

TU Electric

Thermal Cool Storage

TU Electric leads the nation’s utilities in the number of customers using thermal cool storage with 205 systems installed to date. The Thermal Cool Storage program was the first nonresidential DSM program offered by the utility, beginning full-scale in 1982. When this program began there were only three utilities in the United States offering incentives for installing thermal storage systems.

A thermal cool storage system provides air conditioning or process cooling for commercial or industrial installations by running chillers at night and in the early morning to produce cold water or ice, then storing and using that element to provide cooling for the structure during the hottest part of the day. These systems shift demand to off-peak hours, reducing peak demand.

TU’s Thermal Cool Storage program provides cash incentives to customers that install thermal storage systems. Both new and retrofitted buildings qualify. In 1993 TU offers \$250/kW for the first 1,000 kW of shifted demand plus \$125/kW for all remaining kW shifted. The actual installation of a thermal cool storage system can take anywhere from a few months to an entire year. These systems provide space and/or process cooling during TU’s on-peak periods (noon - 8 p.m., weekdays, June through September). In addition to cash incentives, thermal storage customers may realize additional savings by taking advantage of the Time-of-Day rate option. The utility does not physically control the loads of customers participating in the Thermal Cool Storage program. Each customer is responsible for ensuring that their thermal cool storage system is off during TU’s peak demand period.

Through 1992, the Thermal Cool Storage program had cumulative peak demand savings of 70,498 kW. Initial program participation was low during the first several years of the program in terms of the number of projects, with 27 thermal storage projects joining the program from 1982 through 1986. However, in terms of square footage, these buildings were very large on average and accounted for 22,225 kW in peak demand reductions, which is approximately 32% of total program savings. In 1992, 25 buildings joined the program.

TU did not track individual DSM program costs before 1991. In 1991 and 1992, TU spent a total of \$6,098,200 on the thermal storage program. In 1992 the utility spent \$2,687,000 with \$1,745,600 spent on incentives. TU’s cost per participant was \$107,481 in 1992.

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TU ELECTRIC Thermal Cool Storage	
Sector:	<i>Commercial and industrial new construction and retrofits</i>
Measures:	<i>Thermal cool storage systems</i>
Mechanism:	<i>Cash incentives for permanent installation of thermal storage systems</i>
History:	<i>Started in 1982</i>
1992 Program Data	
<i>Participants:</i>	<i>25</i>
<i>Peak demand savings:</i>	<i>5.1 MW</i>
<i>Cost:</i>	<i>\$2,687,000</i>
Cumulative Data (1982 - 1992)	
<i>Participants:</i>	<i>205</i>
<i>Cumulative demand savings:</i>	<i>70.5 MW</i>
<i>Cost (1991 and 1992 only):</i>	<i>\$6,098,200</i>

The Results Center produced 126 profiles of the most successful energy efficiency and renewable energy programs in the United States and around the world in the early and mid 1990s. With the support of the John D. and Catherine T. MacArthur Foundation, Ted Flanigan directed a research team at Colorado-based IRT Environment to produce and distribute these exceptional examples. Thanks to strong demand for solid case studies, The Results Center was supported by dozens of major utilities and energy associations worldwide. Today, The Results Center is managed again by Ted Flanigan, now at California-based EcoMotion Incorporated, a firm focused on strategic consulting, information dissemination, program design, outreach services, and aggressive implementation. To nominate highly successful programs, contact: The Results Center, c/o EcoMotion, 15375 Barranca Parkway, F-104, Irvine, CA 92618, (949) 450-7155, or TFlanigan@EcoMotion.us