



July 31, 2019
FS-19-0182

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

SUBJECT: One-time Approval Request for BRR Package, Docket No. 71-9341

Dear Mr. White:

Orano Federal Services LLC (Orano FS) hereby makes a request of NRC for a one-time approval of the corrections to clerical errors in the Package Operations (Chapter 7) of the BRR SAR. The corrections have been incorporated into Revision 16 of the SAR and are being submitted concurrently under separate cover with a copy to Nishka Devaser.

The clerical errors occurred when Orano added certain operational steps to account for the cobalt-60 payload in Revision 11 of the SAR. The sequential number of steps following the inserted steps increased by one. However, there were several internal references to re-numbered steps, and the references were not updated. This caused the step references to be wrong. In addition, a new Section 7.1.3 had been added, and the old Section 7.1.3 was incremented to Section 7.1.4, but references to Section 7.1.3 were not updated. The detail corrections are as follows:

- Section 7.1.2.1, *Wet Loading*, page 7.1-4, Steps 35 and 36, increment each of the referenced steps within these two steps by one.
- Section 7.1.2.2, *Dry Loading*, page 7.1-7, Steps 31 and 32, increment each of the referenced steps within these two steps by one.
- Section 7.2.2, *Removal of Contents*, page 7.2-1, increment the referenced step 6 to step 7.
- Section 7.2.2.1, *Wet Unloading*, page 7.2-3, Step 26, change "...Section 7.1.3, *Preparation for Transport...*" to "...Section 7.1.4, *Preparation for Transport...*".
- Section 7.2.2.2, *Dry Unloading*, page 7.2-4, Step 21, change "...Section 7.1.3, *Preparation for Transport...*" to "...Section 7.1.4, *Preparation for Transport...*".



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As can be seen, these changes reflect corrections of clerical errors and do not change the design, analysis results, or operating steps of the package. Consequently, the BRR package complies with all of the applicable requirements of 10 CFR 71.

A copy of the affected pages, with red-line corrections, is attached to this letter. To reiterate, a fully corrected SAR, Revision 16, is concurrently being submitted to NRC. In order to support ongoing shipping activities, we request that the one-time approval be issued to Orano by email by August 2, 2019, and be valid for all users of the BRR package for a duration of at least two months.

Please send a copy of the email to these recipients for their information:

eslau@mit.edu

Douglas.Morrell@inl.gov

Should you have any questions regarding this submittal, please contact me at (253) 552-1321, or (253) 293-0627, or via email (phil.noss@orano.group).

Yours Truly,

Philip Noss
Licensing Manager
Orano Federal Services LLC

Copies:

Bernie White, Senior Project Manager, NRC (email)

Donald Darrington, Idaho National Laboratory (email)

Doug Morrell, Idaho National Laboratory (email)

Edward Lau, MIT (email)

John Coody, Project Manager, Orano Federal Services LLC

24. Visually inspect the closure SHCSs for wear or damage that could impair their function and, if necessary, replace or repair per the requirements of the drawings in Appendix 1.3.3, *Packaging General Arrangement Drawings*.
25. Install the twelve (12) 1-8UNC SHCSs to secure the closure lid to the cask body. Using a star pattern, tighten the closure SHCSs to 220 ± 20 ft-lb torque (lubricated).
26. Remove the vent port dust cover, vent port plug, test port dust cover, and test port plug.
27. Install a vent port tool into the vent port, and connect a source of dry pressurized air to the vent port tool.
28. Open the air supply flow control valve to permit dry pressurized air flowing through the cavity, ensuring that the air pressure does not exceed 25 psig. Continue the air supply flow until all apparent free standing water has been removed from the cavity.
29. Remove the drain port fitting and tubing from the drain port.
30. Remove and discard the vent, test, and drain port sealing washers from their respective port plugs (if present), and clean and inspect each sealing surface. If damage is present that is sufficient to impair containment integrity (scratches or dent, etc.), repair the damaged surfaces per Section 8.2.3.2, *Sealing Area Routine Inspection and Repair*.
31. Install the drain port plug and a new (unused) sealing washer in the drain port. Tighten the drain port plug to 20 ± 2 ft-lb torque.
32. Using the vent port tool, install the vent port plug with a new (unused) sealing washer. Ensure that the vent port plug is sufficiently loose to allow airflow through the vent port.
33. Install the test port plug and a new (unused) sealing washer in the closure lid approximately finger-tight.
34. Connect a vacuum pump and a shutoff valve to the vent port tool and evacuate the cavity until the internal pressure is 1 – 2 torr. Isolate the vacuum pump from the cask body cavity by closing the shutoff valve and shutting off the vacuum pump, closing the shutoff valve and venting the suction line to atmosphere, or other appropriate means that does not maintain a vacuum on the outlet of the shutoff valve.
35. Monitor the cavity pressure for a minimum of 30 minutes. If the cavity pressure does not exceed 3 torr at the end of the time period, proceed to Step ~~36~~³⁷. If it appears that cavity pressure will exceed 3 torr, it is not necessary to wait 30 minutes before proceeding to step ~~35~~³⁶. As an option, repeat Steps ~~33~~³⁴ and ~~34~~³⁵ without first performing Step ~~35~~³⁶.
36. Open the port tool to re-pressurize the cask body cavity to atmospheric pressure and repeat Steps ~~33~~³⁴ and ~~34~~³⁵. The cask may be re-pressurized with air, nitrogen, or helium.
37. Disconnect the vacuum pump from the vent port tool and connect a source of helium gas.
38. Provide a helium atmosphere inside the cask payload cavity by backfilling with helium gas to a pressure of slightly greater than atmospheric pressure, i.e., +1, -0 psig.
39. Disconnect the helium gas source from the vent port tool.
40. Using the vent port tool, tighten the vent port plug to 9 ± 1 ft-lb torque.

