



CaseStudy:

St. Louis Zoo
St. Louis, Missouri



Summary -

Equipment on Site:

30' x 40' x 14' freezer with two double evaporator condensing units

Equipment Applied

- (4) KE2 Evaporator Efficiency controllers
- (4) Pressure transducers
- (4) Temperature sensors

Results

- diagnosed system problems that were effecting performance and efficiency
- enabled the system to reach and maintain setpoint
- allowed remote monitoring and data logging; eliminated need to manually log data
- reduced defrosts by 80%.

For over 100 years the St. Louis Zoo has been a part of the landscape of St. Louis. Recognized as a leading zoo for animal management, research, conservation and education, the zoo attracts millions of visitors a year. And, entertaining millions of guests literally means providing tons of food and refreshments year round.

The food service hub for the zoo is the main food distribution center. The distribution center houses a 30' x 40' x 14' freezer consisting of two systems, each with one condensing unit and two separate evaporators.

The system was challenged to maintain the -10°F setpoint, struggling even during the winter months. Additionally, according to Patrick Williamson, Director, Purchasing & Distribution, "We definitely need to have the ability to view our refrigeration systems."

When Williamson's local refrigeration wholesaler approached him with the KE2 Evaporator Efficiency (KE2 Evap) controller, he saw a natural fit for his application. The monitoring capability not only satisfied his need, thanks to the KE2 Evap's ability to provide real time data, service technician Ken Hunter was able to identify system problems that needed to be addressed.

Once the issues were resolved, the system began running much more efficiently, and was reaching setpoint. Williamson commented, "Before, we have never been able to meet our goal temperature during the summer months with this freezer." Additionally, the improved monitoring exceeded Williamson's previous capability, eliminating the need to manually record the temperature data.

Another noteworthy benefit of the KE2 Evap installation, is that reducing defrost cycles by 80% not only saves considerable energy, it reduces stress on the refrigeration equipment. Hunter is enthusiastic about the KE2 Evap, and sees its potential application throughout the zoo. Stated Hunter, "I really like the controller and have many more places we will be using these."



WEEKLY SNAPSHOT -

BEFORE - using standard time clock - 15 defrosts in 5 days

AFTER (shown below) - KE2 Therm Evaporator Efficiency controller - 3 defrosts in 5 days

