U.S. NUCLEAR REGULATORY COMMISSION
Region I

Report No. 50-289/84-16

Docket No. 50-289

License No. DPR-50 Priority -- Category C

Licensee: GPU Nuclear Corporation

Post Office Box 480

Middletown, Pennsylvania 17057

Facility Name: Three Mile Island Unit 1

Inspection At: Middletown, Pennsylvania 17057

Inspection Conducted: June 4-8, 1984

Inspectors:

J. R. White, Senior Radiation Specialist — 7/24/84 date

for J. Bell, Senior Radiation Specialist — 7/24/84 date

J. Kottan, Laboratory Specialist — 7-10-84 date

F. Costello, Dosimetry Specialist — 7-11-84 date

J. Cioffi, Radiation Specialist — 7/20/84 date

P. Clemons, Radiation Specialist — 7/17/84 date

M. Miller, Radiation Specialist — 7-11-84 date

H. Zibulsky, Chemist — 7-16-84 date

Approved By:

M. Shanbaky, Chief, Facilities Radiation Protection Section — 7/26/84 date

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(Rev. February 1982)

Inspection Summary: Inspection Conducted June 4-8, 1984 (Report Number 50-289/84-16)
Areas Inspected: Special announced inspection of the licensee's programs pertaining to radiation protection, radioactive waste management, effluent control and transportation of radioactive material. Additionally, open items relative to post-accident sampling and monitoring (NUREG-0737) and certain startup recertification items were reviewed and evaluated during this inspection effort.

Results: Of the areas inspected, only one item of noncompliance was found (Failure to follow the specifications of an RWP relative to high radiation area control, Detail 8.2). The program areas inspected were found to be generally sound and acceptable. Of 23 open items inspected, 17 were successfully closed. The licensee is taking affirmative action to resolve the remainder.

DETAILS

1.0 Persons Contacted

1.1 GPU Nuclear

* R. Toole, O&M Director
* C. Shorts, Tech. Functions, TMI Site
* R. Gill, Chemist, Unit 1
* B. Good, Radiological Programs Manager
* D. Shovlin, Manager, Maintenance
* R. Barley, TMI-1 Lead Mechanical Engineer
* R. Runowski, TMI-1 Engineer
* G. Kuehn, Manager, Radiological Controls TMI-1
* R. Shaw, Radiological Engineering Manager
  E. Gee, Respiratory Protection Supervisor
  O. Perry, Dosimetry, Bioassay and WBC Manager
  J. Schmidt, Radiological Engineer
* R. Fenti, Operations QA Manager
  J. Pfadenhauer, Ops/Rad Con Monitoring Supervisor
  J. Donnachie, Radiological Engineer
  L. Musser, Scheduling Coordinator, Training Department
  K. Tennis, Supervisor, Document Control, Training Department
  P. Hengeveld, Administrator, Health Services, TMI
* C. Incorvati, QA TMI-1 Audits Supervisor
  J. Wright, Rad Con Support Technician (Respirator Fit Facility)
  H. Betlise, Manager, Radiological Health, Unit 2
  D. Shriver, Manager, Instrument and Respirator Fit Booth, Unit 2
  J. Haworth, Dosimetry Supervisor, Unit 2
  V. Orlandi, Lead Instrumentation and Control Engineer
  J. Sadauskas, Manager, Instrumentation, Parsippany
  A. Palmer, Radiological Engineer, Unit 1
* M. Knight, Senior Licensing Engineer
* J. Boyer, Radwaste Operations Engineer
  B. Carson, Radiological Engineer, Unit 1
  R. Gill, Group Radiological Control Supervisor
  H. Hansen, Unit 1 Procedure Coordinator
  P. Dojka, I&C Engineer
* B. Mehler, Radwaste Manager, TMI-1
  D. College, Radiation Support Technician
  K. Florey, Engineering Associate, Dosimetry
* S. Williams, Radiological Engineer
  R. Rolph, Shift Radiological Control Supervisor
  E. Fuhrer, Plant Chemistry Manager
  E. Houser, Lead Chemistry Foreman
  L. Lucas, Chemistry Foreman
  M. Kuhn, Chemistry Foreman
  R. Borders, Supervisor, Rad Con/Chemistry Training
  E. Gliot, Instructor, Chemistry Training
  B. Ballard, Manager, Quality Assurance Modifications/Operations

J. Marsden, Quality Assurance Engineering Manager
R. Prabhalser, Quality Control Manager
R. Hahn, Supervisor of Waste Disposal, Unit 2
W. Craft, Radiological Control Training Manager

Other licensee personnel were contacted and interviewed during this inspection.

* Denotes attendance at the exit interview conducted June 8, 1983.

1.2 USNRC

* R. Conte, Senior Resident Inspector, TMI-1
* F. Young, Resident Inspector, TMI-1
* J. Bell, Senior Radiation Specialist, TMI-2
* J. White, Senior Radiation Specialist, Region I
* M. Miller, Radiation Specialist, Region I
* J. Kottan, Laboratory Specialist, Region I
* F. Costello, Dosimetry Specialist, Region I
* P. Clemons, Radiation Specialist, Region I
* J. Cioffi, Radiation Specialist, Region I
H. Zibulsky, Chemist, Region I
* R. Bellamy, Chief, Radiation Protection Branch, Region I

2.0 Purpose

The purpose of this inspection was to review the licensee's radiation protection program with respect to the following elements:

- Status of Previously Identified Items
- Fuel Handling and Auxiliary Building Ventilation System Review
- Inadvertent Release of Kr-85 Due to Inadequate Environmental Barriers
- Transportation of Radioactive Material
- Personnel Training and Qualifications
- Surveillance
- Exposure Control
- Alara Program
- Facilities and Equipment
- Radioactive Waste Management
- Non-Radiological Chemistry

3.0 Status of Previously Identified Items

3.1 (Closed) Inspector Followup Item (320/83-08-01): Adequacy of licensee dose projections (as evidenced by the OTSG repair dose projections) and man-rem tracking. The licensee now has in use the Rems-On-Line system as has been in use at Unit 2 for some time (See Report 50-320/83-06). The licensee has also instituted the use of an Exposure Tracking Number system which was used to track worker doses during the recent repair of the "B" reactor coolant pump (RCP). The present system for projecting and tracking worker doses appears adequate as evidenced by dose projections for the RCP repair which were within a few percent of the doses incurred.

3.2 (Closed) Violation (289/83-26-04): Failure to follow procedures during transfer of a Hittman liner. The inspector reviewed the licensee's corrective action (as described in the licensee's response letter dated March 30 and April 2, 1984) and verified that the action taken would satisfactorily prevent recurrence of the procedure violation.

3.3 (Closed) Violation (289/83-28-04): Failure to meet the Sr-89 required lower limit of detection (LLD) on selected liquid samples. The licensee has obtained commitments from the vendor laboratory to count the strontium precipitations within six hours of the separation and for a fixed minimum time.

