

Customer Advanced Technologies Program Newsletter

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From the Editor's Desk

For more than a decade, SMUD has been quietly helping our customers explore the future by testing new and underutilized technologies. In fact, since the program began, over two hundred demonstration projects have been completed! The Customer Advanced Technologies program provides funding in exchange for monitoring rights. Completed demonstration projects include: lighting technologies, light emitting diodes (LEDs), residential building shell construction, geothermal heat pumps, indirect / direct evaporative cooling, non-chemical water treatment systems, solar-powered lighting systems and a wide variety of other technologies

2003 Technologies

- Magnetically coupled motor drives (MagnaDrive)
- Non-chemical water treatment systems
- Light emitting diode (LED) lighting systems
- Occupancy sensors with integrated LED nightlights
- Insulated concrete form (ICF) construction
- Structural insulated panel (SIP) construction
- Residential evaporative condensed air conditioners
- Motor optimizers
- Solar powered lighting systems

Customer Spotlight: Ralph's Grocery Company

Almost every type of lighting system has a common weakness – the lamp filament. Most lamp failures are due to degradation of the filament or electrodes. About ten years ago, lighting manufacturers introduced a product that did not require electrodes: the Induction Lighting System. Manufacturers claim these lamps will last over 100,000 hours - over 25 years for most users! Today, SMUD customers are saving energy by applying this technology in new ways.

Background

Ralph's was experiencing problems with the lighting systems in their walk-in freezers. The Illumination levels were very poor and many of the lamps needed to be replaced on a weekly basis due to the extreme cold (-5°F). Most of the freezers originally had up to three surface-mounted 150-Watt incandescent lights. Staff was often forced to leave the lights on 24 hours per day to prevent them from freezing (top right photo).



New induction system

The original lights were replaced with surface-mounted fixtures featuring an 85-Watt induction lighting system.

Results

The illumination levels have improved dramatically. Since induction lighting systems have a minimum starting temperature of -40°F, staff should now be able to turn off the lights when they are not in the walk in freezer, which will not only save energy on lighting, but will also reduce the heat generated which in turn must be removed by the refrigeration system.

- Customer Advanced Technologies grant = \$12,175
- Savings: lighting costs were reduced by 40%
- Simple payback = 1.98 years

To download the full technology evaluation report, please visit the Customer Advanced Technologies web page at <http://www.smud.org/community/cat/>

Feedback

The intent of this newsletter is to provide technology and program updates. It will be distributed electronically on a quarterly basis. If you have any suggestions, comments, or new technologies that you would like to discuss, please contact me at (916) 732-6409 or send me an e-mail at dbisbee@smud.org. Thanks!