

UNITED STATES  
NUCLEAR REGULATORY COMMISSION

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LICENSE AMENDMENT  
FOR  
SPECIAL NUCLEAR MATERIAL SAFEGUARDS

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, 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 specific safeguards requirements for special nuclear material.

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Licensee:

Name:	UNC Naval Products Division of UNC Resources, Inc.	License No.:	SNM-368
		Safeguards Amendment:	SG-1
Address:	67 Sandy Desert Road Uncasville, Conn. 06382	Docket No.:	70-371
		Date Issued:	APR 02 1995

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CONDITIONS

- 1.0 FACILITY ORGANIZATION
- 1.1 Review/audit results shall be documented and communicated to management in accordance with the following criteria:
- Deficiencies which seriously weaken the material control system shall be reported to management immediately upon identification and corrective actions initiated,
  - A summary of review/audit results and recommendations shall be verbally communicated to management at the conclusion of the activity but in no case more than ten (10) working days after completion of the review/audit,
  - Within thirty (30) working days after completion of the review/audit, a schedule shall be developed for corrective actions.

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2.0 FACILITY OPERATION

- 2.1 The licensee shall follow the Fundamental Nuclear Material Control Plan dated August 1, 1982; the page changes made thereto per the attachments to the licensee's letter dated August 23, 1983, and January 14, 1985; and as further revised by changes submitted by the licensee (and found to be acceptable by the NRC) in accordance with the provisions of 10 CFR 70.32(c).
- 2.2 Operations involving special nuclear material which are not described in the Plan identified in Condition 2.1 shall not be initiated until an appropriate safeguards plan has been approved by the Nuclear Regulatory Commission.

3.0 MEASUREMENTS

- 3.1 The licensee or his designated agent shall measure, except as specified in 10 CFR 70.58(e) and in License Condition 3.2, 3.3, 3.4 and 5.1, the uranium and uranium-235 content of all special nuclear material receipts, shipments waste discards and material inventoried.
- 3.2 Notwithstanding the requirements of 70.58(e) and (g)(1) to measure the uranium and uranium-235 content of encapsulated fuel element packs shipped offsite for additional processing and subsequently returned, the licensee may ship and receive such items on the basis of previous measurements provided the cladding remains intact.
- 3.3 Notwithstanding the requirement of 10 CFR 70.58(e) to measure the uranium and uranium-235 content of Government Retainer Samples received from off-site, the licensee may accept shipper's values for accountability without verification provided the samples are received in tamper-safe condition and seal integrity is maintained.
- 3.4 Notwithstanding the requirement of 10 CFR 70.58(e) to measure the uranium-235 content of the one-in-four intermediate product sample received from off-site, the licensee may assign the isotopic assay determined from the fabricability sample composites provided the intermediate product sample is represented in at least one of the fabricability samples.

4.0 MEASUREMENT CONTROL

- 4.1 The licensee shall perform appropriate process and engineering tests to establish the validity of sampling whenever:
- (a) a change in process parameter affects the physical properties of the material, and
  - (b) the sampling technique or the sampling equipment is changed.

- 4.2 The licensee shall assure that all measurements, including those performed to establish correction factors applied due to (1) non-representativeness between reference standards and process materials and (2) variability in measurement conditions, are traceable to national standards or nationally accepted measurement systems.
- 4.3 Notwithstanding the requirements of 10 CFR 70.57(b)(8) to measure standards and replicates for volume systems, to not provide de minimis quantities for bias calculations, bias corrections and systematic errors, to determine separate random errors for sampling and analytical, to generate random errors for bulk and NDA from replicate measurements of process materials, to perform replicate isotopic analyses and to perform replicate sampling and replicate analyses of liquid and stack discards, the licensee shall follow Sections 4.2.2, 4.2.4, and 4.4 of the Plan identified in License Condition 2.1.
- 4.4 Notwithstanding the requirements of 10 CFR 70.57(b)(4) to determine systematic sampling error and to conduct engineering tests on all material types, the licensee shall follow Section 4.3 of the Plan identified in License Condition 2.1.
- 4.5 Notwithstanding the requirements of 10 CFR 70.57(b)(11) to use control charts to monitor the quality of each program measurement, for control of scales and balances, the licensee shall follow Section 4.5.1.1 of the Plan identified in License Condition 2.1.
- 4.6 All identifiable covariance affects shall be taken into account in the calculation of LEID.
- 4.7 All measurement systems utilized for material control and accounting purposes shall be included in the comprehensive measurement control program.
- 4.8 Notwithstanding the requirement of 10 CFR 70.57(b)(8)(ii) to provide current data for the determination of random sampling and analytical error for the full capability and one-in-four intermediate product samples, the licensee may utilize the random sampling and analytical error data obtained from fuel lot analyses for purposes of computing the limit of error associated with receipt measurements.
- 5.0 PHYSICAL INVENTORY
- 5.1 Notwithstanding the requirement of 10 CFR 70.58(e) to measure the special nuclear material on inventory in standpipes, the licensee shall follow Section 5.5 of the Plan identified in License Condition 2.1 for the SSNM holdup in standpipes in MBA-5. The SSNM shall be cleaned out every other inventory, measured and the quantity reconciled with that projected to be present.

