

FACILITIES manager

MAR/APR 2014

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Stop Answering the
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GETTING BETTER
ALL THE TIME:

NEW THINKING
and
RETHINKING

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GETTING BETTER ALL THE TIME



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New Thinking and Rethinking Generate Innovative Strategies, Best Practices

By Anita Blumenthal

APPA members have accepted the mission to meet high standards of operation and customer service with thoughtful, innovative, and even unique ways—often improving the results by engaging the rest of the university community. Here you'll find just a few examples.



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Leadership: The Heart of Excellence

By Joseph K. Han, Ed.D.

An apple dropped in the middle of a pond will create ripples of concentric circles that affect the entire pond. What is the "apple in the pond" for facilities departments that will initiate the ripples of change leading to organizational excellence? This recently completed

CFaR | Center for Facilities Research

APPA's Center for Facilities Research

(CFaR) project identifies leadership as the "apple in the pond," and APPA's Award for Excellence as a powerful tool to start that ripple effect.

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Alright Already! Let's Stop Answering the Wrong Question About Deferred Maintenance

By Richard L. McDermott

There is an inherent disconnect between what is actually happening on campus, and what is reported to system administration. This disconnect becomes apparent when a systems office is looking for that one piece of information that "reveals all" and allows for a snap decision to be made. Asking the *right* questions is the key to solving this problem.



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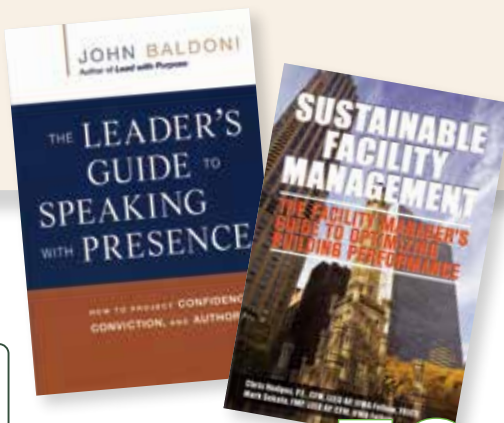
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On February 6-7, APPA participated in the annual Transition Workshop and Job Fair presented by the Society of American Military Engineers (SAME). Santianna Stewart, APPA's membership and outreach manager, and I spoke to more than 50 military engineers who had either recently left the service or were planning to do so within the next year. Nearly all had many years of high-level facilities-related experience in their respective branches of the military.

We had a good time meeting the participants, learning about their particular backgrounds and new-career desires, and telling them about APPA and the educational facilities environment. APPA was one of about 16 "recruiters" who each shared information about our respective organizations. The other organizations comprised a couple of different types: A/E/C firms looking to interview for open and potential engineering or sales positions at their firms; staffing/head hunter firms; a couple of government agencies looking to hire retired military to help oversee contracts; and one K-12 school district.


INTRODUCING APPA

After a couple of interesting presentations from panels of former military personnel now working with various companies (Jones Lang LaSalle, Matrix

Corporation, Anderson Construction), and getting some resume and interview hints, I shared a quick presentation to the group about APPA and our membership and emphasized that campus facilities was a good viable option for them to consider as they transition from a military to civilian worklife. I also told them about the weekly Job Express listings (free to view by anyone), and urged participants to post their resume through APPA's Resume Bank.

TRANSITIONING TO FM

We had a great response from the attendees: many knew of APPA and mentioned former colleagues (such as Mike Johnson and Glenn Smith) who have promoted APPA to them. But we also spoke to many others who were not aware of "campus facilities" as a career option, and they were enthusiastic and excited to learn of an enterprise at which they might be able to transfer their knowledge and leadership skills.

Retiring military engineers (especially those with base management experience) provide educational facilities with a solid pool of qualified candidates for roles on campus. We're planning a couple of follow-up efforts, including preparing an article in *Facilities Manager* (with possible co-publication in SAME's magazine) on the topic of retiring military as potential job candidates in educational facilities, and participating in future SAME Job Fairs. 

Coming in May/June 2014

- APPA Regions and Chapters
- APPAinfo List Notes
- Preparing for APPA 2014

FACILITIES manager

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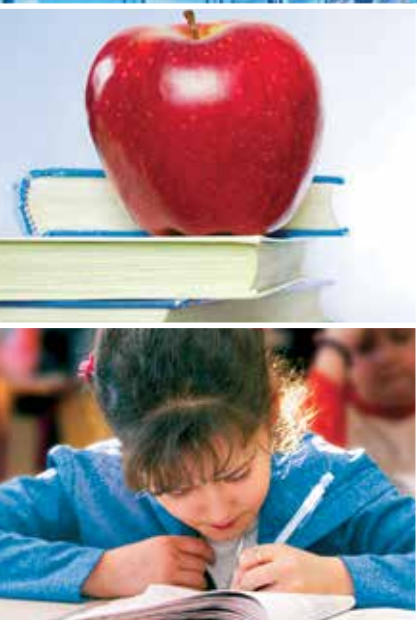
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About APPA

APPA promotes leadership in educational facilities for professionals seeking to build their careers, transform their institutions, and elevate the value and recognition of facilities in education. Founded in 1914, APPA provides members the opportunity to explore trends, issues, and best practices in educational facilities through research, publications, professional development, and credentialing. Formerly the Association of Physical Plant Administrators, APPA is the association of choice for 5,200 educational facilities professionals at more than 1,500 learning institutions throughout the United States, Canada, and abroad. For more information, visit us at www.appa.org.

forward thinking



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facilities digest

By Anita Dosik

CANDIDATES FOR APPA OFFICE 2014-2015

The APPA Board of Directors is pleased to present the selected slate of officers for the 2014-2015 elections:

President-Elect

- **Peter Strazdas**, Western Michigan University (running unopposed)

Secretary-Treasurer:

- **David Cain**, Coconino Community College
- **Gerald Carlson**, Butler University
- **J.B. Messer**, Oklahoma City Community College

Vice President for Professional Affairs*

- **Paul Wuebold**, University of Alabama (running unopposed)

** Please note that John Ott, previously announced as a candidate for Vice President for Professional Affairs, withdrew his name from the ballot on March 18.*

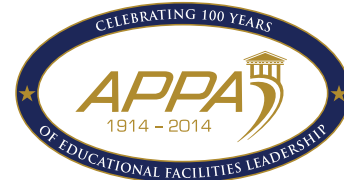
Voting began on March 20, 2014 and is open to primary/institutional representatives. Those eligible to vote will be able to do so online or via paper ballot. The online ballot will include a link to a video statement from each candidate. The ballots close at 5:00 pm ET on **April 16, 2014**.

Please note that the primary/institutional representative will have the option of having an associate member vote on their behalf via proxy (only one vote will be accepted from each institution). The associate member with proxy rights has been listed on the dues invoice.

To learn more about the candidates and to vote, go to www.appa.org/vote. If you have any questions, contact Anita Dosik at anita@appa.org or 703-542-3837.

HELP APPA CELEBRATE ITS 100-YEAR ANNIVERSARY: ADD YOUR PHOTOS TO THE CENTENNIAL PROJECT

The year 2014 marks APPA's 100th anniversary. The APPA Centennial Project Site at <http://100years.appa.org/> offers all APPA members the opportunity to share their memories of APPA as it has evolved. These may include written insights, photos, videos, and other resources. APPA will use this material to celebrate our anniversary on the APPA website, in *Facilities Manager* magazine, in commemorative videos, and more. All are encouraged to participate! Share your "APPA Journey!"



APPA DUES INVOICES MAILED

ALL EMPLOYEES CAN BE ASSOCIATE MEMBERS

APPA recently sent out membership dues invoice for the 2014-15 membership year, which runs from April 1, 2014 through March 31, 2015. We encourage all Institutional members to promptly pay your APPA dues in order to continue receiving the many great benefits of membership. And with the new membership year, your annual membership dues now provides the benefit of APPA Associate membership to every employee in your organization. According to Lander Medlin, APPA's executive vice president, "This is an exciting new development, as APPA has just completed a two-year 'membership integration' and dues alignment strategy across all six regions."

What this means is that every employee at your organization can now take advantage of APPA membership benefits. Primary representatives will be able to sign up additional employees not listed on your invoice for Associate membership, enabling every facilities professional at your institution to access membership benefits such as the BOK; the online Membership Directory; discounted rates on CEF and EFP credentialing fees; access to *Facilities Manager* magazine; eligibility for scholarships; and much more.

Note that the new integrated membership dues structure applies to Institutional members only: colleges, universities, K-12 schools and districts, museums, libraries, and other qualifying educational entities. The Affiliate and Business Partner categories will remain as fixed dues amounts depending upon the number of designated representatives. Student members have their own membership category. For more information about APPA's dues invoices, please contact John Bernhards, associate vice president, or Santianna Stewart, membership & outreach manager.



APPA CREATES NEW BUSINESS PARTNER ADVISORY COMMITTEE

Promoting the value of APPA membership and participation among members of the Business Partner community.

The newly launched APPA Business Partner Advisory Committee will identify effective ways that APPA regional and international members can enhance their relationships with business partner members. The goal is to leverage these cooperative relationships to further the objectives of APPA member institutions, affiliates, and the entire APPA membership. The new committee has solicited feedback from all business partners and held its first conference call on February 6. APPA members and partners will be able to keep up with the new committee's accomplishments via a new Web page set to launch soon from the About APPA section of appa.org.



Co-chairs

Mary Vosevich, University of New Mexico, APPA Immediate Past President
Bill Johnson, Terracon Consultants, APPA Board of Directors Business Partner Representative

Representatives

Patty Anderson, Performance Building Solutions (PCAPPA)
John Coggins, Spirotherm Inc. (MAPPA)
Tracey Hartford, Windover, LLC (ERAPPA)
Cloriza Lomeli, GLHN (RMA)
Keith Macejewski, Ensoft Consulting (CAPPA)
Lee Richey, Creative Facilities Solutions, Inc. (SRAPPA)

Staff Liaison

John Bernhards, APPA Associate Vice President

SEE YOU IN SAN DIEGO IN JULY!

The time is now to make your plans to attend next year's APPA Conference & Exposition! **APPA 2014** will be held **July 21-23**, in **San Diego, California**. You won't want to miss this exciting celebration for the association's 100 years of service to the profession of educational facilities management.



EVENTS

APPA EVENTS

Apr 12-13, 2014 Credentialing Prep Course & Exam (CEFP & EFP), *El Paso, TX*

Apr 22, 2014 APPA's Drive-In Workshop (Texas Christian Univ.), *Fort Worth, TX*

Jul 20, 2014 Senior Facilities Officers Summit, *San Diego, CA*

Jul 20, 2014 Emerging Professionals Summit, *San Diego, CA*

Jul 21-23, 2014 APPA 2014: Centennial Celebration & Annual Conference, *San Diego, CA*

Jul 24, 2014 Credentialing Prep Course and Exam (CEFP and EFP), *San Diego, CA*

Sept 7-11, 2014 APPA U: Institute for Facilities Management and Leadership Academy, *Orlando, FL*

Sept 12-13, 2014 Credentialing Prep Course & Exam (CEFP & EFP), *El Paso, TX*

REGIONAL EVENTS

Apr 13-14, 2014 WVAPPA Chapter Conference, *Flatwoods, WV*

Apr 21-25, 2014 APPA's Supervisory Toolkit (spons. by SRAPPA), *Baton Rouge, LA*

May 5-8, 2014 APPA's Supervisory Toolkit (spons. by RMA), *Jackson, WY*

May 13-14, 2014 TNAPPA Chapter Conference, *Cookeville, TN*

May 14-16, 2014 FLAPPA Chapter Conference, *Daytona Beach, FL*

Sep 16-20, 2014 MAPPA 2014 Conference, *West Lafayette, IN*

Sep 21-24, 2014 ERAPPA 2014 Conference, *Atlantic City, NJ*

Sep 22-24, 2014 RMA 2014 Conference, *Santa Fe, NM*

Oct 4-7, 2014 SRAPPA 2014 Conference, *Huntington, WV*

Oct 4-8, 2014 PCAPPA 2014 Conference, *Vancouver, BC, Canada*

Oct 11-15, 2014 CAPPA 2014 Conference, *El Paso, TX*

For more information or to submit your organization's event, visit www.appa.org/calendar.

APPA THANKS TANDUS-CENTIVA FLOORING FOR ITS SUPPORT OF APPA'S OFFICE RENOVATION

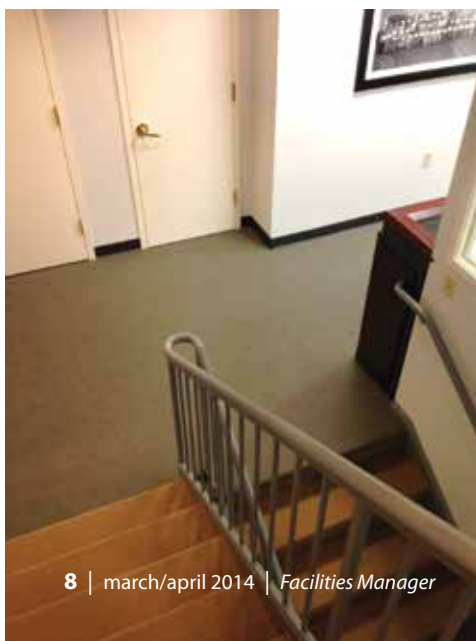
APPA recently completed renovations to its office building in Alexandria, Virginia, which included a fresh coat of paint as well as new flooring products throughout its headquarters space at 1643 Prince Street. The renovations were completed on schedule and on time for the APPA Winter Board meeting held January 24-25. APPA is particularly appreciative of the support and contributions made by Tandus-Centiva Flooring, which donated new Tandus-Centiva carpeting and tile products as part of this project. Much thanks go to Jonathan Stanley at Tandus-Centiva for his tremendous

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support. APPA also wishes to extend its appreciation

to Ralph Groves, who serves as vice president at CCA Floors & Interiors and who coordinated and managed the installation work. CCA is a Mid-Atlantic flooring installation company that supports many APPA member institutions within Maryland, Virginia, and Washington, D.C.



