



October 26, 2021  
ACO 21-0060

ATTN: Program Management, Announcements and Editing Staff  
Office of Administration  
Mail Stop: TWFN-7-A60M  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

**American Centrifuge Lead Cascade Facility and American Centrifuge Plant  
Docket Numbers 70-7003 and 70-7004; License Numbers SNM-7003 and SNM-2011**

**Comments on draft NUREG-2159, Acceptable Standard Format and Content for the  
Fundamental Nuclear Material Control Plan Required for Special Nuclear Material of  
Moderate Strategic Significance, Docket ID NRC-2021-0170**

To whom it may concern:

American Centrifuge Operating, LLC (ACO) appreciates the opportunity to provide the comments in Enclosure 1 to the draft NUREG-2159, *Acceptable Standard Format and Content for the Fundamental Nuclear Material Control Plan Required for Special Nuclear Material of Moderate Strategic Significance*.

If you have any questions regarding this matter, please contact me at (740) 897-3859.

Sincerely,

Kelly L. Fitch  
Regulatory Manager

cc: Y. Faraz, NRC HQ

**Enclosure 1 to ACO 21-0060**

**Comments on draft NUREG-2159, Acceptable Standard Format and Content for the  
Fundamental Nuclear Material Control Plan Required for Special Nuclear Material of  
Moderate Strategic Significance**

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Does Not Contain  
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Reviewing

Official:                                 #1014, ACO                                

Date:                                 10/25/2021

Number	NUREG Section	Page	Text	Comment	Proposed Resolution
1	Section 2 Item 4	6 lines 8-18	<p>The MC&amp;A program needs to protect against a single insider, providing that individual does not have authority within the physical protection system that would permit him or her to participate in a conspiracy aimed at defeating the safeguards system. If an MC&amp;A individual does have authority within the physical protection system, the MC&amp;A program is required to protect against the coverup of a collusion of that individual with any other individual having MC&amp;A authority. To address collusion concerns, the licensee or applicant would need to protect an MC&amp;A function performed by a worker without physical protection system authority against a single insider.</p> <p>This approach should allow licensees or applicants to provide adequate without requiring a totally redundant system while still maintaining the</p>	<p>The proposed guidance far exceeds the requirements found in Subpart D 74.41 (c) as well as the similar requirements found in Subpart E for SSNM and is not a credible concern.</p> <p>74.43(b) (1) A management structure shall be established, documented, and maintained that assures:</p> <ul style="list-style-type: none"> <li>(i) Clear overall responsibility for material control and accounting (MC&amp;A) functions.</li> <li>(ii) Independence from production and manufacturing responsibilities; and</li> <li>(iii) Separation of key responsibilities.</li> </ul> <p>This provides sufficient independence of activities.</p> <p>For most licensees, such a position would require access to SGI and as such the individual would be granted access to SGI in accordance with 73.22(b) which includes a background check to determine the individual is trustworthy and reliable, and for some licensees such a position</p>	<p><b>Remove the noted text entirely.</b></p> <p><b>Replace</b> with a paragraph stating: “Where the organizational structure is such that a position having responsibility within the 10 CFR Part 74 MC&amp;A program also has responsibility within the 10 CFR Part 73, “Physical Protection of Plants and Materials,” system, the plan will address roles and responsibilities to ensure the MC&amp;A program is not subject to compromise by the actions of a single insider filling the position. A safeguards manager could be an example of such a position.”</p>

