



SpotLight on Maintenance

OPFMA Newsletter - Connecting Knowledge with Public Facilities' Needs!
Winter 2016

Ohio Public Facilities Maintenance Association

OPFMA is a not for profit (501) (c) (3) independent educational trade organization



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Editor's Note:

Next Edition - **MAR 2017**
 Publication Terms & Deadline
 Deadline for Materials Submission
 to be Published - **MAR 01, 2017**

OPFMA 2016 Fourth Quarter

By Alexandra Schneider, OPFMA Administrator /CEO

OPFMA Board and Administration would like to close the 2016 by first appreciating OUR Membership that makes OPFMA possible! Your loyalty & support over three decades is much valued and needed.

Participating in OPFMA educational events is encouraging as 85% of 2016 Conference Attendees were OPFMA Members!

Exhibitors by repeat participation or first comers, we appreciate having you and work hard to create a favorable environment for exchange with the attendees. Attendees' Trade Show evaluation can be seen on page 2 - check it out!

Trade Show booth registration & speaker opportunities are in full swing - see the ad!

2017 Seminars are of great importance to the Board and for about five months working on bringing new seminars to our MEMBERSHIP! We have four new seminars in process of being organized and announced once the logistics are in place.

We expect to have the first 2017 seminar scheduled for the 2nd part of February. Will start with cities that our records show are getting most participation: Columbus & Cleveland.

As OPFMA is preparing to wrap up the 2016 and planning 2017 activities, we invite our Membership to give us their feedback, opinions and suggestions how we could meet your needs!

Merry Christmas & Happy New Year to ALL!

OPFMA 2017 Conference & Annual Trade Show

Oct 23rd & Oct 24th

Early Bird Attendee JUN 30th -Deadline

Columbus Crowne Plaza Hotel



2017 Trade Show Registration

Started at 2016 Trade Show

50% of Exhibition Booths are SOLD

OPFMA Conference Is Evaluated Anonymously by Its Attendees



Many Thanks to ALL that Participated in 2016 OPFMA Educational Events!

We are Grateful for Being Granted another Year Together!

Conference 2016	Excellent	Good	Fair	Poor
Conference Overall	48%	51%	2%	
Workshop Rooms	35%	47%	17%	2%
Meal Quality	58%	41%	2%	1%
Hotel Rooms	51%	44%	6%	
Registration Packets	61%	39%		
Sessions Content	45%	53%	2%	
Instructors/ Speakers	48%	50%	2%	



OPFMA Donor!

OPFMA Board of Trustees appreciates your support and trust in our organization's mission and educative training that we are offering since 1987. Thank you!

OPFMA New Members – Welcome Aboard!

Individual Member

Michael Foore - Wooster City Schools District - Manager of Building & Grounds

Brian Bartlebaugh - Lorain Public Library System - Maintenance

Corporate Associate Member

Overly Hantz Company – Tara Cognetti – Sales Manager

Miracle Method – Andrew Method – Owner

Four Seasons Environmental Inc. – Chris Abell – Program Manager

OPFMA Board & Administration expresses appreciation for the support offered by:

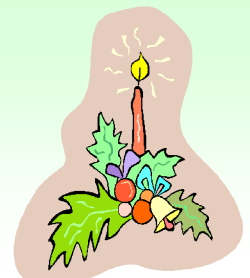
TRANE – for hosting **OPFMA** Board Meetings **free of charge**

Gardiner – for hosting **OPFMA** seminars **free of charge**

DAS – for hosting **OPFMA** seminars **free of charge**

THANK YOU – every help counts a lot to **OPFMA!**

Trade Show 2016	Excellent	Good	Fair	Poor	Best Exhibitor
Trade Show Overall	56%	42%	2%		
The Best Exhibitor					#1 - Trane #1 - Air Force One #2 - Energy Focus #2 - Plug Smart #2 - Equiparts Corp. #3 - Energy Optimizers, #3 - Cotterman & Co., #3 - Limbach Co., #3 - Farnham Equip. Co., #3 - Crest/Good Mfg. Co.
Access Time w/ Exhibitor	49%	48%	3%		
Table Talk Sessions	34%	57%	7%	2%	



Merry Christmas & Happy New Year to All OPFMA Members & Friends

Building Automation Systems (BAS) - Guide to Selecting Building Controls

By Sean Weber, Dynamix Energy Services

In a world of flashy sales brochures, confusing marketing terms, and ever changing technologies it can be overwhelming to know what is important when selecting and buying a building automation and controls. The important items that building owners should not compromise on are listed below.

