

8-120B License Amendment Request Pre-submittal Meeting

NRC Headquarters (EBB), Rockville MD

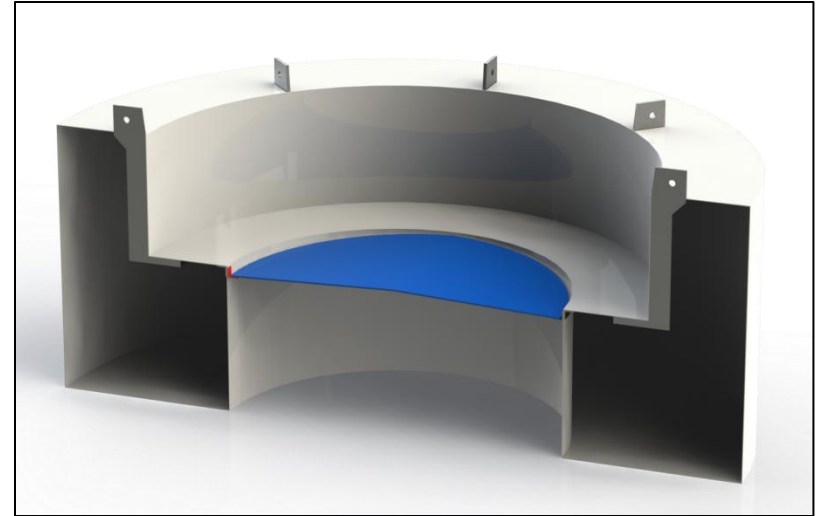
April 16, 2013

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- Purpose for License Amendment Request (LAR)
- Proposed changes
 - Hardware change
 - Changes to the SAR
 - Changes to the CoC
- Proposed schedule

- The 8-120B user base will experience a loss of capacity of approximately 30% of its higher-activity resin payloads after August 31, when Revision 19 of the CoC governs all shipments.
 - *What happens then?* The new radiological payload qualification rules, which are more restrictive, apply to all shipments.
 - *Why are the new rules more restrictive?* The latest shielding analysis was much more detailed than before and sensitive to a slight imbalance in the 8-120B shielding design (bottom vs. sides and top).
- The purpose of this LAR is to regain the reduced capacity for resin shipments resulting from Revision 19 by adding a 3/8" plate to the 8-120B lower impact limiters.
 - Retrofit will be made on all existing 8-120Bs and all 8-120Bs currently in fabrication which will be operated under NRC CoC #9168.

- Add 3/8" thick steel plate in “donut hole” on lower impact limiter.
- Re-perform the entire suite of MCNP analyses.
 - Models updated with new plate, take credit for steel in impact limiters and radial thermal barrier. Still no credit taken for steel in top axial thermal shield, or impact limiter foam.
 - No changes to lookup table methodology.
 - No changes to rules for use.



- Impacts of new plate
 - Shielding- modest increase in allowable sources back to pre-Revision 19 levels, particularly for “general” sources (e.g., resins) because bottom axial shielding will be balanced with sides and top
 - Additional mass of plate (~200 lb) will be subtracted from payload weight (same approach as was used for the lid thermal shield in CoC Revision 19)
 - No safety impact on thermal or structural
 - No effect on package structural response to NCT and HAC tests,
 - Additional plate on lower impact limiter similar to effects of weather cover on upper impact limiter and lid thermal shield on top end

- Update SAR with clarifications/corrections
 - SAR drawing corrections
 - Impact limiter skin (item 50) was 11 gauge, will be 12 gauge (12 gauge was analyzed)
 - Remove callout for impact limiter lift lug baseplate thickness (item 45a) (no safety function)
 - Quality level on item 55 (primary lid scuff guard) was 1, will be 3 (like SS cladding item 8)
 - SAR clarifications
 - Remove the addendum “Adding the Thermal Shield to the Rev. 13 Design” since it will no longer be applicable after August 31 (depends on timing).
 - Add discussion about liners in Chapter 5 to more clearly define for which types of payloads CoC Condition 7 applies.

- Clarify that Condition 7 applies to payloads with significantly non-uniform sources (i.e., does not apply to resin shipments and other uniformly distributed payloads).
- Bring back the wording from Condition 8 in CoC Revision 18 which exempted LSA and SCO shipments from pre-shipment leak tests. It appears to have been inadvertently omitted in Revision 19 of the CoC.

- Change Condition 12 to allow up to 90 days for installation of the new lower impact limiter cover plates. Until then:
 - Ship under CoC Revision 17 using the “old lids” per the addendum in Consolidated SAR Revision 3 dated July, 2012, or
 - Ship under CoC Revision 19 using a “new lid” per SAR drawing Revision 18, or
 - Ship under CoC Revision 20 using a “new lid” with the lower impact limiter cover plate.
 - After the 90 day period, all shipments must be made using CoC Revision 20 with the new lids and lower impact limiter cover plate.

- Desired date is on or before August 31, 2013 to avoid disruption in resin shipments.
- Need to consider timing of removing Addendum if new CoC is effective before or after September 1, 2013.
- Proposed milestone dates:
 - Submit license amendment request May 15, 2013
 - CoC Revision 20 effective September 1, 2013