

**HI-STAR/HI-STORM: MULTI-PURPOSE CANISTER BASED SYSTEMS
FOR TRANSPORT AND STORAGE**

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ABSTRACT

Building upon over ten years of experience in the supply of high-density spent fuel rack systems, Holtec International has developed the MPC-based HI-STAR and HI-STORM spent fuel management systems. These systems provide a high-capacity, low-cost solution to the long-term storage of spent nuclear fuel.

confinement boundary. For the HI-STAR MPC, the enclosure vessel is an all-welded ASME Section III, Class 1 pressure vessel with a design pressure of 100 psia (7.0 bar). The use of

the entire MPC loaded with SNF to be lifted by threaded holes in the MPC lid. A cross sectional view of the MPC is presented in Figure 2.

a fully welded vessel provides assurance that the SNF is totally isolated from the external environment.

Located within the MPC enclosure vessel is the fuel basket which performs its classical function. The fuel basket provides

The MPC is constructed entirely from stainless steel alloy materials except for the neutron absorbing materials. No carbon steel materials are permitted in the MPC, thereby eliminating concerns regarding adverse interactions between coated carbon

an array of vertical fuel cavities, the number of which vary

steel materials and various operating environments.

dual-purpose overpack. The HI-TRAC transfer cask provides optimal shielding of the fuel housed in the MPC to minimize personnel exposure during handling and MPC closure operations. Additionally, the HI-TRAC transfer cask provides the means to handle the loaded MPC and remotely transfer the

The HI-STAR dual-purpose overpack is a heavy-walled steel cylindrical vessel. The HI-STAR is designed to perform both storage and transport functions similar to standard dual purpose casks. In the transport mode the containment boundary is

The HI-STAR/HI-STORM systems have been selected by

Installation and by the Private Storage Facility, LLC, for the
planned private centralized storage facility in Utah.

Conclusion

The unique design and fabrication features of Holtec

	41-STAR					
	TRANSPORT					
	32 PWR					
	40,000					
				18		
				567		
				18.1		
				1.9		

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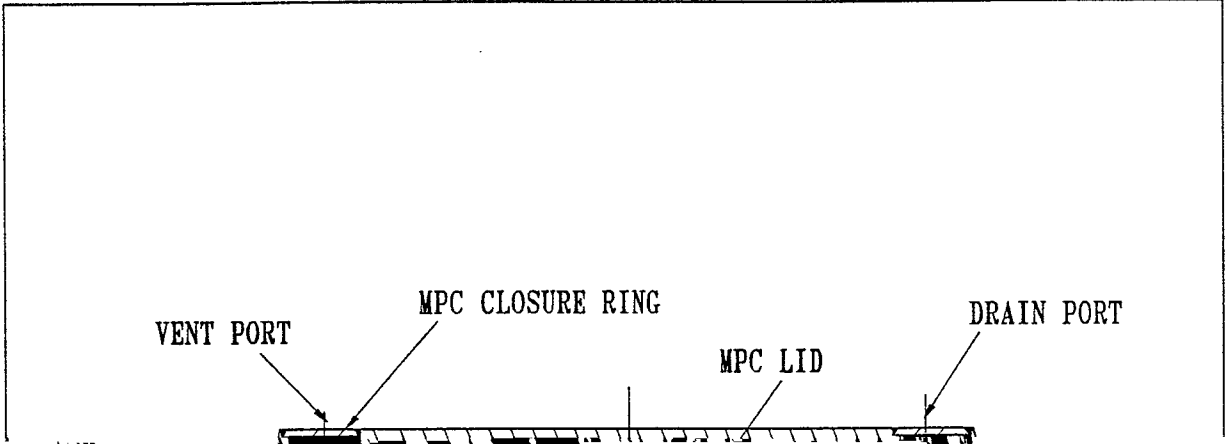
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VENT PORT

MPC CLOSURE RING

MPC LID

DRAIN PORT