Controls Architecture

Controls architecture refers to overall BAS network structure, hierarchy, and physical layout of the system. A typical architecture has some type of supervisory controller that is housed on a PC or server.

When purchasing a new control system make sure the controls architecture allows for expansion. Whether it is the addition of few devices or an entire facility it is important to make sure the control systems have extra capacity.

Supported Communication Protocols

Data is communicated between devices through a *Communication Protocol*. It is the language that a particular device is able to interpret and forward to other devices on the network. Some common protocols are BACnet, Lon, and Modbus.

When selecting a control system choose one where the front end is compatible with a number of protocols. This will give greater flexibility as building equipment and devices change over time.

Graphics and Accessibility

Building graphics refer to the building automation interface. This is the primary way that building managers and maintenance staff interact with the building automation system.

Look for a control system that utilizes an HTML5 based graphics package. HTML5 is compatible with all internet browsers and is mobile friendly allowing for the ability to access the BAS on all devices.

Trends and Alarming

Do not consider any control system that does not provide trending and alarming capabilities. Trends refer to the ability to store and view historical data such as room temperature for the past 5 days. Alarms are alerts to problems within the facility.

Open System

When selecting a control system look for a truly open system... one that will not lock you into a single contractor. This means a system that utilizes a non-proprietary open protocol such as BACnet. A system that utilizes control products that are available from multiple suppliers, and a system that utilizes open software not locked down by licenses or configuration tools only available from a few select companies.

Training and Support

There are numerous control systems that provide all the critical characteristics listed above, and for this reason the single biggest differentiator when selecting a control system is the training and support provided after the installation by the controls contractor. Never install a new controls system without having detailed plan and associated cost for training and support after the installation is complete.



Editor's Note:

Sean Weber is an Energy Engineer with Dynamix Energy Services. Sean may be contacted at 614-443-1178 ext. 246 or E-mail to: sweber@dynamix-ltd.com.



It's Christmas time – time of kindness, relaxation and joy!

The bond that links true family is not one of blood, but respect & joy in each other's life.

There is more to life than increasing its speed.

Remember, our only freedom is the freedom to discipline ourselves.

Relax - the sun will set without your assistance!

Laziness is nothing more than the habit of resting before you get tired.

Solar Electricity Generation for Schools

By Chris Meyer, Project Director - Energy Optimizers, USA

More and more school systems are looking at installing a large number of solar photovoltaic modules, called a solar array, on their school grounds to generate electricity for the school's use. These may be ground mount, meaning they are installed on racking anchored to the ground and surrounded by a high fence, or they may be roof mounted. Roof mount systems on flat roofs do not have to be anchored to the building, but can be ballast-loaded, or weighted down, so that no penetrations through the roof are necessary. If the roof is pitched, then the solar modules will need to be attached to the roof structure.

Because there are several federal tax incentives for solar installations, it is not in the best interest of the school system to purchase and install these arrays for their own use, because they cannot take advantage of these incentives. It makes sense for the school to consider having a third party group own the array. The school district completes a Power Purchase Agreement with the array's owners, whereby they will buy the electricity that is generated at a favorable rate. This is a benefit for the school district because the third party owners will be able to use the tax benefits, which are currently quite good, to reduce the value of the array over the initial 6 years to allow the district to buy it from the initial owners at a significantly reduced cost later.

Third party owners who are for-profit entities can take advantage of several federal tax incentives for solar arrays. These include a 30% Investment Tax Credit on the complete array cost, materials and installation, as well as the opportunity to take Rapid and Bonus Depreciation for the array's tax base cost, which is 85% of the installed cost. The latter means the array can be completely depreciated over the rapid depreciation period of 6 years, following a Modified Accelerated Cost Recovery System (MACRS) schedule. The array will generate electricity for 30-40 years, with a small amount of degradation over that time.

