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REPORT DETAILS

Report No. 70-1113/84-01

1. Key Persons Contacted

- [Redacted] Manager, Materials Operations
- [Redacted] Acting Manager, Regulatory Compliance
- [Redacted] Manager, Financial Operations
- [Redacted] Acting Manager, Fuel Manufacturing
- [Redacted] Acting Manager, Fuels Fabrication Operations
- [Redacted] Acting Manager, Manufacturing Technology and Engineering Operations
- [Redacted] Production Control Specialist

The inspector also interviewed several other licensee employees.

*Denotes those present at the exit interview

2. Licensee Action on Previous Inspection Findings

(Open) IFI (83-20-02) A set of flow calibrations was performed in the spring of 1981, by NBS using the NBS portable flow standard (NBS volume flow prover) and with the orifice plates in-place. Previously, the orifice plates were removed annually and inspected for visual defects and the orifice dimensions checked. Examinations of orifice plates over the past several years have indicated that only a minimum deviation exists and that the variability of the measurements is more than any detected change in the orifice plates. NBS recommended that the orifice plates remain in-place and were of the opinion that traceability would be lost by removing, measuring and replacing the orifice plates. The three primary waste systems should be evaluated to determine the most appropriate method for recalibration, including the frequency of calibration. The licensee plans a meeting with NMSS and NBS to discuss this issue during the first quarter of CY-1984.

3. MC 85300B - Export Verification

The licensee was granted an export license (XSNM02057) by the Export/Import and International Safeguards Office of International Programs on October 17, 1983, to export up to a total of 11,345 kilograms of uranium as low enriched UO2 powder containing 309 kilograms of uranium-235 for the project identified as Tsuruga 1-Reload 14 consisting of seven enrichments .711, 1.30, 1.70, 2.00, 2.40, 3.00 and 3.80 weight percent uranium-235.

An inspection was performed at the General Electric Company during the period February 6-10, 1984, to examine the licensee's procedures and practices for exporting special nuclear materials (SNM) and to independently verify the SNM content in the Tsuruga 1-Reload 14 shipment destined for Japan Nuclear Fuel Company, Ltd., 3-1, 2-chome, Uchikawa Yokasuka-shi,

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Kanagawa-ken, Japan. The overseas shipment is scheduled to depart from the licensee's facility for Oakland, California, on or about March 20, 1984.

Of the total quantity identified with the Tsuruga 1-Reload 14 project, approximately 11,541 kilograms of low enriched UO₂ powder was included in the population for verification purposes and included the following quantities and enrichments: 862 kilograms of 1.70 percent enriched; 2,707 kilograms of 2.00 percent enriched; 5,041 kilograms of 7.00 percent enriched; and 1,987 kilograms of 3.80 percent enriched.

The low enriched UO₂ powder was previously produced and packaged in both three and five gallon metal containers in preparation for shipment. The material type and enrichment determines the size of the container to be used. The tare weight of a container is gross weighed prior to packaging and includes the weight of the lid, the ring, the plastic liner, the type E seal, the wire and the metal bolt.

A total of five samples were required, based on the NRC sampling plan, and were randomly sampled using a random samples table. The five samples selected were prorated based on the quantity of material produced for each enrichment. Sample sizes and the licensee's sample data are presented in Tables I and II. The identity of the containers sampled, the gross weights, the identity of the drums the containers were packaged in for shipment, the blend numbers and the drum seal numbers are presented in Table III.

The low enriched UO₂ samples will be forwarded to the New Brunswick Laboratory under NRC Form-741 transfer series YLJ-CBJ No. 5 dated February 17, 1984. The low enriched UO₂ samples will be analyzed for percent uranium and weight percent uranium-235 (84-01-01).

An examination was made of the sampling frequencies for blends of low enriched UO₂ powder produced for the Tsuruga-1, Reload 14 overseas shipment. It was determined that the sampling frequencies were in accordance with the QC inspector instructions, No. 2.5.2.1 entitled acceptance of GE-Wilmington produced UO₂ Powder for Sale, Revision 19, dated June 14, 1982.

4. MC 85206B - Measurements and Statistical Controls

The program for monitoring and controlling the performance of standard measurements used for accountability purposes was examined. The analytical methods for uranium have limits determined by statistical techniques and are based upon the historical performance of the method. Each measurement system has a warning limit and an out-of-control limit that is re-evaluated at least once each material balance period. The measurement method, the frequency of out-of-control situations, the periods examined and the number of standard measurements performed are presented in Table IV.

5. Exit Interview

The inspection scope and findings were summarized on February 10, 1984, with those persons indicated in paragraph 1 above.

TABLE I

<u>Sample I.D.</u>	<u>Gross Wt. Gms.</u>	<u>Tare Wt. Gms.</u>	<u>Net Wt. Gms.</u>
1.709MP2234	17.911	7.896	10.015
2.009MP2000	17.964	7.940	10.024
3.000ML1254	17.910	7.900	10.010
3.009MP2785	17.996	7.935	10.061
3.800ML1979	17.958	7.942	10.016

A GE paper seal No. 338420 was affixed to the sample container.

TABLE II

<u>Nom. Enr.</u>	<u>Sample No.</u>	<u>Blend No.</u>	<u>U-Factor</u>	<u>Isotopic</u>
1.70	9MP2234	31885	.8781	1.698
2.00	9MP2000	32086	.8779	2.006
3.00	OML1254	32115	.8767	3.003
3.00	9MP2785	32101	.8782	3.008
3.80	OML1979	31817	.8785	3.816

TABLE III

<u>Nominal</u> <u>Ent.</u>	<u>Cont. I.D.</u> <u>No.</u>	<u>Drum</u> <u>No.</u>	<u>Cont. Gross</u> <u>Wt. Gms.</u>	<u>Cont.</u> <u>Seal No.</u>	<u>Drum Seal</u> <u>No.</u>
1.70	9MP2234	K-1042	29580	246322	250054
2.00	9MP2000	K-0480	29150	246325	250057
3.00	OML1254	K-2139	28610	246321	250053
3.00	9MP2785	K-1081	25420	246323	250055
3.80	OMP1979	K-6768	25490	246324	250056

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TABLE IV
CONTROL CHART DATA

Measurement Method	Control Standard	0.05 Limit Exceeded Number/Percent	0.001 Control Limit Exceeded Number/Percent	Number of Standards Measured	Time Period
U-Titration	MS950b	8 15	0	26	1/5-2/4/84
U-Titration Dirty Powder	RIP-007	0	0	3	1/12-2/1/84
LUM-PPM-U	2027	6	0	98	1/12-2/6/84
10-PPM-U	2028	10	0	79	1/5-2/6/84
25-PPM-U	2029	7	0	16	1/5-2/6/84
100-PPM-U	2035	3	0	11	1/5-2/6/84
200-PPM-U		3	0		
TMI-Spectro.	WIBI V1	2	0	47	1/5-2/4/84
O/U Pellet	CER002	2	0	75	1/5-2/6/84

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