HI-STAR PBT
Pre-submittal Meeting

August 20, 2019

Background

- Battelle, operated by Pacific Northwest National Laboratory (PNNL), has contracted Holtec to design, license, fabricate, and deliver Transportation Casks.
- Cask will be used for transporting Tritium Producing Burnable Absorber Rods (TPBARs) from Watts Bar Units 1 and 2 in Tennessee to the Tritium Extraction Facility (TEF) in South Carolina (Savannah River Site).

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- Design Criteria
  - Type B Radioactive Material Package
  - 10CFR71 Regulation
  - NUREG-1609, Supplement 2
    - Includes accommodating gas release from 100% rod breach under Hypothetical Accident Conditions (HAC)
  - Package to accommodate maximum Helium inventory from rods with a peak of 1.5g tritium
- Over-the-Road transport from plant to extraction site using dedicated trailer
- Evaluations to be performed consistent with previous Holtec transport applications – analytical modeling, no physical tests foreseen

Contents

- Each cask holds 4 consolidated canisters.
- Each Consolidated Canister contains 300 TPBARs.
- Cask design will also encompass partial loading of 1 to 3 canisters during transport.

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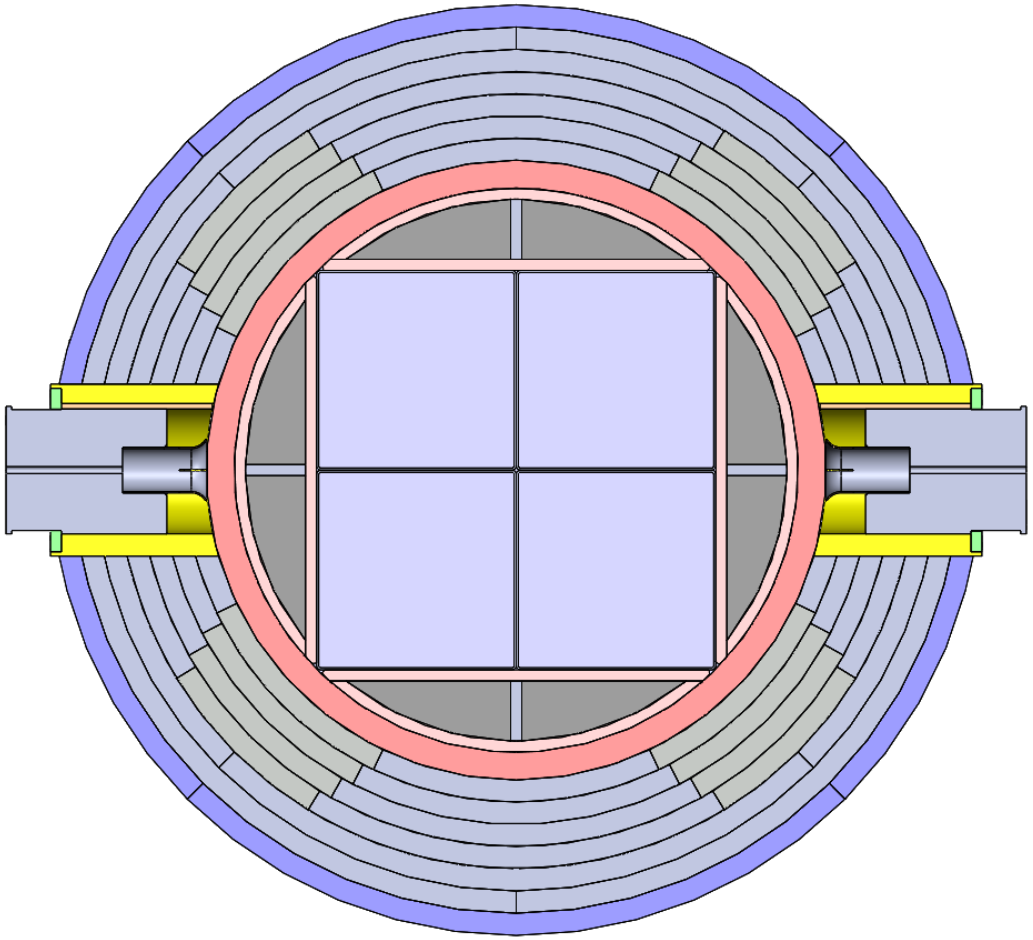