3.4 (Open) Violation (289/83-28-01): Failure to implement a quality assurance program for effluent monitoring using the guidance in Regulatory Guide 4.15. The inspector noted that the licensee had revised Procedure 1627, Quality Assurance Program for Radiological Effluent Monitoring, to include many of aspects of Regulatory Guide 4.15. However, the licensee had not incorporated provisions for spiked samples into Procedure 1627. The licensee stated that the procedure would be revised to include spiked samples. The inspector stated that until the procedure change was implemented, this item would remain open.

3.5 (Closed) Violation (289/83-17-03): Failure to establish a calibration program for composite samplers. The inspector reviewed Procedure 9100-PMI-4210.06, Calibration, Maintenance and Repair of the ISCO Model 1580 Liquid Compositor, dated September 19, 1983 and noted that this procedure established a calibration program for composite samplers.

3.6 (Closed) Inspector Followup Item (289/83-26-01): NBS traceability for standard sources used in the Radiation Monitoring System Calibration. The licensee analyzed the following sources on the Health Physics Gamma Spectrometer: Ba-133, Source 486; Cs-137, Source 485; and Ba-133, Source 247. The gamma spectrometer is calibrated with standards traceable to NBS.

3.7 (Closed) Violation (289/83-28-02): Failure to identify Ag-110m and Sb-125 in liquid effluent samples. The licensee has reviewed effluent release data for 1981, 1982, and 1983 and has corrected the data when Sb-125 and Ag-110m were present but not identified and quantified. In addition, the licensee will resubmit changes to the semi-annual effluent release reports as necessary.

3.8 (Closed) Violation (289/83-28-03): Failure to analyze a composite sample for P-32. The licensee has modified and implemented forms and procedures to designate P-32 analysis when shipping samples to the vendor laboratory. The procedures provide for tracking and followup on the laboratory's results.

3.9 (Closed) Inspector Follow Item (289/83-11-01): Licensee to obtain technical data on Auxiliary Building ventilation system and make system modification as necessary to assure conformance to Technical Specification. Details regarding this item are identified in Section 4.0 of this report.

3.10 (Closed) Inspector Follow Item (289/83-26-04): Licensee to determine the existence of a flowpath between the Auxiliary and Fuel Handling Building as a result of the detection of Kr-85 in Fuel Handling Building; and resolve the problem as necessary. Details regarding this item are identified in Section 5.0 of this report.

3.11 (Closed) Inspector Follow Item (289/83-26-10): Licensee to review radiological monitoring action relative to ventilation system operations in the Fuel Handling Building. Ventilation between Unit 1 and Unit 2 has been modified by environmental barriers to isolate each unit with the exception of Fuel Handling Building which is a common air space.

On High Atmosphere Radioactivity Alarm as generated by RM-A4, the Unit 1 supply and exhaust to Fuel Handling Building will automatically be isolated, so that only the Unit 2 supply and exhaust will be functioning. The atmosphere will then be processed as a Unit 2 waste stream.

The Alarm Response Procedures have been modified to indicate appropriate sampling and analyzing techniques by less prescriptive methods than previously described. Personnel were interviewed and appear to be aware of the proper techniques to employ for sampling and analyses for any condition in the Fuel Handling Building. Adequate sampling procedures have been established.

3.12 (Closed) Violation (289/83-17-01): Establish approved procedure for environmental sampling. Procedure 9420-REM-4620.07, "REMP Sample Collection Procedure Air Iodine and Air Particulates," was issued on October 25, 1983 and provides an approved, controlled procedure for the operation of the licensee's environmental air sampling system. Action is complete and satisfactory.

3.13 (Closed) Inspector Follow Item (289/83-17-02): Develop calibration procedure for environmental air sampling system. Procedure 9211-PM1-4210.04, "Calibration and Maintenance of Anderson Universal Air Samplers," was issued on September 19, 1983 and provides a calibration program for the licensee's environmental air samplers. Each air sampler is calibrated every six months using a hot wire anemometer. Action is complete and satisfactory.

3.14 (Closed) Unresolved Item (289/83-22-01): Corrective actions taken in response to a incident involving a leaking Sr-90/Y-90 calibration source. The licensee made individual dose assessments for the four workers involved in this incident and documented these assessments in Radiological Investigative Report (RIR) Number 83-015. The highest dose assigned was an extremity dose of 2.64 rem to one of the individuals. Technician training in the handling of Sr-90/Y-90 beta sources was improved by the development of a lesson plan covering this topic which is taught during Radiological

Control Technician/Foreman cyclic training. The licensee determined that no revision to the Instrument Use procedure for the RO-2 survey meter was necessary because the specification of beta correction factors for contact measurements with point sources is dependent upon source area and beta energy. The licensee is relying on upgraded technician training to ensure the proper choice of a beta correction factor for surveys of beta sources. The licensee issued a Temporary Change Notice (TCN-1-84-0148) on June 6, 1984 which modified Procedure 1613, "Radiation Work Permits", to specify the conditions which require the preparation of an RWP when sealed sources are used. Licensee representatives stated that this TCN would remain in effect until the RWP procedure was permanently revised by a Procedure Change Request to include the modification contained in the TCN. Action on each aspect of this Unresolved Item is complete and satisfactory.

3.15 (Open) Inspector Follow Item (289/83-26-03): Evaluation of the effect of a temperature increase on the response of the RM-L-10 turbine building sump radiation monitor. Licensee representatives stated that some informal work had been performed to characterize the expected temperature range in the turbine building sump and to determine the temperature response of the monitor itself. However, licensee representatives further stated that this preliminary work might not have been performed under conditions which might produce the maximum temperatures in the turbine building sump. The licensee plans to obtain more data on the maximum temperature in the turbine building sump during startup and will continue to gather information on the temperature response of the RM-L-10 monitor. This item will remain open until the licensee completes this evaluation and determines whether the temperature response of this monitor is acceptable under expected conditions in the turbine building sump.

3.16 (Open) Inspector Followup Item (289/84-03-01): Provide the capability to obtain an RCS sample under all accident conditions and modes of operations. The licensee revised EPIP 1004.15, "Post-Accident Reactor Coolant System Sampling" to include the provisions for taking a sample from the Pressurizer, RCS cold leg, and from the Decay Heat System. However, the decay heat sample lines were not currently shielded and personnel exposures would prohibit using this sample point shortly (less than 24 hours) after an accident. The licensee stated the post-accident sampling system would be modified to tie in the decay heat lines with the shielded reactor coolant sample line in the nuclear sampling room within 120 days after startup.

The inspector discussed with the licensee an alternate means for obtaining a sample under low pressure which was described in EPIP 1004.15, Revision 5. It was determined that using the discharge line of the Decay Heat Coolers would be prohibited because of excessive personnel exposure. The licensee stated they would delete the alternate method from Procedure EPIP 1004.15.

