE DENMARK ROAD, ROCKAWAY, N.J. 07866
(201) 627-2900


January 18, 1978

Mr. Boyce H. Grier, Director
Nuclear Regulatory Commission
Region 1
631 Park Avenue
King of Prussia, PA 19406

RE: Docket No. 30-7022

Dear Mr. Grier:

I should like to take this opportunity to reply to your letter of January 6, 1978 which was received in our office on January 12, 1978. Though you indicate that no reply to that letter is required, we do believe that some of the statements made by your inspectors or the interpretations they made based on conversations they had with certain of our employees require correction for the record. I also feel that you attempted to present the chronological events which took place from the point at which our license had been suspended to the point at which it was reinstated and in so doing, it is made to appear that each of the events followed in a logical and constructive manner. Once again, we feel that the record should be made to show that Radiation Technology, Inc. did not believe that the steps that were taken from the point at which our license was suspended to the point at which it was reinstated was done with our concurrence and that the steps taken were in fact taken in the proper sequence.

The following comments refer to your report number 77-03, under the section entitled "Details". Item 3.d(5) indicates that "this lock arrangement does not prevent . . ." and is not correct. An individual who would be inside the cell with the cell door closed could have opened up the door from the inside. In essence, this was an operating lock which was capable of being opened in an emergency. We provide the following clarification to Item 3.d(7). There was never any intent to operate with the door in an open position. Procedures demanded that the door be closed. The door was completely operable and its safety features, for cell opening, intact and operable. With the door closed, the cell could only be opened in the normal manner with the source down and after the normal radiation alarm check. This comment was made by Mr. Haram who was being interviewed for the comment which appeared in your interview under this detail number. I should like to clarify Item 3.h in that Mr. Haram had already decided to sent the exposed individual to St. Barnabas Hospital prior to the call to the NRC. Further,

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we would like to correct the statement purported to Mr. William Andersen under Item 5.c where it was indicated that the interlocks had been inoperative intermittently for a five to six day period prior to the incident. According to our information, the interlock in question was only inoperative for perhaps a day prior to the incident which coincided with the construction sequence in installing the new conveyor system.

3 Under Item 6, Summary of Incident, Mr. Haram has taken exception with the first paragraph on Page 10 in that there was never any intention on the part of the licensee to operate with an open door during irradiation and any attempt to do this was clearly forbidden. We take exception to Item 11 entitled "Management Audits" since it implies that there was no management supervision with regard to radiation safety over shift supervisors and/or shift workers. According to Mr. Haram, he did not imply that such was the case since the system that was in force at Radiation Technology, Inc. was an informal system in which continuous training and checking of the individual's awareness by management observation took place. Therefore, the statement attributed to your inspectors that "no system was in force by which shift supervisors routinely checked individual employees. . ." was certainly far from accurate. We state once again, that no company could have operated in excess of 286,000 manhours without a radiation incident if management controls were not in effect. Further, we think it is out of line for the inspector to note that the "lack of a management control program was brought to the licensee's attention during a previous inspection in October and November 1976." We have contested the implications pertaining to the referred to inspections and until such time as a definitive decision is made as a result of our appeal we do not believe that it serves any purpose to add statements such as this which are available to the public at large.

4 With regard to your Report No. 77-04, under the details of this report we would like to add the following comments. Under Item 2, it is implied that Radiation Technology convened a panel of three outside consultants to form a safety review committee solely of its own volition. The fact of the matter was that Mr. Robert McClintock of your staff informed me that there would be no chance that we would ever get our license reinstated if we did not form such a committee. Again, the implication of the statement made under your Item 2 is that the review being made by the safety committee were vitally important in order to correct alleged health and safety matters. The record should show that according to statements made in press releases issued by your own office on September 23 and again on September 26 that there were no health and safety concerns at Radiation Technology since reinstallation of the interlock on September 23.

