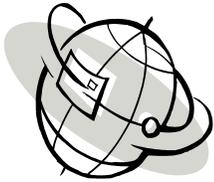


# Energy Issues

## IEP Newsletter



### Seeing the Light – LED Upgrades

By: William J Newman CFM, PEM  
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Volunteer State Community College

Ensuring effective and efficient projects that support real sustainability efforts can be difficult at times. Each college and university must ask themselves, “What sustainable initiatives result in actual cost savings and support long term sustainability efforts?”

Each lamp was 150W and used a coil-type ballast which required 1.25 amps. The expected life of the lamp was less than 24,000 hours.

The new LED fixtures were matched to the campus’ long term site plan. Maximizing efficiency, while not compromising safety and security, was paramount. The LED selected was a 65W lamp which had a 50,000 hour life. It used only 0.23 amps per fixture and the foot candle output was nearly double that of the old fixtures.

Once installed the nightly KWH consumption was monitored using campus building automation software to verify results. The areas where the LEDs were installed saw an immediate 46% reduction in KWH consumption. The replacement of just 62 fixtures is projected to save \$4,000 the first year!

Volunteer State Community College plans to complete the second phase of LED upgrades over the next 2 years. Once complete, the college is projected to save nearly \$12,000 per year in site lighting!

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Volunteer State Community College ensures funds are being used effectively and efficiently when making campus improvements. Each project considered is reviewed in an effort to ensure sustainability is taken into consideration. Recently the college elected to replace existing high pressure sodium lamps with more efficient LED fixtures.



Founded in 1971, the Volunteer State Community College is located in Gallatin, Tennessee. It services twelve (12) counties from the Metro Nashville area to the Cumberland Plateau. The 100 acre campus has an enrollment of approximately 750 students.



Steinhauser – Rogan – Black Humanities Building

The old high pressure sodium (HPS) fixtures were over 30 years old. Overtime they had been retrofitted and repaired, but they were very inefficient.



## Cybersecurity – The Missing Piece

By: Thomas D. Mull, PE, PEM, CEM

Since the development of the internet, access to information previously reserved to encyclopedias and libraries has been available to everyone with a computer and an ISP. In addition, the internet has accelerated the distribution of new information and technology. What previously may have taken weeks to distribute is now available immediately after the last keystroke for posting. Along with this technological leap forward in accessing information, there is also a dark side.

Those with designs on criminal intent and/or accessing sensitive personal/governmental information for profit or ideological reasons have been developing their information accessing skills. The surge in identify theft and recent acknowledgements that various governments have been “hacking” into sensitive networks have demonstrated the need to focus on cybersecurity at all levels, including energy management.

Over the last decade or two we have seen innovations in technology that allow us to access historical utility consumption information with just a few keystrokes, remotely access systems in a building for controlling lighting and environmental setpoints, and the electronic linking of building systems and equipment to centralize controls in the “cloud”. With this capability it stands to reason there would be significant cybersecurity concerns.

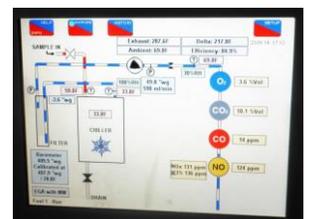
There are those that would attempt to disrupt control settings for lighting, temperature setpoints, or manufacturing process controls just to prove they could bypass a system firewall to demonstrate their “skill”. Imagine some-one upset with a company accessing their control

system for a major ice thermal storage system and simply changing the operational times (off-peak to on-peak) for the chiller. This could go unnoticed until the next billing and result in a significant increase in cost. Incidents like this while disruptive and potentially costly, do point out security weaknesses that can be addressed.

Other events, however, have been more nefarious in nature, even involving life and death situations. There have been reported cases where criminals have accessed hospital patient files and held them for “ransom”. They restricted the hospital’s access to the information until the ransom was paid.

As technology in the energy management arena continually evolves, it would not be hard to imagine a time when every system in the headquarters of a worldwide corporation, university campus, or governmental complex would be coordinated through the cloud by means of a smart phone. Our focus has been on technology and what it can do for us. But, have we taken the necessary steps to insure access to this information, the systems, and controls cannot be breached and used by unauthorized personnel? Recent events would say not.

Individuals and governments are going to continue to try to access restricted information and files for power and profit. With technological advancement we must make cybersecurity a major focus, to assure that it is not the missing piece in our strategic energy management plan.



*Chiller Control Panel*



Venezuelan Flag  
(Courtesy of Wikipedia)

The logo for Professional Energy Manager (PEM) features the letters 'PEM' in a bold, italicized, sans-serif font.

Professional Energy Manager

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## *Venezuela Moves to Revive Economy*

*By: Staff Writer*

Venezuela is the sixth largest member of OPEC and depends on the exporting of petroleum products for more than 50% of the country's GDP and an estimated 95% of total exports. Since 2014 the drop in the price of crude oil has had a devastating effect on its economy, spurring dramatic inflation and shortages of staples such as electricity and food.

In a move to revive its economy, in early February Venezuela's state oil company PDVSA announced plans to partner with Gavenplast (a private corporation) to boost domestic natural gas production and distribution. Venezuela has the eighth (8<sup>th</sup>) largest proven reserves of natural gas, estimated to be 5,000 MTOE (million tonnes of oil equivalent). It is projected that together the two companies will enhance production and produce one million gas cylinders per year for domestic use, a product that has been in short supply.

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## *The Newsletter*

*By: IEP Staff Writer*

IEP strives to provide timely and interesting energy information in its quarterly Newsletters. Articles for the Newsletters are chosen to illustrate projects, technological innovation, and global political issues facing the energy management community, with emphasis on articles submitted by you. The Newsletter's distribution includes both PEMs and energy decision makers in governmental agencies and corporations.

We recognize that the PEMs across the globe represent a wealth of knowledge and experience. The Newsletter is an excellent way to share your experiences and knowledge, as well as achieving "points" for your next certification renewal. If you would like to contribute to the Newsletter please submit articles, or ideas for future articles, to [Contactus@theiep.org](mailto:Contactus@theiep.org).

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## *IEP Renewal Policy Update*

*By: IEP Staff Writer*

IEP has stressed the importance of maintaining current member contact information (*mailing address, e-mail address, and telephone number*). Without this information we cannot continue to provide the quarterly Newsletter or certification renewal notification.

Over the past quarterly renewal cycles it has become evident that our data base of mailing addresses is not as current as we would like. A number of you have changed jobs or relocated without notifying IEP. However, the database of e-mail addresses is reasonably accurate. Therefore, starting in 2017 IEP began utilizing **electronic notification only for the renewal process**. This should facilitate renewing your certification and increase our ability to contact members.