- Cross-section view
- Basket for 4 consolidation canisters
- Materials
  - Stainless Steel (pink/dark blue)
  - Lead (gray)
  - Carbon Steel (light blue)

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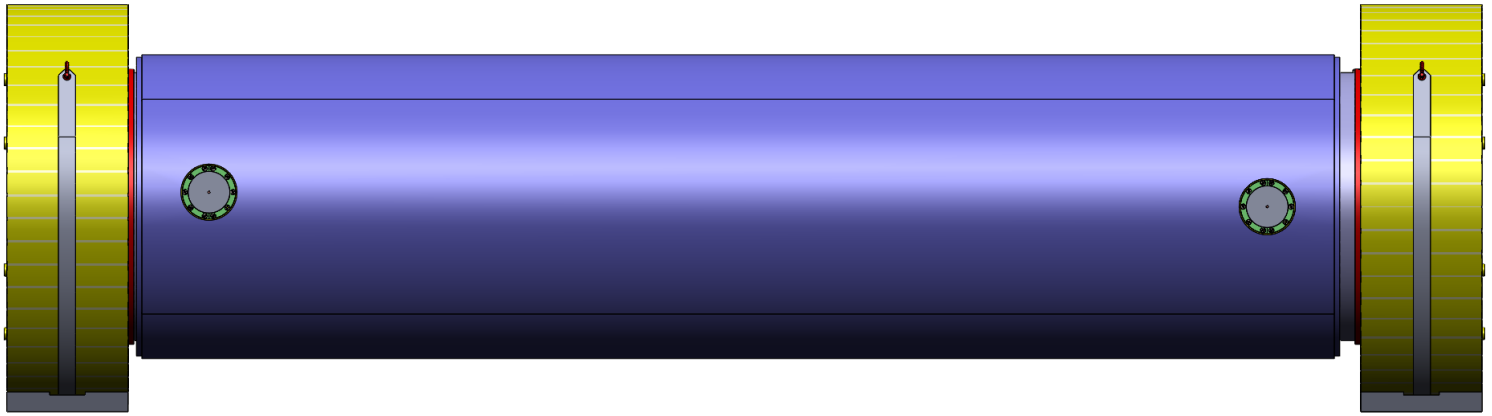
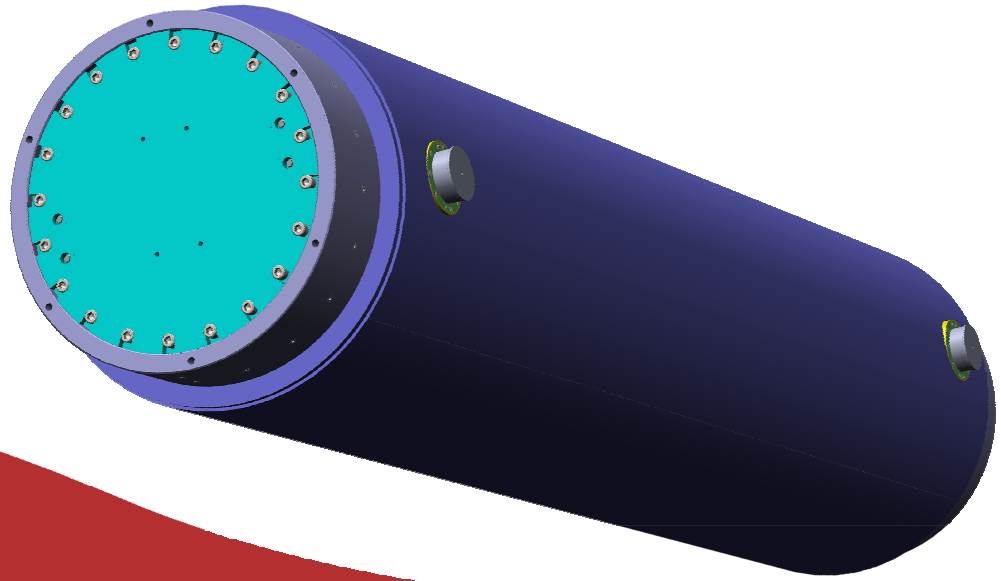
- Cask with Impact Limiters



- Cask without Impact Limiters



Schedule

- Planned submittal for early 2021.
- Need NRC approval mid 2022.