Enclosure 1

Proposed CoC Replacement Page,

Volunteer Package SAR, Revision 25A, Supplement 1

Docket No. 71-9403

March 2025

CoC Sections (revised)

CoC Page 1 of 4

5.(a)(2) Description

The Volunteer packaging is comprised of a cask assembly, equipped with identical upper and lower impact limiters, and internal support structures for specific contents. The packaging, which includes three (3) different length configurations (i.e., long, standard, and short), is designed to transport various radioactive contents as listed in 5.(b)(1). All package configurations have an 86.0-inch outside diameter (OD), excluding impact limiter lift lugs and support angles. The length of the long, standard, and short packages, with impact limiters attached, are 266.5 inch, 254.5 inch, and 206.5 inch, respectively. The cask assembly is \emptyset 43.0 inch at the top and bottom ends where the impact limiters are attached, and \emptyset 43.5 inch in the region between the upper and lower impact limiters (excluding the upper and lower trunnions). The overall length of the long, standard, and short cask assemblies are 198.5 inch, 186.5 inch, and 138.5 inch, respectively. The cask configurations are \emptyset 26.5 inch by 180.5 inch, \emptyset 26.5 inch by 120.5 inch, respectively.

The cask body radial construction consists of a 1.25-inch-thick stainless steel inner shell, surrounded by a 4.54-inch-thick (minimum) lead gamma shield and a 2.25-inch-thick stainless steel outer shell. The outside of the cask body weldment, between the end regions that are covered by the impact limiters, is covered by a 1/8-inch thick stainless steel thermal shield that is offset from the outer shell by a 1/8-inch thick spacers and wire wrap to create an insulating air gap. The top and bottom ends of the cask assembly both include a total

Enclosure 2

SAR Changed Pages

Volunteer Package SAR, Revision 25A, Supplement 1

Docket No. 71-9403

March 2025

standard, and short package configurations are 266.5 inch, 254.5 inch, and 206.5 inch, respectively. Therefore, the minimum package dimensions are greater than 10 cm, as required by 10 CFR 71.43(a).

The empty weights of the long, standard, and short package configurations, without any contents, internal support structures, or dunnage and/or shoring, are approximately 73.3 kip, 69.4 kip, and 53.5 kip, respectively. The maximum payload weight (i.e., combined weight of contents, internal support structures, and shoring and/or dunnage, as required) for all cask configurations is 11.5 kip. Therefore, the maximum fully loaded gross weights of the long, standard, and short package configurations are 84.8 kip, 80.9 kip, and 65.0 kip, respectively.

1.2.1.2 <u>Containment Features</u>

The packaging has a simple, redundant, robust containment system design, as depicted in Figure 1-5. Containment of radioactive material is provided by the cask body weldment's inner bottom plate, inner shell, bolt flange, and associated seam welds, the closure lid with its closure bolts and containment (inner) seal, and the vent and drain port covers with their closure bolts and containment (inner) seals. The full-penetration longitudinal and circumferential seam welds of the inner shell and the circumferential welds connecting the inner shell to the flange and inner bottom plate are part of the containment system pressure boundary. In the context of this application the terms pressure and containment boundary are synonymous as this boundary retains pressure and radionuclide content.

All structural components of the cask containment system are made from Type 304 stainless steel having the low carbon content of Type 304L stainless steel to reduce susceptibility to Intergranular Stress Corrosion Cracking (IGSCC) when exposed to tritium. Other than the closure lid, vent port cover, and drain port cover, there are no penetrations to the containment systems, and no valves or pressure relief devices of any kind. The packaging does not rely on any filter or mechanical cooling system to meet containment requirements, nor does it include any vents or valves that allow for continuous venting. Section 4.1 provides a more detailed description of the packaging containment system.

The vent and port covers, which are recessed inside pockets in the closure lid and bolt flange, respectively, are identical solid austenitic stainless steel plates, each with three (3) machined through-holes and pockets for the port cover bolts (socket head cap screws (SHCS)), two (2) concentric seal grooves (inner groove for the containment seal and outer groove for the test O-ring seal), and a single test port that is plugged during transport. The port covers fit over a quick-connect fitting attached to the port opening, filling most of the void space under the port

Enclosure 3

Supporting Calculations

Volunteer Package SAR, Revision 25A, Supplement 1

Docket No. 71-9403

March 2025

Enclosure 3 to ED20250030 Page 2 of 2

List of Calculations

- 1. 70000.38-2105, Revision 4
- 2. 70000.38-3010, Revision 3

CACLULATIONS ARE PROPRIETARY AND WITHHELD IN THEIR ENTIRETY PER 10 CFR 2.390