5 The report leaves one to believe that it was the intent of Radiation Technology, Inc., to accept the order suspending license and to simply request various modifications to that order. Again, the record should show that this was not our intent but rather the result of discussions both between myself and members of our safety committee with Robert McClintock. The guidance we 1 had received was that we had to "restore our credibility" by going through the costly and time consuming procedure of requesting modifications of the order suspending license. Throughout the entire episode, we had been advised by both Region I as well as Mr. Volgenau's office, that our contact should be

Robert McClintock. According to Item 4. Mr. McClintock had discussions with our safety review committee concerning the need for an in depth audit of our radiation protection program and the need for a thorough review and revision of procedures. The safety review committee was advised that the NRC would review and give timely consideration to procedures and requests approved by the safety review committee. Again, the implication of these statements were that Radiation Technology was in dire need of the various reviews requested by Mr. McClintock, whereas in reality, very few procedural changes were deemed necessary by the safety review committee, and the information ultimately requested by the Division of Licensing for reinstatement of our license did not require the in depth safety audit nor gross procedural changes on the part of Radiation Technology. According to Item 7, it appears that Radiation Technology submitted the third request for modification on October 7 and that this was routinely approved on October 8. In actuality, the procedures submitted by Radiation Technology and independently approved by our safety review committee were found to be inadequate by Region I and when the modification was finally granted, it required that a member of the safety review committee be on hand 24 hours a day so as to permit that operation to continue. Obviously this was an impossible requirement and one that was protested by Radiation Technology, Inc. Once again we found that when our license was restored by the Division of Licensing that all of the information that had been submitted for the request for modifications to the order were not considered at all. We therefore want to make it very clear that all of the work that we were being forced to go through in order to obtain the various modifications to the order suspending license were not deemed to be of any importance by the Licensing Branch. Further, contrary to Mr. McClintock's statement to our safety review committee as well as to ourself that all procedures approved by the safety review committee would be approved by the NRC was not found to be the case. This meant that the company was simply being asked to pay high consulting fees while at the same time trying to guess what was required by Mr. McClintock. Further, Item 8 which refers to the resumption of activities in the R & D Pool does not state that the operation once started had to be suspended due to the requirement that a member of the safety review committee be on hand at all times. This absurd requirement cost our company a great deal of money and unnecessary consulting fees so as to try to comply with the intent of the amendment. With regard to Item 9 which discusses the request for lifting the order suspending the license, we believe that the record should show that there was nothing material added to our original letter discussing the incident which was dated on September 27 and that in the opinion of the company as well as our independent safety review committee none of the correspondence from the NRC during the period from September 23 to the date of resumption of our license raised questions concerning the health and safety of our employees or the public at large. With regard to Item 10, Management Controls Systems, it should be stated that the company had been interviewing individuals to take over responsibility in the area of radiation operations prior to the incident and that the incident itself did not dictate the hiring of the individual who was subsequently employed. We further point out that under this section, no new management procedures were shown to have been initiated by Radiation Technology. Further under Item 11 which discussed training, the NRC

inspectors were not able to fault Radiation Technology with regard to the checks they made in this particular area. We therefore wish to point out that it is highly unlikely that the company could have initiated a crash training program which would have showed up so well in such a short period of time if in fact the training program had not been on-going as we had informed the NRC right along.

