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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

NOV 16 1979

SGML:CWE
70-820

United Nuclear Corporation
Recovery Systems Division
ATTN: Mr. C. E. Bowers
President
One Narragansett Trail
Wood River Junction, Rhode Island 02894

Gentlemen:

This is in response to your letter dated April 20, 1979 which transmitted revised pages to Chapter 4.0 of your Fundamental Nuclear Material Control Plan as requested in our letter dated March 22, 1979. We have reviewed your submittal, and our comments are reflected in the enclosure to this letter. We request that you review these comments and make appropriate revisions to the indicated sections of the Plan within thirty days of the receipt of this letter. Should you have any questions on these comments, please contact Mr. C. Emeigh of my staff.

We have determined that the enclosure to your letter dated April 20, 1979 contains information of a type specified in 10 CFR 2.790(d). Accordingly, pursuant to Section 2.790(d)(1), such information is deemed to be commercial or financial information within the meaning of 10 CFR 9.5(a)(4) and shall be subject to disclosure only in accordance with the provisions of 10 CFR 9.12.

Sincerely,

James G. Partlow, Chief
Material Control and Accountability
Licensing Branch
Division of Safeguards

Enclosure:
As stated

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Enclosure

The following comments are pertinent to the April 20, 1979 submittal:

- 4.2.4.2.1 Where a standard is run for each unknown, the only contribution to systematic error is the uncertainty in the standard's assigned value (S_0). The uncertainty associated with the measurement of the standard is to be treated as a random error. The value for "N" in this case is one.
- 4.2.4.2.2 The systematic error associated with a line or curve calibration must be determined from the linear regression data. The S_2/N term suggests that the standards data is used directly which is inappropriate.
- 4.2.4.2.3 The LEMUF expression is not appropriate in this section and should be deleted. The expression may also be incorrect in that material "in process" and material "shipped" that are measured by the same measurement system would be co-variant. This situation should be reviewed immediately.
- 4.2.4.2.4 The section at the bottom of page 504-17 should be deleted. The same numbered section at the top of page 504-18 should be revised to indicate that the total systematic error includes the uncertainties on both the gross and tar
(i.e., S_G^2/N , S_T^2/N , S_0^2G , S_0^2T , $\frac{\Delta_G^2 + \Delta_T^2}{12}$)
- 4.2.4.2.6 Nondestructive assay systems typically use line or curve calibrations. The systematic error is determined from the linear regression data.

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