

HOLTEC HIGHLIGHTS

A Summary Report to Our Clients, Suppliers, and Company Personnel

Two-Year R&D Effort Yields a Safe and Cost Effective Solution for Hauling Casks Heavier Than the Rated Capacity of a Nuclear Plant's Truck Bay

We are pleased to report that the widely encountered problem of moving modern loaded casks across the nuclear plant's "truck bay" (typically) designed for much lighter casks of 1970s vintage has been solved. The truck bay in a power plant is the main artery that links the plant to the outside world: It is the area through which all payloads used by the plant (component and machinery) must come and go. Unfortunately, truck bay slabs in a number of U.S. and overseas plants have local areas of structural deficiency that do not permit a modern full size cask, weighing as much as 200 tons, to be hauled across the bay in a conventional manner. This problem has forced some plants in the past to install support columns and girders to buttress the slab at a considerable expense. Others have resorted to temporary palliatives such as "load distribution systems" that must be assembled at each cask loading campaign and disassembled thereafter at considerable effort and cost. A cumbersome structure in the Truck Bay evidently is also an (undesirable) impediment to the movement of tools and equipment into and out of the plant.

To deal with the aforementioned challenges, Holtec launched the development of an ancillary device based on the concept of support reaction modulation that exploits the strength reserve in the "strong" region of the slab to navigate the heavy load across the weak regions. This new technology is now poised to move from the final R&D phase to actual deployment. Several of Holtec's new HI-STORM system users are scheduled to reap the benefits of this new technology in the near future.

The new ancillary eliminates the need for any structural modifications to the plant and is designed to mitigate the effect of earthquakes even if they are postulated to coincide with the cask hauling operation inside the plant. While expressly developed for dealing with cask operations, this ancillary can also be used for hauling other extra-heavy loads through truck bays. Holtec's list of recently developed ancillary equipment designed to reduce dose, increase safety, and reduce cask loading time includes innovations such as the Low Profile Transporter (Patent Pending), and the **Holtec Earthquake Response Mitigator (HERMIT)** (Patent No. 6,848,223B2) that are being widely used in the truck bays of HI-STORM users around the world.



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