

# D-R VECTRA Power Turbine

Proves Its Mettle

RECENT PROJECTS for major clients at opposite ends of the world demonstrate the value of Dresser-Rand's VECTRA power turbine in demanding mechanical drive and power generation applications.

First introduced to the industry at the 1996 Turbo Expo in Birmingham, England, the Dresser-Rand VECTRA 40G power turbine was designed to match the General Electric

LM2500+ gas generator. With an ISO rating of 42,100 horsepower (30MW), and a maximum continuous speed of 6,500 RPM, this power turbine provides an efficient power package for high-speed operation.

Several design features, introduced with the VECTRA unit, greatly improve serviceability while reducing the overall weight by up to 70 percent compared with the power turbines offered on the market in the mid-1990s. Its modular design helps reduce downtime associated with service and repairs. An entire change-out of a VECTRA power turbine, including removal and replacement, can be achieved in less than 24 hours. Modularity eliminates the extended production outages necessitated by onsite maintenance and its low weight allows a VECTRA module to be heli-coptered to offshore platforms and other remote sites, further reducing time lost. The VECTRA power turbine uses the same oil system as the gas generator, simplifying installation as well as maintenance.

Recently, new applications utilizing the latest VECTRA turbine technology further emphasize the value of the power turbine for long-term operation in demanding installations. A new floating production, storage and offloading vessel (FPSO) constructed by Bergesen Worldwide Offshore (BWO) employs two VECTRA 40G power turbines to supply onboard electrical power. BWO converted former ultra-large crude carrier for the Ku-Malooop-Zaap FPSO for operation by PEMEX in the Gulf of Mexico.

According to Sten Stensen, project development manager at Dresser-Rand, Norway, VECTRA product was selected because of its durability and the estimated 100,000 hours between overhauls. In addition, the VECTRA power turbine met all of the power requirements when matched with the LM2500+. "This is a traditional power genera-

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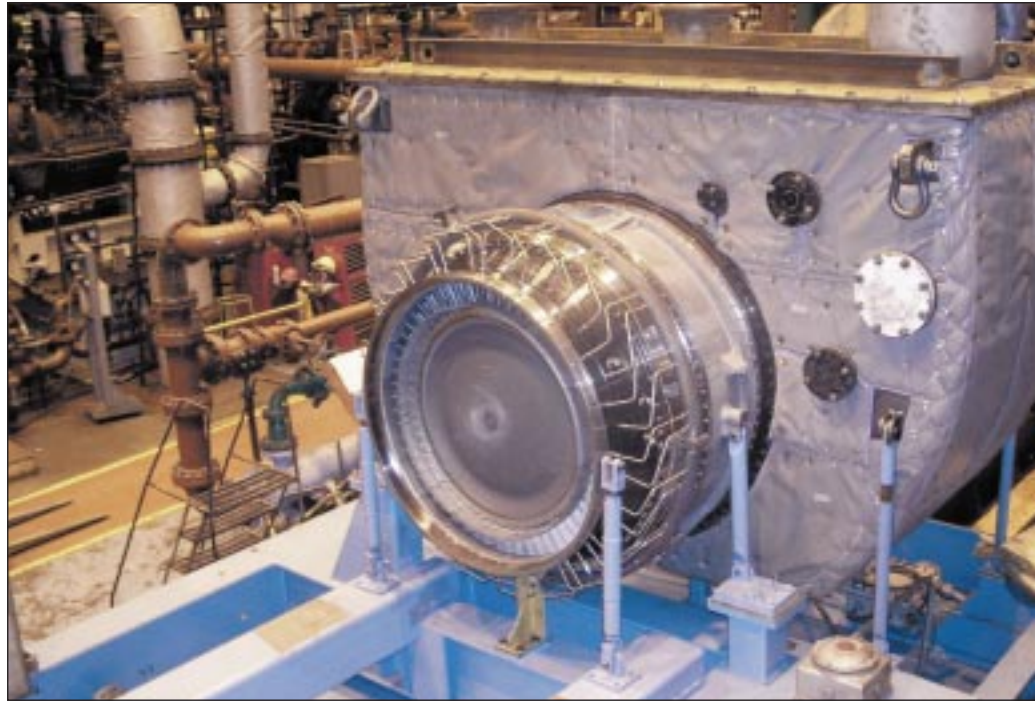
The two Dresser-Rand VECTRA 40G power turbine units were packaged at the company's facility in Kongsberg, Norway, and shipped in mid 2006. The units were installed at the FPSO conversion site in Singapore, and the FPSO recently began operation in the Gulf of Mexico.

"This project reflects the relationship of trust and support we have been able to establish with BWO," Stensen explained.

Meanwhile, a booster compression station in central Asia also will be using three VECTRA 40G power turbines driving Dresser-Rand DATUM® centrifugal compressors that D-R has provided this gas transmission client. The booster station helps transport natural gas to Russia and Western Europe.

D-R had earlier provided DATUM compressor trains to the same client for use at another transmission station, which has been in operation since 2002. Those units are being driven by DR-61 power turbines, predecessor to the VECTRA turbines.

“The performance and serviceability of the VECTRA and DATUM units over time showed inherent advantages, especially in such a remote location, and helped us make a strong case for the lower life cycle costs available to the client,” said Einar Christiansen, regional sales manager at Dresser-Rand. “Our experience with other projects for this client and with similar equipment, provided an obvious advantage.” The higher speed capability of the VECTRA turbine allowed Dresser-Rand to offer a direct-drive solution for the client’s operating conditions, eliminating a gearbox, and with the DATUM compressor, Dresser-Rand was able to meet the head requirements in a single compressor casing. Competitors required two casings.



VECTRA 40G

Equipment for the project was manufactured at the company’s facilities in Olean, New York and Le Havre, France, while packaging was performed in Le Havre, and Kongsberg, Norway.

In just over a decade, since the introduction of the VECTRA turbine, the advanced power tur-

bine has demonstrated success in power generation and mechanical drive applications around the world, helping clients reduce overall life cycle costs by reducing downtime and improving ease of maintenance. ■

## Dresser-Rand to Obtain Supersonic Ejector Technology from TransCanada Corporation

Dresser-Rand Group Inc. announced recently that it has signed a memorandum of understanding with TransCanada Corporation to obtain technology for producing tandem supersonic ejectors.

Incorporating technology developed in conjunction with NOVA Research and Technology Corporation, the ejectors are used to reclaim gases ordinarily vented into the atmosphere. At TransCanada, reclaimed gases are injected into gas turbine fuel systems to reduce operating costs and hydrocarbon emissions.

When an agreement is finalized, Dresser-Rand will have the right to manufacture, use, and market ejectors that incorporate this technology (including improvements made by TransCanada). Dresser-Rand intends to offer the ejectors as a new equipment option and as a product upgrade for all centrifugal compressors that compress hydrocarbon gases.

“By improving the efficiency of the dry gas seals used on centrifugal compressors, and by recovering and recycling gases normally vented into the atmosphere, this new technology will benefit the environment,” said H. Allan Kidd, director of Emerging Technologies at Dresser-Rand. “In addition, the new technolo-

gy will make processes that require the transmission of gases more cost effective.”

Dresser-Rand is among the largest suppliers of rotating equipment solutions to the worldwide oil, gas, petrochemical, and process industries. The Company operates manufacturing facilities in the United States, France, Germany, Norway, and India, and maintains a network of 27 service and support centers covering more than 140 countries.

TransCanada Corporation, founded in 1951, is a leader in the responsible development and reliable operation of North American energy infrastructure. With headquarters in Calgary, Alberta, the company has more than 3,500 employees throughout North America. ■