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70-820

United Nuclear Corporation
Commercial Products Division
Hematite, Missouri 63047

Attention: Mr. R. I. Harfling, Manager
Finance and Control

Gentlemen:

We enclosing copies of the safeguards amendments (Enclosures 1 and 2) that we are planning to issue to your special nuclear material license Nos. SNM-33 and SNM-777, respectively. The license conditions in these amendments are based on our review of the information you have submitted to us.

A full description of your procedures for safeguarding the special nuclear material possessed pursuant to Licenses SNM-33 and SNM-777 should be prepared which supports the enclosed license conditions. It is requested that you provide us with descriptions of your procedures which support the enclosed amendments within thirty (30) days after each amendment is issued.

If you have any questions on these amendments, please let me know.

Sincerely,

(Signed) R. P. Wischow

R. P. Wischow, Director
Division of Nuclear Materials
Safeguards

Enclosures:
1 and 2

SNM-33
SNM-777

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UNITED STATES
ATOMIC ENERGY COMMISSION

LICENSE AMENDMENT
FOR
SPECIAL NUCLEAR MATERIALS SAFEGUARDS

Pursuant to the Atomic Energy Act of 1954, as amended, and Title 10, Code of Federal Regulations, Chapter 1, Part 70, the following amendment to the special nuclear material license identified below is hereby issued, incorporating controls for the safeguarding of special nuclear material.

Licensee

Name: United Nuclear Corporation
Commercial Products Division

Address: Fuel Fabrication Operations,
New Haven, Connecticut
and
Fuels Recovery Plant,
Wood River Junction, R. I.

License No. SNM-777

Amendment No. SG-1

Docket No. 70-820

CONDITIONS

1.0 FACILITY ORGANIZATION

1.1 The Supervisor, Nuclear Materials Management, shall develop, revise, implement, and enforce the nuclear material control procedures and manage an overall system of special nuclear material control.

1.2 Nuclear material control procedures and revisions thereto shall be approved by the Nuclear Materials Representative, the Supervisor, Nuclear Materials Management and Manager, Finance and Control. A manual containing all current nuclear material control procedures shall be maintained by the Nuclear Materials Representative.

1.3 The Supervisor, Nuclear Materials Management shall assure that the nuclear material control procedures are appropriately reflected in process specifications, manufacturing instructions, standard operating procedures, or similar detailed management instructions.

1.4 All delegations of safeguards responsibilities by the Supervisor, Nuclear Materials Management, shall be in writing.

2.0 FACILITY OPERATION

2.1 Material Balance Areas (MBA's) shall be established by the Supervisor, Nuclear Materials Management.

2.2 Each MBA shall be an identifiable physical area into and out of which movement of special nuclear material can be measured.

2.3 Sufficient numbers of MBA's shall be established so that losses of special nuclear material can be identified and localized.

2.4 All operations within an MBA shall be the responsibility of a single employee who shall also be responsible for the custody of special nuclear material within his MBA.

3.0 MEASUREMENTS AND STATISTICAL CONTROLS

3.1 The licensee shall determine the U-235 content of all receipts, shipments and measured discards. The U-235 content shall also be determined for all material inventoried. The limits of error* associated with these quantities shall be determined. Sufficient measurements shall be made to substantiate the stated quantities and associated limits of error.

3.2 A program of standardization and calibration of measurement equipment and analytical procedures shall be maintained to provide data to substantiate the limits of error associated with all measurements required for safeguards purposes.

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* Limits of error as used herein means the boundaries within which the true (best) value of the parameter being measured lies with a probability of 95%.

3.3 All measurements required by this amendment shall be reviewed annually by the Quality Control Manager. This review shall include a quantitative calculation of limits of error of the measurement system. The Quality Control Manager shall utilize data obtained through calibrations specified in Condition 3.2 to monitor performance of the measurement system to assure calculated limits of error are maintained between reviews. Records of reviews, calculations, and use of calibration data shall be kept by the Quality Control Manager.

3.4 After any physical inventory the material unaccounted for (MUF) and the limits of error associated with the material unaccounted for shall be computed promptly. The limits of error associated with MUF shall be calculated by statistically combining the limits of error determined for shipments, receipts, beginning inventory, ending inventory, and measured losses for the period since the last inventory.

