



SpotLight on Maintenance

OPFMA Newsletter - Connecting Knowledge with Public Facilities' Needs!
Summer 2017

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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 - **SEP 2017**
 Publication Terms & Deadline
 Deadline for Materials Submission
 to be Published - **SEP 01, 2017**

OPFMA 2017 Second Quarter

By Alexandra Schneider, OPFMA Administrator /CEO

Celebrating Our 30th Anniversary!

OPFMA was created by a group of enthusiastic private citizens 30 years ago to provide the needed training for public facilities maintenance employees.

OPFMA organization was founded on Aug 18th, 1987 as a private not for profit 501 (c)(3) organization. The OPFMA office was established in Columbus, and was subsequently relocated to Cleveland on Dec 30th 2004.

OPFMA Membership as well as the Board of Trustees are on voluntary basis and their willingness to offer support & participate in OPFMA educational activities. Through their dedication & enthusiastic support over decades and OPFMA staff consistent quality professional hard work, made possible OPFMA 30th Anniversary!

Many thanks to OPFMA Membership for your loyal support & Happy 30th Anniversary!

OPFMA Annual Conference is only few months away!

Attendee registration in full swing!

The administration and Conference Committee started to work early this spring in selecting speakers & topics requested by you!

The 24 workshop conference schedule was completed, speaker commitment & live entertainment - secured!

We are looking forward to see you at the Conference!

Attendee Registration Form is posted on <http://www.opfma.org/>

OPFMA scheduled couple of Seminars for Sept 2017 - Visit: www.opfma.org Columbus seminars dates & registration form posted on our website Cleveland seminars Sept dates TBA shortly.

OPFMA 2017 Conference & Annual Trade Show

Oct 23rd & Oct 24th

Early Bird Attendee JUN 30th - Deadline

Columbus Crowne Plaza North Hotel



2017 Trade Show Registration

1 booth available in Grand Ball Room

OPFMA 2017 Board of Trustees – Executive Committee New Officers

Vice President - C. James Johnson - Cleveland State University
Ascension Officer - Phil Hacker III - Kettering City Schools

Check the last page of this newsletter for Board Members' contact info.

Drones in Facility Maintenance

By Mike Cairns, Principal, Aerial Image Solutions, LLC

Flying robots that do our bidding is no longer just a theme of the latest sci-fi movie. With the dawn of the drone age, it has become a reality. The wonderful machines are changing the way things are done across many industries including construction and facility maintenance. By using an onboard computer called a flight controller, and processing inputs from GPS, compass, altimeter, and obstacle avoidance systems, drones have surpassed their traditional remote-controlled ancestors of yesteryear.

Surveying, photogrammetry, LIDAR scanning, mapping, progression documentation, and video marketing are just a few ways drones are being put to use around the globe. These use-cases will continue to expand as the form factors and capabilities of these unmanned aerial systems change and improve. Over the past 4 years, we've seen industry average flight times go from around 6-8 minutes with a 12 megapixel camera payload in 2013, to 20-25 minutes with a 20 megapixel camera payload in 2017. Flight time and battery capacity are likely to achieve a significant boost in the coming years with new battery technology likely in the 2x to 4x improvement range.

Let's look at two real-world scenarios where drones aided Facility Maintenance teams here in Ohio.

Many libraries and schools were created with beautiful details in their masonry façade.



Unfortunately, these details don't always stand the test of time and begin crumbling, creating a hazard for anyone underneath. This situation recently played out at a hotel in Downtown Columbus, Ohio.

Rather than renting a scissor lift for a day or two, the masonry inspector hired a drone company to capture high-resolution video all along the questionable areas, creating very detailed documentation of the health of the building, while lowering costs and minimizing danger to the inspection team.

Another scenario where drones came into play for facility maintenance teams was during a flat roof inspection at a school.



These flat roofs are prone to occasionally developing leaks. This creates wet insulation and moisture intrusion that can lead to a host of problems. Rather than waiting until a roof is ruined beyond recovery, thermal scans can identify roof anomalies that may indicate wet insulation. This has traditionally been done by walking the roof with a thermal camera. However, drones now allow more affordable and quicker mapping of a roof both in visible spectrum as well as thermal to identify exact locations of potential problem areas.

Whether you are developing your own drone team, or decide to hire experienced professionals, drones have the potential to transform the way you work.

Welcome to the 21st century, Welcome to the Drone Age!



Editor's Note:

For more information, please contact Mike Cairns at [614-551-3239](tel:614-551-3239) or via email at mike@aerialimagesolutions.com

Polyurethane versus Silicone Coatings

By Stephen Wolf, Product Manager, The Garland Company, Inc.

