

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 70-734/85-12  
Docket No. 70-734  
License No. SNM-696  
Licensee: GA Technologies, Inc.  
P. O. Box 85608  
San Diego, California 92138  
Facility Name: Torrey Pines Mesa and Sorrento Valley Sites  
Inspection at: San Diego, California  
Inspection conducted: September 23-27 and October 16, 1985

Inspectors: B. L. Brock 10/28/85  
B. L. Brock, Fuel Facilities Inspector Date Signed  
R. D. Thomas 10/28/85  
R. D. Thomas, Chief Date Signed  
Nuclear Materials Safety Section

Approved By: R. D. Thomas 10/28/85  
R. D. Thomas, Chief Date Signed  
Nuclear Materials Safety Section

Summary:

Inspection on September 23-27, 1985 (Report No. 70-734/85-12)

Areas Inspected: A routine announced safety inspection was conducted of management organization and controls, criticality safety, operations review, transportation, and radioactive waste management.

The inspection involved a total of 50 man-hours onsite by two NRC inspectors. During this inspection, Inspection Procedures 88005, 88015, 88020, 86740, and 88035 were covered.

Results: No violations or deviations were identified in the five areas inspected.

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## DETAILS

### 1. Persons Contacted

\*R. A. Wolf, Secretary  
R. Rademacher, Director, Employee Relations  
T. R. Colandrea, Director, Quality Assurance and Compliance  
F. O. Bold, Manager, Compliance Control Department  
\*K. E. Asmussen, License Administrator  
\*R. C. Noren, Director, Fuel Operations Division  
\*J. P. Hogan, Senior Counsel  
\*R. P. Vanek, Manager, Fuel Fabrication Department  
R. K. Krueger, Supervisor, Triga Fuel Productions  
\*L. R. Quintana, Supervisor, Health Physics  
D. W. Hill, Senior Scientist  
R. Dalry, Director, Facilities (by telephone, onsite)  
R. J. Cockle, Health Physics Technician  
J. Keith, Health Physics Technician  
H. Lomax, Facilities Engineer  
C. Wisham, Accountant, Nuclear Materials Management  
S. W. Aiken, Manager, Security Systems and Material Control  
M. H. Merrill, Manager, Nuclear Safety  
C. Nelson, Shift Supervisor  
H. O. Johnson, Supervisor, Hot Cells  
V. Krueger, Nuclear Material Controller

\*Denotes those attending the exit interview.

### 2. Management Organization and Control

License Condition 9 of SNM-696 incorporates the statements, representations and conditions specified in Part II - License Specifications as part of the license.

#### Organizational Structure

Section 3.1 of Part II - License Specifications permits the licensee to change organizational responsibilities, reporting locations and names, providing such changes do not adversely affect the implementation of license conditions and are reported to the NRC within sixty days after the change.

The licensee has proposed significant changes to the organizational structure as a result of the retirement of four managers with compliance responsibilities. The affect of the proposed changes on implementation of the regulations and license conditions is being reviewed by the offices of Nuclear Material Safety and Safeguards (NMSS) and Inspection and Enforcement (I&E). The inspector's review confirmed the new organizational structure had not been implemented. Two vacated positions filled under the proposed organization were Manager, Licensing Administration and Manager, Nuclear Safety.

The inspectors met with the GA-Technologies Secretary and the Director of Employee Relations, who were scheduled to become part of

the management chain under the proposed reorganization. Emphasis was placed on NRC's concern that the importance of safety functions not be diluted. The licensee stated that the importance of safety would not be diminished. The Director of Employee Relations indicated that the Health Physics and Safety Services would still function as a member of the control team but would report to a different manager than the other team members.

B. Procedure Controls

Section 3.7.2 of Part II - License Specifications requires procedures for all activities in which materials subject to this license are physically handled, stored, and chemically or physically changed.

The inspector reviewed the licensee's actions in response to the Notice of Violation issued during the previous inspection (Inspection Report 70-734/85-09). The inspector found that the licensee was implementing a quality control program to meet the requirements of 10 CFR Parts 61.55 and 61.56.

C. Internal Review and Audit

Section 3.6 of Part II - License Specifications requires that health physics inspections be conducted quarterly and nuclear safety inspections (see Section 4.B(1)) be conducted at least annually for all areas possessing SNM and at least quarterly for areas possessing more than 500 grams of SNM.

The inspector reviewed the health physics and nuclear safety inspections. As required by the license specifications, the findings of the internal inspections are appropriately documented, distributed, tracked and followed up to assure that the corrective action taken was effective. The inspector noted the new Manager of Nuclear Safety participated in three nuclear safety inspections with his predecessor during the third quarter.

No violations were identified.

3. Criticality Safety

Section 3.2.2.2 of the license application requires assurance of nuclear criticality safety through review of proposed SNM activities and review of proposed changes in processing equipment and procedures. It also requires frequent inspection and monitoring to assure adequate nuclear safety control. Independent verification of all determinations of criticality limits are also required.

A. Nuclear Criticality Safety Analysis

- (1) The inspector's review of the status of the licensee's nuclear safety analyses found that the fuel production operation scheduled to begin in November 1985 in the Sorrento Valley "B" Building was being modeled for SOLNEW interaction analysis. A

memo addressing the SOLNEW limitations discussed with NMSS (the effect of reflection on shadowing) is being prepared by the former Manager of Nuclear Safety to facilitate proper use of SOLNEW on the licensee's new processes.