APPA CONGRATULATES EFP & CEFP RECIPIENTS

The following professionals have successfully completed the requirements for APPA's CEFP and EFP credentials, from January to March 2014. Congratulations on their personal accomplishments.



CEFP RECIPIENTS

Mario Boileau, *University of Ottawa*
 Chad Brimley, *Brigham Young University/Utah*
 Steve Bryant, *University of Alaska/Anchorage*
 James Byrd, *Wake Forest University*
 Craig Changfoot, *Simon Fraser University - Burnaby*
 Elizabeth Clark, *Pennsylvania State University*
 Lonnie Clark, *Thompson Facility Services*
 Jeremy Davis, *Miami University*
 Brian Fritz, *Bucknell University*
 Steven Gilsdorf, *Western Michigan University*
 Christopher Hatfield, *University of Notre Dame*
 Charles Kraus, *University of North Carolina/Charlotte*
 Jeffrey Loss, *Bucknell University*
 Ryan McCaughey, *Pennsylvania State University*
 Phillip Melnick, *Pennsylvania State University*
 Paul Moser, *Pennsylvania State University*
 Brian Mullen, *Michigan State University*
 Joanna Norton, *North Carolina State University*
 Tom Owenby, *Woodward Academy*
 James Rader, *The Ohio State University*
 Colin Richardson, *University of British Columbia/Okanagan*
 Anand Sankey, *Western Michigan University*
 Larry Schmid, *University of Nebraska/Lincoln*
 David Smith, *University of North Carolina/Charlotte*
 H. Ford Stryker, *Pennsylvania State University*
 Jeff Vienneau, *Sam Houston State University*
 Dana Yoshimura, *University of Hawaii/Manoa*



EFP RECIPIENTS

Donald Ates, *University of Texas/Austin-Housing*
 Erik Cagle, *Pennsylvania State University*
 Madeline Cantu, *Pennsylvania State University*
 Richard Carnahan, *Pennsylvania State University*
 Phumara Cox, *Pennsylvania State University*
 Thomas Flynn, *Pennsylvania State University*
 Tim Garland, *Keene State College*
 Doug Hagman, *Pennsylvania State University*
 Derek Kalp, *Pennsylvania State University*
 Jonathan Kay, *Pennsylvania State University*
 Corey Lucas, *Pennsylvania State University*
 Rick Martinez, *University of Mary Hardin-Baylor*
 Shelley McKeague, *Pennsylvania State University*
 Shawn Meyer, *Pennsylvania State University*
 Brooks Meyers, *Pennsylvania State University*
 Jason Mott, *Le Moyne College*
 Ronald Nagle, *Pennsylvania State University*
 Madelyn Wagner, *Pennsylvania State University*
 Jonathan Warner, *Pennsylvania State University*
 Alan Witmer, *Pennsylvania State University*

Upcoming Prep Courses and Exams

April 12 & 13, 2014 El Paso, TX
 July 24, 2014 San Diego, CA

For further details, go to www.appa.org/
 click on training.

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Implementation of the *Integrated Institutional Membership* – A Reality!

By E. Lander Medlin

First envisioned by the APPA-Regional Relationship Task Force, and then by the respective board members for International APPA and all six regions, the bold and new initiative of an *Integrated Institutional Membership* has been realized. Movement to the *Integrated Institutional Membership* model is here NOW!

TAKING FULL ADVANTAGE

Over the past three years, International APPA has been working with all six

regions to achieve implementation of a “membership integration” and dues alignment strategy. This means that employees of a member institution (or for that matter interested individuals at a member institution) can now take full advantage of APPA and their respective region’s membership benefits. That’s right – this is an all-inclusive dues membership approach resulting in “unlimited associate membership” for individuals at member institutions.

Your latest institutional membership dues for the 2014-15 membership year includes APPA benefits for all associate membership, as well as your respective regional membership, to EVERY employee in your organization, both for the first time at NO additional cost to the institution.

THE BENEFITS OF MEMBERSHIP

Membership dues invoices were mailed from the APPA office in Alexandria, Virginia in mid-February. A list of the many benefits for APPA membership are as follows:

- The APPA “BOK” – online access to the leading practice document for educational facilities professionals.
- Access to a rich network of more than 16,000 fellow professionals (and growing quickly).
- APPA Membership Directory – available on the APPA website to members only.
- Online access to *Facilities Manager* magazine.
- APPAinfo Discussion List – submit your questions to fellow subscribers on APPA’s e-mail discussion list, and get answers to your questions from peers throughout the APPA network.
- Member discounts on APPA professional development offerings, to include the APPA 2014 conference scheduled for July 21-23 in San Diego, CA; APPA U (the Institute for Facilities Management and Leadership Academy under one roof); the Supervisor’s Toolkit; and various regional annual conferences and offerings.
- Eligibility for scholarships to APPA and regional training offerings.
- Complimentary access to APPA’s *Inside APPA* e-newsletter.
- Member discount rates on APPA publications, books, and monographs.
- Discounted member rates on CEFEP or EFP credentialing fees and exam preparatory courses.
- Participation in APPA’s Standards and Codes Council work groups.
- Eligibility to participate in APPA and regional awards and recognition programs.
- Opportunities to participate in surveys, research, and to receive public policy and compliance updates.



- Eligibility to participate in APPA and regional committees, and receive leadership opportunities.

...AND THE SERVICES

In addition to these valuable Associate Membership benefits, with your membership dues payment your institution will continue to enjoy other important organizational services, to include the APPA Facilities Performance Indicators (FPI) program; the Facilities Management Evaluation Program (FMEP); published findings of APPA's Thought Leaders Series (TLS); plus hosting opportunities for APPA Drive-In Workshops; and so much more.

Again, what this means is that EVERY individual at your organization can now take advantage of APPA and their respective region's membership benefits. The institution's primary representative can en-

roll additional associates and update their institution's record via a special link posted on the *myAPPA* page under myMembership (requiring an existing log-in user ID and password to gain access). Individuals will also be able to enroll themselves as associate members via a special link posted on the APPA website home page (http://www.appa.org/login/newaccount_membership.cfm).

The APPA login icon, found in the upper right hand corner of every APPA website page, provides a pull-down window and a button marked "Create an Account." Click on "Create an Account" and a page will appear that gives you two choices: 1) Sign up for Associate Membership if you are an employee of a member institution, OR 2) create a guest account. Separately, there is also a short news item on the home page, with an explanation of

the new "unlimited associate membership benefit" for APPA member institutions. It, too, has the link to the Associate Membership account application.

Competition is fierce for your time and money. APPA and the regions recognize this fact and have renewed their focus on demonstrated value and a clear return on investment of your membership dollars. This change is but one way APPA is addressing the challenge of differentiation and increasing value for each and every institution. Correspondingly, we will be able to continue to help members work less stressfully and more effectively, and their organizations work more profitably and productively. 💰

Lander Medlin is APPA's executive vice president; she can be reached at lander@appa.org.

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Those Who Make Things Happen

By Mary Vosevich



There are so many great things happening in APPA, that it's hard to know where to start. The problem is not that I don't have something to say (most of you know that is not my problem!). It's just that there are so many things that APPA is doing, that it is hard to pick just one. I could write about my incredible journey as APPA's president from 2012-2013, or APPA's many collaborative efforts with our international partners. Or, about APPA U and the excellent educational programs offered throughout the year. Of course, I could write about the enhanced relationships facilitated by APPA and the great work taking place internationally, regionally, and locally. Or, what about our new APPA members in Mexico? What about the various initiatives that have allowed APPA to be at the forefront of our profession? Or, I could write about the people—our incredible membership, staff, and business partners. The list goes on and on.

I was finally able to focus and recognize what I needed to say: APPA is all about the people, the professionals, working and collaborating to support one another in our field. These incredible people keep us current, vibrant, and make APPA the “go-to” organization in our educational facilities profession.

SO MUCH GOING ON

APPA will be **celebrating its 100th anniversary** this year! I like to think of it as 100 years of excellence, and 100 years of facilities professionals dedicated



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FRIENDSHIP.

to supporting our profession and one another. Obviously much has changed over 100 years, but one thing remains constant: APPA is a knowledge-based organization dedicated to “supporting educational excellence with quality leadership and professional management through education, research, and recognition” (**APPA's mission statement**).

Let's start with the importance of this mission statement. Our mission clearly supports us in becoming excep-

tional leaders in our profession, and at the very core of our organization is a robust and diverse membership. APPA's new **integrated membership model** will expand our membership, diversity, and knowledge even further, making anyone at your institution an APPA member. This will allow us to engage everyone in our respective organizations, leaving no resource untapped. The integrated membership model is no small undertaking, but it clearly is the right thing to do for the benefit of APPA and every member.

Obviously, APPA's members are the core element in our organization, and APPA is always looking for ways to foster collaboration and the sharing of ideas. To that end, APPA has **welcomed Mexico into the organization**. This

expansion of APPA will enhance our already diverse membership and global presence. Mexico did not approach APPA expecting to be an international partner with its own governance. They wanted to be APPA, and they wanted to be a part of APPA's existing regions. This opportunity for intellectual exchange, new ideas, and collaboration with our neighbors to the south is an outstanding opportunity that I am very excited about. It is no surprise that Mexico's quest for education and collaboration in the field of facilities led them straight to APPA.


I would be remiss in not addressing our **emerging professionals** in facilities management. This group is a key component of APPA, and the future of our profession and our organization. We need to listen and hear their ideas, support their professional development, and prepare them for advancement. I have quoted Maya Angelou many times saying, "The very idea of lifting someone up will lift you, as well." Look to your emerging professionals in your organization and "lift" them: mentor them, teach them, listen to them, and collaborate with them.

THOSE WHO MAKE THINGS HAPPEN

APPA People make things happen. Each of us has our own interests, areas of expertise, and tasks where we excel. Our interests may be in educational programs, or information gathering, or research, or technical skills. There is always something APPA can offer that will align with your particular passion. As you identify your passion or area of interest, I encourage you to share and bring a colleague along for the ride. Know that what you need professionally, and what will allow for true partnership in learning, is right at your fingertips. APPA can always offer answers, encouragement, recognition, education, research, and friendship.

So let's not keep this a secret! We are on the threshold of the next 100 years. Think back to the initial members of APPA. What was their vision and what

was their mission? How do we celebrate their hard work and dedication while charging forward into the next 100 years? It is you that will make it happen through your volunteerism, your desire to be better, your desire to share and give back, and your desire to make a difference. It is through your leadership, the work you are doing at your respec-

tive institutions, and the work you are doing with APPA that will lift us into the future. 

Mary Vosevich is the director of physical plant at the University of New Mexico, and Immediate Past President of APPA. She can be reached at mvosevic@unm.edu.



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Who Do You Lean On for Professional Support?

By Peter Strazdas

Every facility officer regularly has the need to reach out to peers outside your institution. You know what I am talking about. Your boss asks you for benchmark data or information about other schools in your state. How about when you were in a bind on an issue and you just need to talk to someone outside of your school (sometimes that is good therapy on bad days).

If you want to try something new, who do you call to see if the new product or process will work? Looking for a new job description? In this facility environment of constant change, we find ourselves having the need to talk to people we call mentors, peers, or a friend who is challenged with the same things we are doing.

BUILDING NETWORKS

When we started in this facility profession, we thought we had all the answers and that our team could solve every problem. I think we did that mostly because we did not have an extensive professional network or lacked experience. This is a lesson learned for the emerging professionals in our industry. As senior facility officers we must get the new professionals engaged and help them build their professional networks. They need to be connected to mentors and peers at other schools. We owe it to our staff and our profession.

So, do you remember how you were first connected to a mentor? How did you first meet or talk to a facility peer at another school? For many of us, APPA was the common denominator and the bridge to many of these connections. I don't think many of us looked in the phone book and called a stranger at another

school. APPA offers many ways to make that first connection. After that, many of these connections become professional relationships for many years to come.

APPA HAS IT

So where do I get started and what are the opportunities to start professional networking? Drive-in Workshops, Supervisor's Toolkit, and chapter or regional conferences are where many of us made the initial contact. That face-to-face discussion, mostly at social times, meals, or break times between presentations, were the best way to meet new friends. I always try to connect with a person who asked a question or looking for information after the presentation. We have something in common and we both can share our experiences or both agree that we have a common challenge and we are not alone. APPA has the emerging professionals group where they can network on their own terms. Some like to use social media or other technology to communicate and meet new friends in our profession.

APPA also has the Leadership Academy, Institute for Facilities Management, annual international conference, and the certification program that brings facility professionals together from a larger geographic region. After your initial exposure to these professional opportunities, you can expand your wings and be engaged with state, regional, and international APPA committees and leadership positions. What a great way to further expand your network.



APPA offers so many venues to expand your network. Everyone in the profession has a responsibility to build your network. Each professional in our industry must take the initiative to attend events and reach out to others you have not met. It makes it easy when senior facility officers encourage you and tell you to attend an APPA event. It is also the responsibility of regular attendees to introduce themselves to first time attendees and make them feel welcome and connect them to others that you feel are appropriate to expand their network.