3.17 (Open) Inspector Followup Item (289/84-03-02): Modify Containment Atmosphere Sampling (CAS) System to permit sampling after containment isolation, evaluate sample representativeness and make provisions to quantify the sample including temperature and pressure corrections. The licensee reviewed the capability of their CAS System and documented their results in Technical Design Review (TDR) 494, Revision 2, dated May 10, 1984. As a result of this review, the licensee plans to modify the CAS System to reduce iodine plate out caused by condensation and to permit sampling under high pressure conditions. The licensee stated the CAS System would be modified by August 1, 1984.

Other actions to be taken by the licensee include revising the appropriate procedures to describe the modified sampling arrangement, and to quantify the radioactivity in containment by correcting the sample result back to containment temperature and pressure conditions.

3.18 (Closed) Inspector Followup Item (289/84-03-03): Address the dose received by personnel transporting the sample to the counting room. The licensee documented the CAS radiological analysis in TDR 529, dated June 4, 1984. It was noted that personnel exposure would be approximately 1.1 Rem including the dose contribution from the hydrogen recombiners. The licensee plans to limit the number of trips past the hydrogen recombiners to maintain ALARA by leaving the heat trace on at all times during plant operation.

3.19 (Closed) Inspector Followup Item (289/84-03-04): Revise the RCS sampling shielding study. The licensee documented the RCS sampling shielding study in TDR 494, Revision 2, dated May 10, 1984. It was noted that personnel exposures would not exceed General Design Criteria 19. In addition, the licensee plans to provide temporary shielding for the sample sink drain line if the floor would support the additional weight. The seismic evaluation had not been completed.

3.20 (Open) Inspector Followup Item (289/84-03-05): Provide results of demonstration of chemical analysis capability for chloride, boron and pH using the intended post-accident instrumentation and procedures. Revise procedures to address analysis of fission gases stripped from the RCS sample for determining gross activity. The licensee letter of February 29, 1984 to J. F. Stolz (NRR) from H. D. Hukill (GPU) stated that the chemical analysis as required by NUREG-0737 were performed on the standard test matrix solution. The inspector verified that the fluorborate probe, ion chromatography with automatic sampler and pH mini probes were available and in operational readiness.

The licensee had not revised their procedures to address analysis of fission gases stripped from the RCS sample which will be used in the Core Damage Estimate procedure. The licensee stated that both the analytical procedure and revised Core Damage Estimate procedure would be completed by August 31, 1984.

The inspector also recommended revising TDR 494 to include the dose contribution from taking this additional sample.

3.21 (Closed) Inspector Followup Item (289/84-03-06): Provide conversion factors from CPM to uCi/cc for monitor readouts. The inspector reviewed the licensee's offsite dose model which decay corrects the monitor readings for the isotopic spectrum present as opposed to the calibration nuclide. The inspector also verified that the program was accessible from the Control Room computer terminal.

3.22 (Open) Inspector Followup Item (289/84-03-07): Develop procedures for collection of representative plant effluent samples including provisions for handling and analyzing high dose rate samples. The licensee stated they would submit a dose calculation based on time and motion studies when sampling and analyzing plant gaseous effluents by July 1, 1984. The licensee stated procedures for collection and analysis of high dose rate cartridges will also be implemented by July 1, 1984.

3.23 (Closed) Inspector Followup Item (289/84-03-08): Install shields around all MAP-5 cartridges and document followup action taken on IE Information Notice 82-49. The inspector verified that shields were installed around the MAP-5 cartridge in the continuous sample position. The inspector also determined that the inclusion of the standard formula for correcting flow under vacuum conditions in EPIP 1004.31, Revision 9, "Post Accident Atmospheric Sampling" adequately address the concerns of IE Information Notice 82-49.

4.0 Fuel Handling and Auxiliary Building Ventilation System Review

The Fuel Handling and Auxiliary Building Ventilation System was reviewed against the applicable regulatory criteria including:

- Technical Specification 3.15.3, "Auxiliary and Fuel Handling Exhaust Treatment System" (specifies minimum availability and efficiency of the system).

- Technical Specification 4.12.3, "Auxiliary and Fuel Handling Exhaust Treatment System" (specifies surveillance to assure system and components meet design objective).

The licensee's performance relative to these criteria was determined from discussions with the system plant engineer, quality assurance representative and plant maintenance personnel. Additionally, system test and performance records were reviewed including documentation of system balancing, flow distribution, differential pressure measurements, filter penetration tests and Technical Specification surveillance requirements. Applicable procedures and work packages were also reviewed.

Within the scope of this inspection effort, the following was determined.

On April 11, 1980, the licensee initiated action to perform ventilation air balancing of the Auxiliary Building ventilation system in accordance with National Environmental Balancing Bureau (NEBB) Procedure, NEBB Publication 15, and GPU Specification No. SP-1101X-515. The acceptance criteria was specified as ±10% of design flow as indicated by the following drawings:

E-311-831, Ventilation, Auxiliary Building Floor Elevation 281'-0"

E-311-832, Ventilation, Auxiliary Building Floor Elevation 261'-0" and 271'-0"

E-311-833, Ventilation, Auxiliary Building Floor Elevation 305'-0"

E-311-835, Ventilation, Auxiliary Building Floor Elevation 348'-0"

Measurement and balancing activities were performed between July 1981 and May 1982. A final report was submitted on July 30, 1982.

The report indicated that in many cases, ±10% of the designed air flow could not be achieved for individual registers or grilles. Values between +120 and -80% were noted.

Further, Technical Specification 3.15.3 and 4.12.3, "Auxiliary and Fuel Handling Exhaust Treatment System" requires each set of fans to have the capacity of operating within ±10 of design flow, i.e., 118,810 cfm. The licensee's report indicated that the system was producing 15% under design air flow, i.e., 103,000 cfm.

Following, the licensee modified the system by the installation of positive sealing dampers to prevent back-flow through the idle fan unit. Subsequent Technical Specification surveillance indicates that current air flows (as of January 1984) now range between 122,000 and 126,000 cfm, well within the Technical Specification tolerance.

Air flow distribution tests of HEPA filter units indicated that all filters had uniform flow within ±20% as required by Technical Specification 4.12.3, including those filter banks, AH-F-1 (east and west), which are affected by the Reactor Building Purge Valves when in the 30° position.

Previous penetration tests of charcoal adsorber units performed in 1983 were found to be out of tolerance relative to Technical Specifications 3.15.3 and 4.12.3 due to entrainment of freon from a decontamination facility that was coupled to Auxiliary Building ventilation system. Subsequently, the licensee removed the freon source from the facility and isolated the ventilation. Current test results indicate that HEPA and charcoal adsorber units are within the tolerances specified in the Technical Specification for DOP and halogenated hydrocarbon testing.