With regard to Item 12 dealing with the inspection of the R & D pool, it seems to indicate that the results of the inspection were virtually letter perfect. What it does not indicate that Mr. McClintock refused to accept the performance of our area monitor believing that the response of the instrument was too slow, although he was informed that that particular instrument which was part of our original license going back almost five years was designed as it was. He insisted that before he could approve our operation that he would have to have that instrument checked out by some independent laboratory. As a result, we were forced to make adhoc arrangements at great cost to the company to have the instrument transported to NUCOR Inc. in Denville, N.J. where one of the NRC inspectors, John Kinnerman accompanied me so that the instrument's response could be checked out. The response of the instrument to high dose rates was highly acceptable and consistent with the type of response we found when we used the internal calibration source. Further, the inspection report does not reveal that during the course of the inspection NRC inspectors dropped their radioactive source into the R & D pool and requested our assistance in recovering their source which had inadvertently been dropped into the pool through "human error". It is interesting to point out, and I believe necessary for the record to show that Mr. McClintock who moments before dropping the source into the pool was overly concerned about every nit-picking procedure the human mind could fathom forgot all about requesting procedures and safety committee reviews when he requested our assistance in recovering his source from the R & D pool. The report does not reveal that the recovery of the source which was a highly tricky operation was done without incident and in a highly professional manner just as the source handling operations were conducted for the first two modifications to the order suspending the license. With regard to Item 13 with respect to the in-air irradiator, the inspector's report appears to be rather straightforward. We believe, however, that the record should indicate the difficulties that we had in obtaining approval from Mr. McClintock concerning the potential operation of one key switch on our console which had never been used and for which a key was not available. In spite of calls being made to the console manufacturer and our electronics technician indicating that the source would be lowered automatically if a key were available to alter the condition of the particular key switch, Mr. McClintock refused to accept this and would not approve our request to resume operation unless we were able to demonstrate the fact. Without a key, this was impossible to do. We offered to remove the key switch or to insert solder into the lock itself, but he refused to accept this. Only after a number of frustrating calls to Region I and to Washington, did Mr. McClintock accept our disconnecting the particular key switch.

In conclusion, we have taken this opportunity to try and present all of the facts associated with the order suspending the license to be placed in the record. Radiation Technology, Inc. has made it clear that we have felt that the NRC handled this entire matter in a highly confused manner which caused us a great deal of unnecessary expense and overall anguish. We have made it clear that the NRC Order Suspending License was an illegal action since there was no imminent danger to the health of our employees nor the surrounding public. We have submitted bills to the Nuclear Regulatory Commission for not only the costs associated with the shutdown but also the cost of retrieving the source which was dropped in the R & D pool by the NRC inspector. We have also made it clear that we have not appreciated the continual reference on the part of the NRC in their various correspondence with us to the matter which is now under appeal since the NRC correspondence is made public and has the effect of casting aspersions against the management and operations of our company before a judicial decision is rendered by the hearing examiner. We have also taken offense at the manner in which the public relations announcements have been made from the Region I headquarters. Our local newspapers have had a field day with the various "off-the-cuff" pronouncements and we have found that these comments are very often distorted by the press which again cause considerable damage to our corporation. We have requested that due to the public concern over things nuclear that any releases being made by the Nuclear Regulatory Commission be in writing so that they are not subject to misinterpretation. We have further requested that a meeting be held with the proper NRC officials so as to critique the events which took place in this incident so that future episodes could be handled in a more constructive manner. Although that request was made about three months ago, we have yet to receive a reply.

Yours very truly,

Martin A. Welt, PhD.
President

MAW:men

JAN 19 1978

Docket No. 30-7002

Radiation Technology, Incorporated
ATTN: Dr Martin A. Welt, President
Lake Denmark Road
Rockaway, New Jersey 07866

Gentlemen:

Subject: Inspection 30-7002/77-06

This refers to the inspection conducted by Mr. M. Slobodien and Dr. J. Glenn of this office on December 20, 21, and 22, 1977, of activities authorized by NRC License No. 29-13613-02 and to the discussions of our findings held by Mr. Slobodien and Dr. Glenn with yourself and Mr. Buckley of your staff at the conclusion of the inspection.

Areas examined during this inspection are described in the Office of Inspection and Enforcement Inspection Report which is enclosed with this letter. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, measurements made by the inspector, and observations by the inspector.

Within the scope of this inspection, no items of noncompliance were observed.