APPA Regions also have formal mentor programs to connect facility veterans with emerging professionals. What a great way to sustain and move our facility profession forward. Call it paying back or paying forward, it's the right thing to do!

So who do you lean on for professional support? I hope more than those around you in your organization. Having that broader network opens so many doors and possibilities during your professional career. It also gives you that personal satisfaction, makes your job easier, you make friends for life. ☺

Peter Strazdas is associate vice president for facilities management at Western Michigan University, Kalamazoo, MI and APPA's Secretary-Treasurer. He can be reached at peter.strazdas@wmich.edu.

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LET THERE BE LED

Lighting upgrades, mainly to LED lighting, are ubiquitous on many campuses and use far less energy than older systems. Often, the startling savings and innovations are due only partly to new or improved fixtures and more to the technology of the control systems.

For example, **California State University, San Bernardino** is completing the largest nonmunicipal exterior LED fixture with wireless controls project in North America. Senior Director for Facilities Services Tony Simpson explains that, between calendar year 2013 and early 2014, 1765 exterior HID fixtures were retrofitted with new LED fixtures and integrated wireless controls. On the one hand, the majority of exterior lighting system is Dark Sky Compliant, respecting the viewing rights of the adjacent astronomical observatory. On the other hand, the police department is happy with the brightness and clarity of the lights for identification and safety.

The integrated wireless controls add the wow fac-



Tony Simpson, California State University, San Bernardino

tor. Simpson explains that all the new pole-mounted and parking structure LED fixtures will be controllable from mobile devices, giving the university the ability to change lighting schedules and brightness (saving energy where feasible and safe), provide energy usage data down to the fixture level, let facility maintenance and parking services staff know within seconds if there is a system operating problem—and enable them to fix it virtually from wherever they are. Further, campus security and the police department have the ability to override fixture timing or turn lights on instantaneously, giving first responders instant mobile control.



Aerial view of CSUSB after completion of LED retrofit.

Simpson says that the system will reduce annual energy costs by \$237,000, maintenance costs by \$154,000, and CO₂ emissions by 9,883 metric tons. The overall payback period is 6.5 years.

Meanwhile, **Mississippi State University** (MSU) is putting its own signature on a large-scale project that they expressly limited to indoor lighting upgrades, 80 percent LED. “We wanted to cherry pick, designing the requests for proposals specifically to attract companies with expertise in lighting, auditing, design, and retrofitting capabilities,” Interim Associate Director of Utilities J.D. Hardy explains. “Each company who wanted to participate was given half a million square feet to audit and on which to produce detailed proposals. That way the proposer did a lot of the footwork,” Hardy says. He used MSU staff, along with consulting engineers, to evaluate proposals. “It’s important to recognize when to use in-house expertise and when to add outside expertise and labor as well to evaluate companies and filter through what the best technology and fit would be,” he says.

As for the retrofitting process itself, Hardy says, “Most of the time, with large-scale projects of this kind, all users/occupiers

are moved out and the building is handed over to the contractor.” But this time, no one is being displaced. “Although lighting change is very invasive, we are doing it without interrupting any schedules,” Hardy says. “We work around occupied times and do night work. We work with coordinators in the buildings and in the administration, daily updating the usage schedules of individual spaces.”

Nor were customer preferences lost in the process. For example, the library contained certain areas with a museum-like look that the staff there wanted to retain. Working with an energy efficiency firm, Hardy found that advances in the LED market had made important variations possible; therefore he was able to have LEDs rebuilt to go into existing fixtures and to emit a more traditional color.

SOLAR SAVINGS

Solar power can be a very good deal for facilities, sometimes with no capital outlay. For example, CSU San Bernardino leases five acres of spare ground to a third party, who installed—and who maintain—their own solar panels under a power purchase



PHOTO CREDIT: MEGAN BEAN/MISSISSIPPI STATE UNIVERSITY

J.D. Hardy, energy and mechanical engineer with Mississippi State University, stands in the Central Chiller Plant, which currently is being upgraded to include more than 1,000 tons of ice storage capacity to help the university save on the high cost of electrical demand while increasing its ability to supply campus cooling.



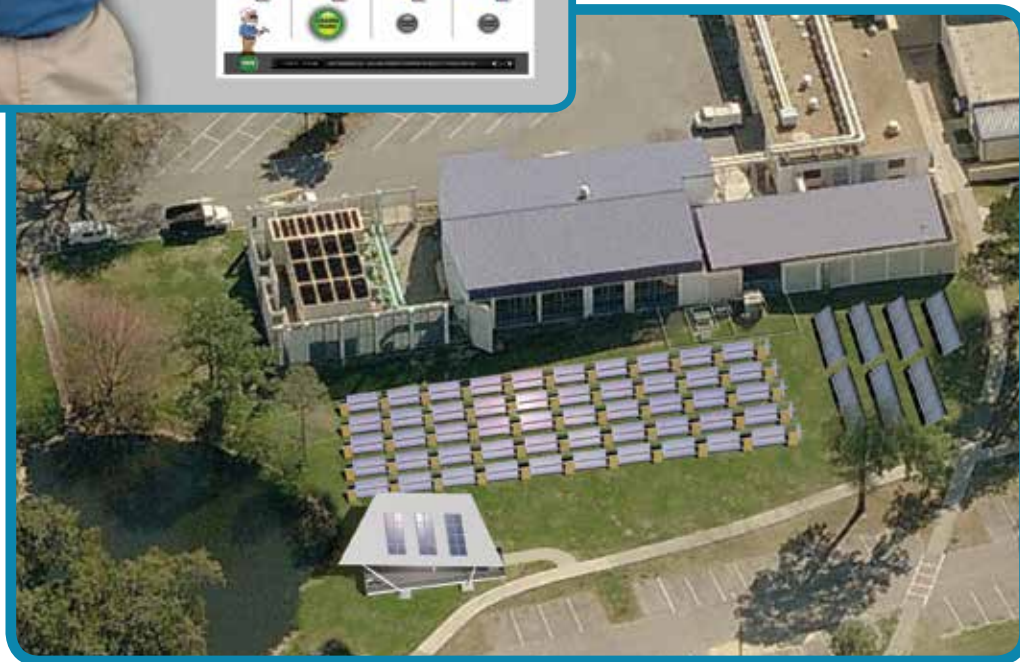
Left: Bill Reese, Santa Fe College, Gainesville, FL

Below: Renewable Energy Accessible Laboratory (REAL)

agreement. The university spends no capital but buys 1.4 kW of clean solar energy from them for 9 cents /kWh, far less than utilities would charge. Then, when a utility asked to site a fuel cell on campus (not to be used for university power), Simpson negotiated a deal. “We do not get the electricity produced by the fuel cell,” he says, “but we do get the waste heat, which goes into our boilers located near the fuel cell to pre-heat hot water. This saves \$120,000 per year in natural gas.”

Taking another approach, **Santa Fe College**, Gainesville, Florida, is running two photovoltaic and two thermal solar systems. For the photovoltaic energy produced, the public utility pays Santa Fe 32 cents/kWh. That revenue, along with two state rebates, will enable the college to halve the amount of time needed to realize a payback. But simply having the solar power was not enough for Associate Vice President for Facilities Bill Reese; he wanted the students to understand how it worked, thus bringing facilities management into the educational enterprise.

He explains that no one could really see the roof-mounted system, so he sought a hands-on learning lab concept. His department created the Renewable Energy Accessible Laboratory (REAL), set to open in August 2014. REAL has functioning photovoltaic evacuated tube and parabolic trough collectors in a ground-mounted installation. The solar collectors are in full view from a pavilion where an interactive media program explains the concept and theory of photovoltaic and solar thermal systems. To lead the students through the program, the department’s contract engineers created an on-screen guide, Professor Payback, who happens to look a lot like Reese.



This stress on linking projects to education of the students is a thread throughout the facilities management department at Santa Fe. “In the process of designing and constructing buildings, there are many learning opportunities,” Reese says. For example, during building construction, we put up safe walking paths so that students can see the process, from the subfoundations on up.”

NEW HEATING, COOLING, PUMPING STRATEGIES

Weber State University, Ogden, Utah, and **USC San Bernardino** are questioning the conventional wisdom of conventional systems. Weber is not combining but separating heat and power systems, shutting down the heating plant in the summer and reducing the heating load. Energy and Sustainability Manager Jacob Cain explains that Weber is using a water-cooled variable refrigerant flow (VRF) system for heating and cooling a building, employing a condenser loop that transfers heating and cooling between spaces, using less energy.

The VRF system can use water between 50 and 90 degrees for

cooling. “The cooling tower is very efficient to cool water down to 65,” Cain says. “It’s the chiller that is not efficient to get down to 55. VRF can use 60-to-70-degree water for cooling, so we can get rid of chillers. In the case of heating, the water loop heats up the building, but if water loop gets too cold, small boilers can inject heat, or ground source systems can be used to provide heating capacity.” This system is operating in one building and in design stage for two more.

Also thinking outside the box, CSU San Bernardino has improved its campus-wide chilled water distribution by improving

its controls and changing normal pumping strategies. Simpson explains, “The operators and chief engineer have developed a Most Open Valve strategy (MOV) where building pumps will only operate at the absolute



Jacob Cain, Weber State University



Terminal units in an office area running on water-cooled VRF at Weber State.

minimum speed to satisfy cooling loads based on demand rather than traditional methods. The effect is exponential savings from reduced pumping power.” Further, he says, “cooling coil performance was increased beyond capacities with fractional flow rates.” Because they leave chilled water longer in buildings, getting as much cooling out of it as they can before returning it to be re-chilled, there is now a far greater difference between the temperature of the chilled water leaving the plant and the water coming back (delta T). “In older buildings, which had design delta Ts of 14 to 16 degrees, the MOV strategy produced delta Ts in excess of 24 degrees,” Simpson says, “and newer build-

ings see a delta T of almost 40 degrees.” The water is re-chilled at night using variable-flow chillers, when electrical rates are lowest, and stored in thermal energy storage tanks. Simpson says that this entire approach has reduced utility costs well over the original projected savings of \$340,000 a year. He adds that other ancillary savings include reduced maintenance costs.

POWER TO DO GOOD

When a campus does not generate its own power, savings and conservation initiatives take a different form. Ken Ogawa, executive director of operations at the **University of Pennsylvania** in Philadelphia, explains that public utilities provide both electricity and steam for the campus, and Penn, as a large consumer, has been able to negotiate a good rate for both. One recent example included an arrangement whereby the campus’ steam provider replaced two oil-burning boilers with state-of-the-art efficient natural gas units, and made improvements to the distribution pipelines. “The result,” Ogawa says, “was a reduction in the utility’s carbon footprint by over 25 percent—for all steam users in Philadelphia, not just at Penn. Penn’s ability to influence the public utility to take action was good for entire city.”

When electricity was fully deregulated in 2011, Penn managed supply costs by becoming a load-serving entity to purchase wholesale electricity. Ogawa explains that Penn also helps create a stronger regional market for wind and other renewables by buying large amounts of Renewable Energy Credits (RECs). Penn has been the number one purchaser of RECs among American colleges and universities for a number of years, and its initial investment in wind energy in the early 2000s provided the revenue

to allow the construction to move forward on a 12-turbine wind farm in rural Pennsylvania.

INITIATIVES INVOLVE THE ENTIRE UNIVERSITY

Facilities managers and others are increasingly reaching out to encourage the rest of the campus to take part in conservation efforts. More than 200 students, staff, and faculty participate in Penn’s Eco-Reps programs, providing sustainability leadership to their peers and advocating greener practices. Over 70 Penn offices (representing over 1200 staff) have completed a voluntary Green Office Certification, documenting their commitment to



University of Pennsylvania staff working on maintenance shop process improvement using LEAN Six Sigma methodologies.



The University of Pennsylvania's Operations Command Center where staff manages campus facilities with the aid of an advanced Supervisory Control and Data Acquisition (SCADA) system that receives approximately 280,000 data points of information.



Ken Ogawa, University of Pennsylvania

sustainable office management, and students living in college residences have established a similar "Green Living Certification" program for their dorm rooms.

Public online dashboards, such as those at Weber State (<http://buildingdashboard.net/weber/#/weber>) and **University of California Berkeley** (<http://mypower.berkeley.edu/>) show electricity usage by building over time. The Weber site also shows money saved and pounds of CO₂ diverted and is rich in such features as a "click-to-commit" section where individuals can promise to take energy-saving steps (e.g., wash clothes in cold water). Such transparency at universities quickly spawns healthy competition.

Berkeley's operational excellence program has a unique twist. First, the university created a database of how much electricity each building used in 2012. Then, going into 2013, the users of each building were told, "Here's how much your electricity cost last year. Whatever you save in electricity over the next year, we will return to you, in cash." With the first year of the incentive program recently ended, Assistant Vice Chancellor Chris Christofferson reports, "We've just sent out \$900,000 in checks. The thinking behind the incentive program is, if we are going to be paying for electricity that is wasteful to utilities, let's focus on encouraging building users to save energy." There is no increase in cost to the university, he says, "and we will have saved electricity and improved the carbon footprint. At 10 cents/kWh, we have saved the utility eight to nine million kW over the previous year.

"Most campuses do not know how much their individual buildings consume in utilities," Christofferson says. "The bill arrives on campus; it's taken care of. From the point of view of the building users, it's a free good; no cost, no value." The incentive program changes that. However, the refund checks won't all be pocketed. For example, Christofferson reports that the occupants of one building decided to use their \$14,000 check to fund other energy conservation measures suggested by the occupants themselves.