Measurements of Auxiliary and Fuel Handling Building differential pressure relative to the atmosphere were noted to be negative by 0.18 in. w.g. This result surpassed the acceptance criteria of 0.125 in. w.g.

Currently, the licensee is continuing to modify the Fuel Handling and Auxiliary Building ventilation system (Work Package A25A-30383). The installation procedure in effect requires system testing and balance upon completion of the modification. This item will be reviewed in a subsequent inspection to verify system test and balancing have been satisfactorily completed. (84-16-01)

While there are still questions remaining relative to internal air balancing of the ventilation system, it was confirmed during this effort that air flow in the building is from less to more contaminated areas, the building is negative relative to the atmosphere, total ventilation flow is within original design values and all HEPA and charcoal adsorber filter units have been tested and found to meet the performing criteria set forth in Technical Specifications.

The licensee's actions relative to this item are acceptable. The item is closed.

5.0 Inadvertent Release of Krypton-85 Due to Inadequate Environmental Barriers

On August 29, 1984, licensee was performing Test Procedure 600/2 which included STP 1-83-0115, "Injection of Radioactive Tracer Gas Into RCS". Such testing was being performed to determine and measure leakage in the steam generator during the cooldown period when steam generator tube loads are maximized.

While the STP provided a valve lineup to conduct injection of Kr-85, it failed to mention the valve position for CA-V95. Upon investigation, CA-V95 was found to be open providing a direct path to the Auxiliary Building Sump from the Nuclear Sampling Room, the location of the test rig for Kr-85 injection. As a result, Kr-85 was inadvertantly directed to the Auxiliary Building Sump, created a temporary radioactive atmosphere in the Auxiliary and Fuel Handling Buildings, and subsequently was released via the Unit 1 and Unit 2 station vents.

The licensee's investigation revealed errors in the procedure used to conduct the test. These errors were immediately corrected by the licensee and the test was later successfully completed. However, the event indicated that the environmental barriers between the Auxiliary and Fuel Handling Buildings did not have total integrity as evidenced by the detection of Kr-85 in the Fuel Handling Building.

As a result, the licensee performed other tests to determine the leakage pathway and concluded that there were several openings between the two buildings which compromised integrity, such as:

- Improperly maintained floor drain loop seals;
- Inadequate air-tight integrity of the door to the Spent Fuel Pool Area, and the personnel door to the Fuel Handling Building;
- Inadequately capped drain line in bottom of elevation shaft; and
- Open pipe penetrations and ventilation chases.

For corrective action, the licensee has sealed all openings and established barrier integrity. Surveillance procedures have been modified to assure that all floor drain loop seals are identified and maintained properly. No other leakage pathways were identified.

The licensee's actions relative to this item are acceptable. The item is closed.

6.0 Transportation

6.1 Management Controls

The responsibility for radioactive waste management for TMI-1 is divided by the licensee. The Radwaste Operations Manager, TMI-1 is responsible for processing, solidifying, compacting; and collecting and boxing noncompactible waste. The waste is then transferred to the Radwaste Operations Manager, TMI-2 for ultimate disposal.

No violations were identified.

6.2 Quality Assurance Program

The licensee's program for quality assurance for transport packages were reviewed against the criteria in 10 CFR 20.311(d)(3), "Transfer for disposal and manifests" and 10 CFR 71.101, Subpart H, "Quality Assurance Requirements". The licensee's performance relative to these criteria was determined from discussions with the Operations Quality Assurance Manager, the Quality Assurance Engineering Manager, and by reviewing the Operational Quality Assurance Plan for Three Mile Island Unit 1 and Oyster Creek Nuclear Stations.

Criterion II of Appendix B, Part 50 states, "The applicant shall identify the structures, systems and components to be covered by the quality assurance programs..."

Section 2.2, "Scope", of the Operational Quality Assurance Plan states "The scope of the GPUN Operational Quality Assurance Program includes all items and activities applicable to the operation of TMI-1 and Oyster Creek considered to be important to safety."... The scope of the Program includes items covered by the Operating License and Technical Specifications

(excluding non-radiological monitoring) and items required by the following: ...Title 10, Code of Federal Regulations, Part 71, Appendix E "Quality Assurance for Shipping Packages for Radioactive Material". Section 2.2 further states that "The GPUN Operational Quality Assurance Program applies to all items on the Quality Classification List (QCL)."

Although transport packages are not specifically identified in the licensee's QCL, it is apparent that the packages are identified in the Operational Quality Assurance Plan to an extent that will assure that the packages will be included in the licensee's Quality Assurance Program.

10 CFR 20.311(d)(3), "Transfer for disposal and manifests" requires the licensee to conduct a quality control program to assure compliance with 10 CFR 61.55 and 61.56. On February 27, 1984, a representative of Operations Quality Assurance performed a monitoring activity on the radioactive waste solidification operations for quality control purposes relative to the requirements of 10 CFR 61.55 and 56.

The reference used in this monitoring activity was Procedure No. 1104-28A, "Radioactive Waste Solidification - Hittman". However, this procedure was not the proper procedure to use to assure compliance with 10 CFR 61.56. The appropriate procedure was Procedure No. 1104-28I, "Hittman Nuclear And Developmental Corporation Process Control Program."

In response to this finding, the Operations Quality Assurance Manager stated that all procedures would be reviewed to assure that the appropriate criteria was incorporated in the monitoring activity to ascertain that the requirements of 10 CFR 61.55 and 61.56 were specifically implemented.

This item will be reviewed during a subsequent inspection (84-16-02).

Within the scope of this review, no violations were identified.

6.3 Procedure Review

The adequacy and effectiveness of the licensee's procedures were reviewed against the criteria contained in Technical Specification 6.8, "Procedures." The licensee's performance relative to these criteria was determined from discussions with the Quality Assurance Engineering Manager, the Quality Control Manager, the Operations Quality Assurance Manager, the Supervisor of Waste Disposal - Unit 2, the Radwaste Operations Manager - Unit 1 and the Radiological Control Training Manager.

