

September/October 2004

VOLUME 20

NUMBER 5

# Facilities Manager

The official publication of APPA: The Association of Higher Education Facilities Officers



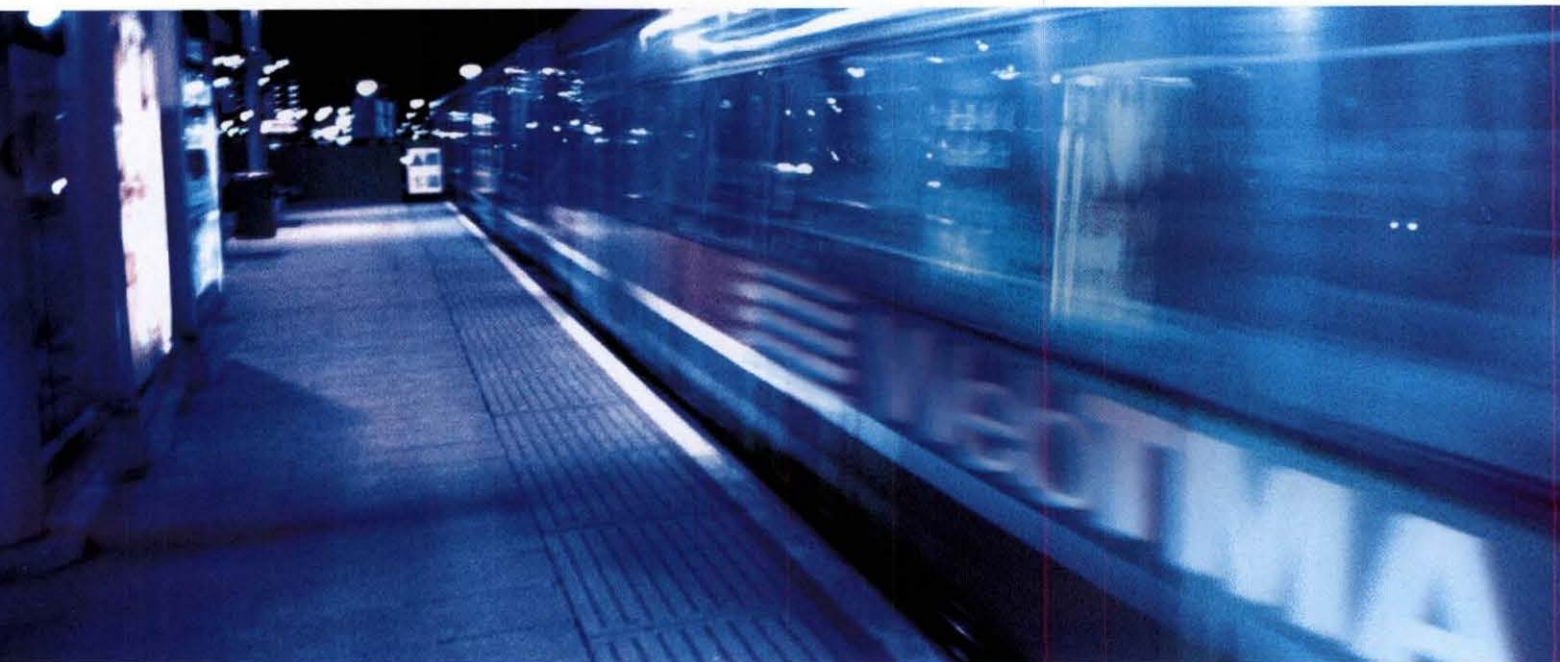
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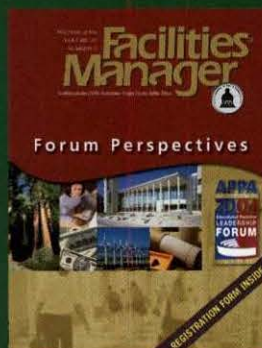
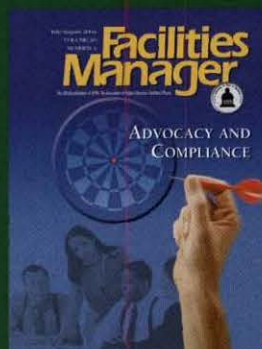
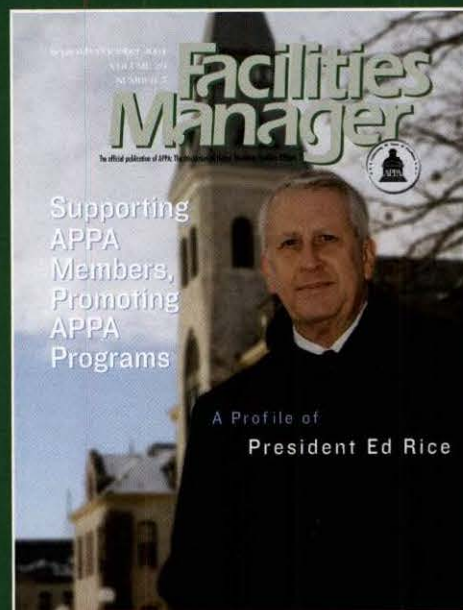
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Global Partner in Learning

