

**FOR IMMEDIATE RELEASE**

**POWER-GEN Exhibition Booth #C3-480**

***Concepts NREC Discusses Update to U.S. Department of Energy High-Performance Centrifugal Compressor for Pipeline Transmission Program at POWER-GEN International 2009, Booth C3-480***

***....Now in Phase II of three-phase multi-million dollar Department of Energy project to enable hydrogen economy.***

**White River Junction, Vt., and Las Vegas, Nev. – November 06, 2009 –** Concepts NREC (CN), a world leader in turbomachinery design, research, engineering and manufacturing, will share updated details of its U.S. Department of Energy (DoE) Hydrogen Program project to help develop and enable a hydrogen economy. CN will be an exhibitor at POWER-GEN 2009 in booth number C3-480, December 8 through 10, at the Las Vegas Convention Center where its representatives will discuss this and other renewable and clean energy projects in which it is involved. Turbomachinery design engineers and manufacturers benefit from CN's 50+ years of turbomachinery expertise behind engineering, design and software solution services.

In June 2008, CN was chosen to develop the high-performance centrifugal compressor for the DoE because of its decades-long experience in engineering, design, analysis and manufacturing of turbomachinery based systems for all industries.

“We are doing what we always have done, developing compressors, but we are pushing the envelope of impeller tip speeds and efficiencies,” said Fred Becker, director of engineering sales for Concepts NREC. “We are overcoming the limitations of conventional multi-stage approaches by significantly reducing the parts count, allowing for lower manufacturing and maintenance costs.”

The program is now in Phase II. During Phase I, CN engineers completed the preliminary engineering and design of an advanced pipeline compressor system that meets the DoE's performance goals for a reliable 98 percent hydrogen efficiency compressor system with a footprint one-half the size of existing industrial systems and at a projected system cost of approximately 75 percent of the DoE's target and a maintenance cost that is less than the \$0.01/kwh. The advanced centrifugal compressor-based system can provide 240,000 kg/day hydrogen from 350 to 1,200 psig high for pipeline-grade service.

Phase II is expected to begin in late November 2009. In Phase II of the DoE Hydrogen Program, CN will provide the detail design of the hydrogen compressor components and the design specification and selection of all ancillary system components that constitute the free standing, compressor module.

CN's technical approach to compressing hydrogen to usable energy densities is based on the utilization of state-of-the-art aerodynamic centrifugal compressor designs—made possible via its Agile™ Engineering Design System® 2009 (Agile 2009) software—and materials to enable operation at high impeller tip speeds, which minimizes the number of compressor stages while maintaining high efficiency. The resultant design provides a compressor that not only meets the DoE's Hydrogen Program for future pipeline delivery but also a compressor package that can be used by the industrial, hydrogen gas industry for more efficient delivery via the current 1,200 miles of pipelines providing nine million tons per year of hydrogen gas for industrial process chemical applications.

### **About Concepts NREC**

Concepts NREC is a leading worldwide organization providing turbomachinery design, engineering services, manufacturing and CAE/CAM software, with a staff of over 100 professionals at its facilities in Wilder, Vt., and Woburn, Mass. For more than a half century, Concepts NREC has provided manufacturers, users, government agencies and the engineering community with technology tools, services and products that have met their needs, helped achieve their goals and aided in development and production of some of the world's most advanced products. Concepts NREC is headquartered at 217 Billings Farm Road, White River Junction, Vt., 05001-9486. Telephone: 802-296-2321. Facsimile: 802-296-2325. For more information, go to: [www.conceptsnrec.com](http://www.conceptsnrec.com).

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