



- California Trane is a third-party implementer for the following utilities programs:

- ▶ PG&E's "Shift & Save"
- ▶ PG&E's "Cool Cash," for commercial real estate
- ▶ PG&E's "Cool Schools," for education
- ▶ SCE's "CUBE," for commercial real estate
- ▶ SCE's "REAP," for retail
- ▶ SCE's "Cool Schools," for education

- California Trane is the exclusive distributor for CALMAC Thermal Energy Storage ice tanks.

- California Trane has a strategic partnership with Natgun, for stratified chilled-water Thermal Energy Storage tanks.

- California Trane is a solutions provider – we can accomplish your job, from start to finish, and provide the energy management programs that you need!

### COOL CASH

California Trane has the Right Energy Solution for Your Commercial Office Building

Combine our local capabilities with Trane OEM factory support and product reliability, and you receive a level of service that cannot be matched by any other provider.

#### Account Services

Your Trane account manager is trained and experienced to help you maintain your facilities in the most efficient and reliable operating condition. Ask your Trane account manager about our High Performance Building Solutions, which include:

- Total facility energy audits, energy benchmarks, life-cycle cost analysis and recommendations for energy conservation measures, which can help you achieve LEED certification.
- Turnkey contracting.
- Performance contracting.
- Application of utility rebate programs to help reduce energy-related project costs.
- Market updates to keep you informed of industry trends and new products.

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### COOL SCHOOLS

California Trane has the Right Energy Solution for Your School

Combine our local capabilities with Trane OEM factory support and product reliability, and you receive a level of service that cannot be matched by any other provider.

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### DISCOVER UTILITY SOLUTIONS WITH TRANE

#### COMMERCIAL BUILDINGS

At Trane, our favorite colors are...

Orange and another lovely shade some would call lime, emerald, olive, or a vivid verdant four more commonly known as green.

To many building owners and engineers, green is not just a color. It is sustainability, renewable resources, LEED, energy efficiency...a way of thinking. Green is also a way of thinking at Trane. So much so, that Southern California Edison (SCE) has contracted with Trane to bring you green solutions and utility incentives to help you maintain your building in the most efficient and reliable manner through SCE's Commercial Utility Building Efficiency (CUBE) program.

If you haven't yet, ask your Trane account manager how the "green way of thinking" can be applied to your building to take advantage of these opportunities.

Contact Information  
www.trane.com/greengoods  
See Utility Solutions link  
adn@trane.com email  
877.681.4200 toll free  
888.422.2506 fax

Trane is working with Pacific Gas and Electric Company (PG&E) to support our customers by assisting their efforts to save energy.

Additional energy efficiency programs

Even more programs and tools are available to help Northern California businesses and residents manage their energy use and costs. To learn more about PG&E's Business and Energy efficiency programs, please call the Business Customer Service Center at 1-800-448-4743 or visit [www.pgandenergy.com](http://www.pgandenergy.com). For more information about PG&E's residential energy efficiency programs, please call the PG&E Smarter Energy Line at 1-800-922-9926 or visit [www.pgandenergy.com](http://www.pgandenergy.com).

### Bank of America Tower at Bryant Park, New York, NY (opening 2008)

LEED Platinum

2.1 million sq. feet  
54 stories  
Grey water system  
Floor to ceiling translucent insulated glass – day lighting  
Cogeneration system with ice storage

### William & Flora Hewlett Foundation LEED Gold

35% Energy Cost Reduction (5 points)

### Fossil Ridge HS – Poudre School District Ft. Collins, CO

1.44/1.77 Watts per sq. foot  
1<sup>st</sup> Place ASHRAE, 2008

LEED Silver  
Peak Load – 243 Tons  
Actual Chiller – 131 Tons  
1280 Ton Hrs Ice Storage

### Retail – Costco

Some other retail sites include:  
Sears  
Walmart  
Nordstrom  
5 Car Dealerships  
Kohl's

### Brooks, CA

Cache Creek Casino  
1.37 MG TES Tank

The Trane/Natgun CA team developed an energy savings project for the Cache Creek Casino Resort in Brooks, CA. Trane selected Natgun to build an energy cost savings 1,370,000 gallon capacity Thermal Energy Storage (TES) tank that Trane would integrate with the existing chilled water plant and cooling tower system. This TES tank system would allow the Resort engineers to shift 900 kW of electric load from the peak electric period to the off-peak period. In addition, the TES system would reduce the energy consumption associated with the daily chilled water generation at the complex.

The refrigeration equipment (the chiller and cooling tower) that provides the cooling for the closed loop chilled water system operates most efficiently at nighttime during cooler ambient conditions. During these off-peak nighttime hours, the chiller and cooling tower are de-rated, and the cold water is "charged" from the TES tank and circulated through a district cooling network of piping to the buildings. By operating in this way, Trane estimates that the Cache Creek Casino Resort will save annually over \$500,000. In addition to the annual energy cost savings, the Resort was able to take advantage of incentives provided by their electric utility company, PG&E, through their "shift and save" program.

Figure 1 Temperature Readings

Instantaneous Ceiling Load 1137

Task Water Level 9624

Thermocouple Task Return 55.9

System D.P.

Task Supply 42.2

Figure 1 is a screen shot of the temperature sensor data within the tank that illustrates the stratification of the water during the discharge cycle. Over a period of several hours the TES tank was in the discharge mode. During this time the temperature across the tank varied vertically every 10" and energy management systems recorded the readings. At any moment during the discharge cycle, it was observed that the tank sensor recorded a predictable rise in temperature as the warm water at the top of the tank gradually displaced the cold water at the bottom of the tank.

Natgun TES tanks are built overnight and maintenance-free ensuring owners of decades of continuous service.

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### MIRAMAR MCAS, SAN DIEGO