Polyurethane Coatings

Polyurethane coatings are typically solvent-based and come in two main types, aromatic (less UV stable) and aliphatic (very UV stable). Urethanes have good mechanical properties, high tensile strength, and high abrasion resistance. They are often suggested for use in hail prone regions or where a roof is exposed to heavy foot traffic and have been proven to substantially increase the service life of a roof system.

Polyurethanes demonstrate excellent adhesion to most roof surfaces and maintain high levels of elongation despite high tensile strength, making them tough and durable. They also have good resistance to chemicals and water. Due to them being solvent-based, polyurethanes are not as sensitive to temperature as water-based coatings. Additionally, polyurethane coatings can typically be applied to nearly every type of roof surface.

Advantages

- High tensile strength
- High ponding water resistance
- High chemical resistance
- Excellent elongation
- Longer service life than silicones
- Maintains reflectivity longer than silicones
- Highly cost-effective over service life

Disadvantages

- Higher up-front cost
- Curing is weather dependent

Silicone coatings

Silicone roof coatings are often solvent-based, moisture-curing coatings made primarily of solvent-suspended silicone. While silicone coatings perform well under ponding water conditions, they have a notoriously low tensile strength. If silicone is punctured in one small spot, it can create a split that runs the length of the coating. Once this splitting occurs, water can get under the coating and into the roof system, nullifying their ponding water resistance. Therefore, they are not recommended on any roof that sees much foot traffic.

Although silicone coatings have initial reflective properties, they get dirty extremely easily (losing whiteness in just a couple years), which negates their reflectivity, thus requiring frequent cleanings. However, they are easy to manufacture, relatively inexpensive, and can be a viable short-term fix under the right circumstances. In terms of durability and longevity though, they cannot compete with a urethane.

Advantages

- Excellent ponding water resistance
- Lower up-front cost

Disadvantages

- Poor tensile strength
- Attracts dirt and loses reflectivity quickly
- Poor chemical resistance
- Shorter service life than polyurethanes

Urethanes are widely regarded as the higher quality restoration coating option due to their higher tensile strength, chemical resistance, weatherability, and overall durability. Silicones can be serviceable short-term solutions, but the true difference is urethanes cross-linking chemistry that forms a tighter molecular bond, which increases the strength and resiliency of a roof in ways that silicones simply cannot.

Editor's Note:

For questions or more info, contact Stephen Wolf, Product Manager, The Garland Company, Inc., 800-762-8225 ext. 3517 or swolf@garlandind.com

Brilliant Quotes:

- **DO or do not. There is NO try!** – *YODA*
- **Only two things are infinite, the universe and human stupidity** – *Albert Einstein*
- **The ancestor of every action is a thought.** - *Emerson*
- **You can't build a reputation on what you're GOING to do.** – *Henry Ford*
- **If you are distressed by anything external, the pain is not due to the thing itself, but to your estimate of it; and this you have the power to revoke at any moment!** - *Marcus Aurelius, Roman Emperor (121 AD – 180 AD)*



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In Search of Enthusiastic Employees

Some will hire employees with less experience just to get more enthusiasm.

Enthusiasm is infectious in the same way a bad attitude can affect others, and it inspires a host of other positives, like engagement, cooperation, innovation, high productivity, and fun at work.

Demonstrate enthusiasm by doing what you are asked, doing it without delay, and doing it the way your boss wants it done. Pitch in to do things others avoid. When your supervisor asks who would like to volunteer to straighten the staff kitchen, raise your hand. See problems as “opportunities” first, not roadblocks designed to make life unhappy.

Think a little bit like an entrepreneur when problems arise in order to discover solutions faster. And demonstrate loyalty. Avoid gossip about your supervisor (or others), and steer conversations away from gossip. Adopt these tips and your career may skyrocket along with your love of the job.

Demand-Side Management: Essential for FM

By Richard G. Lubinski, President, Think Energy Management LLC

While supply-side energy management is popular with many companies, the actual savings produced is relatively small, and temporary in nature. The other side of the coin is demand-side energy management, by which you can permanently reduce a building’s cost by reducing its energy consumption.

Demand-side management (DSM) pays for itself by generating utility savings, provides the owner with an attractive return on investment (ROI), and provides a positive net present value (NPV) as a pure investment. A bonus to the owner is how the improved cash flow of the building also contributes to asset appreciation by a multiplier of 10 or more. A DSM energy efficiency or control project that saves \$100,000 per year actually increases the value of the building by \$1 million.

In very simple terms, this is why owners like energy management and, specifically, DSM projects.