- (2) The Building 25 low level radioactive liquid waste treatment system was approved for operation by the Criticality and Radiation Safety Committee (CRSC) with some procedure changes and an SNM limit of 100g U-235.

#### B. Criticality Calibrations and Monitoring System

The inspector reviewed the results of the licensee's improvements to the Criticality Warning Alarm System (CWAS). CWAS improvements have resulted in improved system reliability.

No violations were identified.

#### 4. Operations Review

Section 3.2.1 of the license application requires that the licensee's organization conduct their respective activities within federal, state, and local rules and regulations, license criteria, and company policy, criteria and established practices.

##### A. Conduct of Operations

- (1) SV-B fuel production is scheduled to begin in the fourth quarter of 1985.
- (2) Triga fuel production is continuing. The inspector noted that translucent magnehelic gauge covers had been replaced. This facilities magnehelic gauge covers are therefore deleted from open item 84-07-01 which now leaves only the SV-B translucent magnehelic gauges needing replacement. No poor health physics practices were observed.
- (3) Hot cell operations are unchanged from the previous inspection. An additional HTGR fuel block is expected from the Fort Saint Vrain Reactor during the forth quarter 1985 for examination.
- (4) The cleanup of the former Nuclear Materials Waste Processing Center (NMWPC) has resumed. About 50,000 cubic feet of soil had been excavated to reduce contamination levels to less than NRC release limits. The licensee plans to dispose of the soil at a radioactive waste disposal site (see Section 5). The licensee's measurements of samples from about 3000 cubic feet of vegetation also removed from the area indicated contamination levels less than NRC release limits. NRC samples of this vegetation were measured independently at DOE's Radiological and Environmental Sciences Laboratory. The NRC sample Sr-90 measurements were  $0.77 \pm 0.04$  pCi/g,  $0.06 \pm 0.05$  pCi/g and  $0.96 \pm 0.05$  pCi/g. These values were all less than the Sr-90

NRC release limit of 5 pCi/g which would qualify the vegetation for release to burial at a land fill.

B. Safety Limits and LCOs

Magnehelic gauges on operating systems were within operating limits. The inspectors review of the status of the worn flexible connectors on the SV-A East HEPA filter bank found they had been repaired.

No violations were identified.

5. Transportation

Licensee transportation activities are regulated by 49 CFR 100-177, 10 CFR 71, and 20.311. In addition, an NRC issued Certificate of Compliance regulates the use of shipping casks used to transport fuel and components to and from Fort Saint Vrain (FSVR).

The inspectors reviewed the licensee's plans for disposal of the contaminated soil which now approached 50,000 cubic feet (up from the 20,000 cubic feet estimate included in the last report). The licensee now plans to ship the soil to a DOE burial ground at the Nevada Test Site. The soil shipment is still planned to be in bulk form and is scheduled for completion in the first quarter of 1986.

No violations were identified.

6. Radioactive Waste Management/10 CFR Part 61

Annex "C" of the current license incorporates guidelines for release of equipment and facilities for unrestricted use. 10 CFR Part 20.301 to Part 20.401 regulates the disposal of waste. 10 CFR Part 61 requires that all radioactive waste prepared for disposal is classified in accordance with Section 61.55 and meet the waste requirements in Section 61.56.

- A. The inspector's review of the licensee's response to the violation identified in the previous Inspection Report (70-734/85-09 Section 8.B, lack of a formal QA program) found the licensee had prepared a procedure detailing the responsibilities of the various functions for the preparation of shipments for land burial. The procedure was appropriately reviewed and approved by signature. The procedure is now in use.
- B. The status of the two drums in the Hot Cell storage yard identified in an open item (85-09-01) had not been prepared for shipment as waste; therefore, this item relating to proper treatment of these and similar drums remains open.
- C. The inspector reviewed the licensee identified poor health physics practices during HEPA filter changes on the NMWPC waste compactor. A procedure had been drafted and was circulating for review. The training in application of the procedure has been delayed pending

procedure approval. This item (85-09-02) will be reviewed again during the next inspection.

No violation was identified.

#### 8. Exit Meeting

The results of the inspection were discussed with the licensee's staff identified in Section 1.

The topics included:

- ° Closure of open items (CWAS false alarm rate, 84-18-01; and fire extinguisher inspection tag dating, 85-09-03).
- ° Items remaining open (grinder holdup evaluation, 84-04-08; magnehelic gauge translucent covers in SV-B yard, 84-07-01; label vs dose rate on two waste drums in the hot cell storage yard, 85-09-01; and NMWPC waste compactor HEPA filter change procedure and training, 85-09-03).
- ° Transportation QA program regarding waste shipments pending receipt of reply to the related Notice of Violation.
- ° Deactivation and Decontamination related topics included:
  - The licensee's shipment options for the soil.
  - The need to delay shipment of the vegetation removed until receipt of the NRC's independent sample analytical results.
  - The licensee's demonstration that the soil higher dose rates correlated with increased Cs-137 and not U-235.
  - NRC verification of soil contamination levels where the soil would be shipped to a radiological waste disposal site was subject to inspector availability.
  - The need for a certification statement covering materials to be released for landfill was addressed.
- ° Unescorted access was discussed. The licensee permitted the NRC inspector to enter SV-A alone but stipulated that this was not an indication of the Company's policy. The inspector was accompanied in the Rod and Kernal Production area. The employee accompanying the inspector was quite helpful.