



Energy Efficiency & Customer Research & Development presents...

Customer Advanced Technologies Program Newsletter

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From the Editor's Desk

"A Long Journey"

The year was 2002 and I had just taken over the reins of the Customer Advanced Technologies (CAT) program. While searching through the files, I found a spreadsheet that included a cryptic name on it: "Freus."

A quick Internet search revealed that Freus is a water cooled (evaporative condensed) air conditioner designed for residential applications. Although water-cooled systems are fairly common in large commercial cooling applications, this was one of the few systems designed for homes. The thought of an ultra-high efficiency residential air conditioner was very attractive, and so the journey began.

Between 2002 and 2006, SMUD provided R&D grants to thirty customers to install and test Freus systems. In all honesty, the first two years were a bit rough. Although the units were indeed energy efficient, problems such as circulating pump failures, mismatches between the indoor and outdoor coils, improperly adjusted float valves and clogged pump intake screens were far too common. (For more information, please download the technology evaluation reports via the CAT program web page <http://www.smud.org/education-safety/cat.html>).

These kinds of problems are common for emerging technologies, and almost all of them go through rough periods during their development. A simplified life cycle of an emerging technology may look something like this:

1. Someone has an idea.
2. Prototypes are made.
3. Technology is lab tested.
4. Technology is field tested.

5. Refinements are made.
6. Technology is retested.
7. Technology is commercialized or dies out.
8. Failed technologies come back to life after 20 years and are promoted by snake-oil salesmen. (History repeats itself because nobody listens).

During the development of Freus, the manufacturer demonstrated a commitment to improving their product and supported customers throughout our pilot program. This is the key: Manufacturers must be ready to address the inevitable problems that arise and provide support to customers.

Despite a rough beginning, the Freus has improved dramatically due to system upgrades and efforts to train contractors. Since our experiences revealed that the Freus system requires sustained maintenance to function correctly, the manufacturer is now including a two-year service plan with all new units.

So, after five long years, Freus is ready for prime time and is now eligible for a special SMUD rebate (SMUD's highest A/C rebate) as well as financing.

For more information about SMUD's rebates and financing programs, please visit SMUD's Web site at <http://www.smud.org/rebates/index.html>

The Customer Advanced Technologies Program

SMUD's CAT 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-safety/cat.html>

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