

# HOLTEC HIGHLIGHTS

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

## Memo to Water Challenged Power Plants: Please Meet HI-VACC

The laws of nature dictate that over 60 percent of the thermal energy produced by a steam power plant must be rejected to the environment. The local source of natural water is the usual recipient of this “waste” heat. The rejection of the plant's waste heat to the air, in lieu of water, has thus far been challenging because of the large land area and capital cost associated with conventional air cooled condensers (ACCs) – until now. Holtec's R&D team proudly announces the successful development of a whole new genre of ACCs that require less than half of the land area of a conventional “A-frame” ACC ( illustrated in the figure below) presently sold by Holtec and other world suppliers. In contrast to the conventional ACCs made of carbon steel tubes with brazed aluminum fins, the new ACC features stainless steel tubes resulting in significantly reduced flow accelerated corrosion and iron transport problems that currently plague the ACC industry. The conventional A-frame ACC, shown side-by-side below with HI-VACC for identical heat duty, illustrates the reduction in the system footprint area achieved by the latter.

The new ACC features a vertical tube bundle with longitudinal fins connected to top and bottom headers. Because of its true modular design, shop fabrication is substantially more complete, allowing for a reduction of on-site construction labor in excess of 30% as compared with a conventional A-frame ACC. The plant owner may use the *Holtec International Vertical Air Cooled Condenser (HI-VACC, for short)* as a 100% dry system or augment the condensing process with limited humidification.

Holtec's newly established plant in Orrville, Ohio will serve as the manufacturing center for HI-VACC. “The deployment of HI-VACC in the power plants will comport with our twin corporate goals of developing environmentally friendly technologies and leveraging technical innovations to create much needed jobs in America,” says Holtec's President and CEO, Dr. Kris Singh.

A typical HI-VACC is illustrated in the figure below. An application for worldwide intellectual property rights for the innovative design features of HI-VACC has been filed with the United States Patent and Trademark Office. The development of HI-VACC has been internally funded through the company's ongoing research program for the Holtec Inherently Safe Modular Underground Reactor (HI-SMUR).

The company expects to create over 1,000 new “green collar” jobs at its Orrville, Ohio plant to supply HI-VACCs to the customers in North America and possibly Europe. Because of its large bulk, the HI-VACCs for use on other continents would have to be built locally. Search for a suitable factory to manufacture HI-VACCs in Asia for local clients has begun. Holtec is targeting its first commercial installation of HI-VACC within the next 12 to 18 months. In parallel, the company will also continue to provide the classical A-frame design to those customers who might prefer the conventional configuration.



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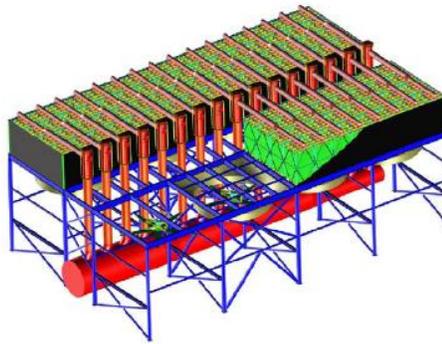
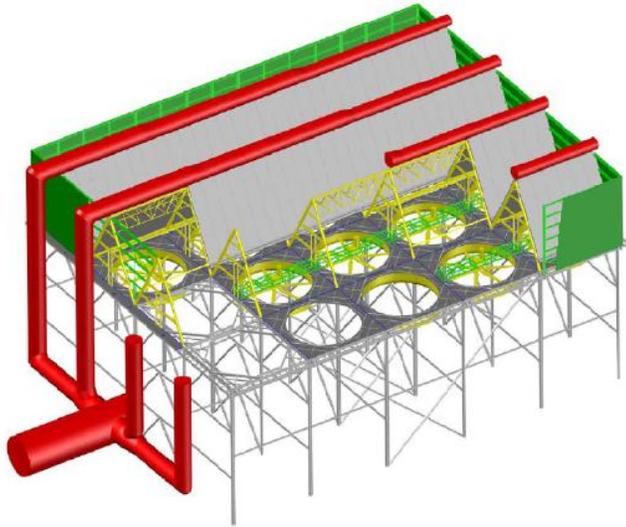
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Conventional A-Frame ACC  
140 MWe Steam Turbine  
170 ft x 240 ft

Total Footprint Area = 40,800 sq ft

HI-VACC  
140 MWe Steam Turbine  
100 ft x 200 ft

Total Footprint Area = 20,000 sq ft

For more information  
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