3.5 If the quantity of MUF exceeds the associated limits of error the licensee shall promptly notify the Atomic Energy Commission, Division of Nuclear Materials Safeguards, District I, Newark, New Jersey. The licensee shall investigate the MUF and notify the Division of Nuclear Materials Safeguards within thirty (30) days after the initial notice, specifying the probable reasons for the MUF and the corrective action taken or planned.

4.0 SHIPPING AND RECEIVING

4.1 All shipper-receiver differences shall be brought to the attention of the Nuclear Materials Representative, who shall evaluate these differences to determine whether they are statistically significant and of sufficient magnitude to warrant investigation. The Supervisor, Nuclear Materials Management, shall investigate all statistically significant differences which exceed $500 value. A shipper-receiver difference shall be considered statistically significant when (1) the difference exceeds the statistical combination of the limits of error of the shipper's and receiver's measurements, or (2) if the shipper's limits of error is unknown,

the difference exceeds twice the limits of error for the receiver's measurement. Statistical analyses of past performance, measurement uncertainties, and other data shall be kept by the Nuclear Materials Representative.

5.0 STORAGE AND INTERNAL TRANSFERS

5.1 A documented system of control over special nuclear material stored and processed within the facility shall be maintained which will provide continuous knowledge of the location, and quantity of all material contained in discrete, identifiable items or containers.

5.2 All transfers of special nuclear material between MBA's shall be documented to show the identity, quantity, and isotopic analysis of the material transferred. A system of controls shall be maintained by the licensee for the distribution and accounting of all transfer documents.

5.3 Each document supporting a transfer of material between MBA's shall be signed by the delegated individual.

6.0 INVENTORY

6.1 A complete physical inventory of all special nuclear material subject to this license shall be conducted at approximately twelve-month intervals, but in no case shall more than fourteen months elapse between inventories.

6.2 Prior to each complete physical inventory, written procedures shall be prepared which:

6.2.1 specify the extent to which each MBA is to shut down and clean out process equipment;

6.2.2 specify the extent to which each MBA is to remain static during the inventory;

6.2.3 identify the basis for accepting, for inventory purposes, previously made measurements and their limits of error;

6.2.4 designate measurements to be made for inventory purposes to establish and demonstrate the limits of error associated with the quantity of material on inventory; and

6.2.5 identify the manner by which material on inventory will be listed to assure each item is inventoried and there are no duplications or omissions.

6.3 The book inventory shall be reconciled with and adjusted to the results of the physical inventory upon completion of the physical inventory.

6.4 Special physical inventories of an MBA shall be conducted whenever there is reason to believe that subsequent to the last prior physical inventory a particular MBA has experienced losses or gains that are different by a statistically significant amount from those expected.

7.0 RECORDS AND REPORTS

7.1 The licensee shall establish and maintain a records system which will provide sufficient information to maintain a material balance around each MBA and the total plant. These records shall contain information pertaining to all receipts, shipments,measured discards, inventory, and MUF for each material balance. MBA and plant records shall be reconciled at the end of each accounting period. All entries in the records shall be supported by appropriate documents.

7.2 All measured discards and MUF shall be reported on a monthly basis by the Supervisor, Nuclear Materials Management, to the Manager of Finance and Control.

8.0 MANAGEMENT OF MATERIALS CONTROL SYSTEM

8.1 Licensee management, independent of the Supervisor, Nuclear Materials Management, shall conduct, at least once each year, an internal review of the nuclear materials control procedures and management of the overall system of special nuclear material control and report the findings to the General Manager.

8.2 An estimate of anticipated losses (measured discards plus MUF) for each period of time between inventories shall be prepared for each MBA, with the concurrence of the Supervisor, Nuclear Materials Management, and shall be based on prior experience, throughput quantities and rates, etc. If losses exceed the estimate of those anticipated, they shall be investigated by the Supervisor, Nuclear Materials Management and the results of his investigation shall be reported to the Manager of Finance and Control.

8.3 Any apparent loss of a discrete item or container of special nuclear material which cannot be resolved by an immediate investigation shall be reported to the Supervisor, Nuclear Materials Management, who shall promptly notify the Atomic Energy Commission, Division of Nuclear Materials Safeguards, District I, Newark, New Jersey, and shall conduct an investigation of the loss. The Supervisor, Nuclear Materials Management, shall report the results of his investigation to the Manager, Finance and Control.

FOR THE ATOMIC ENERGY COMMISSION

Date of Amendment _____

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Division of Nuclear Materials
Safeguards