



Department of Energy
Washington, DC 20585

May 7, 2019

MEMORANDUM FOR ROCK E. AKER

ACTING MANAGER
ARGONNE SITE OFFICE

FROM:

JOANNE D. LORENCE 
HEADQUARTERS CERTIFYING OFFICIAL
DIRECTOR
OFFICE OF PACKAGING AND TRANSPORTATION

SUBJECT:

Extension of Amendment to Department of Energy Certificate of Compliance 9978 to Authorize New Brunswick Laboratory Plutonium/Americium Standards in the 9978 Package

In response to your request dated April 15, 2019, Department of Energy Certificate of Compliance (CoC) Number 9978, Revision 4, for the Model 9978 package is amended by this memorandum to extend the previous authorization issued by my office on February 9, 2017 (attached), with the following conditions for New Brunswick Laboratory (NBL) Plutonium/Americium (Pu/Am) Standards:

1. NBL Pu/Am Standards are limited to the materials defined as S1 through S5 in the application (S-SARA-G-00020, Rev 3). These contents shall not exceed the content limits in Table 1 of the certificate for Content Envelope C.6, except the addition of $(\text{SO}_4)_2 \cdot 4\text{H}_2\text{O}$ as an impurity limited to 530,000 parts-per-million, per package.
2. Each NBL Pu/Am Standard shall be placed in a plastic bag, and then may be loaded in an authorized food pack/convenience can (optional) or unsealed stainless steel foil container (optional), based on the Standard Type (S1 through S5).
3. Each food pack/convenience can may be placed in a single plastic bag and then loaded in an authorized 1-quart or 2-quart SAVY 4000 Container; multiple unsealed stainless steel foil containers can be loaded directly in a SAVY Container without placing the container in plastic. If food pack/convenience cans or stainless steel foil containers are not used, each plastic-bagged Standard may be loaded directly into an authorized 1-quart or 2-quart SAVY 4000 Container, based on Standard Type.
4. Standard Types shall not be co-mingled in a food pack/convenience can, stainless steel foil container, SAVY Container, or the containment vessel; only one Standard Type is authorized per package.

5. SAVY containers may be loaded into the containment vessel based on any one of the following configurations: one 1-qt SAVY, two 1-qt SAVY or one 2-qt SAVY. However, S4 and S5 Standards are limited to a one 1-qt SAVY or one 2-qt SAVY container per containment vessel.
6. The maximum mass of plastic shall not exceed 1,000 grams per containment vessel.
7. The containment vessel must be inerted/diluted to a minimum 90% nitrogen, for S1, S2, and S3 Standards.
8. The shipping window is limited to 147 days for S5 Standards. The shipping window starts (day 1) when the Containment Vessel is closed. The shipment shall be completed by day 147 (i.e., no longer in transit).
9. The maximum weight of a NBL Pu/Am Standard content configuration (i.e., everything loaded in the Containment Vessel) shall not exceed the CoC limit of 50 pounds.
10. The maximum radioactive decay heat rate, per package, for any NBL Pu/Am Standard content configuration shall not exceed 93 milliwatts.
11. Sections 7.1.1.2, 7.1.2, and 7.3.2 of the application supersede the applicable Sections in the SARP. Inerting/diluting of the containment vessel shall be performed for S1 through S3 Standards in accordance with Appendix 7.2 of the application.
12. The Quality Assurance requirements in Chapter 9 of the application supersede the QA requirements in Condition 5(d)(5) of the certificate.
13. All other conditions of the certificate remain the same.
14. This authorization shall expire on May 31, 2021.

If you have any questions, please contact me or Dr. James M. Shuler of my staff at (301) 903-5513.

Attachments

cc: Maxcine Maxted, DOE-SR
Dan Misch, DOE-ASO
Robert Watkins, SRNL
Dan Pancake, ANL-PMO
Kelly Hansen, ANL-NWM
Brian Anderson, LLNL
James Shuler, EM-4.24