



Case Study: EDGEWOOD ELEMENTARY ICE CELL SYSTEM

Site Location:

- Edgewood Elementary,
Fort Myers, Florida, Lee Co School District

Concerns:

- Pump control system failures at an average repair cost of \$12,500 annually
- Frequent nuisance trips and chiller shut downs
- Chillers making ice at peak utility times causing higher electric bills
- Building pumps were manual rotation
- Ice cell failures

Equipment:

- Two (2) Trane RTAA Chillers
- Two (2) circuits per Chiller
- One (1) compressors per circuit
- One (1) non standard Sporlan Electronic Expansion valve per circuit
- One (1) U-Tube oil separator per circuit
- Air cooled condensers
- One (1) Oil Pressure Differential Switch per Compressor
- One (1) Trane microprocessor Control

Steps Taken:

- Install MCS controls on each Trane chiller
- Install MCS loop water controller as plant manager
- Install standard Sporlan EXV's

Results:

The upgrade was completed in March 2003. The MCS loop controller now operates the chilled water pumps and rotates them daily for a more even usage and a longer life span thus saving on expensive repairs. Since the MCS controls have been installed, service calls have dropped by over 98%.

Florida Power & Lights 2006 review of the Lee County Schools with ice storage systems showed Edgewood Elementary as the only one operating correctly. Making ice only on off peak times, resulting in lower energy costs. The upgrade has also prevented ice cell failures that are caused by producing ice before proper burn off has occurred.



Trane RTAA chillers with ice cells and the pump room controlled by MCS controls



\$15,000 IN ESTIMATED ANNUAL SAVINGS !

ELIMINATION OF OVER 99% OF NUSIANCE TRIPS !

REDUCED SERVICE CALLS BY OVER 98%