

NRC letter dated May 3, 2019. (Orano received a copy on May 22).

### **RAI-Co-1**

This is the same (verbatim) question asked about ANSI N14.5 during the NRC review of the 1105-SD. In that case, the question was posed as an observation at the conclusion of the acceptance review. It was also posed as an observation during the acceptance review of the 435-B. Orano supplied our response (which had successfully answered the 1105-SD observation) to NNSA. It is not known if it was passed on to the NRC by NNSA or if NRC failed to accept it this time. However, the packages are identical and the observation/RAI are identical; so the same response should work.

**Action:** Discuss with NA-531 to see if they submitted it; if they did, we need to ask NRC why it is not accepted for the 435-B, or if the response can be submitted for the RAI.

### **RAI-St-1**

The question asks why there is not a stress analysis for the integrity of the disposal canister like there is for the shielded devices. The answer is that the disposal canisters are not shielded devices, but instead are treated like the LTSS, which has no stress analysis. However, it also could be noted that the LTSS was part of the certification testing, so it gets a free pass which the canisters would not get. The disposal canisters are thus neither shielded devices nor were they physically tested. To answer this question, however, we will treat them like devices.

Following the form of the stress analyses of the shielded devices in SAR section 2.7.1.6, there is only one exposure pathway for the disposal canisters, which is failure of the lid attachment bolts. (It could be argued that the bolts cannot be loaded in a free drop because the weight of the disposal canister would compress the lid against the canister body, but this argument does not need to be made.) A simple stress analysis using the weight of the heaviest lid (the light canister lid), a maximum payload of 150 lb, an impact of 300g, and using the tensile load value from ASTM F3125 for a ¾-10 bolt, a margin of safety of 1.74 results. This brief analysis will be added as a new Section 2.7.1.6.5, and will fully respond to the NRC request.

### **RAI-OP-1**

This concerns the use of the term “lid port” in the case of vacuum drying the disposal liners. They object that all other uses of terms of this sort distinguish between the vent and test ports, and failing to do so could cause confusion. However, the confusion is theirs; they are thinking of the package itself, but the steps in question concern the disposal liners, which are not leak tight, and do not have a test O-ring or test port. Thus, there is only one port in the lid, used only for vacuum drying. Having said this, we can easily change the term to state “vent port”. But their confusion should be discussed with NRC.

**Action:** Discuss with NRC to verify they understand and to verify they still want the change made.

**RAI-Co-2**

This concerns an operation step that has always been in the SAR, an instruction to “ensure” that the vent and test port plugs are properly tightened after leakage rate testing. NRC insists that the vent port be properly tightened before testing. This is correct. Section 8.2.2.2, Step 2 includes the language, “Ensure the vent and seal test ports are installed with their associated sealing washers. Assembly information is given in Appendix 1.3.3,…” If words were added to the first sentence to read: “Ensure the vent and seal test ports are installed with their associated sealing washers *and tightened*,” this would remove any ambiguity about whether or when the port plugs were finally touched. Then, the steps which the NRC is objecting to (in four different sections) could be simply deleted.

In detail:

Revise Section 8.2.2.2, Step 2, to read:

Assemble the 435-B package with the two O-ring seals installed in the lower flange and the closure bolts tightened. Ensure the vent and seal test ports are installed with their associated sealing washers and tightened. Assembly information is given in Appendix 1.3.3, *Packaging General Arrangement Drawings*.

Delete the following:

Section 7.1.2.1, Step 27

Section 7.1.2.2, Step 20

Section 7.1.2.3, Step 28

Section 7.1.2.4.2, Step 31

**Action:** Discuss with NWP/Sellmer and obtain concurrence, since NWP wrote the detailed leakage rate test procedure.