- 5.2 Each plant ID and LEID determination shall be verified by any individual not involved in the original calculations.
- 6.0 RECORDS AND REPORTS
- 6.1 Shipper's values may be posted in the accounting records provided:
- 6.1.1 Shipper's limit of error values on grams uranium and uranium-235 are less than 0.5% for each material type in each shipment.
  - 6.1.2 Independent receiver measurements shall be made for the total element and isotope content with limit of error values less than 0.5% for each material type in each shipment.
  - 6.1.3 Shipper-receiver differences are not statistically significant at the 95% confidence level for each line item and for the total shipment.
  - 6.1.4 Shipper's values are posted as a standard procedure subject to Conditions 6.1.1, 6.1.2 and 6.1.3.
- 6.2 If the licensee posts shipper's values in his accounting record pursuant to Condition 6.1, the following procedures shall be followed in completing the DOE/NRC Form-741:
- 6.2.1 The results of the receiver's measurements made pursuant to Condition 6.2.2 shall be recorded on DOE/NRC Form-741 in accordance with Condition 6.1.
  - 6.2.2 The licensee shall clearly certify on DOE/NRC Form-741 that shipper's values are accepted on the basis of independent measurement verification.
- 6.3 Notwithstanding the requirements of 10 CFR 70.53(a)(1) to complete a Material Balance Report (DOE/NRC Form-742) in accordance with the printed instructions for that particular form, the licensee may utilize the computer report generated by NMMSS as described in Section 6.2.1.2 of the Plan identified in Condition 2.1.
- 6.4 Notwithstanding the requirements of 10 CFR 70.54 and 70.58(e) to include limit of error data on DOE/NRC Form-741 for waste shipments to burial, the licensee is exempt from including such data for all burial shipments.

7.0 INTERNAL CONTROL

7.1 At least two individuals shall attest to the contents of containers, equipment, and vaults at the time of tamper-safing. The "attesting to" declarations shall be documented and shall pertain to as many of the characteristics listed below as applicable recognizing the uniqueness of containment and/or measurement procedures.

- (a) container and/or seal numbers
- (b) material type or form
- (c) nothing other than the stated material type or form placed in the container (i.e., no foreign material or shielding added) during loading
- (d) nothing added or removed from container since loading or since previous seal broken
- (e) gross weight
- (f) net weight
- (g) inner item(s) integrity still valid when replacing broken seal on outer container
- (h) material not concealed and/or shielded within equipment to avoid detection
- (i) quantity of material added or removed from vault or container (when re-sealing a vault door or container)
- (j) correctness of current vault record (i.e., listing)

7.2 Accurate records shall be established and maintained which provide on a daily basis knowledge of the identity, location, and quantity of all SNM within each plant in discrete items and containers.

7.3 Notwithstanding the requirement of 10 CFR 70.58(i)(2) that all scrap measured with an uncertainty greater than + 10 percent be processed and recovered within six (6) months, the licensee may accumulate up to four (4) kilograms (Isotope Wt.) of such material. The four (4) kilograms (Isotope Wt.) accumulation may not be on hand at the licensee's site for more than twelve (12) months prior to off-site shipment.

