

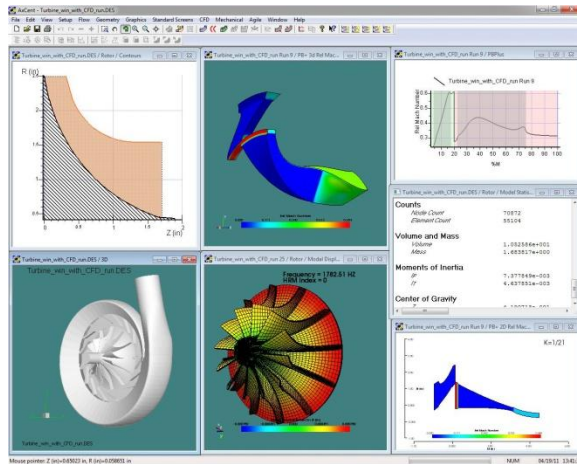
# CONCEPTS NREC

NEWS RELEASE  
FOR IMMEDIATE RELEASE

Turbo Symposium 2011  
Booth 1022

## Concepts NREC to Showcase Unmatched Capabilities at 40th Turbomachinery Symposium/27th International Pump Users Symposium

Will highlight advantages of full-range expertise in turbomachinery and pump systems engineering, design, manufacturing and test/analysis—including Pushbutton FEA™, TurboMatch™ and Advanced Volute Design software



White River Junction, Vt. and Houston, Texas – September 12, 2011 – Concepts NREC (CN), a world leader in turbomachinery design, research, engineering and manufacturing, will exhibit at Booth 1022 at the 40th Turbomachinery Symposium/27th International Pump Users Symposium, September 12-15 at the George R. Brown Convention Center, in Houston, Texas. Concepts NREC will present examples of turbomachinery and pump systems solutions on the Turbomachinery Symposium Presentation Stage to be held on

Tuesday, September 13, from 6:30 to 6:50 p.m. Engineers and business executives looking for such expertise are invited to discuss advanced, even unmatched, capabilities with CN industry experts.

“Concepts NREC is pleased that the show organizers chose to combine the Turbomachinery Symposium with the International Pump Users Symposium this year,” says George Zitka, PE, senior sales manager, for Concepts NREC. “This gives us the opportunity to showcase our expertise in both fields as the industry’s true one-stop-shop for all turbomachinery and pump education, engineering, manufacturing and software needs.”

At this event, Concepts NREC will discuss its wide-ranging expert capabilities—both services and Agile Engineering Design System® (AEDS) software—for all aspects of turbomachinery and pump systems: engineering, design, manufacturing, testing/analysis and even education. The company recently completed its AEDS suite with the launch of its Pushbutton FEA™ software, Concepts NREC’s integrated finite

element analysis (FEA) tools can be used to perform static, thermal and modal analysis earlier in the design process than ever before.

"We strive every year to make our AEDS software more complete," adds Chris Eaton, head of Concepts NREC's software development group. "Pushbutton FEA was part of this effort."

Because Concepts NREC works with various turbomachinery companies, it developed specific software modules in response to customer needs. Concepts NREC will review these topics and related software modules at the show:

- **Pumps**: By applying extensive experience in pump engineering, along with proven methodologies and technology, Concepts NREC helps customers design, manufacture and test custom [pumps](#) to meet required specifications, troubleshooting and resolving issues such as capacity, cavitation, efficiency, erosion and vibration.
- **Compressors**: Extensive compressor design work has led Concepts NREC to launch an advanced volute design module for AEDS that allows users to quickly create parameterized and advanced volute geometrics. With the volute module, users define the cross section of a volute scroll profile, and the software automatically assigns volute growth to create a full three-dimensional (3D) model. Users also have indirect control over tongue shape and diffuser extensions.
- **Turbines**: Concepts NREC's continued improvements in AEDS axial turbine capabilities now help clients deliver advanced design solutions for low- and high-reaction high pressure steam turbine stages, refined low-pressure modules with attenuated diffuser systems and supersonic turbine stage designs for energy recovery systems. Code enhancements include curvature based geometry controls, improved automated gridding and expanded interfaces with optimization tools. Importantly, automated optimization is now routine during preliminary sizing, blade profiling and 3D geometry development, leading to more competitive final products while improving design cycle times.
- **Turbochargers**: Drawing on its expertise in recognizing and addressing turbocharger industry needs, Concepts NREC has developed [TurboMatch](#)<sup>™</sup> software for turbocharger design systems. TurboMatch accounts for the complex interaction between the compressor, turbine, internal combustion engine and other components in the overall system to provide an integrated design approach for laying out and analyzing turbocharger designs optimally matched to specific engine systems. By closely collaborating with the turbocharger design leaders, Concepts NREC added asymmetric twin-entry volute modeling to the radial-inflow turbine program, allowing turbochargers to achieve better performance by reducing exhaust volume between the exhaust valve and turbine entry and increasing the available energy to the turbine.

### **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).

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**Photo Caption:** *Concepts NREC's integrated finite element analysis (FEA) tools can be used to perform static, thermal and modal analysis earlier in the design process than ever before.*

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