

*Docket File*

AUG 23 1977

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SGMC:JB  
70-687

Union Carbide Corporation  
 Sterling Forest Research Center  
 ATTN: Mr. C. J. Konnerth, Manager  
 Health Physics Department  
 P.O. Box 324  
 Tuxedo, New York 10987

Gentlemen:

During an on-site visit, September 30, 1976, discussions were held with J. McGovern, Manager, Radiochemical Production, on internal material controls, measurements, and measurement control. Based on the controls and activities described in the Fundamental Nuclear Material Control Plan and an evaluation of the material accounting data from January 1975 through February 1977, we have determined that your material control and accounting program offers an acceptable degree of control without LEMUF calculations and that the granting of a limited exemption to the regulations requiring LEMUF calculation will not adversely affect the common defense and security and is otherwise in the public interest. In addition, the bias correction requirement has been modified to allow a de minimis quantity.

Accordingly, effective immediately, License Conditions 4.5, 4.6 and 4.11 of the Materials and Plant Protection Amendment MPP-2 to License No. SNM-639 are hereby deleted, License Condition 4.7 is revised and renumbered as 4.5, and a new License Condition 4.9 is added. License Conditions previously identified as 4.8, 4.9, 4.10 and 4.12 are renumbered as 4.6, 4.7, 4.8 and 4.10, respectively. These changes are incorporated in the attached replacement pages 3 and 4 of the MPP-2 Amendment.

Sincerely,

*R. Page for*

Robert F. Burnett, Director  
Division of Safeguards

Enclosure:  
As stated

OFFICE →	SGMC	SGMC	SGMC	SGLP	SG	SG
SURNAME →	JBlaylock:ch	CNSmith	JPartlow	JPowers	RPage	RBurnett
DATE →	8/16/77	8/10/77	8/16/77	8/17/77	8/17/77	8/12/77

Enclosure

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- 4.3 Secondary standards used in the calibration of nondestructive assay systems shall be representative of all material to be measured. Consideration shall be given to matrix composition, and SNM geometrical distribution, quantity and isotopic content.
- 4.4 A standards program shall be maintained to provide a minimum of two measurements of standards per week for each measurement type during any week in which one or more measurements will be made.
- 4.5 Material accounting data shall be adjusted for any measurement bias, as determined under Condition 4.4, which exceeds 10% of its standard deviation, except that adjustments are not required when the plant measurement bias for a material balance period is less than 50 grams of uranium or U-235.
- 4.6 The data generated under the measurement control program shall be utilized to monitor and control measurement performance.
- 4.7 The measurement program required under this Section shall be reviewed annually by the Manager of Quality Assurance and the Nuclear Safeguards Committee. Results shall be documented and reported to licensee management.
- 4.8 The licensee shall assure that any person who contracts to perform material control and accounting measurements conforms to the measurement control requirements of this Section. Conformance shall include the application of bias corrections and the reporting of random and systematic errors to the licensee, who shall have access to the supporting control data. The licensee shall perform and document program audits at intervals not to exceed twelve 12 months.
- 4.9 Notwithstanding the requirement in 10 CFR 70.51(e)(4)(i) to calculate the associated limit of error of material unaccounted for (LEMUF), calculation of the LEMUF is not required provided the plant MUF is less than 150 grams of uranium or U-235.

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- 4.10 The SNM Measurement Procedures Manual shall be approved and be in use, effective with the implementation of the Plan identified in Condition 2.1.
- 5.0 INVENTORY
- 5.1 The licensee shall follow the material control and accounting plan entitled, "SNM Measurements, Statistical Controls and Inventory," dated October 17, 1974, and revised December 5, 1974, with the exception of section 4, paragraphs 5.4 and 5.11 including the figures and tables, section 6 except paragraph 6.6, and the appendices, and as revised in accordance with the provisions of 10 CFR 70.32(c).
- 5.2 No statement in the licensee's material control and accounting plan shall relieve the licensee of a requirement of 10 CFR Part 70 unless granted in a specific exemption or exception set forth as a condition of this license.
- 6.0 RECORDS AND REPORTS
- 6.1 The licensee shall use his or his designated agent's measured values for SNM accounting, except as specified in Condition 3.1.1.
- 6.2 The licensee shall report on a monthly basis all intentional discards and material unaccounted for. The MUF shall be that which has been determined during the month as a result of completing a material balance around a single operation, a number of operations, or the entire plant. This report shall be made within fifteen (15) days after the end of the month in which the discard was made or the material unaccounted for was determined. Reports shall be sent to the NRC Regional Office.
- 6.3 All accounting records, including measurement source data documents and internal transfer records, shall be included in the accounting records retained for five years.
- 6.4 In lieu of the requirement in 10 CFR 70.54 that the Form NRC-741 be completed and distributed within 10 days after receipt of nuclear material, the licensee may use a Form NRC-284 to acknowledge receipt where measurements cannot be completed in the time specified. Receipt measurements shall be completed and reported on the Form NRC-741 within 30 days after receipt of material.