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MEMORANDUM FOR: L. J. Evans, Chief
Regulatory Improvements Branch

FROM: J. G. Partlow, Chief
Material Control and Accountability Licensing Branch

SUBJECT: REVIEW OF UPGRADE RULE GUIDANCE MATERIALS

This is in response to your March 21, 1980 request for comments on the subject documents. Based on a review of only those sections with material control and accounting implications, we have the following comments:

NUREG-0508 - "FIXED SITE PHYSICAL PROTECTION, UPGRADE RULE GUIDANCE COMPENDIUM - DESIGN METHODOLOGY DOCUMENT"

- a) General Comment - The document should be made consistent with respect to the use of SSNM vs. SNM.
- b) "SNM Liquid and Solid Waste Handling Procedures," page 339-40 - With regard to Question #10, an additional option would be to perform a careful examination of the package and its contents to assure that a diversion attempt is not involved, notifying the NRC, if appropriate, and subsequently discarding the material as waste. Under certain circumstances, such as a change in the economics of recovery, a decision could be made to discard a waste container(s) that may exceed a pre-established discard limit.
- c) "SNM Scrap Removal Procedures," page 343 - Question #7 implies that the two individuals involved with tamper-sealing the shipping containers must witness the assay as well as the gross weight measurements. This requirement would probably not be difficult to satisfy if the scrap assay measurement was performed by NDA. However, many scrap types can be representatively sampled, and therefore, are assayed by a wet chemistry technique. In this case, it would be extremely difficult for the two individuals to witness the assay. Suggest the following wording:

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"...witnessing of gross weight measurements and non-destructive assay or sampling, as appropriate, of each primary container?"

Under "real world" conditions, specifically what is being attested to by the two individuals involved in tamper-safing varies with the material form (waste, scrap, product), measurement method and measurement responsibility. A brief description of the normal tampersealing procedures for waste, product and scrap illustrate this point:

A shipping container, typically a 55 gallon drum, is located in a controlled access area in close proximity to the production area. Smaller waste packages, which may or may not have been previously tampersealed and measured by NDA, are accumulated in the drum. The drum, itself, may or may not be tampersealed between additions. The sequential additions are not necessarily made by the same two individuals. When the drum is full, the two individuals who make the last addition tamperseal the drum and in so doing attest to the drum's contents. If it has been sealed between additions, no additional effort is required before applying the seal. If it has not been sealed, the contents must be removed and verified. Specifically what the two individuals are attesting to is the fact that, to the best of their knowledge, waste and only waste has been placed in the drum. (Note that a negative as well as a positive declaration are being made.) If the individual inner containers have been previously measured, or if the drum is transferred to another area of responsibility for measurement, which is usually the case, these two individuals cannot attest to the assay results. Further, since a gross weight measurement plays no part in establishing the SSNM content of the container, if it's performed at all, it is merely to satisfy a requirement for completion of the Form NRC/DOE-741.

The tampersealing of product and scrap materials, whose SSNM content is based on weight measurements and chemical assay, involves other parameters which must be attested to. In addition to attesting to the fact that only material of the form specified on the label has been included, the two individuals attest to the validity of the tare and gross weight measurements, and the fact that a sample has been taken. Since these individuals have no control over the sample once it leaves their field of vision, they cannot possibly attest to the assay.

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- d) "SNM Shipping/Receiving Procedures", page 347 - The comment given in item (c) above applies also to Question #2 in this procedure, probably more so, in view of the fact that wet chemistry assay would be the primary procedure for product shipments.
- e) "Tamper-Indicating Seals and Tamper Seal Inspections," page 355 - The comment given in item (c) above applies to Question #5 in this procedure.
- f) "Tamper-Indicating Seals and Tamper Seal Inspections," page 355 - With respect to Question #9, Pressure Sensitive Seals cannot be removed for examination or proper disposal.
- g) General Comment - In the Table of Contents, the page numbers for Section 3 are incorrect.

PROPOSED REVISION 1 TO REGULATORY GUIDE 5.57 - "SHIPPING AND RECEIVING CONTROL OF SPECIAL NUCLEAR MATERIAL"

- a) General Comment - The Guide is inconsistent with respect to the use of SSNM vs. SNM.
- b) The paragraph in the middle of page 2 should be modified to include nondestructive assay as a component of measurement. Also, the last sentence in this paragraph may be somewhat misleading in that specific guidance is not provided in several of the indicated regulatory guides. In the case of the first three guides, there is no guidance in the guide itself but merely a reference to an ANSI or ASTM standard that is generally endorsed.

For specific guidance on measurement control, a reference to the NRC Review Criteria for measurement control plans should be included as this document was officially sent to all licensees in November 1977.

- c) On page 4, we suggest that the last sentence of the second full paragraph be modified to read; "...the existence of a program of standardization, calibration and control of measurement equipment and procedures."
- d) In Item 5(g) on page 6, the word "reconcile" is more appropriate than "correct".

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- e) Based on the postulated threat level, it doesn't appear that the first alternative under Section 1.a., page 7, satisfies the objective stated, i.e., "...protection against falsification of accountability measurements.

It appears that this is an attempt to optimize a component of an overall system whose objective is to prevent or detect an attempted diversion. If the measurement is performed by a third individual not involved in the tamper-safing and other administrative controls are in place, requiring a second individual to be involved in the measurement contributes little to the overall objective.

- f) In Section 1.c.(4), page 8, the criteria, for determining whether or not a waste container should be unsealed and the contents verified, should be qualified to include the following:

- . a definition of "formula kilogram"
- . an exception to not require that the containers be opened if investigation identifies a source for the excessive ID.
- . an exception to not require that the containers be opened in those instances where ID is only slightly larger than the LEID. (Note: a deminimis may need to be established for both quantities.)

PROPOSED REVISION 1 TO REGULATORY GUIDE 5.7, "ENTRY/EXIT CONTROL TO PROTECTED AREAS, VITAL AREAS AND MATERIAL ACCESS AREAS"

- a) Page 4, Item 1.b.1 - Typo error: explosives

REGULATORY GUIDE 5.52, REV. 2, "STANDARD FORMAT AND CONTENT GUIDE FIXED SITE PHYSICAL PROTECTION UPGRADE RULE"

- a) The Guide should be made consistent with respect to the use of SSNM vs. SNM.

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