Once the third party owners have taken the tax benefits, it is a good opportunity for both to consider a sale/purchase of the array. By that time, as much as 50% of the initial cost has been recouped by the owners through tax incentives, allowing the school district to buy the array at about half the original installed cost or less, depending on how long they wait to make the purchase.

During the depreciation period for the array, the school can use the electricity that is being generated to reduce the amount of electricity they need to buy from their local utility. The school and the array owner can arrive at a rate that is attractive to them both - i.e., it makes enough money for the array owner to

be an effective income aspect of the project, but it is less expensive for the school district than buying electricity from the utility.

Since Ohio is a net-metering state, the array can be attached to the school's electric meter, referred to as "behind the meter", and the school can actually put extra electricity into the grid if they are not using it. While it seems attractive to be able to actually sell electricity to the utility, this is generally not a good idea, since the rate the district receives for extra electricity is often less than they are paying for it.

While this discussion of school solar has been focusing particularly on the costs involved, it is important to note the major advantage of having a solar array in school curriculum. A solar array is a real, operating science, math, and engineering laboratory. Innovative teachers will find many ways to use a solar array to initiate excitement and learning in the classroom, and the ongoing logging and predicting of its electricity generation can be used in many ways by students to help them better understand how we generate, harvest, and use electrical power in our society. An important aspect of solar energy is that it is generated in a very safe environment so that student interaction with solar modules is not dangerous, even though it involves electricity.

School facilities personnel are constantly dealing with rising prices for materials and services needed to keep the district operating. Additional considerations are the current and projected price increases for electricity over the foreseeable future. However, the costs of solar energy generating equipment have come down significantly in the last several years so that it is quite affordable. This affordability, coupled with significant federal tax incentives for third party investors, means that this is a good time for school districts to look at solar energy as a technology whose time has come in a school environment.



Goshen Local Schools Reduces Energy to Save Jobs

By Kaitlin Black

During these tough economic times, as the state has slashed education budgets, most schools have to lay off staff just to survive. However, Goshen Local Schools implemented an impressive energy campaign to save not only \$500,000 since 2008, but also the jobs of many hardworking educators, so that the administration can continue to focus on high-performance education for students, instead of trying to simply make ends meet.

Todd Shinkle, Treasurer of Goshen Local Schools notes that when it started, the district wasn't trying to "go green." He explains, "We'd like to go in that direction, but what is most important is saving jobs and taxpayer dollars."

The program started after an energy-savings consulting firm, Four Seasons Environmental, Inc., approached Goshen Local Schools in 2008. "With the total support of the Board of Education, we decided to try it out and see what happened," says Shinkle.

Since then, Four Seasons Environmental, Inc. and Goshen Local Schools worked closely together to create an energy plan for the district and implement a number of energy-savings initiatives, such as replacing a failing chiller compressor with a new, high-efficiency frictionless technology, enhancing the DDC control system with a more efficient sequence of operations, and updating mercury light bulbs to T5 fluorescent bulbs, in addition to others.

The results have been staggering. "We used to budget about \$70,000 for heating and cooling each month," says Shinkle. "We're now on course for about \$35,000, so we've cut the energy spending nearly in half. It's really huge."

So far, the district has used its energy savings in a two-pronged approach: to save jobs and to reinvest in energy-reducing initiatives.

Shinkle estimates that Goshen Local Schools has saved eight to nine jobs since instituting the energy program. Additionally, the district would also like to continue to maintain its savings so that it can continue its commitment to education.

"We're hoping that we can keep on for years and years and as technology changes, try to stay in front of the curve," says Shinkle. "Right now, we're as close to state of the art technology as any of our peers in terms of the energy monitoring solution."

The administration already has plans in place to keep the momentum going. Ken Yockey, facilities performance engineer at Four Seasons Environmental, Inc., elaborates, "Goshen's energy policy has become a critical piece of the operating budget, so we'll be developing a master plan for energy that will help Goshen to meet and exceed its energy goals."