19. Remove and discard both main O-ring seals (if present), and clean and inspect the sealing surfaces in the closure lid and the mating surfaces on the cask body. If damage is present which is sufficient to impair containment integrity (scratches or dents, etc.), repair the damaged surfaces per Section 8.2.3.2, *Sealing Area Routine Inspection and Repair*.
20. Install two new (unused) O-rings in the appropriate grooves in the closure lid. As an option, sparingly apply vacuum grease to the O-ring seals and/or sealing surfaces.
21. Install the closure lid on the cask body, using the alignment pin to guide the closure lid into position.
22. Visually inspect the closure SHCSs for wear or damage that could impair their function and, if necessary, replace or repair per the requirements of the drawings in Appendix 1.3.3, *Packaging General Arrangement Drawings*.
23. Install the twelve (12) 1-8UNC SHCSs to secure the closure lid to the cask body. Using a star pattern, tighten the closure SHCSs to 220 ± 20 ft-lb torque (lubricated).
24. Remove the vent port dust cover, vent port plug, test port dust cover, and test port plug.
25. Remove the drain port dust cover and drain port plug.
26. Remove and discard the vent, test, and drain port sealing washers from their respective port plugs (if present), and clean and inspect each sealing surface. If damage is present that is sufficient to impair containment integrity (scratches or dent, etc.), repair the damaged surfaces per Section 8.2.3.2, *Sealing Area Routine Inspection and Repair*.
27. Install the drain port plug and a new (unused) sealing washer in the drain port. Tighten the drain port plug to 20 ± 2 ft-lb torque.
28. Using the vent port tool, install the vent port plug with a new (unused) sealing washer. Ensure that the vent port plug is loose enough to allow airflow through the vent port.
29. Install the test port plug and a new (unused) sealing washer in the closure lid approximately finger-tight.
30. Connect a vacuum pump and a shutoff valve to the vent port tool and evacuate the cavity until the internal pressure is 1 – 2 torr. Isolate the vacuum pump from the cask body cavity by closing the shutoff valve and shutting off the vacuum pump, closing the shutoff valve and venting the suction line to atmosphere, or other appropriate means that does not maintain a vacuum on the outlet of the shutoff valve.
31. Monitor the cavity pressure for a minimum of 30 minutes. If the cavity pressure does not exceed 3 torr at the end of the time period, proceed to Step 32. If it appears that cavity pressure will exceed 3 torr, it is not necessary to wait 30 minutes before proceeding to step 31. As an option, repeat Steps 29 and 30 without first performing Step 31.
32. Open the port tool to re-pressurize the cask body cavity to atmospheric pressure and repeat Steps 29 and 30. The cask may be re-pressurized with air, nitrogen, or helium.
33. Disconnect the vacuum pump from the vent port tool and connect a source of helium gas.
34. Provide a helium atmosphere inside the cask payload cavity by backfilling with helium gas to a pressure of slightly greater than atmospheric pressure, i.e., +1, -0 psig.

7.2 Procedures for Unloading the Package

This section delineates the procedures for unloading a payload from the BRR packaging. Hereafter, reference to specific BRR packaging components may be found in Appendix 1.3.3, *Packaging General Arrangement Drawings*.