During the inspection, Mr. Slobodien and Dr. Glenn encountered difficulties in gaining access to your facilities to observe licensed activities. From the discussions between you and the NRC inspectors, it is our understanding that you feel it appropriate to limit the amount of time NRC inspectors may observe actual operations, since you believe that the physical presence of an NRC inspector affects the performance of your employees. Also, we understand you may deny NRC inspectors access to your facilities whenever you determine that Radiation Technology employees are not available to provide constant escort [illegible] inspectors.

Part 30 of Title 10, Chapter 1, Code of Federal Regulations, "Rules of General Applicability to Licensing of By-Product Material," (specifically, 10 CFR 30.52(a)) states that: "Each licensee shall afford to the

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| DATE ▶ | 1/18/78 | 1/18/78 | 1/18/78 | 1/18/78 | | |

NRC Form 318 (Rev. 9-53) NRCM 0240 ☆ U.S. GOVERNMENT PRINTING OFFICE: 1977-244-547

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Commission, at all reasonable times, opportunity to inspect by-product material and the premises and facilities wherein by-product material is used or stored." Under the provisions of this rule, reasonable times include all times during which licensee employees are physically present at the facility wherein licensed activities are conducted. [redacted] limit the amount of time NRC inspectors observe actual operations or should unreasonable delays for entry occur, we will consider [redacted] interfering with an inspection authorized by 10 CFR 30.52.

Moreover, as you are aware, the NRC conducts unannounced inspections of licensed activities. Therefore, if you are unable to provide escorts for inspectors as you require by your procedures, you should develop procedures under which inspectors would be furnished specific information permitting them to qualify for unescorted access to your restricted areas. In this regard, while it is not our intent to generally perform inspections without escort, it is our intent, under 10 CFR 19.15, to have unescorted access to your workers for discussions.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room. If this report contains any information that you (or your contractor) believe to be proprietary, it is necessary that you make a written application within 20 days to this office to withhold such information from public disclosure. Any such application must be accompanied by an affidavit executed by the owner of the information, which identifies the document or part sought to be withheld, and which contains a statement of reasons which addresses with specificity the items which will be considered by the Commission as listed in subparagraph (b)(4) of Section 2.790. The information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified period, the report will be placed in the Public Document Room.

Should you have any questions concerning this inspection or the [redacted] requirements of 10 CFR 30.52(a), we will be pleased to discuss them with [redacted]

Sincerely,

[redacted]

Boyce H. Grier
Director

Enclosure: Office of Inspection and Enforcement
Inspection Report Number 30-7002/77-06

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NRC FORM 318 (6-77) ★ U. S. GOVERNMENT PRINTING OFFICE 1977—237—025

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U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 30-7022/77-06

Docket No. 30-7022

License No. 29-13613-02 Priority IV Category E

Licensee: Radiation Technology, Incorporated
Lake Denmark Road
Rockaway, New Jersey

Facility Name: Radiation Technology, Incorporated

Inspection at: Radiation Technology, Incorporated

Inspection conducted: December 20, 21, 22, 1977

Inspectors: Michael J. Slobodien — 12 Jan 1978
Michael J. Slobodien, Radiation Specialist — date signed

John E. Glenn — 11 Jan. 1978
John E. Glenn, Radiation Specialist — date signed

_____ — _____
date signed

Approved by: Paul R. Nelson — Jan 18. 1978
Paul R. Nelson, Chief, Fuel Facility and Materials Safety Branch — date signed

Inspection Summary:

Inspection on December 20, 21, 22, 1977 (Report No. 30-7022/77-06)
Areas Inspected: Special announced inspection limited to review of non-routine procedures for service irradiator maintenance following licensee notification of planned shutdown on December 19, 1977. The inspection involved 28 inspector hours on site by two NRC inspectors.
Results: The inspection was limited to a review of procedures and observation of activities associated with a non-routine maintenance operation. Details are described in the body of the report.