Chris Christofferson, University of California Berkeley

Sometimes facilities managers focus conservation strategies on specific departments. At the **University of California San Francisco**, Associate Director of Engineering Services Winifred Kwofie wanted to promote water conservation in research labs (water conservation being especially critical in California). “Research is water intensive,” she says, “but in the past, telling researchers, ‘Here is what we are going to do’ did not sit well with them.” However, she remembered some advice: Anytime you have to work with researchers, take a look at what they do. Approach your problems the way they approach their research.

So she did. To maintain their equipment, the researchers used service contractors, whom they trusted. Kwofie had the contractors perform an assessment of all services, including their experience in fixing equipment, how much excess water was used, and what improvements could be made, especially to the newer equipment. She called a meeting for the contractors to share their analyses with the researchers and show the benefits of various actions.

“Then the contractors left the room,” Kwofie says, “and the researchers said, ‘We want to do this.’ Moreover, the researchers had not known how much was being invested in repairs to keep some of the ‘worst offenders’ operating; they realized they

needed new, more efficient, equipment.” Kwofie stressed the importance of using psychology. “Understand why a group is not doing what you want,” she says. “Make your pitch in line with what they do. Give the best thinking, look at solutions, and have trusted people present demonstrations and give data.”

SEE, KNOW, USE THE WHOLE BUILDING

“Space in golden,” Kwofie declares, but universities often have problems in making the most of the space they have. Her own challenge initially was how to improve the energy efficiency of the major institutional research building on campus: 440,000 square feet, 16 stories, two towers, occupied 24/7, built in 1960. Over the years, research changed and so did floor and building uses. Some spaces became more isolated; some became too hot or too cold. Rather than just focus on energy issues, Kwofie stepped back and did a comprehensive facility assessment, looking at all infrastructure and at how people



Winifred Kwofie,
University of California
San Francisco

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are currently using the space. A consultant made a complete assessment of every system, performing functional testing to see what was broken and what worked. "We found many spaces were not effectively utilized," she says.

All findings were documented. Then, she asked, "How should this building operate?" Mechanical engineers mapped out components of different research needs, "and we considered how much we should be putting into what. This is a concept any campus can adopt," Kwofie says. "Gather enough data to understand the whole building as a whole system."

Then she went an important step further and wrote a design guidance document. "If in the future someone wants to make changes, this guide shows what we have," Kwofie says. "If you want to remodel, here are the things you need to do. If you see it is good for research, that should guide future decisions."

INSIDE THE DEPARTMENT—INNOVATIONS IN PROCESSES, POLICY, CUSTOMER SERVICE

In the daily functioning of the facilities management department, innovations and initiatives can make a big difference. In a "lean processes" initiative at Penn, Ogawa explains that staff members devoted hours every week over several years to work through workflow protocols in the different maintenance shops. Aided by a Penn faculty member acting as a consultant, all 21 shops have been "leaned" – streamlined in terms of request processing, work steps, and adding value to outputs – resulting in a 50 percent reduction in the time to complete an average repair request. In the electrical shop, it used to take 124 steps to get one request completed; now it takes 11. Currently, the initiative is moving on to housekeeping.

Thomas Becker, associate vice president of operations at **Philadelphia University**, describes an important change in maintenance staff policy. "We had a large day shift maintenance staff because we thought it best to have most of the staff where they could be closely supervised," he says. "Then, we took a big leap of faith and moved more of the staff onto the second and third shifts. We trusted them to be productive—they are scheduled and held accountable. Besides, now they are



Thomas Becker,
Philadelphia University

available for customer service." The system works. "Repairs in classrooms take place when students are not there," he says, "and if concerns arise during evenings and nights for our residents, our multi-skilled tradespersons are immediately available." Now, the day shift focuses on residence halls and on longer-duration tasks.

At **Soka University of America** in Aliso Viejo, California, Chief of Operations Tom Harkenrider is the only university-employed facilities manager. The services are outsourced, but he stresses that all the contract staff are encouraged to feel like part of

the campus. Their uniforms have the Soka logo, and they are all invited to attend the annual board of trustees luncheon and seasonal celebrations and to participate in the service recognition ceremonies. This promotes careful work and initiative. Also encouraging quality work is the nature of Soka's contract. The fee-for-service providers have an at-risk contract based on performance. There is a key performance indicator (KPI) component of the contract (which includes safety, employee turnover, customer satisfaction, and cycle times), and this component of the fee is distributed to employees in an incentive bonus program.

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Tom Harkenrider, Soka University of America


High on the list of best practices is not reinventing the wheel—and knowing where to go to learn what has already been done. For example, Harkenrider wanted to improve response to customer satisfaction surveys. He looked at the highly effective customer satisfaction analysis form of a hospital in San Diego—a fellow participant in the Baldrige-based California Council for Excellence—and studied how they structured their market segments. “We decided to internally assess our campus-

wide survey by market segments: student housing, athletic, academics, administration,” he says. The results showed that some things that were important to one segment were not so important to another. For example, he learned that grounds keeping

schedules were an issue for student housing, where students were inclined to sleep later. So now, landscape workers mow and trim there later in the day.

Becker notes that effective practices must include pragmatism, and APPA’s operational guidelines in housekeeping, grounds management, and maintenance can be invaluable. “Understand limitations, commit to run at the best level reasonable, and strive to surpass your commitments,” he says. “For example, we are small, tuition-driven, and private, with the desired ability to be nimble. We’re not heavily endowed but are committed to sound financial management. It’s vital to understand which standards must be reached and which are not practical. So, given our resources, it is not the University’s priority to be a showplace facility, but everyone from the president on down to staff must agree on the established expectations. APPA’s tables of standards are invaluable,” he said. “They show everyone involved what the best practices and expectations

should be for an institution operating at a desired level. For maintenance we commit to Level 3, managed care, and strive for Level 2, comprehensive stewardship. In grounds we adopted and customized the APPA tables creating a campus plan with mapped maintenance zones, detailing services, and we categorized every plant as native, invasive or non-native/non invasive (www.philau.edu/plant/documents/CurrentCampusMaintenanceZones_3-1-12.pdf). Our costs are level, but we’re getting more bang for the buck,” Becker says. “We’re practicing sustainability, keeping some spaces more meadow-like with native plants, but our greens are sharp, and our highest impact areas are showplaces.”

Innovations, initiatives, and best practices on APPA member campuses encompass myriad bright—even off-beat—ideas, but they are tethered to clear-eyed practicality. So they work. 

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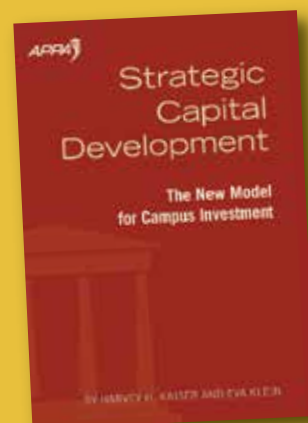
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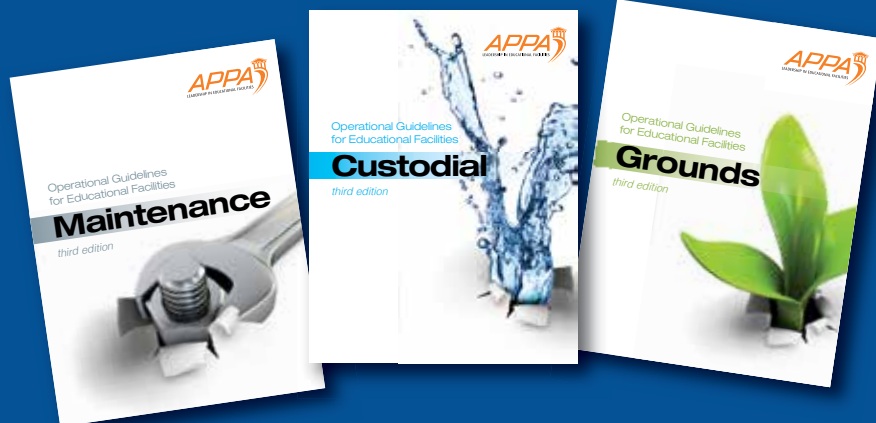
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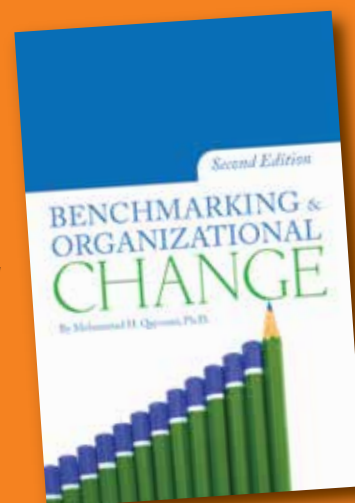
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An apple dropped in the middle of a pond will create ripples of concentric circles that affect the entire pond. What is the “apple in the pond” for facilities departments that will initiate the ripples of change leading to organizational excellence? My recently completed APPA’s Center for Facilities Research (CFaR) project identified leadership as the “apple in the pond.”

Using a phenomenological research design, the purpose of the study was to identify the key factors and conditions needed to initiate and sustain a culture of excellence on university campuses. The standard for excellence for the educational facilities sector is the Award for Excellence in Facilities Management (AFE), a Baldrige-based peer-review program for excellence awarded by APPA. Utilizing the Award for Excellence as the criterion for inclusion in the study, the researcher attempted to gain a deeper understanding of the process and mechanisms associated with a pursuit of excellence.



by Joseph K. Han, Ed.D.

Established in 1988, the Award for Excellence is APPA's highest institutional honor and provides educational institutions the opportunity for national and international recognition for their outstanding achievements in facilities management. Award for Excellence nominations are evaluated using the same criteria applied through the Facilities Management Evaluation Program (FMEP) in the areas of: leadership; strategic and operational planning; customer focus; information and analysis; development and management of human resources; process management; and performance results. For additional information, check out <http://www.appa.org/membershipawards>.

WHAT WERE THE DRIVING FORCES THAT LED CAMPUS PERSONNEL TO EXCELLENCE?

According to Burke & Associates (2004), the higher education sector has three key stakeholder groups that define excellence and serve to drive institutions to pursue excellence: 1) the state priority that represents the public interests, 2) the market force that represents the individual interests of the people that have the power to choose, and 3) the academic concern, which represents the faculty and administrators who have strong views about how education should be delivered. In the Spellings Commission report of 2006, the U.S. Department of Education highlighted the provision of quality, affordable, accessible, and accountable education as the driving forces for U.S. institutions of higher education. Surprisingly, these forces were not significant drivers for study participants. Instead, the impetus for pursuing the AFE was the instruction or direction of the vice president, the senior facilities officer, and/or facilities leaders. Additional

reasons cited by the participants for pursuing the AFE were narrowly focused at the facilities department level and include 1) the aspiration to improve the perception of the team through positive recognition internationally, regionally, and from their campus community; 2) the requirement to improve the overall performance; 3) the need to accomplish the departmental vision and goal; and 4) the need to gain more credibility with an external organization. Participants also mentioned pursuing excellence as a way to alleviate being worried about outsourcing. The concern for outsourcing appeared to be market force related.

WHICH CHANGE MODEL OR THEORY IS RELEVANT?

To discuss change, one must ask, change from what to what? Participants recognized that there were differences between the pre-Award for Excellence culture, a culture that existed before the AFE process began and the culture of excellence, as defined by achieving the AFE. Participants of the study identified

pre-AFE departmental culture as having two general overtones, resistive or supportive.

Resistive cultures require behavior-based change approach.

Participants characterized the resistive culture as having an air of skepticism and generally lacking trust between staff and leadership and within members of the facilities leadership team. For the campuses with a resistive pre-AFE culture, the *behavioral-based approach to change model* best fit the participants' experience. In 1951, Kurt Lewin introduced the classic behavior-based three-step change mode: unfreeze, create new momentum, and refreeze. More modern behavior-based change models include *Leading Change* by Kotter (1996) and *Management Systems' Phases of Change* by Flamholtz and Randle (2008).

Lewin's model illustrates the phenomenon observed in the study. The first step in Lewin's process is to unfreeze the existing deeply anchored behavior, in this case the resistive culture. Participants described the role of leadership was to apply enough force to unfreeze the existing status quo. Vice presidents and senior facilities officers initiate the unfreezing effort by setting the vision and direction for change, and an expectation of excellence and to pursue the APPA Award for Excellence.

The second step is to create movement and momentum in the desired direction. Movement toward desired direction, in this case a culture of excellence, is driven by the senior facilities officers, and facilities leaders who: 1) implement the expectations necessary to drive the change effort, 2) established a priority for and the focus necessary to achieve the AFE recognition, and 3) ensured that progress was maintained. The third and final step is to refreeze the behavior to anchor the new patterns. Participants identified three actions taken by leaders to anchor the culture of excellence: 1) make certain that assessment and inclusion were ongoing, 2) confirm new expectations for continual improvement were upheld, and 3) intentionally improved processes and leadership practices.

Social-based change theory works for supportive

cultures. Participants described the supportive culture as ready to embrace change with team members that were generally prepared to take action. Participants described the supportive group as having a "team approach" and well established leadership engagement.

The participants described the supportive culture as one that is change ready and used cooperative language. For this group, the experience of the AFE application process was positive and relatively enjoyable.

The social approach to change suggests that change is a social event and requires willing participants. Fullan (2007) described the change process as a social event that involves a three-stage process: initiate, implement, and institutionalize. Fullan's three stage process appears similar to Lewin's three steps; however, the difference between the models is highlighted by the manner in which the change takes place. For Fullan, the approach must be initiated through relationships, developing of shared meaning and mutual respect with broad stakeholder participation. For the supportive pre-AFE cultures, this study supports Fullan's view that recognizes change as a social event. Other social-based models can be applied to the supportive pre-AFE culture: Watkins and Mohr's (2001) 5-D Model, and Kouzes and Posner's (2007) five core practices and ten commitments of leaders.

