

## **Concepts NREC Discusses Extremely High Suction Performance Inducers for Space Propulsion at the 47<sup>th</sup> Joint Propulsion Conference**

*The Phase II NASA STTR Program Project has many industry applications.*



**White River Junction, VT.** – July 28, 2011 – Concepts NREC (CN), a world leader in turbomachinery design, research, engineering, and manufacturing, will exhibit at the 47th AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit (JPC 2011) July 31 to August 3 in Booth 417 at the San Diego Convention Center in San Diego, Calif. Concepts NREC engineers will explain technology that underscores the company's over 50 years of experience working on turbomachinery for aerospace propulsion, including advanced technology work for NASA on a Phase II Small Business Technology Transfer (STTR)

program project on "[Extremely High Suction Performance Inducers for Space Propulsion](#)." Turbomachinery engineers, designers, manufacturers, and students focused on propulsion technology will benefit from CN's demonstrations.

"Pumps for nuclear reactor boiler feeds, vehicle fuel systems, cryogenic fluid transfer, high speed industrial systems and super critical CO<sub>2</sub> power cycles all are potential commercial applications resulting from CN's current work on the Extremely High Suction Performance Inducers for Space Propulsion program," says Kerry Oliphant, Aerospace Program Manager for Concepts NREC and winner of the Phase II NASA STTR program in association with Brigham Young University. "This technology could be used for any situation where it is necessary to pump a low vapor pressure fluid, including in aerospace, automotive, industrial and civil applications."

In line with the theme of JPC 2011 to identify and highlight how innovative aerospace propulsion technologies powering both new and evolving systems are being designed, tested and flown, CN will display examples of advanced and innovative aerospace propulsion technologies.

CN has helped many aerospace clients design, test and manufacture innovative aerospace propulsion technologies. One example is a project CN completed for [Technical Directions, Inc.](#) (TDI) in which the company improved overall TDI-J45 engine efficiency by 8% while increasing missile payload and range with minimal added cost.

CN will exhibit examples of other high performance aerospace propulsion turbomachinery and technology by demonstrating its [Agile Engineering Design System®](#) turbomachinery software and promoting its engineering services offerings.

Specific hardware to be displayed includes:

- A small turbojet (30 to 100 lb thrust) for missile applications by TDI
- Compact diffuser technology for low weight and low frontal area requirements in aerospace propulsion
- A high-efficiency supersonic mixed-flow impeller for unmanned propulsion applications
- A high suction specific speed (NSS) inducer for rocket turbopumps

CN's participation at JPC 2011 is part of an expanding program of activities the company has rolled out to support the growing success of its turbomachinery software, services and education. For more information about coming events, webinars and courses, please click [here](#).

### **About Concepts NREC**

Concepts NREC is a leading worldwide organization providing turbomachinery design, engineering, manufacturing and CAE/CAM software, with a staff of 100+ professionals at its facilities in Wilder, Vt., and Woburn, Mass. For over half a 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).

# # #

**Photo Caption:** *Concepts NREC will display the TDI-J45 engine on which it worked to improve efficiency by 8% while increasing missile payload and range with minimal added cost.*

### **MEDIA CONTACTS:**

Nitin Jain  
Director of Marketing  
Concepts NREC  
(781) 937-4611  
[njain@ConceptsNREC.com](mailto:njain@ConceptsNREC.com)

Donna St. Jean Conti, APR  
President  
St. Conti Communications  
(949) 290-0622  
[DConti@StContiCommunications.com](mailto:DConti@StContiCommunications.com)