



071-9979

September 15, 2016

SRNL-L4500-2016-00113

Division of Spent Fuel Management
Office of Nuclear Material Safety and Safeguards
ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Request for CoC Revision of NRC CoC No. 9979, Revision No. 0, for the Model 9979 Type AF Shipping Package (U)

Ref: Safety Analysis Report, Model 9979 Type AF Shipping Package, S-SAR-G-00002, Rev. 1, July 2016

The Savannah River National Laboratory's (SRNL) Packaging Technology and Pressurized Systems (PT&PS) group respectfully requests a revision to the NRC CoC No. 9979, Rev. 0, to incorporate a revised drawing (i.e., R-R2-G-00057, Rev 9) and a related page change (i.e., Appendix 1.1-ii). No other changes to the NRC CoC No. 9979, Rev. 0 are requested.

On Engineering Production Drawing R-R2-G-00057, Rev 8, the acceptable range for the mass of the polyurethane foam in the 55-gallon drum is proposed to be changed in Drawing Note 3 as follows:
From: "... FOAM MASS SHALL BE BETWEEN 54-59 LBS."
To: "... FOAM MASS SHALL BE BETWEEN 52-59 LBS."

Background: The acceptable range for the polyurethane foam mass had been 47-59 lbs since 2011 under DOE-EM CoC Rev. 1 and subsequent revisions. The range was reduced to be 54-59 lbs in 2015 in an attempt to remove unnecessary foam mass tolerance. Two of the four 9979 packagings being assembled for use under the NRC CoC at Texas A&M have a foam mass slightly under the specified lower limit of 54 lbs; the foam mass of the two drums is 53.9 lbs and 53.8 lbs, respectively.

Technical Justification: A range for the foam mass is specified to control the package weight and provide an indication that the drum is completely filled with polyurethane foam. The original acceptable foam mass range was chosen to be 47-59 lbs based on experience with the 9979 prototypes. Although the foam mass is generally predictable, there are variations due to temperature (drum and foam chemicals), humidity, drum volume, free-rise density, number of pours and other parameters. The foam mass in the prototype drums used in the Regulatory Testing for the 9979 ranged from 50-51 lbs; the foam mass in the 2000+ production drums has trended higher than that in the prototypes, hence supporting the recent increase in the lower limit. Foam with higher density provides enhanced stiffness and make the Overpack more robust, but increases package weight.

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NM5501

The proposed lower mass limit for the drum polyurethane foam of 52-lbs will provide similar (or better) protection to the 9979 contents than that demonstrated during the NCT and HAC events.

If you have any questions concerning this request, please contact me at (803) 725-3738 or Kurt Eberl at (803) 725-2656.

Sincerely,

 *for PAUL BLANTON*
PER E-MAIL 9/15/16

Paul S. Blanton
Program Manager
Packaging Technology and Pressurized Systems
Savannah River National Laboratory

Copies sent to:

Rich Werdann	ReNuke Services
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Attachments:

Production Drawing R-R2-G-00057, Rev 9
Page change for Appendix 1.1-ii

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Engineering Production Drawings of the 9979 Type AF shipping packaging design are the property of Savannah River Nuclear Solutions (SRNS). Engineering drawings defining the 9979 design and payload configuration are listed below.

Drawing No.	Revision	Title
R-R5-G-00006	4	9979 Type AF Package Tree
R-R1-G-00026	5	9979 Type AF 30-Gallon Container Split-Ring Assembly (U)
R-R1-G-00027	5	9979 Type AF 55-Gallon Drum Lid Split-Ring Assembly (U)
R-R1-G-00028	5	9979 Type AF 30-Gallon Drum Assembly (U)
R-R1-G-00029	5	9979 Type AF 55-Gallon Drum Assembly (U)
R-R1-G-00030	3	9979 Type AF Packaging Assembly (U)
R-R2-G-00057	9	9979 Type AF 55-Gallon Drum Sub-Assembly and Weldment (U)
R-R2-G-00058	4	9979 Type AF 30-Gallon Drum (U)
R-R2-G-00059	6	9979 Type AF 55-Gallon Drum Lid Sub-Assembly and Weldment (U)
R-R2-G-00060	4	9979 Type AF 30-Gallon Drum Lid with Dual Bung Closures (U)
R-R4-G-00062	3	9979 Type AF 30-Gallon Drum Lid Gasket (U)
R-R4-G-00065	3	9979 Type AF Insulation Cover Assembly for 30-Gallon Drum (U)
R-R4-G-00064	3	9979 Type AF Insulation Bag (U)
R-R4-G-00066	2	9979 Type AF Package Identification Plate (U)
R-R4-G-00163	1	9979 Texas A&M AGN 30-Gallon Drum Payload Insert (U)
R-R4-G-00164	1	9979 Texas A&M AGN 30-Gallon Drum Foam Spacers(U)