7.2.1 Receipt of Package from Carrier

1. Remove the BRR package tie-down cover from the upper impact limiter.
2. If used, remove the personnel barrier.
3. Verify that the tamper-indicating device (security seal) has not been tampered with or removed.
4. Attach rigging to the upper impact limiter using the three (3) 1/2-13 UNC threaded holes marked as impact limiter lift points.
5. Remove the tamper-indicating device (security seal) and the (8) eight Ø1-inch ball lock pins from each upper impact limiter attachment.
6. Using an overhead crane (or equivalent), lift and remove the upper impact limiter from the cask body.
7. Secure the lift adaptor to the cask body using the (4) four 1-8UNC bolts. If rigging is used, secure the swivel hoist rings in place using swivel hoist ring 1-8UNC fasteners. Tighten the bolts to 220 ±20 ft-lb.
8. Remove the (8) eight Ø1-inch ball lock pins from each lower impact limiter attachment.
9. Lift the loaded cask body from the lower impact limiter, and place it on the facility transport equipment.
10. Secure the cask body to the facility transport equipment, and remove the rigging from the lift adaptor.

7.2.2 Removal of Contents

The BRR package is designed to be unloaded either in a pool of water (wet) or in a hot cell or transfer cask (dry), as delineated in the following sections. The unloading procedures may require removal of the lift adapter to facilitate gas sampling or other testing. If the lift adapter is removed for this purpose, reinstall per Paragraph 7.2.1, step ~~6~~⁷ upon completion of sampling or testing.

7.2.2.1 Wet Unloading

1. Remove the vent port dust cover and connect a vent port tool to the vent port. Connect a gas sampling device to the vent port tool.
2. Loosen and remove the vent port plug using the vent port tool so that a gas sample may be extracted from the cavity.
3. Following verification of no contamination in the gas sample, vent the cavity to atmosphere to equalize cavity pressure.

24. Install the vent port plug and tighten to 9 ± 1 ft–lb torque. Install the vent port dust cover.
25. Install the drain port plug and tighten to 20 ± 2 ft–lb torque. Install the drain port dust cover.
26. Assemble the impact limiters onto the package and secure the package to the transport trailer as described in Section 7.1.3, *Preparation for Transport*. A tamper–indicating device is not required.

7.2.2.2 Dry Unloading

Steps 1 – 9 may be performed either inside or outside of the hot cell. A transfer cask may be used in place of the hot cell for this procedure. The cask must remain upright at all times

1. Remove the vent port dust cover and connect a vent port tool to the vent port. Connect a gas sampling device to the vent port tool.
2. Loosen and remove the vent port plug using the vent port tool so that a gas sample may be extracted from the cavity.
3. Following verification of no contamination in the gas sample, vent the cavity to atmosphere to equalize cavity pressure.
4. Install three (3) hoist rings (or equivalent) into the three (3) 1/2–13 UNC threaded holes in the closure lid.
5. Remove the twelve (12) 1–8UNC socket head cap screws (SHCSs) that retain the closure lid.
6. Lift and remove the closure lid from the cask body. Store the closure lid in a manner to minimize potential damage to the O–ring seals and sealing surfaces.
7. Install and secure the sealing surface protector to the cask body.
8. Optionally, install the shield plug restraint over the shield plug in the cask body.
9. Install a remote lift adaptor in the center 1/2–13 UNC threaded hole of the shield plug.
10. Mate the cask opening with the hot cell or transfer cask. If required, place the loaded cask body into the hot cell.
11. Remove the shield plug restraint (if installed) and lift the shield plug from the cask body.
12. Remove the fuel elements, loose plate box, or target holders from the basket and place in the facility’s receiving station.
13. Replace the shield plug into the cask body cavity. Optionally, install the shield plug restraint.
14. Remove or disconnect the unloaded cask body from the hot cell.
15. Remove the remote lift adaptor from the shield plug.
16. Remove the shield plug restraint (if installed) and remove the sealing surface protector.
17. Install the closure lid on the cask body, using the alignment pin to guide the closure lid into position.
18. Install the twelve (12) 1–8UNC SHCSs to secure the closure to the cask body. Using a star pattern, tighten the closure SHCSs to 220 ± 20 ft–lb torque (lubricated).
19. Install the vent port plug and tighten to 9 ± 1 ft–lb torque. Install the vent port dust cover.

20. If used, install the drain port plug and tighten to 20 ± 2 ft-lb torque. Install the drain port dust cover.
21. Assemble the impact limiters onto the package and secure the package to the transport trailer as described in Section 7.1.3, *Preparation for Transport*. A tamper-indicating device is not required.

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