

SUMMARY OF PROPOSED CHANGES (SOPC)

HI-STAR ATB 1T LAR 9375-1

Introduction

This document is intended to communicate a summary of proposed changes to Holtec Report HI-2146312, "Safety Analysis Report for the HI-STAR ATB 1T Non-Fuel Waste Transport System," Rev. 3 (generally referred to herein as the HI-STAR ATB 1T SAR or simply SAR), that are considered significant. All proposed changes are reflected in Proposed Revision 5 of the SAR, the HI-STAR ATB 1T licensing drawing package, and SAR supporting documents submitted to the USNRC via license amendment request (LAR-9375-1). SAR supporting documents consist of Holtec technical reports and Holtec calculation packages.

This SOPC is presented in three parts:

- A. Proposed Changes to the Certificate of Compliance
- B. Proposed Changes to the Safety Analysis Report
- C. Proposed Changes to the Licensing Drawing Package

In general, editorial changes and certain minor changes are not summarized in the SOPC. The SAR's revision summary log contains additional change description information on a section-by-section basis for all SAR chapters. SAR supporting documents supplied with this LAR are listed in the LAR submittal letter Holtec Document ID 2404020-NRC.

A. PROPOSED CHANGES TO COC

1. Update the HI-STAR ATB 1T Cask licensing drawing (DWG-9786) revision from Revision 7 to Revision 9.

B. PROPOSED CHANGES TO SAR

Proposed Change Identifier	Topic Description	SOPC
PC-1	Alternative Material for Cask Containment Boundary	<p>Discipline(s) Impacted: Structural, Thermal, Shielding</p> <p>Proposed Change and Justification: An alternative high strength material (SA-508 Grade 4N Class 2) is added as an optional material of construction for the HI-STAR ATB 1T Cask Containment Boundary. The newly proposed SA-508 Grade 4N Class 2 material offers excellent fracture toughness resistance at low temperatures and possesses strength properties superior to those of the previously permitted ASME SA-517 and ASTM A514 materials. No other parameters of the containment boundary design are being altered by the proposed change.</p> <p>The Structural Calculation Package for the HI-STAR ATB 1T Transport Package (Holtec Report HI-2177540R6), compares the newly proposed SA-508 Grade 4N Class 2 material against the previously analyzed SA-517/A514 material and determines that the existing containment structural evaluations remain governing for the proposed change by virtue of the SA-508 Grade 4N Class 2 material having higher strength properties and higher allowable stress limits. Likewise, the Drop Analysis of the HI-STAR ATB 1T Transport Package (Holtec Report HI-2177539R7) performs two sensitivity simulations for the SA-508 Grade 4N Class 2 construction and demonstrates that the effective stress and/or deformation in the sealing region is reduced and all stress safety factors are improved with the use of the stronger SA-508 Grade 4N Class 2 material, so seal worthiness and overall structural safety function are maintained. Chapter 2 of the SAR has been revised to reflect the above discussion.</p> <p>The newly proposed SA-508 Grade 4N Class 2 material has the same thermophysical properties as the existing SA-517/A514 material, so all existing calculations in the Thermal Evaluation of the HI-STAR ATB 1T Cask (Holtec Report HI-2156585R5) remain applicable. Likewise, the existing shielding analysis models the entire HI-STAR ATB 1T cask as constructed of carbon steel, and the density of the SA-508 Grade 4N Class 2 is equal to that of the SA-517/A514 material, so no changes to the HI-STAR ATB 1T Shielding Calculation Package (Holtec Report HI-2156583R5) or Chapter 5 of the SAR are required.</p> <p>Reason for Proposed Change: Expanding the list of materials that may be used for construction of the containment boundary components allows for flexibility during manufacturing. The newly proposed SA-508 Grade 4N Class 2 material ensures that the safety requirements of the HI-STAR ATB 1T package continue to be met.</p>

Proposed Change Identifier	Topic Description	SOPC
		<p>Licensing Drawings: Licensing drawing 9786 for the HI-STAR ATB 1T cask is revised to allow SA-508 Grade 4N Class 2 material for the containment baseplate, the containment side/end walls, and the closure lid. The existing SA-517 and A514 material options are also retained.</p>

C. PROPOSED CHANGES TO LICENSING DRAWING PACKAGE

Cask Licensing Drawing 9786R7:

- The MAT SPEC column for Items 1, 2, 3 and 19 is revised to state “A514, SA-517, OR SA-508 GR. 4N CLASS 2”.
- Additional Note 4 is revised to include weld filler material options that are compatible with the newly proposed SA-508 Grade 4N Class 2 containment boundary material.