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**WEB EXCLUSIVE: Cool Schools In Texas**

In an interview with Farshad Shahsavary, P.E., C.E.M, Austin Independent School District, he gives details on the school system's recent HVAC adaptations.

***What is your position? How many years have you been in the facility management profession?***

I am the energy coordinator/ mechanical engineer for the [Austin Independent School District](#) (AISD), construction management department. I have been in facilities management for three years and have been a mechanical engineer for 19 years.



***Please give a brief description of the facility/facilities involved in this project.***

The AISD has approximately 600 portable buildings serving grades K-12 throughout the city of Austin, Texas, and in Travis County. Each building consists of two classrooms, giving the AISD a total of 1,200 portable classrooms. The project involved installing [Telkonet SmartEnergy](#), an energy management system, in all of the AISD's portable buildings.

***Why was the decision made to pursue this project for the facility?***

The decision to install an energy management system was part of a larger overall project originated by the state of Texas energy office and the City of Austin. The project included replacing all lighting and upgrading the HVAC controls in each of the portable buildings.

We had identified that the school district was wasting energy in the portable buildings by continually running the air conditioning, even when the classrooms were unoccupied. One of the problems was that during the summer months, the portables became much too hot if the air conditioning was turned off —reaching up to 100°-120°—and there was a danger that the buildings would start to decompose!

***Please describe the decision-making and research process for this project.***

While this has been a long-term project (the City of Austin completing the lighting portion of the project over two years ago), the energy management solution for the portable buildings had not progressed until early 2007. At this point, I became involved with implementing a plan to save energy in the portable buildings.

***What was the vendor selection process like? Did you feel limited?***

The City of Austin proposed Smart Systems International (SSI), now Telkonet, as the vendor. We reviewed their proposal in detail and met with SSI, who explained their energy management system (now called Telkonet SmartEnergy™) and how the thermostats and occupancy sensors worked. I was satisfied that SSI's system was the fastest, easiest way to complete the project. At the time, SSI met our needs and any potential limitations were outweighed by the benefits.

Also, as a result of our close working relationship with the City of Austin, we trusted their recommendation to use SSI's energy management system and knew they had gone through an extensive evaluation process before making this recommendation.

***What led you to choose the specific solution that you did?***

Our principal concern was to ensure that SSI's energy management was effective in saving energy, so we implemented a pilot project where we installed their system in 30-40 portable buildings in the summer of 2006. We conducted audits to collect the energy data and determine the system's effectiveness. Although the final detailed report is not yet available, the pilot gave us a clear indication that the installation would meet our needs and goals. As a result, we made the decision to implement the Telkonet SmartEnergy solution throughout the entire school district in all the portable buildings.



***What benefits have you reaped as a result of this project?***

With SSI's energy management system, we are realizing a number of benefits. We are saving energy, reducing our utility bills, increasing the lifespan of the portable buildings, and helping the City of Austin reduce the amount of energy they need to generate. In the summer months, the temperature inside the portables is now controlled at an optimum temperature of 85 degrees. Previously, we either had to run the AC all the time, constantly wasting valuable energy, or shut it down completely.

***What economic benefits have you reaped as a result of this project?***

We estimate the energy savings to be significant, reducing our costs by about \$200,000 per year.

***Did you encounter any unexpected highlights or challenges while implementing this project?***

The only challenge we encountered was how best to schedule the installation of the new thermostats and occupancy sensors so we would not disrupt the teachers when school was in session. We worked around this by installing the system when classes were not in session and during holiday periods.

The installation process went much better than we anticipated. The City of Austin hired Honeywell as a subcontractor, who removed the old thermostats and replaced them with SSI's thermostats, which were wired to their occupancy

sensors. All of the thermostats were already preprogrammed by SSI.

***How did this project require you to change your operations and maintenance practices?***

The thermostats and occupancy sensors work together to sense when a room is occupied or vacant. They also take into consideration a variety of factors, including external temperature, room conditions, and humidity levels, to ensure that the temperature inside the portables is energy efficient.

The system incorporates Recovery Time™ (RT) technology that performs constant real time calculations to adjust and maintain a room's temperature based on occupancy. We anticipate that our HVAC units will be subject to less wear and tear, helping to extend the units' lifespans and reduce maintenance.



***What has been the reaction to the project from others in your organization?***

Initially, our maintenance staff was reluctant about this change; they were concerned about how the new system would work, how long the thermostats would last, and the long-term impact. However, they are now seeing that this program is working as planned. We also have a maintenance agreement with our installer, who will replace any thermostats as needed, and will assist in training our maintenance personnel.

***How have the community and customers responded to this project?***

As we have tried to keep this project as low profile as possible, the changeover to the new energy management system has been pretty non-existent. We haven't seen any reaction either way, which means that the transition has been smooth.

One issue, however, was that the teachers liked being able to control the air conditioning in the rooms. Although they now have less latitude, they can control the temperature within 3°-4° of our preferred temperature setting, giving them some control.

***What was the most professionally rewarding aspect of this project?***

On a personal level, it has been very rewarding to manage this project from the beginning to the end—setting up the system, getting it working, and seeing the energy savings as a result of all of our efforts. The investment was minimal compared to all the benefits that we will be reaping. It's been a win-win for the AISD and the City of Austin.

*This interview was the last in the Facility Fix series by former editor Jillian Ruffino. For more facility fix interviews, please visit <http://www.todaysfacilitymanager.com/facfix.php>*

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