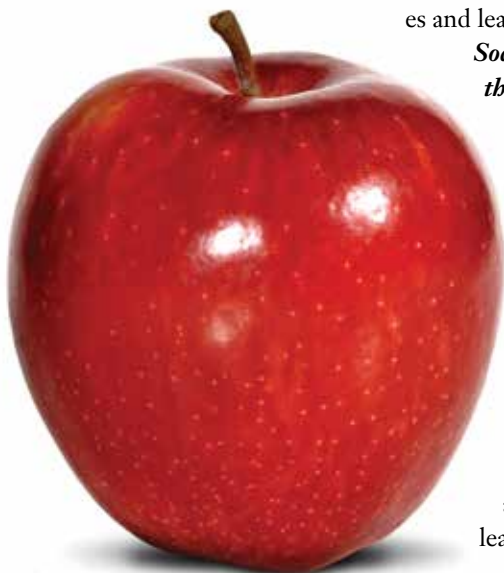


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WHICH LEADERSHIP THEORY OR APPROACH WAS UTILIZED?

Participants identified their leadership in two ways. First, leaders were described in terms of what they did. Leaders 1) initiated the action required to begin the AFE journey, 2) set the expectations necessary to drive the change effort, 3) established priorities and focus, and 4)

ensured the change progress was maintained. According to this study, the role of leadership was foundational in the AFE journey. The vice president and the senior facilities officers were perceived to be vital primary catalysts required to initiate the journey, by setting the vision, establishing a goal, or setting the expectations necessary to drive the change effort. This includes working to convert the resistant pre-AFE culture to a supportive culture. In this process, the senior facilities officers, with support from facilities leaders, were key agents in prioritizing resources and bringing the focus necessary to achieve the AFE recognition. The senior facilities officer was also identified as the person responsible to ensure that progress was maintained. These findings are consistent with Bridges (2003), who believes that the leaders' job is to understand what to do in each stage and help people transition through organizational changes with minimal disruption. The findings are also consistent with Kotter's (1996) belief that overcoming the natural resistance to change requires great leaders who can drive change by creating power and motivation to overcome the opposing inertia. According to Kotter a leadership focus required to initiate change. This study has identified five traits and skills that leaders exhibited during the AFE journey: initiate, set expectations, set priority and focus, assign resources, and ensures progress is maintained.



The full CFaR report is
available at
[www.appa.org/research/
cfar/completed.cfm](http://www.appa.org/research/cfar/completed.cfm)

Second, the participants described their leaders in terms of how the leaders accomplished these tasks related to the AFE journey. Participants described their experiences with leaders along a large range of leadership styles: laissez-faire, consensus, democratic, compassionate, empowering, authoritative, hierarchical, micromanaging, demanding, pace setter, and visionary. The experiences of the participants closely resemble the six leadership styles presented by Goleman, Boyatzis, and McKee (2002). Goleman et al. encouraged the leader to become fluent in all leadership styles, applying the appropriate style as the situation demanded. In this study, the participants attributed multiple styles to many of the leaders. General observations related to leadership styles are listed below:

1. Awareness and importance of leadership styles were central to the AFE journey.
2. While no one style was dominantly present across all campuses, 21.4 percent of the campuses predominantly utilized a top-down approach, which included authoritative, hierarchical, demanding, and pace-setting styles.
3. One campus noted a compassionate and empowering environment.
4. One leader utilized a visionary/consensus approach.
5. Each campus utilized numerous leadership styles at various levels of the organization.

According to participants, achieving the culture change did not depend on a particular style of leadership. However, participants identified a slightly larger number of authoritative, hierarchical, and micromanaging leadership styles present among the campuses represented in this study. These leaders tended to use a behavior-based change approach. The collaborative and democratically inclined leaders took more of social-based change approach.

Follower-leader interaction-based theories share the idea that to the extent the interaction between the follower and leader is positive, the greater the likelihood of multiple positive outcomes (Northouse, 2007). This model suggests that leaders should build

relationships with all employees to positively affect the organization. Participants on 42 percent of campuses identified situations where the leaders engaged their line staff on a regular basis. It must be pointed out, however, that on two of the campuses, leadership interaction was initially negatively interpreted.

WHAT FACTORS SUPPORTED OR IMPEDED THE CONTINUATION OF A CULTURE OF EXCELLENCE?

Participants identified three facets of a culture of excellence. First, assessment and inclusion were significant principles and practices in a culture of excellence. Assessment and inclusion included seeking feedback from the staff and customers through surveys and task forces. Second, new expectations for mutual accountability, progressive discipline, engaged leadership, effective hiring, continual improvement, and employee empowerment were identified as important components of creating and sustaining a culture of excellence. Third, the creation and maintenance of a culture of excellence required exercising improved procedures, improved leadership practices, and improved operations.

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Participants identified factors that were supportive of efforts to achieve excellence and factors that could undermine these efforts. Positive efforts in support of the continuation of a culture of excellence included recognition through celebrations and presidential speeches. Such recognitions generated pride, excitement, and positivity for the participants, and enthusiasm for maintaining the newly established culture of excellence.

Factors anticipated to undermine the continuation of a culture of excellence include decreased funding and a mindset that the pursuit of AFE was regarded as a check-off goal rather than as a commitment to sustained excellence. Another key concern was whether or not the new department leadership would support the continued excellence. Participants declared succession planning to be crucial for long-term continuation of a culture of excellence.

OPPORTUNITIES FOR THE EDUCATIONAL FACILITIES PROFESSION

The pursuit of excellence is a journey in which every campus must engage. The pressures on institutions to provide quality, affordable, accessible, and accountable education are very real. As leaders in our industry, we have the opportunity and the responsibility to support our institutions as they face these growing external pressures. A powerful way to demonstrate support of our institutions is by pursuing and achieving the Award for Excellence. To that end, I challenge my APPA colleagues to engage in the excellence journey. If you are not sure how to begin the journey, APPA's Facilities Management Evaluation Program is a good starting point.

Remember, the quality of education is determined by the quality of the educational facility. The quality of facilities depends on the caliber of the facilities departments. In the journey of excellence, leadership is the "apple in the pond" that initiates, achieves, and sustains a culture of excellence. Therefore, leadership is the heart of excellence. ☺

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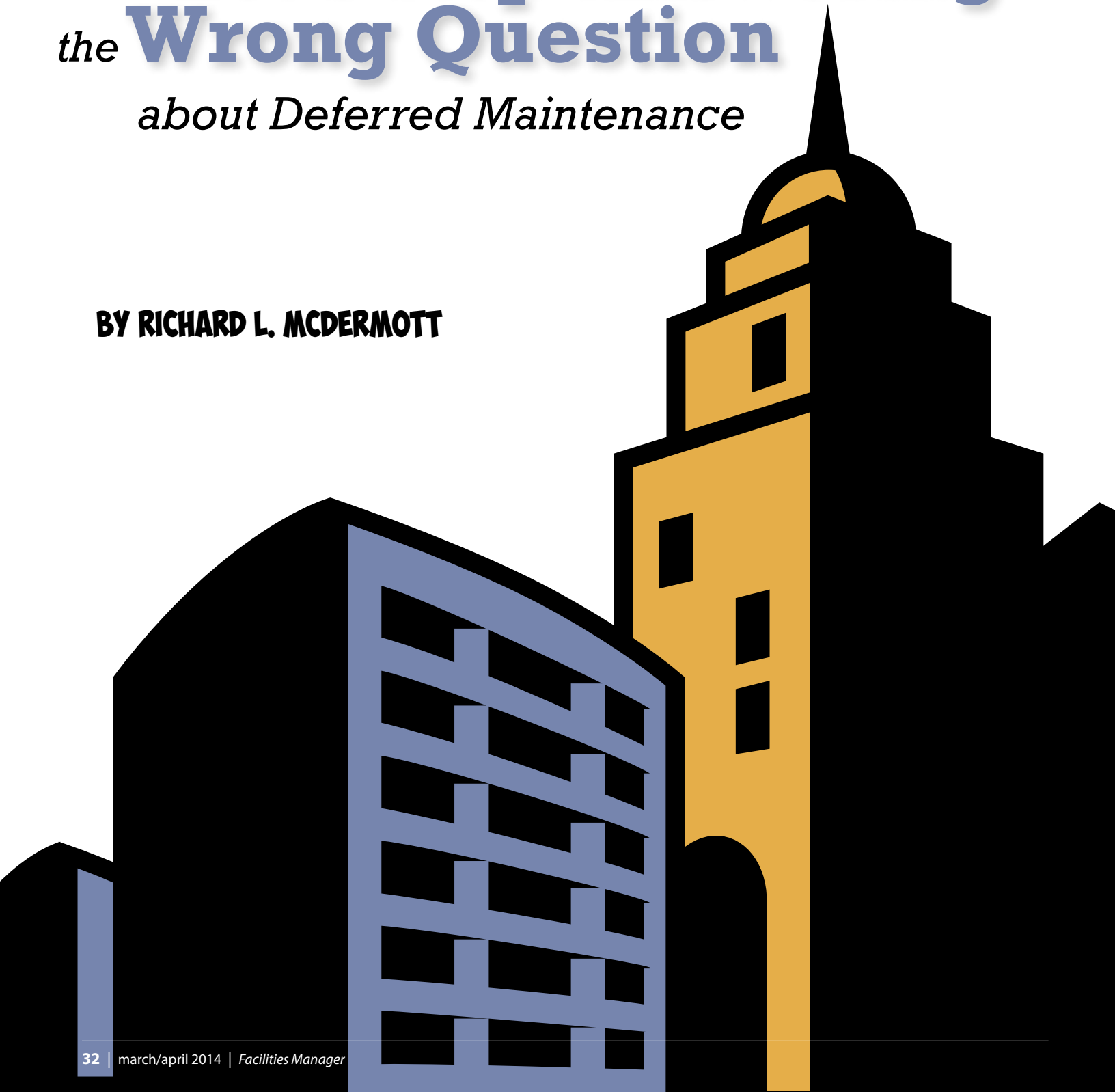
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ALRIGHT ALREADY!

Let's Stop Answering *the* Wrong Question *about Deferred Maintenance*

BY RICHARD L. MCDERMOTT



don't know about you, but I have grown tired of being caught up in the disconnect between what is actually happening on the campus, and what is reported to system administration. The disconnect shows up when a systems office asks the wrong question about the campus building inventory. Decision makers (e.g., senior administrators, board members) are always looking for that one piece of information that "reveals all" and allows them to make a snap decision.

When funding for buildings is the subject, the inevitable question will be, "What is your deferred maintenance backlog?" Answering this question problematic, especially when it comes from an external approving office that has set an arbitrary backlog threshold for deferred maintenance. If the threshold is exceeded, you are in deep weeds, my friend.

So, this is the *wrong* question to ask. It leads to many poor assumptions. It leads to poor decision making. Facilities personnel know this, but, in trying to maneuver around the question, find themselves being accused of hiding the real deferred maintenance backlog figures. Sound familiar? This we need to change. We need to get decision makers to ask us the right question, so we can give them the right answer.

NORMAL BUILDING CYCLE

To begin the search for the right question, let's look at a **Normal Building Cycle**.

- **Level 1)** A new building arrives on campus.
- **Level 2)** The building gradually reveals a subsistence level of funding that is unique to that building. This is the level of funding necessary to keep it safe and operating until it fully ages and receives funding for an overall renovation.

- **Level 3)** The building operates successfully for about 20 to 30 years, depending upon its type and use.
- **Level 4)** The building enters an **Elastic Period** in years 30 to 45. The Elastic Period is when the risk of overall failure has not arrived, but it is near enough that you can see its shadow starting to fall on the building.

Why such a wide range? Moving to Level 4 depends upon several variables, including type of usage, hours of operation, and the level of subsistence funding provided.

Level 4 is also where top-flight facility personnel begin to work their magic. They know how to extend the usefulness of building systems and are the unsung heroes in this story. They take subsistence funding and "nip & tuck" the deferred maintenance backlog according to carefully selected priorities. This keeps a building and its systems safe and operating well beyond predicted textbook service lives. These actions allow funding—that would otherwise have gone to fix premature building failures—to go into the academic/research enterprise. Instead of reporting in a manner that tends to hide the valuable work done in Level 4, let's bring it out into the light and celebrate it.

- **Level 5)** The building arrives at the point of needing an overall deferred maintenance renovation or program-change renewal. Funding never arrives the day it is requested, so a request is made, taking into account the interval between request and the likely arrival of funding.

Exceptions to this cycle include buildings such as hospitals, high-level research buildings, and high-profile facilities that have an impact on the image of the institution.

WHAT'S WRONG

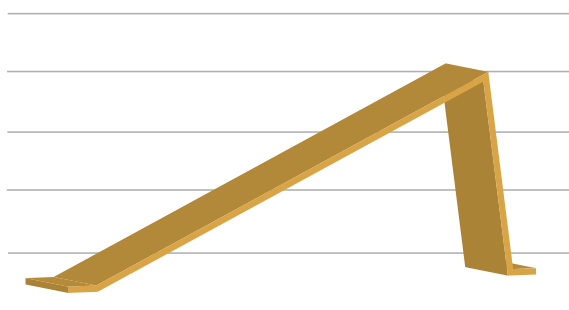
Four elements of the **Normal Building Cycle** are not recognized in a building's deferred maintenance backlog figure:

1. Facilities managers greatly extend the life at each level.



2. Subsistence funding is all that is needed during the run-up to renovation.
3. Renovation funding is the “catch up” time for everything in the building. It would be inefficient and wasteful to “piece meal” this work ahead of an overall renovation.
4. Facilities managers factor the reality of funding timelines into their timing of requests. This, when coupled with 2 and 3 above, is confusing to visiting bureaucrats who walk through a Level 5 building and see it still in a safe and operating state.