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			ability of the MC&A program to provide an extra level of independent protection and an added measure of assurance that the safeguards system as a whole has not been compromised.	would require either an L or Q clearance.	
2	Section 55.1.3	20 lines 36-39	All contractor or offsite laboratory assessment findings and recommendations should be documented and submitted to both the measurement control program manager and the overall MC&A manager within 30 days of completion of the review.	This is an arbitrary time frame not specified in the regulations.	<b>Reword</b> to remove the 30 days and state “Findings and recommendations are to be addressed consistent with the licensee’s QA and Corrective Action Program.”
3	Section 5.2	21 lines 6-7	FNMCP plan should describe... must include... as appropriate	Sentence is a recommendation, with an embedded requirement, then a caveat is applied.	<b>Reword</b> sentence to state “FNMCP should address the following applicable attributes:...”
4	6.2	37 lines 28-31	Licensees should also commit to having at least two individuals independently verify the accuracy of the ID and SEID calculations for each total plant material balance. If the SEID value is calculated by a computer, the verification by two or more persons involves a checking for correctness of the input data used by the computer to calculate SEID.	Normal technical review by one other qualified individual is the nuclear industry normal practice. To invoke two additional verifications for such a highly specialized function is an extreme burden on the licensee with no clear regulatory basis. Also, the SEID does not directly affect the accounting records; it is calculated to determine if you are in control.	<b>Reword</b> to state “licensees should commit to independently verify the accuracy of the ID and SEID calculations for each total plant material balance.”  Also, although provided elsewhere, the formula for SEID should be provided in this section.

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5	6.3	38 lines 29-30	unless the effect of a single significant bias or the net sum of all significant biases is unusually large.	Provide basis as to what is meant by “unusually large.” NRC acceptance criteria does not normally call for applying bias corrections to either the accounting records or as an adjustment.	<b>Reword or remove “unusually large” or state the following:</b> “The bias correction is only applied if it is significant with 95% confidence and exceeds the rounding error.”
6	6.3	38 line 44	the bias is greater than 0.01 percent relative	Provide basis as this appears to be a new criterion being introduced.	<b>Reword:</b> “if such bias is statistically significant at the 95 percent confidence level, and exceeds the rounding error of the affected items. The bias correction is intended to correct the ID. It’s impact on the SEID should also be propagated, resulting in an adjustment to the SEID.”
7	6.4, 4 <sup>th</sup> Bullet	39 line 36	74.43 (c) (8) (iii)	Correct citation may be (i) versus (iii)	<b>Confirm</b> and correct as needed.
8	7.5	44 lines 13-14	Dynamic Inventory periodicity of 3 months	There is no direct regulatory basis for the 3 months stated.	Suggest rewording to remove the 3 months and state “...at a frequency that takes onto account the potential for loss or diversion from the operation”
9	7.6	47 lines 28-38	Warning-level ID: Plutonium, U-235, or U-233 ID $\geq$ 1.7 (SEID) or uranium ID $\geq$ 1.7 (SEID) and 10 kg U Significant ID problem: Plutonium, U-235, or U-233 ID $\geq$ 3(SEID) and 300 grams of U-235 in HEU or 200 grams of plutonium or U-233 or 9,000 grams of U-235 in LEU	Provide regulatory / technical basis for these suggested warning ID levels.  Also, if keeping the 10kg should be changed to 9 kg	Provide basis for suggested warning ID levels and address 10 kg vs 9 kg value or just <b>remove</b> .
10	7.7	49 lines 48-50)	will result in a 90-percent (or better) probability of detecting a discrepancy equal to or greater than 0.4 percent of the active inventory	This is unnecessary and basis for 0.4% is unclear.	<b>Remove</b> text

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11	8.2	51 lines 29-39	<p>The following items that can be exempt from item control program coverage in accordance with 10 CFR 74.43(c)(6):</p> <ul style="list-style-type: none"> <li>• items whose time of existence is less than 14 calendar days</li> <li>• any licensee-identified items each containing less than 200 grams of plutonium or uranium-233 or 300 grams or more of uranium-235 up to a cumulative total of one formula kilogram of strategic SNM or 17 kilograms of uranium-235 contained in uranium enriched to 10.00 percent or more but less than 20.00 percent in the uranium-235 isotope</li> </ul>	Include common exemption for samples.	<b>Also include</b> the guidance from the previous draft regarding the exemption for laboratory samples and reference standards maintained in the laboratory material management system and containing uranium enriched to less than 20 percent in the uranium-235 isotope.
12	9.5	59 line 21	Each shipping container is inspected within 3 working days	74.43(b)(7) does not contain this 3 day requirement	<b>Reword</b> to be more consistent with 74.15 (a) which requires updated information to be generated within 10 days.
13	16	91 lines 6-7	NUREG/BR-0096, revision date	Date in draft NUREG is October 1992. ADAMS version has January 1992.	<b>Update</b> in all locations to correct date.