The procedures reviewed included the following:

a. Unit 1 Administrative Procedure 1009, "TMI Unit 1 Organization"

b. Unit 1 Operating Procedure 1104-28A, "Radioactive Waste Solidification - Hittman"

c. Unit 1 Operating Procedure 1104-28B, "Solid Waste Disposal System Compacting Radioactive Waste"

d. Unit 1 Operating Procedure 1104-28C, "Resin and Precoat Solidification - Hittman"

e. Unit 1 Operating Procedure 1104-28D, "Packaging Non-Compactible Trash"

f. Unit 1 Operating Procedure 1104-28E, "Disposal of B.C. Letdown Pre-Filter, Makeup Filter and Other Process Filter Elements"

g. Unit 1 Operating Procedure 1104-28I, "Hittman Nuclear and Developmental Corporation Process Control Program"

h. Unit 1 Operating Procedure 1104-28J, "Offsite Shipments of Non-Waste Radioactive Material"

i. Unit 1 Operating Procedure 1104-28F, "Packaging Non-Routine Radioactive Waste"

j. Unit 1 Operating Procedure 1104-28M, "Dewatering of Powdex Resin (Hittman)"

k. Unit 1 Operating Procedure 1104-28N, "Dewatering of Powdex Resin"

l. Unit 1 Radiological Controls Procedure 1690.1, "Radiological Field Operations Personnel Qualification/Training Standard"

m. TMI-2 Engineering Procedures Manual No. 4000-ENG-6200.01, "Preparation/ Review of Procurement Documents"

n. TMI-2 Departmental Administrative Procedure Manual No. 4210-ADM-1000.01, "TMI Unit 2 Plant Operations Organization, Responsibility and Authority"

o. TMI-2 Departmental Administrative Procedure Manual No. 4214-ADM-4450.01, "TMI-2 Radioactive Material Shipment Portfolio Preparation"

p. TMI-2 Departmental Operating Procedure Manual No. 4214-OPS-4450.01, "TMI-2 Operating Procedure for the GPU Shipping Cask Model 14-190M"

q. Quality Assurance Department Section Procedures Manual No. 6110-QAD-7202.02, "Indoctrination and Certification of QA Mod/Ops Section Monitors"

r. Quality Assurance Department Section Procedures Manual No. 6110-QAP-7210.04, "Indoctrination and Certification of Quality Assurance Modifications/Operations Section Inspectors"

Within the scope of this review, no violations were identified.

6.4 Audits

The adequacy and effectiveness of the licensee's audit program for transport packages were reviewed against the criteria contained in Criterion XVIII of Appendix B, 10 CFR 50.

The licensee's performance relative to these criteria was determined by interviewing the TMI-1 Audit Supervisor, and by one audit report. The report reviewed (S-TMI-83-05) was of an audit conducted during the period April 6, 1984 - May 2, 1984. The report indicated that all applicable criteria of Appendix B, Part 50 were addressed, and in great detail.

Within the scope of this review, no violations were identified.

6.5 Shipments of Radioactive Material

The licensee's program for the transportation of radioactive waste was reviewed against the criteria in 10 CFR 71, "Packaging and Transportation of Radioactive Material" and 10 CFR 61, "Licensing Requirements for Land Disposal of Radioactive Waste". The licensee's performance relative to these criteria was determined by interviewing the Radwaste Operations Manager, Unit 1 and the Supervisor of Waste Disposal, Unit 2, and by reviewing appropriate documents.

Within the scope of this review, no violations were identified.

7.0 Personnel Training and Qualifications

Personnel selection, qualification and training for health physics technicians were reviewed against criteria contained in ANSI 18.1-1971, "Selection and Training of Nuclear Power Plant Personnel". The licensee's performance relative to these criteria was determined by interviewing the Radiological Control Training Manager, by reviewing the training programs for the different levels, and by reviewing the personal records of selected individuals.

Within the scope of this review, no violations were identified.

8.0 Surveillance

8.1 Radioactive Material and Contamination Control

The implementation of the licensee's routine surveillance program was reviewed against criteria contained in:

- 10 CFR 20.203, "Caution signs, labels, signals and controls"

The licensee's performance relative to these criteria was determined from:

- interviews with the Radiological Controls Supervisor and Shift Supervisors;
- walk-through inspection of the auxiliary and reactor buildings;
- review of selected procedures including:
  (1) Procedure 1610.1, Revision 8, "Control of Locked High Radiation Areas"
  (2) Procedure 1618B, Revision 5, "Procurement and Receipt of Radioactive Material"
  (3) Procedure 1618C, Revision 0, "Radioactive Material Transfer Accountability"
  (4) Procedure 1681, Revision 4, "Control of Radioactive Spills"
  (5) Procedure 1682, Revision 4, "Control of Contaminated Tools, Equipment and Material"
  (6) Procedure 3000-IMP-4400.01, "Radioactive Material Identification and Handling"
  (7) Procedure 1610, Revision 15, "Establishing and Posting Area"
- review of a recent Radiological Investigative Critique, under Procedure 9100-ADM-1201.01.

Within the scope of this review, no violations were identified.

8.2 In-Plant Surveys and Monitoring

The implementation of the licensee's routine surveillance program was reviewed against criteria contained in:

- 10 CFR 20.201, "Surveys"
- 10 CFR 20.401, "Records of Surveys, Radiation Monitoring, and Disposal"
- Regulatory Guide 8.2, "Guide for Administrative Practices in Radiation Monitoring"
- ANSI N13.2-1969, "Administrative Practices in Radiation Monitoring"

The licensee's performance relative to these criteria was determined from:

- interviews with the Radiological Controls Manager and shift supervisor personnel;
- review of selected procedures including:
  (1) 1602.1, Revision 1, "Frequency of Routine Surveys"
  (2) 1603, Revision 6, "Radiation Dose Rate Surveys"
  (3) 1602, Revision 15, "Radiological Surveys"
  (4) 1692, Revision 3, "Radiological Controls Logs"
  (5) 1613, Revision 25, "Radiation Work Permits"
- review of GPU Nuclear Memorandum from R. P. Shaw, Radiological Engineering Manager, TMI-1, "Use of Xetex Alarming Digital Dosimeters," dated March 9, 1984
- review of a selection of RWP's, Air Sample Results Logs, and Radiological Surveys

Within the scope of this review, the following violation was noted:

-- Technical Specification 6.8.1 specifies that written procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978 shall be established, implemented and maintained. RWP Procedure 1613, Revision 25, Section 5.2 states, "A dose rate instrument or an alarming dosimeter is required for entry into an area that is entered under a standing RWP. Radiation Work Permit No. 25908, a standing RWP for the Nuclear Sampling Room, requires a dose rate instrument or Xetex for entry into the area covered by this permit for the purpose of supplementing radiological surveillance of areas that are not immediately surveyed before personnel entry.

Contrary to the above, the provisions of the RWP were not followed. On June 7, 1984, at approximately 9:00 a.m. and again at about 9:30 a.m., a chemistry technician was observed by the inspector entering the Nuclear Sampling Room, covered by RWP #25908 without a dose rate instrument or Xetex with him. The room was posted as a high radiation area having dose rates between 100 and 120 mrem/hour, gamma.

When the chemistry technician was asked by the inspector whether he was wearing his Xetex personal alarming dosimeter, he replied that one Xetex sat on a corner of a table in the room covered by RWP #25908 which satisfied the requirement of the RWP. When the inspector questioned this use of the Xetex, the foreman also stated that the Xetex situated on the table was being used to satisfy the requirement of the RWP.

Further investigation of this matter revealed that a memorandum issued by the licensee on March 9, 1984 addressed the misuse of the Xetex, and indicated that the instrument used in this manner did not satisfy the requirements of the RWP. However, the chemistry foreman and his staff stated they had not received this information by the date of this finding.