The picture that decision makers currently have in mind, created by information we have been providing over the years, looks like the graph below.



There are so many wrong assumptions that come flying off this chart. The first is to assume that the deferred maintenance funding needed, at any point in time, is the curve's value on the y axis – wrong! This error ignores the importance that timing plays in deferred maintenance funding. The second is to assume that an institution is derelict by not providing funding all along the path – wrong! A campus operating on the **Normal Building Cycle** will concentrate funding requests into a few efficient steps. The third is to assume that deferred maintenance funding could be applied anywhere on the curve—with equal effectiveness—wrong!

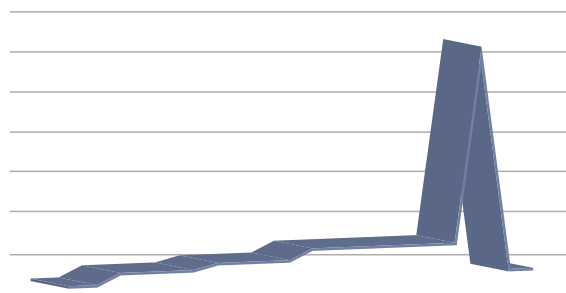
For example, let's assume subsistence funding is \$1 million for a 100,000 sq ft building, and that a \$20 million deferred maintenance renovation will be necessary at the end of year 20. The building does not need \$10 million at year 10, or \$15 million at the end of year 15. That would be nonsense. Renovation is best done in one, efficient step. A useful report would say, “Fund subsistence at a million a year, and prepare to supply \$20 million, adjusted for inflation, at the end of year 20.”

Anywhere along the way, reporting up an instantaneous backlog figure would give the erroneous impression

that deferred maintenance is ideally funded gradually along the way, rather than in concentrated amounts. And, the institution is derelict in not providing, at all times, that level of funding. Wrong! Reporting in this manner puts facilities managers in the awkward position of trying to explain why they reported manageable numbers during the Levels 1 – 4 of the **Normal Building Cycle**—and a short time later are revealing large figures when a building crosses over into Level 5. This is wrong! We need to change it.

CHANGING THE FOCUS OF THE DISCUSSION

The picture that reflects operating reality—the **Normal Building Cycle**—follows the graph below.



This graph displays funding levels in sync with what is needed to efficiently manage a building over its normal life cycle. Subsistence funding increases gradually over the run-up to renovation. Auditing at regular intervals is necessary to confirm both the subsistence level of funding and the eventual renovation budget request. Too little subsistence funding, and a building will experience accelerated deterioration. Too much subsistence funding, and institutional resources are being taken away from its primary mission.

The chart points up the uselessness, to system decision makers, of an instantaneous deferred maintenance figure in the run-up to renovation. We need to stress that audits are not a measure of funding needed at that particular point in time. Everything decision makers need to know, in order to do their job, is provided by communicating both the level of subsistence funding needed, and the estimated cost and timing of an overall building renovation.

We need to add one more step before we have the answer to the question that we want decision makers to ask. We need to merge the **Normal Building Cycle** for each building on campus and create a **Campus Facilities Timeline** that displays the big picture—placing estimates on a long-term timeline identifying the following.

1. Subsistence level funding. An annual subsistence level of funding is requested in the annual budget. Without funding of the subsistence level, the building will go into accelerated deterioration.
2. When buildings are projected to reach the renovation state.
3. Estimated cost for renovations. If a building is a historic treasure, this cycle is repeated. If not historic, then the sec-



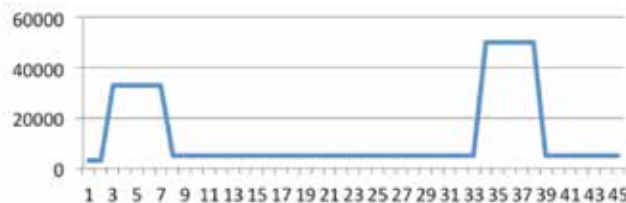
- ond stop is not another renovation, but rather a razing.
4. Timing and estimated cost for replacements—when renovation is no longer effective.

THE RIGHT QUESTION FOR OUR ANSWER

We have arrived! The question that leads to good decision making is, “What does the **Campus Facilities Timeline** reveal about the levels and timing for deferred maintenance funding, both subsistence and renovation?” Within an accurate Campus Facilities Timeline in hand, if someone asks, “What is the deferred maintenance backlog?,” the response should be, “I have another piece of information that is even more helpful in seeing the overall campus condition. Let’s look at the Campus Facilities Timeline.”

Any discussion of a “snap shot” deferred maintenance backlog figure should be banned from the Board room. Auditing buildings with a deferred maintenance backlog figure as the goal—to be networked off campus—needs to be stopped. Auditing ought to be focused on validating a subsistence budget and to assist in setting a renovation date for a building. This discussion applies to building physical needs only. Programmatic needs are another layer that goes into a final Overall Timeline.

My particular institution’s Campus Facilities Timeline looks like this:



Significant funding is needed to renovate a set of 1970s buildings, while the rest of the inventory is fairly new. The peaks in the chart have flat tops because it is always an extended timeline associated with the renovation of occupied buildings. If the current renovation need is funded, in planning years 2 – 8, then the next major renovations don’t begin until planning year 33. As the renovation dates draw closer, they will be adjusted by an “every five years” audit of actual field conditions. 💰

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Leadership Approaches to Change

Does your organization need a shot of innovation or motivation?

By Joe Whitefield

The off-season is always an important time for many sports teams and seasonally oriented organizations. It involves assessing the performance of the previous season, setting or resetting goals for the upcoming season, and taking the necessary steps to renew or increase your chances of success in business or on the field. The off-season is the time for implementing change. The same process applies for facility managers and their organizations. One big difference is there doesn't seem to be a truly defined off-season on the calendar to dedicate to this process. Implementing change without the benefits of time puts a real premium on leadership.



of considerations to help today's organizational leaders deal with change.

TO BE PERFECT IS TO CHANGE OFTEN

Once the effectiveness of a particular product or service has been evaluated and found wanting, a shrewd leader should first ascertain the nature of the problem(s) and establish a path to improvement. There are two important questions to be asked at the beginning. First, are we doing the right things?

Second, are we doing things right?

The answers to these questions will serve as the basis for establishing the improvement path and any resulting activities.

"Right things" questions are like directional questions. Are we heading the right way or are we lost? Directional questions challenge an organizational vision, strategies, and executable plans—the big ones and the small ones. If you get the wrong answers to the question of right things, the appropriate response will undoubtedly involve some form of **innovation**.

Innovation is a new and better approach, philosophy, strategy, plan, or process. Leadership recognizes the shortcomings of the old and replaces it with something new and different—by different, I mean better. This is the point where things get really interesting. It is difficult to assess the effectiveness of the innovations and the quality of leadership when execution falters. That leads us to

TO IMPROVE IS TO CHANGE; TO BE PERFECT IS TO CHANGE OFTEN.

—Winston Churchill

viable business plans and the economics of responding with competitive products or services. Internally, the work environment is constantly evolving, with shifting personnel issues coupled with technology issues that are some combination of helpful, hurtful, distracting, and/or confusing (the undesirable pairing of Murphy's Law and Moore's Law).

Change is everywhere. The need to be responsive and improve is evident. The need for effective leadership essential. Sir Winston Churchill, a great leader himself, once said, "To improve is to change; to be perfect is to change often." With that in mind, let's look at a couple

GUIDING CHANGE

Organizational leadership is nothing if it is not about guiding change. Continuing on the same path at the same speed producing the same results over long periods of time does not particularly require much leadership. These organizations run themselves. A handful of accountants and some experienced supervisors usually suffice.

Of course, no organization truly runs itself—and none that I know are immune to change these days. Externally, there are waves of changing customer expectations and market forces. These present numerous challenges with regard to

question if we are doing things right.

It is always the right time to evaluate the execution of your business and service plans. Consider how to do the things you do better. Are we completing the tasks? Is our effort sufficient? Are we communicating well? Are we meeting a standard or simply doing the minimum? Is there a perception problem? A common thread for many of these questions is people. One possible answer to people problems of this nature is **motivation**.


Motivation is that internal personal commitment to a standard of conduct or service. When people are motivated, they see their work in terms of the value it contributes to the organization. Conversations are about standards instead of rules, accomplishment instead of duty, and others instead of themselves. Once again we find leadership to be essential

to foster this environment. In this arena, a leader must set the expectations, model the behavior and speech, encourage others, and recognize good decisions and behaviors of others. In this time of technological advances, great emphasis has been placed on innovation-oriented leadership. However, inspirational leadership, while often overlooked, produces so many benefits because it focuses on people more than things.

NOT SO OBVIOUS

One final thought is the inherent, but not so obvious, link between innovation and motivation. Innovation can trigger an uptick in motivation and performance because employees get excited over something new—especially if it helps them become more efficient at their work. Likewise, when the morale of

employees increases they may come forward with more creative ideas and innovation happens. The workplace becomes healthier and more vibrant when this culture is common place because people enjoy making their individual contribution to the organization's success.

Spectators have opinions; leaders have responsibilities. These responsibilities require making decisions and supporting those decisions to their productive ends through all types of change. So, make sure you look around and take inventory of your organization routinely. It may need a shot of innovation, motivation, or some combination of both. Give it to them. 

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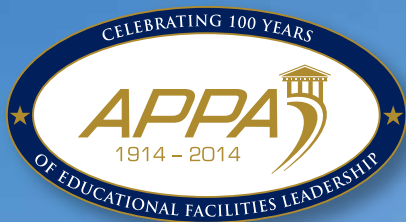
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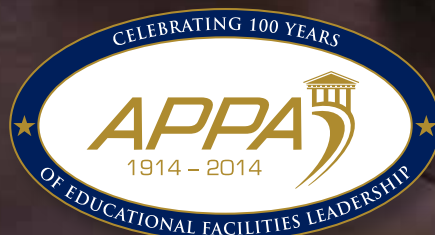
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The Growing Mandate for Green Buildings

APPA's Green Codes Work Group to monitor Standard 189.1 and the International Green Construction Code (IgCC), and their impact on campus facilities

By Mark Goska and John Bernhards

As a facilities and physical plant professional, you are certainly aware of the influence of ASHRAE Standard 90.1 as well as the LEED certification process, which operates under the U.S. Green Building Council (USGBC). Together, ASHRAE 90.1 and LEED represent in many respects the first significant attempt to establish voluntary standards and rating systems that support sustainable construction, as well as green energy, operations, and resource management practices within the built environment. In more recent years, however, we have

seen the next forward leap: a movement toward *codification* of green building standards, through the creation of Standard 189.1 and the publication of the International Code Council's International Green Construction Code, commonly referred to as IgCC.

Standard 189.1, *Standard for the Design of High-Performance Green Buildings, Except Low-Rise Residential Buildings*, is an ANSI American National Standard produced through the combined efforts of the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE); the USGBC; and the Illuminating Engineering Society (IES). It provides minimum requirements for the siting, design, construc-

tion, and operation of high-performance green buildings.

Known for its creation of model codes, the ICC has published the IgCC—a readily adoptable green construction code for use by states and municipalities. ICC established IgCC in collaboration with the American Society for Testing and Materials (ASTM) International and the American Institute of Architects. Standard 189.1 is cited as a jurisdictional compliance option within the IgCC. As of October 2013, five U.S. states (Florida, Maryland, North Carolina, Oregon, and Rhode Island) have adopted the IgCC, along with cities and municipalities in Arizona, New Hampshire, and Washington State. And you can be certain that more are soon to follow.

The IgCC identifies *mandatory* baseline requirements for building and site sustainability. It also establishes mandatory baseline requirements for building products, in a manner similar to mandatory provisions found in other codes for structural and fire requirements. It addresses key elements of green building design: Site Development and Land Use, Material Resource Conservation and Efficiency, Energy Conservation, Water Resource Conservation and Efficiency, and Indoor Environmental Quality.

APPA'S GREEN CODES WORKING GROUP

As compliance efforts within jurisdictions take shape, there is a need for the




education sector to carefully monitor and examine how green codes compliance will ultimately impact new and existing construction, as well as how educational facilities and other physical assets are operated and managed. It is why the APPA Standards and Codes Council established in December 2013 its Green Codes Working Group, which is responsible for the following activities:

1. Monitor the development of new and existing "Green Building" standards and codes, to include Standard 189.1 and the IgCC.
2. Educate APPA members on the impact of green building standards and codes in the educational facilities environment.
3. Where necessary, prepare APPA position statements for consideration and approval by the APPA Standards and Codes Council, regarding new green building standards and codes and proposed changes to existing standards and codes.
4. Where opportunities exist, offer proposed changes and recommendations to existing and proposed green building standards under development within ASHRAE, ICC, and other external standards committees and code-setting bodies.

To launch its activities, the Green Codes Work Group conducted its inaugural conveners' meeting on February 19. The virtual conference meeting attracted over 80 senior facilities officers, directors, managers, and codes specialists from among 60 APPA member institutions, as well as persons with standards and codes expertise from APPA's business partner community.