7.4 For all SSNM emanating from Building B (South), destined for off-site shipments, at least one material control and accounting (MC&A) staff member who is assigned to Building B (North) and who is considered an SSNM packaging/transportation expert shall be assisted by at least one MC&A staff member who is assigned to Building B (South), in the packaging, sealing, and attesting-to of the contents of the containers. The MC&A staff member who is assigned to Building B (North) shall not have access to either MBA-1 (Vault) or MBA-3 ("Crib Area") without at least two other MC&A authorized personnel in attendance. A list of all MC&A personnel and their



assigned location/duties/responsibilities shall be maintained current. (This license condition does not pertain to SSNM Core Assemblies and Spares (clusters and re-loads) that leave ICA-5 (Core Assembly) or ICA-6 (Assembled Core Storage)).

- 7.5 The licensee shall add to the currently approved Physical Protection Upgrade Plan a new Section, 21.1.2.4, entitled, Procedures and Controls for Encapsulated SSNM Originating from Building B (North) for Testing and/or Processing Destined for Various Off-site Facilities Shipped Via Non-SST. As a minimum this section shall reference the current UNC-Naval Products internal procedures which state the attesting-to procedures for the container such as at what point in the handling, packaging and shipping process the container is attested to and the specific United Nuclear-Naval Products entity which attests to the contents of the container.

8.0 MANAGEMENT

Currently there are no license conditions in this section. The necessary information has been incorporated into an approved plan.

9.0 PHYSICAL PROTECTION REQUIREMENTS FOR STRATEGIC SPECIAL NUCLEAR MATERIAL


- 9.1.A The licensee shall follow the Physical Protection Plan titled, "UNC-Naval Products Physical Protection Plan, Revision 1," dated October 1981, as revised by page changes submitted by UNC-Naval Products Division letter dated February 16, 1984, excepting pages 22-1, 22-3 and 23-4; as further revised by page changes submitted by UNC-Naval Products Division letter dated January 11, 1985; and as it may be further revised by page changes submitted by the licensee (and found to be acceptable by the NRC) in accordance with the provisions of 10 CFR 70.32(e).

- 9.1.B The licensee shall follow the safeguards contingency plan titled, "UNC/NPD Safeguards Contingency Plan (Rev.0)," dated September 19, 1978, as revised by Revision 1, dated May 15, 1979; and as further revised by page changes submitted by the licensee (and found to be acceptable by the NRC) in accordance with the provisions of 10 CFR 70.32(g).

- 9.1.C The licensee shall follow the guard training and qualification plan titled, "UNC-NPD Training and Qualification Plan," forwarded by his letter dated February 13, 1979, as revised by changes submitted with his letter of July 18, 1979; and as further revised by changes submitted by the licensee (and found to be acceptable by the NRC) in accordance with the provisions of 10 CFR Part 70.32(e).

- 9.2 The licensee is authorized to install and use an administrative office trailer at his facility in the manner and for the temporary period as specified in his letter of March 21, 1984. All of the following will be strictly adhered to:
- (a) The trailer will be configured as specified in the above referenced letter and the enclosures thereto. Additionally, there will be no outlets for water or sewage.
  - (b) All personnel traffic in and out of the trailer shall be by way of Door #7A and the "passageway," as described in the above referenced letter.
  - (c) At least sixty (60) days prior to the date that the licensee expects to terminate use of the trailer, he shall provide the Commission (SGFF) with a detailed description of the measures to be employed in detaching and removing the trailer and securing the MAA barrier. This shall include inspection and search techniques to assure that no special nuclear material is contained within the trailer or any part of the connecting passageway. The licensee shall not disconnect and/or remove the trailer prior to receiving written approval from the Commission.
- 9.3 The licensee is authorized to employ uncleared guards in towers and on patrol outside of the protected area until April 30, 1985, provided all of the conditions specified in the licensee's letter of October 24, 1984, concerning this subject, are strictly adhered to. This license condition will automatically expire on April 30, 1985, unless sooner rescinded by the Commission.

For the Nuclear Regulatory Commission



Willard B. Brown, Chief  
Fuel Facility SG Licensing Branch  
Division of Safeguards, NMSS

APR 02 1985

Date of Amendment \_\_\_\_\_