



Energy Efficiency & Customer Research & Development presents...

Customer Advanced Technologies Program Newsletter

Volume 3, Number 4, November 4, 2005

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From the Editor's Desk

I have received many e-mails and phone calls lately regarding overdue technology reports. Although we've been working hard, a number of unexpected circumstances have caused significant delays. Below is a summary of current research projects along with my best guesstimate for when the reports will be available.

Summary of Current Research Projects

FREUS: a water-cooled air-conditioning system that shows great promise for the residential and small commercial sector. Based upon laboratory test results, the FREUS may be nearly twice as energy efficient as conventional air-cooled systems on hot summer days. For more information about this technology please visit www.freus.com.

Status: SMUD offered research grants for up to thirty systems between March 1 and July 1, 2005. Unfortunately, due to unseasonably cool weather during the months of May and June, only nine systems were installed. Since this is not enough to support a full-scale pilot program, our focus has changed to assessing the physical condition of the systems installed in 2004 and interviewing homeowners. The revised target date for releasing the report is February 2006.

Coolerado Cooler: in August of 2004, Applied Behavioral Consultants (ABC) school agreed to test an innovative indirect evaporative cooling system known as the Coolerado Cooler. According to the manufacturer, Idalex, this compressor-less cooling system offers the same comfort levels as traditional air-conditioning systems at a fraction of the operating costs. To learn more please visit www.coolerado.com.

Status: According to ABC School's chief financial

officer, the Coolerado Cooler operated reliably and kept the classroom reasonably comfortable throughout the summer. Later this month, the project team will remove and dissect a section of the heat exchanger to determine whether or not scaling or fouling has occurred.

A second Coolerado Cooler was installed in September of this year - this time in a residential application. The preliminary results from both of these projects will be presented during a technology workshop in spring 2006.

Turbocor Compressors: The California State Railroad Museum replaced its old cooling system with new chillers that use Turbocor oil-free compressors. Turbocor compressors combine magnetic bearings, variable-speed centrifugal compression and digital electronic controls to provide significant energy and electrical demand savings. To learn more about this technology please visit <http://www.turbocor.com>.

Status: Although the preliminary monitoring data looked very promising, the two chillers experienced some difficulties with sequencing. Consequently, more monitoring in 2006 will be required to fully evaluate the performance of this system.

OASys: the Davis Energy Group and the Speakman Company are developing a 'new generation' of indirect-direct evaporative cooling systems (IDECs). The main goal of this project is to produce more reliable IDEC systems by applying lessons learned from previous experiences. SMUD sponsored deployment and testing of five systems for customers who have experienced chronic problems with their existing IDEC systems.

Status: the technology evaluation report will be available during the month of December.

The Customer Advanced Technologies Program

SMUD's Customer Advanced Technologies (C.A.T.) program works with customers to encourage the use and evaluation of new or underutilized technologies. The program provides research grants to customers for eligible technologies in exchange for monitoring rights. For more program information, please visit: <http://www.smud.org/education/cat/index.html>