All facilities professionals and persons with codes compliance responsibilities at their educational institutions are encouraged to attend future work group meetings and to participate in its activities. The Work Group meetings are monthly and virtual to encourage the broadest possible participation among APPA member institutions and to make

meeting attendance as convenient as possible.

Contact Mark Goska at mgoska@uab.edu or John Bernhards at john@appa.org to learn more about joining the Green Codes Work Group and supporting APPA in educating and leading its member institutions on this important, emerging issue. 

Mark Goska is executive director of quality and standards at the University of Alabama Birmingham, and can be reached at mgoska@uab.edu. John Bernhards is APPA's associate vice president, and can be reached at john@appa.org.

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“Line in the Sand” Between Auxiliaries and Central Plant

By Matt Adams, P.E.

Unless you spend time on many campuses, it's difficult to appreciate how different each can be. While they might look similar as you drive past the front gate, the moving parts inside are unique. This is true for the organizational structure in particular. For decades our educational institutions have grappled with the principles of centralized versus decentralized operations, and continue to do so today.

The quandary of the split between facilities management (FM) residing centrally or within auxiliaries is alive and well. Some will argue that cost savings are achieved through economies of scale resulting from a largely centralized operation. Others feel strongly that only decentralized FM provision will effectively meet the unique priorities of each major facility owner on campus (be it residence life, athletics, student health, union, or even general fund classrooms and laboratories).

The split on this topic is demonstrated by the fact that over time some of our peers have drastically redesigned their FM operations from centralized to decentralized and back again. But if you also subscribe to the idea that each campus operation is unique, then it's reasonable to assume that there are a few basic rubrics that assist in finding the “line in the sand.”

FINDING THE THRESHOLD

Size

For many, the size of the auxiliary operation makes a difference. Unfortunately, smaller operations are unable to

employ enough staff to represent every discipline, such as facilities management. As such, what is often referred to as “profound knowledge” is not present regarding FM. Without this critical mass the operation still struggles to effectively manage any maintenance functions with any sophistication.

On the other hand, some auxiliaries like the large residence life departments on many campuses are more than large enough to employ a full complement of FM staffers. Given this spectrum, what is the threshold that an auxiliary manager would look for when considering the make-versus-buy decision from central operations analysis?

Make/Buy Metrics

One approach is to base it on normal make/buy metrics. In general when you are spending the equivalent of 150% of the cost of an internal full-time-equivalent (FTE) on purchased services it is likely that FTE should be hired in-house. However, one FTE for a small organization needs to be managed by someone with profound FM knowledge.

Typical management/supervisory ratios today suggest a 1 to 7 maximum standard. Therefore, when the purchased services of any one maintenance trade reaches the point of 7 (FTEs) X 150 percent (\$FTE with overhead mark-up) of centrally contracted trades persons, a manager is implied to be built



into that fully loaded cost. At that point the cost of the manager should be negotiated out of the \$ FTE mark-up and a supervisor can be hired by the auxiliary for essentially a “wash.”

Funding

In any institution budgets and funding are critical, and for central plants and their auxiliary counterparts, this holds true as well. This area also varies from campus to campus, but there are some basic areas of analysis that are universal.

The most important distinction is that auxiliaries are typically self-supported. That is to say that they are designed to operate and provide services within the budget funded by the purchase of the services. This is different from other positions on campus included within the general fund or overall campus budget,

especially for state institutions.

The central FM department is part of the general fund and is typically fixed. Changes to this budget are incremental and not typically based on the actual level of service delivered, or even workload. They are a product of years of percentage increases and decreases that occur independent of the service load demand of the campus. This dynamic does not serve auxiliaries well.

Notwithstanding the other analytics of this analysis, auxiliaries are better served by hiring staff internally. This staff is more easily increased or decreased in direct relation to the change of the physical plant size (number of beds for example), and associated work load. Furthermore, the auxiliaries are able to redirect internal funds from budget to budget as the mission and priorities change. This is much more difficult to manage for a central FM department.

Economies of Scale

Many administrators hold the belief that larger central facility departments offer the economies of scale. However, examples of such benefits of scale are hard to find. With respect to both classified and exempt staff, the size of the service centers does not reduce per unit cost of service delivery. This is largely due to the strict work rules and benefits associated with university employment. The management ratios are relatively fixed.

The cost of training may be reduced slightly with size, but this is not a significant cost savings. In fact, time has shown that when a central facilities department grows beyond the basic organizational structure that includes a director, supervisors, and the trades and other classified staff, the overhead and back-office, human relations, IT, and other cost increase per delivered service unit. Unlike some modern industries, the most efficient facilities management organization is not necessarily the largest.

Priorities and Schedules

Finally are the dynamics of priorities

and schedules. Anyone that has seen the FM operations of a conference center, hotel complex, or hospital knows that the priorities and schedules are dramatically different than that of general fund facilities. The auxiliaries on campus also have priorities and operating schedules that are unique and demanding. The fundamental design of a service center is greatly impacted by these factors.

For example, a plumbing shop that must react within 30 minutes to service calls from 6:00 a.m. until 10:00 p.m. is organized much differently than one that can respond within 24 hours from 7:00 a.m. until 5:00 p.m. Auxiliaries often require fast response to requests in order to meet the priorities of high customer service. It is difficult if not impossible for centrally dispatched trades to meet this need, especially in the later hours when problems are likely to occur.

JUST RIGHT OR LEFT OF MIDDLE

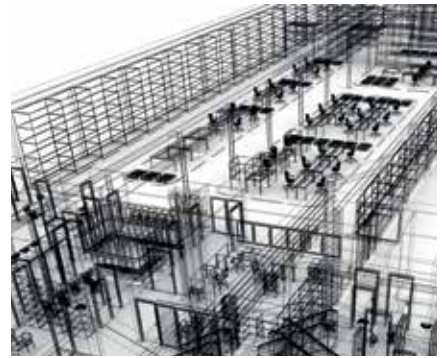
Politics aside, each campus should review the organizational structures of their own central and auxiliary FM functions. In most campuses, the line in the sand is somewhere just right or left of the middle, or in a hybrid arrangement. Peer best practices have proven the success of this design. Either extreme is typically dysfunctional for most institutions, except the very large and the very small.

There is no reason why there should be conflict between the two peer internal departments. Reorganization based on logical best practices will serve everyone and make the customers happier in the end. ☺

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Matt Adams is president of Adams FM², Atlanta, GA. He can be reached at matt@adamsfm2.com.



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APPA's 2013 FPI Report, A Sneak Peak

By Maggie Kinnaman

A BRIEF HISTORY

As you're reading this article, the final published 2013 FPI report has just been released. Having been closely connected to FPI since the inception of the Strategic Assessment Model (SAM) in 1995, I've seen this product continually improve in many ways. Prior to the development of SAM, members completed a survey of indicators called the Comparative Costs and Staffing Survey. This survey was then joined with the strategic indicators developed as part of SAM to create what is now the Facilities Performance Indicators (FPI).

But, FPI is so much more than a survey! Organized around modules, it is intended to provide the answers to essential questions that every effective facilities manager should know about his or her institution.

Collectively, the modules tell a story about the state of the largest capital asset of any college, university or school: its buildings and infrastructure. The point of a participant completing the survey to collect and use credible data to is to educate and inform key campus decision makers about the state of their largest capital asset. Strengths and opportunities can then be identified, and strategic initiatives developed. All of these activities are supported by real and sound data, making the FPI a powerful tool.

EXPLORING SOME MODULES

Given that introduction as a backdrop, let's explore one of the powerful areas of the 2013 report to see what the data



is telling us. Please keep in mind that I am using the data set before it is in the final phase of data scrubbing, and so the numbers being discussed will be slightly different from those in the final published report.

In module 2 (What facilities make up our institution?), we ask for the adjusted average age of your mission critical buildings. Further instructions state that the participant should take the calendar age of the building and adjust for both building size (GSF) and the impact of recapitalization efforts over the years (a spreadsheet has been developed by an APPA member to help with these calculations).

As you can imagine, a campus building could easily have a calendar age of 75 years. But after undergoing three major recapitalization efforts, the adjusted building age could easily be 10 years.

In module 5 (Is my institution making the right investment in our existing buildings, infrastructure, and academic programs?), we ask for the useful lifespan of the buildings. Basically when you build a new campus building, how long will it provide a competitive advantage for the business of education without a major infusion of funding? Over the past five years or so, the building useful life has been about 50 years.

From these two data points, we have created a ratio called the Building

Aging Ratio. This ratio is intended to tell us how close the campus buildings are to being fully aged. This ratio ideally should have some correlation with the Needs Index and the Investment percent.

As an example, if the Aging Ratio is 80 percent, one would expect to see a relatively high and growing Needs Index and an investment level significantly less than minimum over time. If that's not the case, the data set is not consistent with the story it is telling.

BEFORE YOU HIT THE SUBMIT BUTTON...

Once the survey is completed, and all outliers and audits addressed, participants should ensure that the story their data is telling, matches what they know to be their institutional reality—before you hit the final submit button. If there is a conflict, the inconsistent data will need to be revisited. This is the final, but essential, step in ensuring that the data becomes a credible tool supporting your story about the buildings and infrastructure at the institution.

DECIPHERING THE DATA

So now that you understand the theory about FPI, let's look at the preliminary overall averages of the data points discussed from the 2013 survey as of January 15, 2014. (See inset)

So what does the data mean? The reduction in adjusted average age of buildings from 37 years to 33 years is a reflection of more participants moving from a calendar building age to an

	2012	2013
Adjusted Average age of buildings	37	33
Useful Life	53	55
Building Aging Ratio	74%	58.5%
Needs Index	18%	18.7%
Minimum Investment Gap %	.8%	.8%
Minimum Investment %	2%	2%

adjusted average age, thus reflecting the impact of both size and recapitalization of buildings. This is a great trend.


That trend of data refinement is also most visibly reflected in the Building Aging Ratio, which went from 74 percent in 2012 to a more realistic 58.5 percent in 2013. So when we look at the association between data and ratios year to year, in 2013 we've established a more accurate Building Aging Ratio that can serve as our baseline moving forward.

Our Needs Index is starting to creep up, which is a reflection of our minimum

investment gap percent of CRV at .8 percent. This is telling me that on average we're investing 1.2 percent of current replacement value (CRV) of a recommended minimum investment of 2 percent CRV per year. Over time that level of investment will increase the Needs Index. These data points and ratios collectively then start to build a compelling picture of cause and effect, and opportunities for the future that can be shared with senior institutional leaders regarding the state of their largest capital asset, buildings and infrastructure.

TAKE THE CHALLENGE

I encourage each of you to take up the FPI challenge. To be effective in today's world of facilities management, it is essential that you are well armed with the answers to FPI's essential questions. Start planning today by reviewing FPI and the approximately 75 questions that make up the essential set of data input amongst the seven modules. Start to collect your data now, so when FPI opens up in July 2014 you're prepared. Don't let another year go by where you know you need to participate, but it just doesn't happen.

As Nike said, "Just Do It." 

Maggie Kinnaman is APPA Emeritus Member, APPA Fellow, and Past APPA President. She can be reached at maggiekinnaman@comcast.net.

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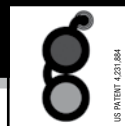
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APPA U Class of February 2014 Celebrates in Dallas, TX

By Suzanne Healy

A FANTASTIC WEEK OF LEARNING! APPA U, which was recently held in Dallas, Texas, showcased another successful professional development gathering of the Institute for Facilities Management and the Leadership Academy. Colleagues from around the globe were welcomed to learn, network, and collaborate.


We are very grateful for the dedicated faculty who make these offerings such a success. A special note of thanks goes to Institute Deans: **Mary Vosevich, Jay Klingel, Lynne Finn, and Don Guckert**; and our Academy Faculty: **Glenn Smith, Al Stoverink, Chuck Farnsworth, David Judge, Ann Jenkins, Shawna Rowley, Matt Adams, Viron Lynch, Doug Christensen, Ana Theimer, Steve Stephens, Christina Hills, and David Cain.**

Throughout the week, students had opportunities to interact with experts who brought their knowledge and experiences from vast backgrounds and provided a rich environment for all

attendees. With a recent record attendance of more than 450 professionals from across North America, the Virgin Islands, and Lebanon, we welcomed 100 first-time attendees, proving that APPA's popularity in the profession continues to grow!

As the week drew to a close, we celebrated with graduation ceremonies for the class of February 2014 (including 68 new alumni).

A big kudos to all those institutional leaders who supported the professional development of their staff! The professional development of any individual must be as customizable as the individuals themselves—and APPA is here to help everyone achieve their personal, organizational, and institutional goals.

Please visit www.appa.org/training for more on all of APPA's program offerings. 

Suzanne Healy is APPA's director of professional development and can be reached at suzanne@appa.org.



PHOTO BY RHONDA HOLE

Academy Graduates

In alphabetical order; not all graduates are pictured.

Vincent Allen, *Illinois State University*

Erick Ceballos, *Ransom Everglades School*

Wayne Flack, *Concordia College/Moorhead*

Humberto Florez, *Florida International University*

Gary Hill, *Dartmouth College*

Kristie Kowall, *Illinois State University*

Steve Lancaster, *Illinois State University*

Miguel Lopez, *Weber State University*

Bob Notary, *University of New Mexico*

Fred Patrick, *University of North Carolina/Greensboro*

Jan Pekar, *Point Park University*

Brian Pettie, *Arkansas State University*

Susie Reid, *University of Richmond*

John Reisen, *University of West Florida*

Albert Scott, *Duke University*

Christina Williams, *Texas Woman's University*

Terri Willis, *University of Colorado/Boulder*

Institute Graduates

In alphabetical order; not all graduates are pictured.