Corrective action was initiated immediately by licensee personnel by placing shielding over the localized high radiation areas and by discussing the appropriate use of a Xetex relative to RWP specifications.

The inspector identified this finding as noncompliance with the requirements of Technical Specification 6.8 (50-289/84-16-04).

9.0 Exposure Control

9.1 Dosimetry

The adequacy, effectiveness and implementation of the licensee's procedures in the areas of external and internal exposure control as well as the quality control programs in these areas were reviewed against the applicable regulatory criteria.

The licensee's performance relative to these criteria was determined by interviewing selected personnel, examining selected records, direct observation of activities during tours of the reactor building and auxiliary building, and in review of selected procedures, reports and audits.

Discussions were conducted with licensee personnel on their plans to implement a new neutron dosimetry program which would employ a modified version of the thermoluminescent dosimeter which is currently used to monitor beta/gamma radiation. Recent performance tests of the dosimetry system as part of the National Voluntary Laboratory Accreditation Program (NVLAP) were reviewed. All categories were passed.

The licensee's use of extremity dosimetry and special sets of multiple dosimeters was also discussed.

An incident had been brought to the attention of the inspector in which the open window in some personnel dosimeters were found to be damaged. Licensee representatives stated that, in those cases where the dosimeter was damaged sufficiently to affect its response, an investigation would be conducted to determine the actual dose to the individual. The inspector reviewed the circumstances of an incident where a dosimeter had apparently been damaged by heat to an extent that the elements became visually cloudy. The investigation appeared to have been performed in an acceptable manner.

During tours of the Auxiliary Building and Reactor Building, it was noted that entrances to high radiation areas in excess of one rem per hour were properly posted and locked. These rooms included the Cation Demineralizer Room, the Used Precoat Storage Tank Room, the Letdown Filter Room, and the Decant and Slurry Pump and Makeup Room.

9.2 Internal Exposure Control

The licensee's program was reviewed for controlling internal exposure by monitoring MPC-hours. Licensee representatives stated that exposures greater than 0.1 MPC-hour were recorded and that steps were being taken to correct the recordkeeping deficiencies noted in a recent internal audit. The inspector noted that the licensee employed breathing zone samplers to determine the concentration to which workers were being exposed. Licensee representatives stated that air sampling was performed in instances where the airborne concentration of radionuclides was expected to exceed 10% of the applicable MPCs and that respirators were employed where the concentration exceeded 25% of these MPCs. The Radiological Engineering staff reviews the internal exposures (MPC-hrs) on a weekly basis.

Within the scope of this review, no violations were identified.

9.3 Whole Body Counting

a. Purpose

The purpose of this inspection was to verify the capability of the licensee to adequately perform radiological bioassay using a whole body counting system. A whole body counting phantom containing radioactive sources traceable to the National Bureau of Standards (NBS) was submitted to the licensee for analysis. The phantom duplicated the nuclides and the organ burdens that the licensee might encounter during normal operation. The phantom was analyzed using the licensee's normal methods and equipment.

b. Results Comparisons

The licensee currently has two whole body counting systems: a moving bed system and a standup counting system. The NRC phantom was counted in both systems by the licensee. The lung results are based on an average of five measurements and the GI test results are based on an average of two measurements. Table I contains the results of the intercomparisons. No violations were identified.

c. Procedures and Data

The licensee's procedures for the operation and calibration of the whole body counting systems were reviewed. The Quality Assurance (QA) program for the whole body counting systems was also reviewed. The licensee's procedure contains detailed instructions for performing gain checks, source checks, and calibration checks at specified frequencies. Also included in the procedure are acceptance criteria for the various checks and provisions for blind testing. The QA and calibration data to date for 1984 were examined and it was noted that all QA checks were performed in accordance with procedural requirements.

No violations were identified in this area.

TABLE I

Type of Counting System: Moving Bed

Isotope	Organ	NRC Value	Licensee Value	Licensee Value / NRC Value
		RESULTS IN TOTAL NANOCURIES		
Cs-137	Lung	99	132	1.33
Co-60	Lung	96	121	1.26
Cs-137	GI Tract	89	120	1.34
Co-60	GI Tract	86	113	1.31

Type of Counting System: Standup Counter

Isotope	Organ	NRC Value	Licensee Value	Licensee Value / NRC Value
		RESULTS IN TOTAL NANOCURIES		
Cs-137	Lung	99	165	1.66
Co-60	Lung	96	128	1.33
Cs-137	GI Tract	89	178	2.00
Co-60	GI Tract	86	140	1.62

9.4 Respiratory Protection Program

The licensee's respiratory protection program was reviewed against criteria contained in:

-- 10 CFR 20.103, "Exposure of Individuals to Concentrations of Radioactive Materials in Air in Restricted Areas,"

-- Regulatory Guide 8.15, "Acceptable Programs for Respiratory Protection,"

-- NUREG-0041, "Manual of Respiratory Protection Against Airborne Radioactive Materials," and

-- Licensee Procedures.

The licensee's performance relative to these criteria was determined by:

-- discussions with the Manager, Radiological Controls TMI-1; the Respiratory Protection Supervisor, and other members of the staff,

-- review of selected licensee procedures including:

  - 1501-ADM-4020.01, Revision 0, 9/14/33, "Respiratory Protection Program"
  - 1501-ADM-4020.02, Revision 0, 9/14/83, "Selection and Use of Respiratory Protective Equipment"
  - 1501-ADM-4020.03, Revision 0, 9/14/83, "Maintenance and Inspection of Respiratory Protective Equipment"
  - 6210-ADM-2623.03, Revision 1-00, 1/15/84, "GET Instructor Indoctrination/Qualification Training Program"
  - 4213.OPS-4020.01, Revision 0, 10/28/82, "Operation of the Respirator Cleaning Facility"
  - RCP1600, Revision 3, 4/29/82, "Department Organization Plan" (Radiological Controls)
  - RCP 1616.3A, Revision 5, 10/19/83, "Q-127 DOP Respirator Filter Testing"
  - RCP 1616.3B, Revision 2, 9/1/82, "Operating TDA-2D Respirator Leak Tester"

-- examination of respirator training and fitting records for eight individuals,

-- review of respirator issue and collection logs, Radiological Investigation Report log, Quality Deficiency Report logs for 1983 and 1984, approximately 200 entries in the ALARA review log for respiratory protection related reviews, RWP's for incorporation of respiratory protection requirements, the results of the latest QA audit report (8/26/83), approximately 160 entries in the Quality Assurance Monitoring Report logs,

-- direct observation of the condition of respirators, including emergency equipment and air bottles staged at use points; health physics control point processing of individuals requiring respirators; and the respirator inspection, cleaning, repair and testing facilities, and

-- inspector review of the licensee's respiratory protection training in March 1984.