This year's current goal is to shave \$115,000 off of last year's energy usage. With four months left in the fiscal year, Goshen Local Schools has already saved more than \$80,000, leaving only \$35,000 to meet its goal.

In addition to the master energy plan, Shinkle explains that another future step is to get the next generation involved. "We're hoping to install visual monitors in the building to show students what we're doing each day so that they'll understand the importance and get excited," he says, "maybe hit the lights as they walk out the door."

Todd notes that the energy reduction has required sacrifices from everyone in the district, but that the end result is worth it. "My hands might be a little cold at the end of the day, but there are teachers walking the halls because we didn't have to eliminate their jobs."

Wisdom bullets

What you tolerate - you can't change

You can make up in your attitude what you lack in aptitude

Disrespect for wisdom and advice put you on the path of trials and struggle

Successful man does daily what the unsuccessful man does sporadically

You will be remembered in life for two things:

- problems you solve
- problems you create

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FSE Services Include:

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- Shared Energy Savings
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- LEED for Schools
- Energy Star Certification





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Cleveland State recognized by EPA as Green Power Partner

University awarded for purchasing renewable energy

By EDEN JOHNSTON

The Environmental Protection Agency recently recognized Cleveland State University as a Green Power Partner. CSU received this recognition as a result of purchasing 30 percent of the university's electricity from green energy sources.

The Green Power Partnership is a program set up by the EPA in 2001 with the goal of encouraging communities and organizations to utilize green and renewable energy.

The Green Power Partnership requires organizations such as CSU to purchase a certain minimum amount of green power annually. EPA requirements also include having the energy system installed within the past 1 years to promote new green infrastructure. CSU's minimum requirement is 5 percent; however, the university is going beyond that by purchasing 30 percent of their annual energy load in green power.

Constantin Draganoiu - manager of utilities and energy of Facilities, Architect, Safety and Technology explained how CSU has already fulfilled the requirements of the program before being informed of its eligibility.

"The moment we signed a contract with [our energy provider] we were informed that we could apply for the Green Power Partnership," Draganoiu said. "And then I contacted the EPA. There was a little back-and-forth between us and them. CSU was given templates of how we needed to proceed with this." Draganoiu reached out to the program director of the Green Power Partnership, James Critchfield, and with the help of CSU representatives, the group was able to submit a formal application for the recognition.

Jennifer McMillin, recently appointed director of sustainability at CSU, commented on the recognition.

"Stepping in to CSU, my perception was that CSU was taking action on energy efficiency but just not telling anybody about what they'd done," McMillin said. "So I saw this and thought 'That's terrific.'"

McMillin plans to continue the partnership, as well as work towards reducing the University's carbon footprint in other ways.

"I am currently working on developing a sustainability plan, sort of our master plan for the institution, and I'd like to see some measurable benchmarks to work against, and to show the community that we've made a commitment, and we have to figure out how to achieve [it]," McMillin said.

Critchfield believes that college students especially care about energy conservation and climate change initiatives.

"I think a lot of students in today's world are interested about the environment, and care about the long term implications of climate change, and so knowing that they're going to a school that is using green power is often a desirable recruiting tool and something I think students are increasingly aware of in today's market," Critchfield said.

Critchfield also noted the effect climate change can have on the economy – such as affecting production of goods that require a sustained climate, like coffee beans.

"There's a lot of information and data that suggests if the temperatures rise as a result of climate change that there could be some demonstrable impacts on the severity of weather-related events," Critchfield said. "A lot of it's unknown, so it's possible to say that those types or impacts are likely, it's just in what magnitude it's hard to say."

McMillin hopes that the recognition gets CSU students more informed about what the university is doing to help the environment.

"It is my hope that we can demonstrate to the CSU community that these are important issues, these are very real business issues," McMillin said.

CSU has a rich history of working towards energy conservation, Draganoiu notes. Draganoiu has worked at the university for 34 years.

