

EMA'S ENGINEERING TODAY

Providing Solutions that Deliver Results

DECEMBER 2010

*Information and Helpful Hints
For School Districts and the
Architects who serve them.*

IN THIS ISSUE

- Merry Christmas
- Music: Road to Engineering and Design
- Energy Saving Tips for the Holidays
- EMA Commissioning Explain Underperforming Controls
- Paris ISD Energy Efficiency Projects Pay Off

Merry Christmas

*Everyone at Estes, McClure & Associates
would like to wish*

*A
Merry Christmas
and a
Happy New Year*

*to all our customers, friends, reps, contractors,
suppliers and supporters.*

Thank you for your business and support.

We have much for which to be thankful.

*We are looking forward to 2011 and continuing to
Provide Solutions that Deliver Results.*



*We have much for which we are thankful.
Audrey Spence, James McClure's
granddaughter, with her teacher on the
first day of school.*

Music: Road to Engineering and Design

It's important for an engineer or designer to have spatial reasoning. Spatial reasoning is the ability for generating and conceptualizing solutions to multi-step problems. This is a building block for higher-level math, science, and engineering skills.

Tyler ISD Kindergarten Music Teacher, Leslie Ring, says, "Part of the direct value of playing music comes from gains in spatial reasoning, a building block for higher-level math and science skills. Spatial learners tend to progress in fields of engineering, design, construction, art, and other occupations that involve comparisons and symmetrical relationships." We as engineers and designers know that symmetrical relationships and teamwork are critical to successful projects. Choir, Band, etc. certainly develops teamwork and skills necessary in the workplace. Ms. Ring says there is a direct correlation between students who took part in music instruction and higher

SAT scores. For more information on the benefits of music development of engineers, designers, and scientists please see Leslie Ring's article, "The Value of Music in Education" published in the Fall 2010 issue of The Eleusis of CHI OMEGA. www.eleusis.chiomega.com



*Playing music can be the building block for higher-level
math and engineering skills.*



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Energy Saving Tips for the Holidays!

The end of the semester brings an opportunity to save energy and money over the winter holiday recess. Here are four easy ways your school can engage in Holiday Energy Savings:

- 1. Turn off all lights that are not needed for security.**
 Turning off lights is one of the simplest ways to save energy over a holiday break.
- 2. Turn off all computers.**
 The energy manager needs to coordinate a district wide computer shutdown with IT department.
- 3. Set the thermostats to unoccupied setting.**
 With no one around to feel that warm air during the holiday break, schools are better off cutting the thermostat way back.
- 4. Turn off and unplug all unused equipment.**
 Even if all of the appliances at your school are turned off, they continue to draw a small amount of energy if they remain plugged in. Don't overlook the obvious like printers, copiers, and TVs.

EMA Commissioning Explains Underperforming Controls

The mystery of controls is revealed by EMA commissioning. Recent new building commissioning and retro commissioning conducted by EMA reveals that some automatic control systems are not set-up properly from the start or after a few years have developed characteristics that do not achieve their intended results.

Just as a piano needs to be tuned up so do the systems that control a building. Energy use is wasted when controls are not properly configured. Answer to questions like "Why does the HVAC not cool like it should?" or "Why does this school cost much more in energy than another similar school?" may be answered by commissioning.

Often there are identifying abnormalities like:

- The use of the building has changed over time
- Initial set-up of the controls, valves and dampers were not properly configured
- Scheduling and unoccupied set-points don't function properly

Correcting these items will save energy dollars, improve the indoor environment, and with energy savings also reduces air pollution.

For addition information on how commissioning of controls will benefit your district, please contact EMA's Mike Clendenin, P.E., President, or Gary Bristow, P.E., Sr. Vice President at 903-581-2677.



EMA Graduate Engineer Javier Garcia checks AC units for underperforming controls during a recent commissioning project.

Paris ISD Energy Efficiency Projects Pay Off

After EMA conducted energy audits for Paris ISD in 2005 and again in 2010, PISD completed a number of energy conservation projects.

These projects and their commitment to save energy have **lowered electric consumption by more than 1,000,000 kwh annually and reduced its energy use by 19% since 2004!** The district plans to complete additional projects within the next year. This list of past and future projects includes:

- Installing updated energy management control systems
- Centralizing EMCS operation and scheduling
- Replacing remaining T-12 lighting with T-8 systems
- Installing white roofs at three facilities
- Controlling all outside lighting with energy management controls
- Replacing metal halide lighting with T-5 HO fluorescents at the indoor football facility
- Adding occupancy sensors to control indoor lighting at Head Start

The Paris ISD administration and facilities department have shown a commitment to projects that save energy. Investments in new technologies as well as improvements in operations and maintenance have paid off with lower energy bills that benefit the district.