



**EM Environmental Management**

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**DOE Packaging Certification Program**

**Safety Evaluation Report for  
Request to Revise 9975 Certificate**

**Docket No. 14-37-9975**

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11/6/15

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This Safety Evaluation Report (SER) documents the U.S. Department of Energy (DOE) Packaging Certification Program (PCP) technical review of the application submitted by the Savannah River Operations Office (SR) requesting a minor revision to DOE Certificate of Compliance (CoC) Number 9975.

## Summary

By memorandum <sup>[1]</sup> dated September 30, 2014, SR submitted a request to revise the CoC for the Model 9975 package. The applicant revised Chapters 1 and 3 of the safety analysis report for packaging (SARP) <sup>[2]</sup> to clarify engineered materials as authorized contents and update the thermal evaluation to include initial solar conditions in the hypothetical accident condition thermal evaluation for consistency with International Atomic Energy Agency regulations. This review by PCP was suspended due to a lack of funding priority by the applicant. On October 28, SR requested <sup>[3,4]</sup> a scope change to restrict the PCP review to only SARP Chapter 1 page changes 1-15, 1-26, and 1-31, to receive a pending foreign shipment. PCP staff reviewed these page changes using the guidance in NUREG-1609, *Standard Review Plan for Transportation Packages for Radioactive Material*. Based on the statements and representations in the SARP page changes, staff agrees that these changes do not affect the ability of the package to meet the requirements of 10 CFR Part 71.

## Evaluation

Page change 1-15 revised SARP Table 1.2, Table Notes to clarify notes “d, f, and h” for unclad Plutonium/Uranium metal specifications and engineered Plutonium/Uranium metal and oxide materials with intact cladding. Page changes 1-26 and 1-31 implemented the large vented food-pack can configuration for C.4 and C.11 contents, from Reference 4 of the CoC. The convenience can mass limit was revised from 900 to 9,000 grams to accommodate large vented food-pack cans, in lieu of the primary containment vessel (PCV) sleeve as a means to control the free volume in the PCV. SARP Table 1.3 was expanded to include the large vented food-pack can configuration requirements. These SARP page changes did not affect the analysis in SARP Chapters 2-6, Package Operations, in Chapter 7, Acceptance & Maintenance in Chapter 8, or Quality Assurance in Chapter 9. Based on the statements and representation in the SARP, PCP staff concludes that these changes do not affect the ability of the package to meet the requirements of 10 CFR Part 71.

## Conditions

Revisions to CoC 9975, Revision 11

1. Table 1 – Table Notes:

- Revise “d” to “Each unclad metal ...”
- Add to “f” “...Engineered metal materials with intact cladding meet the requirements for stabilized metals under content envelopes C.3 and C.10.”

- Add to “h” “...Engineered oxide materials with intact cladding meet the requirements for stabilized oxide under content envelopes C.4 and C.11.”
2. Revise 5.b.(2)(iii) For Content Envelopes C.3 or C.10: (a) to “Each unclad ...” and b) to “...DOE-STD-3013-2004, Section 6.1. Engineered metal materials with intact cladding meet the requirements for stabilized metals under content envelopes C.3 and C.10.”
  3. Revise 5.b.(2)(iv) For Content Envelopes C.4 or C.11: b) to “...DOE-STD-3013-2004, Section 6.1. Engineered oxide materials with intact cladding meet the requirements for stabilized oxides under content envelopes C.4 and C.11” and (d) add “...For oxide contents under this configuration without the PCV sleeve, the total mass of empty food-pack cans must be less than 9,000 grams.”
  4. Add Reference 7: Safety Analysis Report for Packaging Model 9975, S-SARP-G-00003, Revision 5, September 2014, Page Changes 1-15, 1-26, 1-31 (only).
  5. Revise Condition 13 to allow the use of CoC Revisions 9, 10, and 11 until June 30, 2018, when endorsed by DOT Competent Authority Certification (certificate), for international shipments to the USA.
  6. Revise references in the CoC to the DOE-STD-3013-2000: the reference in the SARP Chapter 1, Reference 8 is incorrect. The correct reference is DOE-STD-3013-2004.

## Conclusion

Based on the statements and representations in the SARP page changes, PCP staff concludes that the changes do not affect the ability of the package to meet the requirements of 10 CFR Part 71.

## References

- [1] *Request Revision to the 9975 Certification of Compliance (CoC)*, submitted to US Department of Energy Packaging Certification Program, by the Savannah River Operations Office (SR), September 30, 2014.
- [2] *Safety Analysis Report for Packaging Model 9975*, S-SARP-G-00003, Revision 4, Pages Changes (1-15, 1-26, and 1-31), September 9, 2014 (approval date).
- [3] Email, H. Gunter (DOE/Srs) to James Shuler (PCP/EM33), dated October 28, 2015 10:15 AM.
- [4] Email, H. Gunter (DOE/Srs) to Dan Leduc (SRNL/Srs), dated October 28, 2015 03:39 PM.