

# **LOW-LEVEL RADIOACTIVE WASTE FORUM, INC.**

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## **Holtec Loads Record Number of Multi-Purpose Canisters in 2018**

By press release dated November 27, 2018, Holtec announced the successful dry storage implementations of both Pressurized Water Reactor (PWR) and Boiling Water Reactor (BWR) multi-purpose canisters (MPCs) in HI-STORM vertical ventilated modules at numerous nuclear plant sites, setting new records in their curie content and heat load.

### **Overview**

Out of the total of 170 HI-STORM systems loaded to date, Holtec's own site services group has loaded 135 systems. As of the end of November 2018, 1,235 Holtec systems have been loaded globally. The nuclear units that have increased their dry storage population of HI-STORM vertical ventilated systems (VVMs) in 2018 include:

- Browns Ferry (Tennessee Valley Authority);
- Callaway (Ameren);
- Clinton (Exelon);
- Comanche Peak (Luminant);
- Diablo Canyon (Pacific Gas & Electric);
- D.C. Cook (American Electric Power);
- Farley (Southern Nuclear);
- Pilgrim (Entergy);
- SONGS (Southern California Edison);
- Vermont Yankee (Entergy);
- Vogtle (Southern Nuclear); and
- Watts Bar (Tennessee Valley Authority).

### **Details**

The following analysis is taken from the Holtec press release. Stakeholders with questions or seeking additional detail should contact Holtec directly.

- Of the loadings this calendar year listed above, Callaway is a subterranean (below-ground) storage system known as HI-STORM UMAX, which is also designated as the storage technology for the Consolidated Interim Storage Facility (CISF) named HI-STORE CISF. Holtec is seeking to license HI-STORE CISF with grass roots support from the Eddy Lea Energy Alliance (ELEA), which represents the counties of Eddy, Lea and the cities of Hobbs and Carlsbad in southeastern New Mexico.

- D.C. Cook tops the list of operating plants for loading the most MPCs in one campaign (16), whereas Tennessee Valley Authority (TVA) claims the top billing for loading the maximum heat load canister at 29.90 kW.
- The crew dose came in at or below the target at nearly every plant, with Exelon's Clinton Station performing the best in this category (approximately 75% below the estimated dose).
- Vermont Yankee's loading was its last with its entire in-pool inventory of used fuel placed in dry storage in preparation for decommissioning. A total of 45 MPCs were loaded in Vermont Yankee's "whole pool de-fueling" campaign that was completed this summer.
- Pilgrim, also scheduled to be decommissioned, still has 2,378 fuel assemblies in the pool, which will be transferred to dry storage shortly after its shutdown in mid-2019.
- Twenty nine MPCs have been loaded at SONGS with the loading of the remaining 44 scheduled to be completed by mid-2019.
- Inaugural MPC loading campaigns are imminent at South Texas Project and Laguna Verde (Mexico).
- Ukraine's national nuclear utility, NAEK Energoatom, is poised to begin operating the world's first functioning CISF utilizing Holtec's VVER Canisters in HI-STORM vertical ventilated storage modules beginning in spring 2020.
- South Africa's Koeberg Nuclear Power Station will begin its dry storage deployment using HI-STAR 100s next year.
- Within the Chernobyl Exclusion Zone, there are currently more than 22,000 RBMK assemblies from the long-shuttered Chernobyl reactors stored at an aging wet spent fuel storage facility called ISF-1. Holtec is in the final phases of completing the construction, testing and commissioning of dry storage facility called ISF-2. According to Holtec, ISF2 includes world's largest "hot cell" for segmentation of RBMK fuel assemblies. The dismembered fuel assemblies will be stored in Holtec's patented *Double Walled Canisters* (DWCs).

"A relentless drive to make fuel loadings safe and efficient, to reduce radiation dose to the workers and the environment, and to make dry storage systems an invincible fortress of safety, are all core undertakings of our Company," states Joy Russell, Holtec's Chief Communications Officer. "Lessons learned from ongoing operations are continuously leveraged to further strengthen our dry storage program across the 16 countries where we have the privilege to serve."

## Background

Holtec International is a privately held energy technology company with operation centers in Florida, New Jersey, Ohio and Pennsylvania in the United States. Globally, Holtec International has operation centers in Brazil, Dubai, India, South Africa, Spain, the United Kingdom and Ukraine. Holtec's principal business concentration is in the nuclear power industry. Since the 1980s, Holtec has been densifying wet storage in nuclear plants' spent fuel pools, which defers the need for and expense of alternative measures by as much as two decades. Holtec has done this at over 110 reactor units in the United States and abroad. Holtec also offers services regarding dry storage and transport of nuclear fuel. Holtec is working to develop the world's first below-ground CISF in New Mexico and a 160-Megawatt *walk away safe* small modular reactor, SMR-160. The SMR-160 is developed to bring cost competitive carbon-free energy to all corners of the earth including water-challenged regions. Holtec is also a major supplier of special-purpose pressure vessels and critical-service heat exchange equipment such as air-cooled condensers, steam generators, feedwater heaters and water-cooled condensers. Virtually all products produced by Holtec are built in its three large manufacturing plants in the United States and one in India.

*To learn more about Holtec International, please visit [www.holtecinternational.com](http://www.holtecinternational.com).*

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