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U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 70-25/87-02 (IE-V-800)

Docket No. 70-25

License No. SNM-21

Safeguards Group II

Licensee: Rocketdyne Division
Rockwell International Corporation
6633 Canoga Park, California 91304

Facility Name: Rocketdyne Division
Rockwell International Corporation

Inspected at: Santa Susana and De Soto Facilities

Inspection Conducted: May 11-14, 1987

Dates of Last Material Control and Accounting Inspection: August 24 through September 4, 1986

Type of Inspection: Routine and Reactive Unannounced Material Control and Accounting

Inspector: G. B. Nelson 5-29-87
G. B. Nelson, Chemist Date Signed

Approved by: M. D. Schuster 6/1/87
M. D. Schuster, Chief, Safeguards Section Date Signed

Summary

Inspection on May 11-14, 1987 (Inspection Report No. 70-25/87-02)

Areas Inspected: Facility organization and management controls, facility operations and internal controls, measurement systems, measurement control and statistics, physical inventory, records and reports, follow-up on inspector identified problems and unresolved items and management meetings - entrance and exit interviews. During the inspection, Inspection Procedures 85203, 85205, 85207, 85209, 85211, 85215, 92701 and 30703 were covered.

Results: Within the areas inspected, no violations or deviations were identified.

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DETAILS

1. Persons Contacted

- *J. S. McDonald, Division Director, Atomics International
- *M. E. Remley, Director, Nuclear Safety and Licensing
- *V. J. Schaubert, Manager, Nuclear Safety and Licensing Office
- D. C. Allen, Staff Assistant, Nuclear Material Control
- D. N. Glass, Manager, A.I. Quality Engineering Assurance Management
- W. F. Dennison, Project Manager, Fuel Decladding
- W. R. McGurnin, Manager, Nuclear Operations, Rockwell International Hot Laboratories (RIHL)
- R. E. Cutting, Lead Technician, RIHL
- J. D. Moore, Specialist, Health, Safety and Environment

*Denotes those in attendance at the exit interview.

2. Licensee Actions on Previous Inspection Findings

Refer to Section 3 of this report.

3. MC-92701 - Followup on Inspector Identified Problems and Unresolved Items

(Closed) Item 84-02-03. An NRC inspector had noted that the sigma estimators of the random and systematic errors for weighing declad slugs from EBR II Blanket Fuel were not calculated.

The licensee declared that the piece count of the five slugs removed from a fuel rod was the accountability step. The weighing of the five slugs on the top-loader scale was a check on the piece count and was not an accountability measurement. The shipper of the blanket fuel was Argonne National Laboratory-West, Idaho Falls, Idaho, and the receiver was Rocketdyne Division's Radioactive Material Disposal Facility (RMDF). Rocketdyne Division receipted the blanket fuel on the shippers values stated on the DOE/NRC 741 Forms, nuclear material transaction reports. The fuel was transferred to the licensee's Rockwell International Hot Laboratories (RIHL) in batches of six to nine subassemblies. The batch was declad and packaged and shipped back to RMDF on the original shipper's values for each of the 299 subassemblies.

The inventory differences (IDs) shown on the bimonthly nuclear material balance reports, DOE/NRC 742 Forms, were due to roundings on the 741 Forms. There were no Limit of Errors associated with the IDs. The error components associated with weighing five slugs are, therefore, not required.

4. MC-30703 - Management Meetings - Entrance and Exit Interviews

An entrance interview was conducted with Dr. M. E. Remley, Director, Nuclear Safety and Licensing. The scope and duration of the MC&A inspection were outlined.

Those in attendance at the exit interview were informed of the inspection findings. No violations or deviations were identified within the scope of the inspection.

5. MC-85203 - Facility Organization and Management Controls

No violations were identified.

Rocketdyne Division's recent tables of organization were inspected. Nuclear Material Management functions are independent of engineering and nuclear operations.

The Management Review and Audit of the MC&A System dated March 16, 1987, was inspected. The audit performed by Mr. R. Joseph concerned the handling of SNM at Rocketdyne's RIHL and RMDF item control and material balance areas. The QC auditor used a check list of 21 items. The audit was considered satisfactory and adequate.

6. MC-85205 - Facility Operations and Internal Controls

No violations were identified.

The inspector reviewed a proposed spent nuclear fuel decladding project currently being negotiated with the DOE. The fuel is from the Fast Flux Test Facility (FFTF) operated by Westinghouse Corp. at Hanford, Washington. The proposal involves 300 assemblies which contains 9.7 kg of Pu and 27.4 kg U per assembly. Each assembly contains 217 pins and each pin contains 45 g Pu. The pins contain mixed oxide pellets (about 25 Wt% PuO₂ and 75 Wt% UO₂). An average core loading contained 73 fuel assemblies. The RIHL will require a physical security up-grade and dry-box containments within the hot cells, if the decladding contract is accepted by DOE and Rocketdyne.

The current disassembly of Fermi-1 spent fuel pins from bundles is about completed. Originally, the DOE contract required Rocketdyne to declad the Fermi-1 pins. The contract was amended in the fall of 1986 to disassembly only of Fermi-1 bundles.

In the independent inspection mode, the inspector observed the disassembly of a core-melt damaged fuel assembly.

7. MC-85207 - Measurement Systems

Not applicable, no physical or chemical measurements were performed in the EBR-II blanket fuel decladding or in the disassembly of Fermi-1 spent fuel bundles.

8. MC-85209 - Measurement Control and Statistics

Not applicable, no measurements were performed, therefore, no measurement control or statistics were required.

9. MC-85211 - Physical Inventory

No violations were identified.

Records of physical inventory taking for the period September 30, 1986, through April 1, 1987, were reviewed. Rocketdyne performed the inventory taking in RIHL and the health and safety laboratory bimonthly as required.

The DOE/NRC 742 Forms, material balance reports for October 1, 1986, and March 31, 1987, were inspected. The reports reflect the activity at RIHL.

10. MC-85215 - Records and Reports

No violations were identified.

Rocketdyne shipped disassembled fuel pins from RIHL to RMDF. For the period October 10, 1986, through May 7, 1987, 125 shipments were made and DOE/NRC 741 Forms, nuclear material transaction reports, were completed and dispatched. The inspector audited the 125 741 Forms and the associated nuclear material transfer vouchers (Rocketdyne's Form N 93J, Revision 7-81). No defects that would affect the material balance data were identified.

Rocketdyne's RIHL received fuel assemblies from RMDF for disassembly of the Fermi-1 spent fuel bundles in the hot laboratories. For the period January 8, 1987, through May 6, 1987, 132 receipts were made and the DOE/NRC 741 Forms were completed and dispatched. The inspector audited the 132 741 Forms and Rocketdyne's nuclear material transfer vouchers. No defects that would affect the material balance data were identified.