"We were among one of the first colleges that signed Green Lights, which was also an EPA driven program," Draganoiu said.

Green Lights launched in 1991, and has since integrated into the EPA's EnergyStar program. The program advocated for replacing all lighting in the organizations involved with more energy-efficient versions.

CSU has also implemented its own energy conservation and management program, which started in 2009 and finished in 2011. The project helped upgrade the university's mechanical and electrical systems including replacing all of the science building's outdated fume hoods.

The university has taken other tangible energy-conservation initiatives, such as the installation of solar panels on the roof of the Wolstein Center, and the replacement of all the lights in the parking garages with LEDs. The university also offers students RTA passes to encourage them to take public transit when possible.

McMillin is adamant that the university must continue to demonstrate leadership in energy conservation.

"In order for us to ask our community to make changes and act in environmentally responsible ways," McMillin said. "We have to be the ones who model that responsibility first."

Editor's Note:

For more information on the Green Power Partner program, visit the EPA's website at www.epa.gov/greenpower/college-and-university-challenge

AIR FORCE ONE®

AIR FORCE ONE HONORED WITH AWARDS OF EXCELLENCE IN CONSTRUCTION AND BUILDING AUTOMATION

We are thrilled to announce that on Friday, October 28, Air Force One's Northeast Region team was honored by the Associated Builders and Contractors of Northern Ohio with two different Excellence In Construction Awards for their work with both Murtis Taylor and L'Oreal.

Murtis Taylor is one of Northeast Ohio's largest United Way agencies, servicing thousands of individuals and families annually with a myriad of services, so it was absolutely critical that there be little to no disruption to these important services while the project was ongoing.

While updating the original, outdated system with new energy efficient equipment and replacing the building automation system, we are happy to report that full occupant access was maintained for both clients and staff throughout the implementation.

The L'Oreal Building Automation project was successfully performed over three years, from initial design to implementation, through 4 different phases and encompassed the entire 650,000 sq. ft. of building space. Air Force One was able to implement a state-of-the-art, reliable and energy efficient system while keeping 100% of the current equipment operating while the project was taking place.

We are so honored to receive these awards from our peers and we look forward to continuing to provide excellent service to our clients!



Pictured with their awards: Service Mgr Keith Kurbine, Dir of Bus Development Debra Dixon, HVAC Install Tech Scott Stonisch (in rear), Automation Group Controls Tech Kris Kasarda (front), Dir of Bldg Automation Ed Rebish, HVAC Install Tech Phil Power and Vice President/General Mgr Lisa Senger.

2017 Board Meetings**Schedule:**FEB 9thAPR 13thJUN 22ndSEP 14thDEC 7th

Board Meetings
are held
in Columbus

2017 Conference & Trade Show**Crowne Plaza Hotel:****Oct 22nd 5:00 pm****Conf. Committee Meeting****Oct 23rd & Oct 24th**

**Conference
&
Trade Show**

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www.opfma.org

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A Note from the Editor:

Dear reader, OPFMA publishes the "SpotLight on Maintenance" for your benefit; for serving better your interests - your feedback is of a paramount importance!

Suggestions – Sharing Experiences – and Constructive Criticism are welcomed by simply bringing in "SpotLight" topics and ideas of interest to you could be beneficial to many other readers.

Let Your Voice be Heard - Just drop a note at: editor@opfma.org or visit www.opfma.org and click on "Contact us" – I would be happy to bring your ideas and comments in The SpotLight!

Thank you,
Alexandra

Publication and Submission – Terms & Requirements

"Spotlight on Maintenance" is the official publication of the **Ohio Public Facilities Maintenance Association**, a 501(c) (3) not for profit organization for educational and professional development of public facilities maintenance employees.

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A special edition would be added as events dictate.

All materials published are copyrighted. SpotLight on Maintenance Editor/Publisher - Alexandra Schneider.

Deadline: Articles & Photos Submission is on the 1st Day of the Month of Publication.

All documents must be submitted in **Word format** and sent as an e-mail attachment.

All photos and Ads must be in **JPEG format** and sent as an e-mail attachment.

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