

HI-STAR 63 Type B(U) Transport System for CANDU Spent Fuel

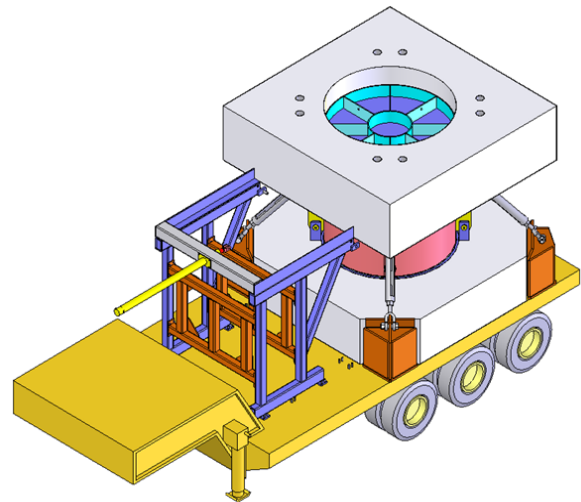


The HI-STAR 63 Cask is an all-metal type B(U) transport cask licensed to IAEA SSR-6 standards. It is designed to contain two stainless steel canisters each containing 60 B-37 CANDU fuel assemblies. The containment boundary is comprised of a fully cryogenic steel shell, bottom plate and closure lid. Layered stainless steel shells provide for additional package shielding. A full set of transport accident tests including a 9 m drop test, puncture test, and fire and deep submergence tests were successfully performed during the licensing process.

The HI-STAR 63 transport system consists of the HI-STAR 63 cask, two impact limiters, transport trailer, tie down system and a lid cover removal mechanism. Two HI-STAR 63 transport casks are in use at the Wolsong Nuclear Power Plant in Korea.

Design Features

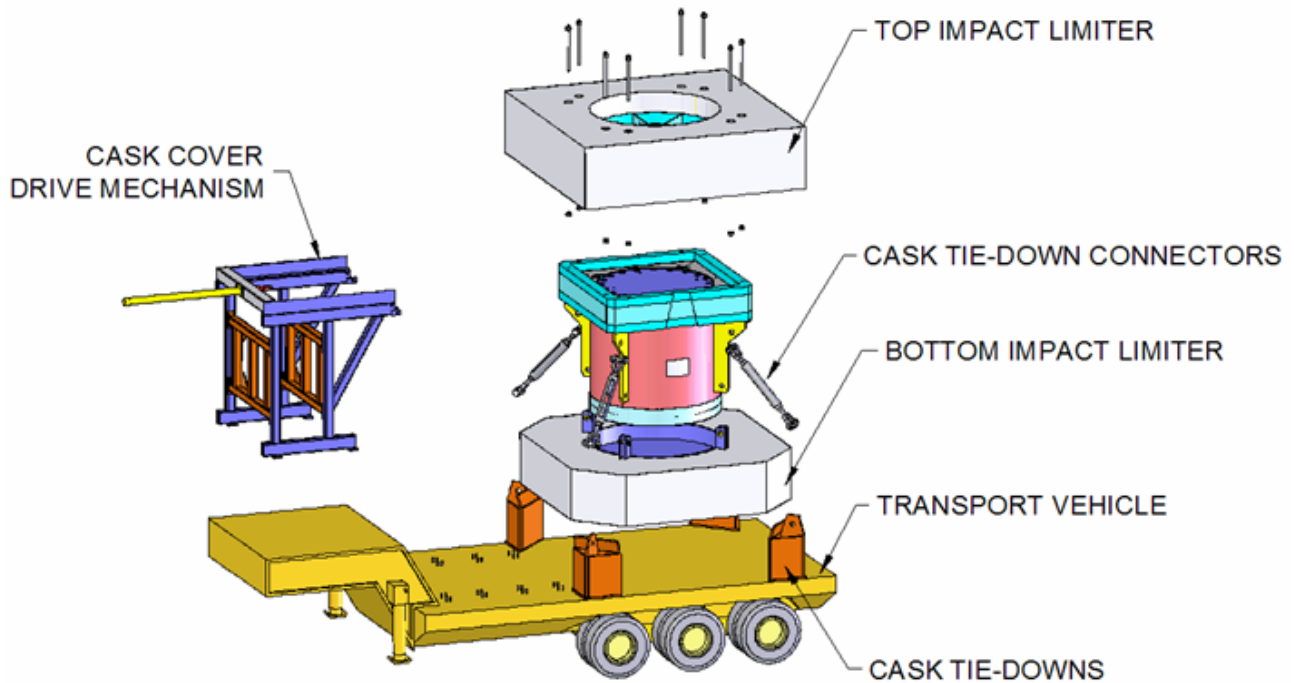
- Cryogenic steel containment boundary
- Multi-layer steel shielding structure
- Designed for vertical transport on a trailer.
- Removable top and bottom impact limiters.
- The lifting features meet ANSI N14.6 safety requirements.
- Dual, reusable elastomeric lid seals
- Recessed bolts and recessed lid
- Inter-seal test port with plug and seal for vacuum-pressure rise leakage testing of the lid seals
- Retractable closure lid carrier protects the lid seals and seal sealing surface during lid installation and removal operations.
- Quick disconnect Cask Cover Driving Mechanism for removal and installation of the lid.



HI-STAR 63 General Arrangement on the Transport Trailer with Impact Limiters and Tie Down System

Overall Dimensions of HI-STAR 63	
Item	Dimension, mm
Inside diameter of the cask cavity	1087
Length of the cask cavity	1124
Outside diameter of the cask at mid-height	1537
Square flat to flat dimension of cask containment flange	1810
Length of cask without impact limiters	1650
Length (cask plus the two impact limiters)	2516
Square flat to flat dimension of the package (width at the impact limiters)	2750

General Weights of HI-STAR 63	
Item	Value, kg (lbs)
Nominal Empty Packaging Weight (cask, impact limiters and fuel baskets)	21,308 (46,950)
Maximum Gross Weight of HI-STAR 63 Package	27,275 (60,150)



HI-STAR 63 Transport System Components