Region I Form 12
(Rev. April 77)

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## DETAILS

1. Notification of Planned Shutdown

At 5: p.m. on December 19, 1977, the licensee's president contacted the Director, Region I, by telephone. He informed the Director that the "in-air irradiator" was being shutdown for maintenance work. Dr. Welt stated that the facility would be down for about three days and he was notifying the NRC under the requirements of 20.403(b)(3), because there would be a loss of more than one day of facility operation. Dr. Welt assured the Director the shutdown was for preventive maintenance and not because of any incident. Dr. Welt indicated that the source guide cables were to be replaced and the source hoist cable would be examined and might also be replaced.

On December 20, 1977, an inspector telephoned the licensee to obtain further information concerning the planned shutdown. Tom Powell, Plant Superintendent stated that the sources in the "in-air irradiator" pool would be transferred to R&D pool and that operations in the R&D pool would be limited to the half of the pool in which the transferred sources were not stored. Dr. Welt stated, by phone, that the replacement of the guide cables would require the irradiator pool to be drained or for a diver wearing scuba gear to enter the pool to make necessary adjustments underwater.

Later, on December 20, 1977, the Chief, Fuel Facility and Materials Safety Branch, Region I, contacted the licensee's president by telephone and informed him that inspectors from the Region I office would arrive late that day to observe operations during the shutdown.

2. Persons Contacted

Dr. Martin A. Welt, President, Radiation Technology, Inc.
Mr. Robert Buckley, Radiation Technology, Inc.
Mr. William Anderson, Radiation Technology, Inc.
Mr. Thomas Powell, Radiation Technology, Inc.
Dr. Seymour Preis, Radiation Technology, Inc.

3. Arrival on Site December 20, 1977

The inspectors arrived at the Radiation Technology facility at 6:30 p.m. on Tuesday, December 20, 1977. Mr. William Anderson admitted the inspectors to the facility. The licensee's president, Dr. M. Welt met the inspectors shortly after their arrival. He informed

them that Robert Buckley, William Anderson, and an outside electrical contractor were working on the service irradiator facility. He told the inspectors that he was leaving the facility to have dinner and had no intention of accompanying the inspectors to the irradiator. The inspectors informed Dr. Welt that they would speak to Mr. Buckley or Mr. Anderson in his absence. Dr. Welt told the inspectors that he would not allow their entry into the facility unless he was present and stated that they could either speak to him at a local restaurant or leave the facility. The inspectors reiterated that they had no objection to Dr. Welt's leaving while the inspectors met other employees and Dr. Welt again clearly stated that he would not allow the inspectors to enter the facility unless he was present. The inspectors elected to accompany the licensee's president to a local restaurant where they discussed the inspection while he ate dinner.

During the discussions the licensee's president described the plans to drain the service irradiator pool, examine the pool and hardware, and make repairs to the product conveyor system.

Dr. Welt stated that the maintenance was routine and had been planned for the last week in December but had been moved up one week as a result of examining the upcoming work schedule. He further stated that contrary to statements made by him in the phone call earlier in the day, there were no plans to replace the source rack guide cables. He stated the cables would be inspected after the irradiator pool was drained but preliminary examination of the portion of the cables above the pool had indicated no problems. Dr. Welt stated that the main purpose of the routine maintenance was inspection and clean-up of the irradiator pool and cell area.

4. Initial Tour of Facility

Upon returning to Radiation Technology's facility, the inspectors accompanied Dr. Welt to the service irradiator area. The inspectors saw that the metal support structures above the pool were in the process of being painted and polyethylene strips had been placed over the pool to prevent paint from dripping into the water. The inspectors could observe that the water was clear, a brown sediment was on the bottom of the pool, some cobalt-60 sources were still in the pool awaiting to be transferred to the R&D pool. A table and other materials were still at the bottom of the service irradiator pool.