Within the scope of this review, no violations were identified.

10.0 ALARA Program

The licensee's program for maintaining occupational radiation exposures As Low As Is Reasonably Achievable was reviewed against criteria contained in:

° 10 CFR 20.1(c)

° Regulatory Guide 8.8, "Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations will be As Low As Is Reasonably Achievable" and Regulatory Guide 8.10, "Operating Philosophy for Maintaining Occupational Radiation Exposures As Low As Is Reasonably Achievable"

° NUREG/CR 3254, "Licensee Programs for Maintaining Occupational Exposure to Radiation As Low As Is Reasonably Achievable"

The licensee's performance relative to these criteria was determined by:

° discussions with the Manager, Radiological Controls, TMI-1, the Radiological Engineering Manager, and other members of the staff

° review of selected licensee procedures and other documents including:

-- RCP 1600, Revision 3, 4/29/82, "Department Organization Plan" (Radiological Controls)

-- RCP 1628, Revision 9, 10/3/83, "Bioassay Program"

-- RCP 1641, Revision 13, 2/21/84, "Dosimetry Use and Exposure Controls"

-- RCP 1798, Revision 4, 5/2/83, "Radiological Deficiency Reporting"

-- 1000-PLN-4010.01, Revision 0, GPU Nuclear Corporation Radiation Protection Plan

-- 9100-ADM-1214.01, Revision 0, 11/2/83, "Radiological Investigative Reports"

-- 9100-ADM-4010.02, Revision 0, 5/21/84, "ALARA Review Program"

-- 9100-ADM-4010.06, Revision 0, 4/2/84, "Tracking Personnel Exposure"

-- GPU Service Corporation Manual, pages 1101 through 1107, "Radiation Protection Policy," 4/10/81

° review of Radiological Deficiency, Radiological Investigation, Quality Deficiency, and Quality Assurance Monitoring Reports and logs; ALARA Review logs; QA audit reports; Radiological Engineering ALARA reviews; Radiation Work Permits (for incorporation of requirements resulting from ALARA reviews); post job ALARA reviews; the process by which radiation exposure estimates and goals are established and personnel exposures tracked and trended against those estimates and goals; and the process by which ALARA is implemented in the design and modification of equipment and facilities.

Weaknesses in ALARA implementation at the corporate level as identified in Report 50-320/84-04 (TMI, Unit 2) were also noted during this inspection. The licensee's response to Report 50-320/84-04 will be reviewed in a subsequent inspection (84-16-03).

Within the scope of this review, no violations were identified.

11.0 Facilities and Equipment

The adequacy of the licensee's instrument calibration area, access control area, and decontamination facilities were reviewed against the applicable criteria, together with the availability of portable ventilation equipment, temporary shielding, and radiation survey equipment.

The adequacy of these facilities and equipment were determined by observation of the facilities and equipment in use, interviews with personnel responsible for the use and maintenance of these facilities and equipment, and a review of selected records and procedures.

Within the scope of this review, no violations were identified. The licensee's facilities and equipment appeared to be adequate for the requirements of the licensee's radiation control program.

12.0 Radioactive Waste Management

12.1 Liquid Radioactive Waste

The licensee's liquid radioactive waste program was reviewed with respect to Technical Specification requirements in the following areas: sampling, effluent radiation monitors; and programs and plans for liquid waste effluents. Based on a review of procedures and records and discussions with personnel, the licensee has a program in place for sampling liquid effluents which includes sampling prior to release and composite sampling during release. The licensee has a program for verifying batch sample representativeness and also a program for calibration and maintenance of the liquid composite samplers. Liquid effluent samples are analyzed either in-house or by a vendor laboratory. The licensee has a program for control of sample shipment to the vendor laboratory and receipt and review of data.

The licensee's liquid effluent radiation monitor calibration procedures and data were reviewed. The licensee uses the original isotopic calibration data supplied by the vendor of the radiation monitors and performs periodic calibrations with sources which reference the original calibrations. Electronic calibrations are performed as necessary. The licensee is calibrating the liquid effluent radiation monitors at the frequency required by the Technical Specifications. The licensee is also calibrating the liquid effluent flow instrumentation and effluent composite samplers, as required.

The licensee's program for the calculation of actual and projected doses due to effluent releases were examined, and the available data for 1984 to date was reviewed. Discussions on the operation of the liquid radwaste processing system were conducted and it was noted that the licensee is planning to monitor the performance of the liquid radwaste processing system relative to performance parameters such as filter d/p, resin depletion, chemical constituents and partitioning factors. In addition, radwaste personnel receive periodic reports of dose contributions and projections in order to ensure that radwaste personnel are aware of the status of offsite doses due to liquid effluent releases.

The inspector had no further questions in this area. No violations were identified.

12.2 Gaseous Radioactive Waste

The licensee's gaseous radioactive waste program was reviewed with respect to Technical Specification requirements in the following areas: sampling, effluent radiation monitors, and programs and plans for gaseous waste effluents. The licensee has a program in place for sampling and analysis of gaseous effluents. The licensee's procedures were reviewed in this area and it was noted that the procedures adequately address the Technical Specification requirements.

The calibration data and procedures for the gaseous effluent radiation monitors was also reviewed. The licensee uses the original isotopic calibration data supplied by the vendor sources which reference the original calibrations. Electronic calibrations are performed as necessary. The licensee is calibrating the gaseous effluent radiation monitors at the frequency required by the Technical Specifications. The licensee is also calibrating the gaseous effluent flow instrumentation as required by the Technical Specifications. The licensee's program for the calculation of actual and projected doses from gaseous effluent releases were examined and available effluent release data for 1984 to date were reviewed. Operation of the gaseous radwaste processing system was discussed with licensee personnel.

The inspector had no further questions in this area. No violations were identified.

13.0 Nonradiological Chemistry

13.1 Laboratory Quality Control

The adequacy and effectiveness of the licensee's quality control of chemical analysis was reviewed against the requirements of Amendment No. 52 to the license, Technical Specification Sections 3.1.5, 4.2.3.6, 6.8 and Table 9.2-2 and 9.2-3, USNRC Regulatory Guide 1.33, Revision 2, and standard industrial practices.

The licensee's performance relative to these requirements and standards was determined by review of records, discussions with licensee personnel, and observations by the inspector.

The laboratory used more than one concentration of the calibration standard for each measurement system and was performed over the range of operation. All data was documented. The expiration of calibration curves were monthly or when new standards or reagents were used. The fluoride calibration curve had an expiration date of every three months. The licensee maintained a log on laboratory instrument calibration. The licensee's calibration program for laboratory measurement systems is good.

Control standards were analyzed and evaluated by the licensee as percent recovery. The results of the control standards were plotted on charts showing the mean value and standard deviation at 2 sigma. The analytical results of the samples were not accepted if the control standards were out of the ±2 sigma parameter. About 15 data points were generated for the control charts. The licensee's control program proved very effective. As the inspector observed the hydrazine analysis, an out of control situation was detected with the control chart. The calibration curve was in error and a new curve was generated to resolve the out of control problem.