At first glance, it may seem strange that utility companies not only support DSM projects, they also will help pay for them. It’s in a utility company’s best interest to reduce its

electricity, natural gas, or water peak system load.

This reduction in system load helps utility companies avoid or delay tens of millions (and, sometimes, billions) of dollars in capital improvements.

In many states, the traditional utility-based DSM rebate programs have been shifted to the state energy offices. The utility companies are required to charge a kWh tax (additional fee) and send the funds to the state energy office. The state energy office then offers DSM rebates for lighting, HVAC, controls, renewable energy, and custom DSM programs. Some state energy offices also have low-interest loan programs to help property owners fund their DSM programs.

Surprisingly, there are little-known DSM rebate programs from some federal agencies, like the U.S. Department of Agriculture (USDA). The USDA has DSM rebates and low-interest loans programs for rural businesses, farms, and agri-businesses.

Demand-Side Management: Essential for FM

Continued from page 5

ECMs

The goal of an energy audit is to identify cost-effective energy-conservation measures (ECMs).

Some ECMs are self-described as low-/no-cost ECMs. These are intended to reduce energy consumption by better use of existing automatic or manual controls. Smarter temperature control over boilers, chillers, and domestic water-heating systems can reduce energy costs with no capital investment. Smarter control over lighting by employees, cleaning crews, and security is a no-cost ECM, but it requires management oversight for long-term success. Traditional retrocommissioning studies are directed toward this end.

Unfortunately, some firms are offering retrocommissioning studies for \$20,000 that are actually a Level 1 energy audit. These so-called retrocommissioning studies include a recommendation for a (real) retrocommissioning study for an additional \$60,000 or \$80,000.

The next tier of ECMs requires some capital investment, but offers an attractive ROI. This is the most common category for ECMs that can be supported by utility- or state-based DSM rebate programs. DSM rebates exist in straightforward energy-conservation measures with clearly defined rules commonly called “prescriptive” DSM rebates. Examples of prescriptive ECMs for DSM rebate include proven energy-savings improvements, such as lighting and HVAC retrofits, CO₂-based outside air-ventilation control, and use of variable frequency drives for motors, high-efficiency motors, and other high-efficiency equipment.

The second DSM rebate category is called “custom.” As the name implies this permits the agency running the program to come up with creative or custom DSMs rebate for innovative ECMs. These custom DSM rebates are also based on actual energy savings and can be called “pay for performance.” The custom DSM rebate may pay \$.10 per kWh saved based on a combination of utility records or metering associated the custom ECMs. Some of these custom DSM rebates require independent documentation of the energy savings by a certified energy manager (CEM) or registered professional engineer (PE).

There are also special DSM rebates for non-profits, educational institutions, and some government buildings.

Where to Find DSM Rebates

To find out if your area has a DSM rebate program, visit the federal government Database of State Incentives for Renewables Energy (DSIRE).

Some states and utility companies do not have DSM rebate programs. Depending on the DSM program, it may help with the first major step in the energy-management journey: the energy audit.

Some programs offer free energy audits. Be wary of “free energy audits” since everyone knows that nothing is free. A window company that performs a free energy audit will recommend that you purchase windows, and the vendor may provide an unrealistic payback-period analysis.

A lighting contractor might offer a free energy audit; expect the report to recommend a lighting retrofit. It’s surprising to some people that the free energy audit always results in a *recommendation to buy the only thing this vendor sells*.

You need to hire a professional energy engineering firm to get independent advice that’s free from all conflicts of interest connected to any product or service.

Taking Action

Begin the process of moving your organization toward lower energy costs and a better bottom line with investigating your buildings’ energy-management opportunities by collecting operating costs and energy-consumption data, and then obtaining senior management’s support. Benchmarking data, comparing your building’s BTUs per square foot, is another excellent tool.

Focus on ECMs that offer attractive ROI when applied specifically to your building. Start with the low-/no-cost ECMs, and strive for a long-term commitment to energy-management success. You can track the energy-consumption data and compare it to the same period from the prior year. The results from your low-/no-cost ECMs will lead to ECMs that require capital investments, but offer attractive ROI.

If DSM improvements are done correctly, they represent permanent utility savings for your building - results that are much appreciate by the building owner!

Editor’s note:

Richard G. Lubinski is President of Think Energy Management LLC, an internationally recognized energy consulting firm with 33 years of energy-management experience. He has conducted over 1,200 ASHRAE level 1, 2, and 3 energy audits. He is also a Life Member of the Association of Energy Engineers (AEE) and serves as President of the Northern Ohio Chapter of AEE. Mr. Lubinski can be reached via e-mail: rick@think-energy.net



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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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2017 OPFMA Board of Trustees Contact Information

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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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