The licensee's president stated that his plans were to have the remaining sources transferred from the pool, to analyze the pool water, to seal off the connecting transfer pipe between the pools, and then to drain the pool to permit cleaning and inspection inside the drained pool. The inspectors stated that they desired to see and to review all operations that were not routine or witnessed previously. The inspectors accepted Dr. Welt's position that it was not necessary to be physically present at all times during these operations; however, they restated their desire to evaluate each new procedure as the maintenance operation proceeded. Dr. Welt stated that no such new procedures would be started before 1:00 p.m. on December 21, 1977.

5. Review of Non-routine Operations

The inspectors returned to the Radiation Technology facility at 9:30 a.m. on December 21, 1977. They met one shift supervisor upon entering the facility who informed them that the draining of the service irradiator had been started at about 9:00 a.m.

The inspectors informed the shift supervisor and the licensee's president that they wanted to observe several non routine operations including use of protective clothing, survey techniques, contamination control, and written procedures.

At 11:00 a.m. the licensee's president escorted the inspectors from the facility waiting room to the service irradiator. The pool water level was down by 1.6 meters from its normal level. A submersible pump was operating at about 200 liters per minute. The pool water was being pumped to the loading area parking lot at the rear of the irradiator building. The inspectors took a sample of the water which was being released to the parking lot - an unrestricted area. A subsequent analysis of the pool water indicated a concentration below the MPC.

The inspectors questioned the licensee's president regarding the written procedures which were to be followed after the pool water had been drained from the service pool. He informed the inspectors that no written procedures had been prepared, however, a written maintenance schedule was being used by shift supervisors. The president reviewed the verbal instructions for entering the service pool after it was drained. These instructions included use of protective clothing, conducting radiation and contamination surveys, and methods for performing maintenance.

The inspectors identified procedures which they wanted to observe. These included surveys made immediately prior to and during the first entry into the service pool; observation of the condition of the pool and mechanical equipment post drainage and before any personnel entered the pool; procedure for taking samples of pool water and sediment; and observation of cables, bolts, and steel plates which were normally under water prior to being disturbed by any individuals.

The licensee' president stated that he would not allow inspectors to remain in the irradiator area during all operations since he did not have sufficient personnel to serve as continuous escorts. He agreed to provide the inspectors access to observe the procedures and items specifically requested. He stated that he was not in business to educate the NRC in good procedures in use at a major irradiator but would do so if requested on a contract basis. The inspectors stated that such observations were an essential part of the inspection (verification of capabilities) process. They further stated that it was not necessary that they be continuously present during all maintenance operations, however those items specifically identified were proper and necessary for inspection.

The inspectors returned to the waiting area at 11:45 a.m. At 1:30 p.m. the shift supervisor and licensee's president informed the inspectors of the progress in draining the service pool. Since drainage was proceeding slowly, the inspectors left the facility for lunch. Earlier the inspectors prepared a written note for the licensee's president detailing the specific items which were to be observed. The licensee's president was working in the irradiator area; he informed the inspectors that he would escort them to the work area shortly. The inspectors requested to have the licensee's log books for the irradiators brought to the waiting area so that they could review previous activities while waiting to observe operations in progress in the irradiator area. The licensee's president refused this request stating that the logs could only be reviewed when the president was physically present with the inspectors in the irradiator control area. The licensee's president stated further that there were no log book entries relevant to the present shutdown.

At 6:00 p.m. on December 21, the licensee's president joined the inspectors and informed them that the service pool had been drained and entered. He noted that the source rack guide cables had been examined and were acceptable. Also, the bolts securing the guide

cable support and source rack resting plate had been examined. They were corroded. The licensee had taken water and sediment samples. The inspectors carefully explained to the licensee's president that they had specifically requested verbally and in writing to observe the procedures which had already been conducted. They stated that such observations were essential to the process of verification of licensee capabilities and compliance with NRC regulations, license conditions, and with accepted radiological safety practices. The licensee's president stated that he would gladly explain what had been done and had not understood the inspector's need to see actual work being done. He stated that he did not have the time to leave the work area to escort the inspectors to the irradiator and remain with them while they observed operations. The inspectors stated that this matter would be addressed by the Region I and/or Inspection and Enforcement management staffs.