Jeffrey Aaberg, *University of Iowa*

Donald Ates, *University of Texas/Austin-Housing*

Hans Barsun, *University of New Mexico*

John Blankemeyer, *University of Pennsylvania/Philadelphia*

James Bogan, *University of Wisconsin/Madison*

Christopher Brookins, *University of Puget Sound*

Steve Bryant, *University of Alaska/Anchorage*

Craig Changfoot, *Simon Fraser University - Burnaby*

Christine Childress, *Eastern Illinois University*

Richard Clark, *University of Nevada/Las Vegas*

Jeremy Davis, *Miami University*

Amy Day, *Pennsylvania State University*

Edwin Dixon, *University of Alabama/Birmingham*

Michael Ferraiolo, *University of Pennsylvania/Philadelphia*

Dwight Forsgren, *University of Saskatchewan*

Michael Francis, *University of Pennsylvania/Philadelphia*

Tim Garland, *Keene State College*

Steve Geiken, *University of Nebraska/Omaha*

Lisa Gerspacher, *University of Regina*

Marlah Green, *Tennessee State University*

Shannon Hanne, *University of Texas/Austin*

Jon Hanson, *Normandale Community College*

Rex Harrell, *Guilford College*

Bernard Harvey, *University of Washington/Bothell*

Christopher Hatfield, *University of Notre Dame*

Greg Hogan, *University of New England*

Michael Hood, *Auburn University*

Randall Hooper, *University of Texas/Austin*

John Jawor, *Joliet Junior College*

Gerald Jerao, *San Diego State University*

Alan Kelley, *Bates College*

Charles Kraus, *University of North Carolina/Charlotte*

Brian Kugler, *University of North Carolina/Charlotte*

Sam Levis, *Montana State University/Billings*

Ralph Lewis, *Illinois State University*

Julie Lunsford, *Rose-Hulman Institute of Technology*

Lisa Marbury, *University of New Mexico*

Paula Matz, *University of Regina*

Michael Merriam, *University of Virginia*

Darrin Meszler, *University of Rochester*

Brooks Meyers, *Pennsylvania State University*

Jason Mott, *Le Moyne College*

Brian Mullen, *Michigan State University*

Joanna Norton, *North Carolina State University*

Tom Owenby, *Woodward Academy*

Gary Paoletta, *John Carroll University*

Byron Patterson, *Southeastern Louisiana University*

Doug Phelps, *University of Richmond*

Brion Reed, *North Carolina State University*

Michael Roeder, *John Carroll University*

Mary Romestant, *Emory University*

John Sigler, *Eastern Illinois University*

Robert Slavik, *Colorado School of Mines*

Christopher Smeds, *University of Virginia*

David Smith, *University of North Carolina/Charlotte*

Mark Stanis, *University of Virginia*

Fred Stone, *Missouri S&T*

Ronald Tarbutton, *Oklahoma State University/Stillwater*

Sherry Toliver, *Alamo Colleges*

Roberta Voelkel, *University of Iowa*

John Watson, *Dallas County Community College District*

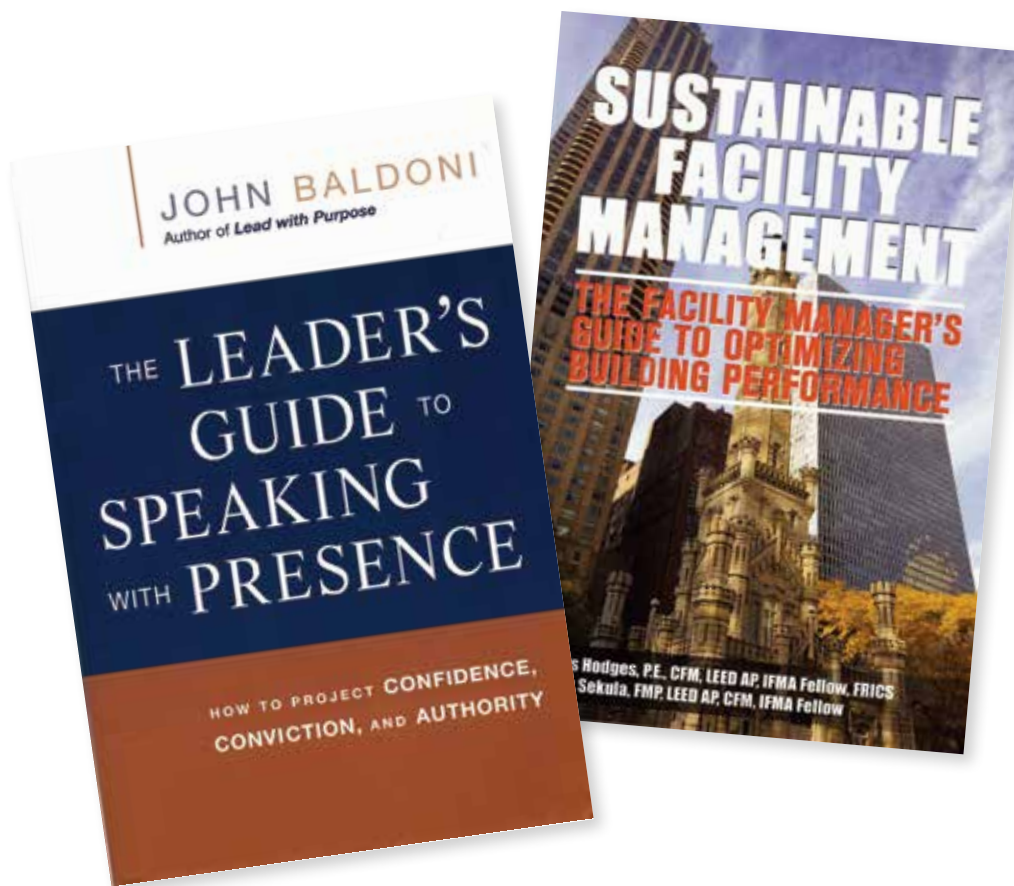
Tara Weachter, *Auraria Higher Education Center*

Dana Yoshimura, *University of Hawaii/Manoa*



Book Review Editor: Theodore J. Weidner, Ph.D., P.E., CEFM, AIA

Some readers may be in the midst of budget development for next year, while it may be too late for others. Regardless, there are two books to include in your spending plans now either to make refinements to next year's budget, or to prepare for the following year. They are not financial books, instead, they address bigger-picture issues that challenge facility managers everywhere.



THE LEADER'S GUIDE TO SPEAKING WITH PRESENCE: HOW TO PROJECT CONFIDENCE, CONVICTION, AND AUTHORITY

by John Baldoni, AMACOM, New York, 2014, 80 pp., \$6.95, softcover.

Every leader must speak in public (even if it's to a small group). Some folks do it well, others need help. Well,

help is here. *The Leader's Guide to Speaking with Presence* is a handy (slightly larger than pocket size) guide that gives pointers and examples for a better and successful speaking style. As stated in one quote, "stand-up, speak-up, shut-up," this book gets the point across clearly and quickly—a pleasant change from other manuals.

The author starts quickly with examples of good speaking habits. Starting with acknowledgment of the audience and the importance of making connections (friends) with them so that they want to hear what you have to say. Subsequent chapters talk about posture, looking at the audience, and breathing (recognizing that some people have stage fright and forget to breathe). That's right, some people still have a greater fear of public speaking than they have of death, so there's a chapter discussing how to overcome the fear. All this is accomplished within very few pages. There's even discussion about what makes a good presentation with or without PowerPoint.

I like this book. The points are consistent, valuable, and pithy if not necessarily unabridged. It has a great price point, and great length; at \$6.95 it's a tiny investment for a great reference.

SUSTAINABLE FACILITY MANAGEMENT

by Chris Hodges and Mark Sekula, Vision Spots Publishing, Alexandria, VA, 2013, 422 pp., Atlantic Monthly Press, New York, 2003. 268 pp. \$25, softcover.

The facilities management field has few books dedicated to the subject, and sustainable facilities management (SFM) has fewer still. Those interested in the topic usually meet their information needs by engaging consultants or studying a book in a related field. When a book in either area comes to my attention I'm eager to read it and see how it can help me fill my library with more focused information. That's what drove me to

read *Sustainable Facility Management; The Facility Manager's Guide to Optimizing Building Performance* by Hodges and Sekula.


While this appears to be a sizable book, *Sustainable Facility Management* is well written and flows nicely from one chapter to the next. Initial concepts about sustainability are introduced and then followed by essential elements of implementation: leadership, strategies, metrics, and factors.

The inputs and outputs of sustainability are discussed with a chapter that focuses on financial terms that the CFO might use rather than the terms the facility manager is familiar with. Presentation of these tools to convince others why different sustainability

options may be recommended, are important for even the most seasoned facility officer.

Another notable feature of *Sustainable Facility Management* are the references to sustainability organizations and documentation outside the United States. International organizations like APPA need to have access to international standards to meet all member needs, and this book is a good start. National references cover all of APPA's members and strategic partners except South Africa's SRI, Japan, and Singapore. Regardless, it is a significant improvement over the North American centric systems most of us see.

Finally, the authors utilize many of the other general techniques presented

at APPA U to implement new or manage existing initiatives including balanced scorecard, change management, and total cost of ownership, among others. This is a good, wide-ranging book, with tools that are not limited to sustainability alone. I plan to use it frequently in my work. 

Ted Weidner is president of Facility Asset Consulting, Noblesville, IN, and can be reached at ted@weidnerfac.com.

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Compiled by Gerry Van Treeck

WaterSignal announces a wireless system that continuously monitors water usage in real time. Utilizing breakthrough technology, a self-contained, non-intrusive monitor listens to the pulse of the water meter, and real time



data is sent wirelessly to a website portal to view the properties water consumption by the month, day or even down to the hour. If a major leak occurs, much like an energy surge popping a

circuit breaker, the device alerts the manager or engineer that a water spike above the preset limit has occurred. The alert can be sent to both a computer and a smartphone for the manager to act upon, and can be customized for business hours as well as after hours and weekends. For additional information on WaterSignal visit www.watersignal.com.



Sapphire Scientific introduces the new dual-wand 460 truckmount, combining proven components, solid design and operator convenience. The new 460 is well-suited for heavy-duty carpet cleaning and restoration. Delivering heat and pressure along with last-step chemical injection, this unit is geared for optimal performance. The 460 features a 38HP EPA certified gas powered Kohler engine. The 460 also incorporates Sap-

phire's patented heat exchange technology which maximizes the use of the engine and blower exhaust to deliver higher temperatures to the cleaning tool. For further information on Sapphire Scientific visit 460.sapphirescientific.com.

SCIGRIP unveiled its SG900 Seaming Adhesive designed for joining and seaming solid surfaces. SG900 is formulated with the latest technology for the surfacing industry and offers excellent bonding to a variety of solid surface substrates including



acrylics, engineered stone, cultured marble, glass reinforced plastics, polyesters and polyester blended materials. Available in a full range of colors, the room tem-

perature fast-curing SG900 is ideal for a variety of construction and engineering applications. Featuring superior water and chemical resistance, including household chemicals, SG900 is also scuff- and impact-resistant and matches work surface texture when dry. For greater information on SCIGRIP please visit www.scigrip.com.

SitePro[®], from Worksaver, Inc., introduces new Mini Snow Blades designed for Mini Skid Steers/Compact Tool Carriers. These 50" snow blades are ideal for clearing sidewalks, eliminating hand shoveling. Available with "universal" mini skid steer mount or Bobcat MT/Gehl, the mini snow blades feature a moldboard construction of 10-gauge steel with 3/8" x 6" bolt-on cutting edge. Skid shoes of abrasive resistant steel are standard equipment. For more information regarding SitePro[®] Professional Grade Attachments visit www.wssitepro.com.



Masterchem Industries, maker of KILZ[®] brand products, announced the re-launch of its KILZ PRO-X[®] 100 Series interior paint line. Featuring an advanced new formula, the product offers painters, contractors, property managers, and remodelers strong hide and touchup capabilities at an afford-

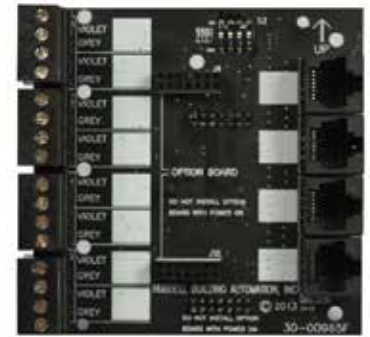


able price point—between \$62.50 and \$87.50 for a 5-gallon bucket (depending on sheen). Designed with the needs of industry professionals in mind, the high-hide and commercial-grade KILZ PRO-X 100 Series allows for projects to be completed faster, with potentially fewer coats, while still delivering a

consistent and durable finish. For additional information visit Masterchem Industries at www.kilz.com.

Hubbell Lighting announced its latest energy-saving dimming controls solution—Hubbell Building Automation’s new CX Dimming Option Card. Now, any of Hubbell Building Automation’s popular, low-cost CX Lighting Control Panels are

fully dimmable. The new CX Dimming Option Card provides 0-10V full range dimming allowing users to control their environments while increasing energy savings. The CX Dimming Option Card offers a low cost solution for lighting control challenges including stringent energy codes, demand response requirements and LEED qualifications. For further information on Hubbell Lighting products visit www.hubbell-automation.com.



New Products listings are provided by the manufacturers and suppliers and selected by the editors for variety and innovation. For more information or to submit a New Products listing, e-mail Gerry Van Treeck at gvtgvt@earthlink.net.

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