No violations were identified.

13.2 Analytical Procedures

The licensee's analytical procedures for the primary and secondary chemistry were reviewed. The procedures are required under Amendment No. 52 to the license, USNRC Regulatory Guide 1.33, Revision 2, referenced in Section 6.8 of the Technical Specifications, Sections 3.1.5, 4.2.3.6 and Tables 9.2-2 and 9.2-3 also in the Technical Specifications. Conformance to these procedures was determined by review of licensee records and by observation of the analyses.

The procedures for the primary chemistry that were observed were boron potentiometric titration, lithium by atomic adsorption, fluoride by specific ion electrode, chloride and sulfate by ion chromatograph. The procedures for the secondary steam generators that were observed were for hydrazine and ammonia. The control standard analyzed with the steam generator sample for hydrazine was beyond the 2 sigma limit. A rerun of sample and standard denoted unacceptable performance. The technician reran the calibration standard and found that the slope of the calibration curve was in error. The sample and the control standard were rerun using the new calibration curve resulting in a control standard within the accepted ±2 sigma parameter.

This exercise demonstrated the need for the control charts and the effectiveness of the licensee's measurement control program in identifying an out of control measurement.

No violations were identified.

13.3 Staffing and Training

The Plant Chemistry and Manager has a Lead Foreman and two other Foremen reporting to him. There is a Staff Chemist reporting to the Lead Foreman that assists in chemistry related in-plant operations and also writes procedures. The Chemistry Technicians report to the Foremen.

The Plant Chemistry Manager and the Foreman have the capability of identifying and correcting out of control measurements as soon as they are detected.

The licensee's onsite Training Center has a comprehensive program for newly hired Chem Techs. The practical training is performed in the plant laboratory. A test and qualification sign-off sheet are required to pass.

No violations were identified.

14.0 Organization, Qualification and Training Radiation Protection

The licensee's organization relative to Radiation Protection was reviewed against applicable criteria including:

- RCP 1600, Revision 3, 4/29/82, "Department Organization Plan (Radiological Controls)
- 1000-PLN-4010.01 GPU Nuclear Corporation Radiation Protection Plan

The licensee's performance relative to these criteria was determined from discussions with the Manager, Radiological Controls TMI-1 and certain members of his staff, and review of Position Descriptions for the following positions:

Manager, Radiological Controls
Radiological Field Operations Manager
Radiological Engineering Manager
Administrator, Radiological Controls

Figure 1 depicts the licensee's current organizational arrangement. Approximately 80% of the technicians have been fully qualified in accordance with the licensee's NRC approved Radiation Controls Training Program. The remainder are in various stages of completion of that program. The qualifications of 5 technicians were reviewed and found to be in accord with applicable job specifications for Technicians A, B and C levels.

Organization controls and personnel resources appear adequate to establish and maintain sufficient radiological controls for the facility for normal operating conditions.

No violations were identified in this area.

15.0 Exit Interview

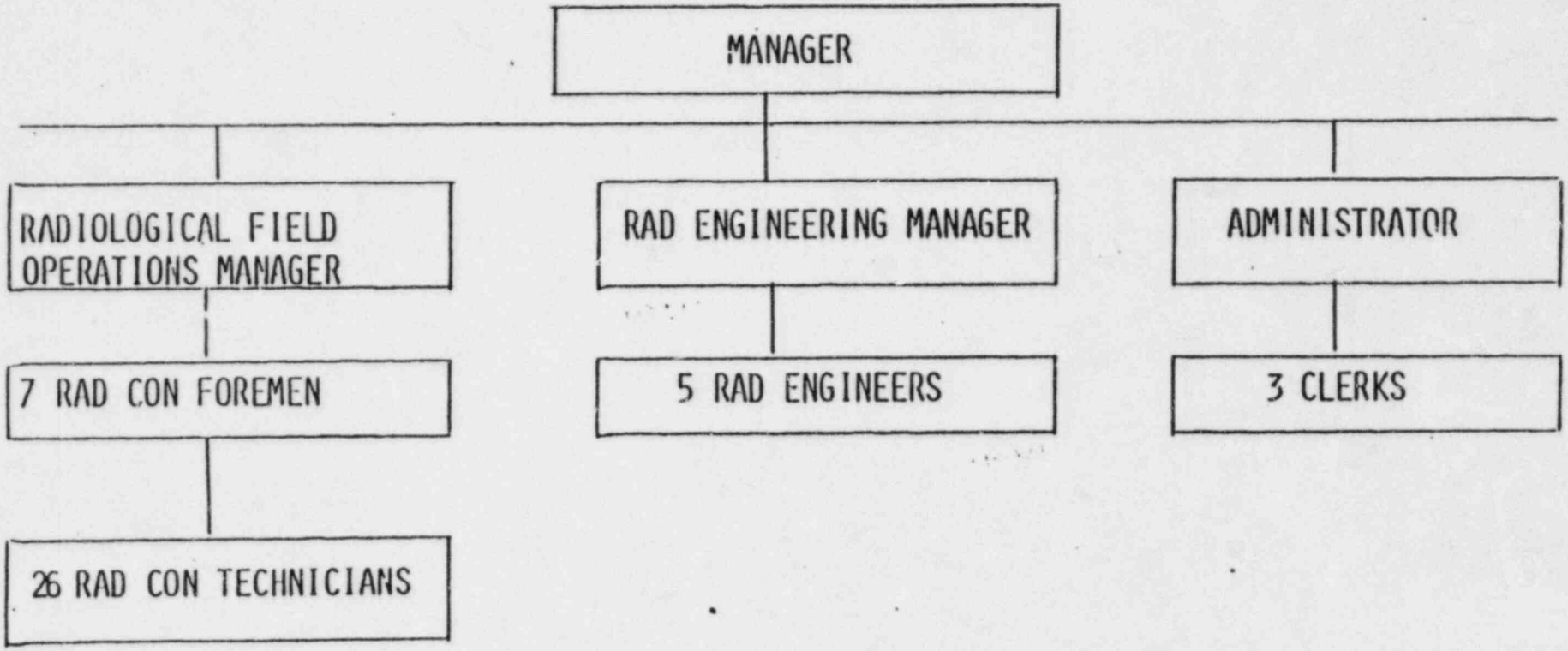
The inspectors met with the licensee's representatives at the conclusion of the inspection on June 8, 1984. The inspection team summarized the purpose and scope of the inspection and identified findings as described in this report.

At no time during this inspection was written material provided to the licensee by the inspectors.

FIGURE 1

ORGANIZATION CHART

UNIT 1 RADIOLOGICAL CONTROLS



TOTAL PERSONNEL: 41

01/31/84