At the request of the inspectors, the licensee's president re-enacted the entry procedures. These had included a radiation survey as the first individual descended by ladder, the wearing of protective clothing to prevent contamination, a survey at the sealed off end-pipe leading to the R&D pool where the cobalt-60 was stored and the analysis of the sediment at the bottom of the pool for contamination. The licensee's president stated that the sediment sample contained "10,000 dpm" and that the sediment would be collected and treated as radioactive material and that protective clothing would be required. The licensee's president collected a pool water sample for the independent evaluation at the Region I laboratory. The licensee's president pointed out the floor plates and demonstrated the condition of the bolts holding the plate to the floor.

The inspectors then requested and were allowed in Dr. Welt's presence to review entries in the shift log. There was one entry relevant to the maintenance operations which stated that the "cell was shutdown for maintenance and the source should not be raised." Dr. Welt also provided the inspectors with a hand written copy of the procedures followed during the entry to the emptied service irradiator pool.

The inspectors requested that the licensee's president outline his plans for the remainder of the maintenance outage. He stated that the corroded bolts would be replaced, the pool cleaned, and the pool refilled. The inspectors stated they would return the next morning to view the pool and to talk to Mr. Robert Buckley.

6. Activities on December 22, 1977

On Thursday, December 22, 1977, the inspectors arrived at 9:00 a.m. and asked that Mr. Buckley be informed of their presence. Mr. Buckley stated that he could not escort the inspectors to the pool area at that time as he was involved in making surveys and directing work. He stated that he would escort the inspectors to the pool area after he finished and had counted some wipes. After half an hour had passed the licensee's president arrived and escorted the inspectors to the irradiator.

The inspectors saw that the sediment had been cleared from the bottom of the pool and observed a drum filled with the collected material. The radiation levels from the drum were less than 1 mR/hr above background. The inspectors were shown the corroded parts and took photographs of the pool and studs (bolts) to be replaced.

The inspectors returned to a conference area to have a private discussion with Mr. Buckley. Mr. Buckley was informed of the inspectors concern about accessability to facilities and personnel during inspections. Mr. Buckley confirmed previous statements that the maintenance operation was routine and that the corroded condition of the floor plate bolts was unexpected and demonstrated the need for routine maintenance and inspection of equipment.

The inspectors questioned Mr. Buckley about the extent of his responsibilites for radiation safety. Mr. Buckley stated that Dr. Welt was still Radiation Safety Officer. Mr. Buckley stated that no set fraction of his time was devoted to safety matters and he had to fit such duties "into the holes in his operation and maintenance schedules." He stated that he conducted some training activities. A written test had been given to employees. Mr. Buckley stated he had been disappointed at the results of the test but had not been surprised. He stated that he planned to, but had not yet conducted additional training sessions directed at the deficiencies uncovered by the testing program.

7. Exit Interview

In the evening of December 21, 1977, the inspectors reviewed the results of the inspection with the licensee's president. They stated that it had been difficult to determine compliance with NRC regulations and conditions of the license since the inspectors had

not been provided with expeditious access to observe important activities. They stated that the need for such access and the specific regulatory requirements pertaining to the conduct of inspections would be reviewed with the licensee in correspondence from the NRC's Region I Management. The inspectors reiterated that although no apparent items of noncompliance were identified, the inability of the inspectors to observe most important operations precluded a complete and thorough inspection.

Dr. Welt stated that his position was that inspectors had to be escorted and that Radiation Technology's management would determine when escorts could be made available. He stated that this would be his position during future inspections but he would be prepared to discuss his position with the NRC's management.