## From the Editor

by Steve Glazner

If you didn't attend the 2005 Educational Facilities Leadership Forum last July in Washington, D.C., you missed a tremendous program. Our keynote speakers—David Ward, president of the American Council on Education, and Brit Kirwan, chancellor of the University of Maryland System—presented a balanced, clear-eyed view of the state of education. Diminishing appropriations from the state (for public institutions), continued federal mandates, and rising tuitions are just a few of the critical factors affecting our educational institutions. You can read more about the comments from these and other Forum speakers in Lander Medlin's Executive Summary column.

You can also review some of the highlights of the Forum through the photo section in this issue. We're proud of the accomplishments of so many of our institutions and individual members, including Emory University and the University of Memphis for receiving APPA's highest institutional honor, the Award for Excellence in Facilities Management.

We also wish to give kudos to the first-time recipients of the new APPA Fellow designation: Doug Christensen of Brigham Young University; Bill Daigneau of the University of Texas M.D. Anderson Cancer Center; and Jack Hug, APPA member emeritus formerly with the University of California-San Diego. These three individuals alone or together have logged in dozens of years of time in developing APPA projects and programs, in teaching and writing, and in leading the association in a number of important

ways. Very few will attain the APPA Fellow designation in the future, but these three are truly worthy of being the first.

In this issue of *Facilities Manager* you will read about Ed Rice, APPA's new President. His theme for the year focuses on the value of grassroots membership efforts, and in communicating the many benefits of APPA membership to our colleagues in educational facilities management.

The centerpiece of this issue, however, is a report from each of the 2004 recipients of the Effective & Innovative Practices Award. You'll learn of the excellent examples of teamwork and innovation recognized at schools large and small, public and private: Brigham Young University, Dallas Theological Seminary, Illinois State University, Penn State University, and Queensland University of Technology.

This is a good time to remind you that it is not too late to consider nominating yourself, a colleague, or your institution for one of APPA's awards and recognition programs.

- Award for Excellence in Facilities Management
- Effective & Innovative Practices
- APPA Fellow
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- Pacesetter Award

Details about each award can be found at [www.appa.org/recognition](http://www.appa.org/recognition), and the deadlines for submission of all APPA awards is January 31, 2005. Good luck! 🏆



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Compiled by Betsy Colgan



## Parlez vous Français?

Registration will open November 1 for the Institute for Facilities Management held this September 12-16 in Montreal. Enjoy your stay at the Queen Elizabeth Hotel while attending the valuable Institute courses. Visit [www.appa.org](http://www.appa.org) to register.

## Toolkit in New Orleans

Supervisor's Toolkit: Nuts and Bolts of Facilities Supervision will be presented November 15-20, 2004, in conjunction with the ISSA/INTERCLEAN 2004 meeting. The

### Supervisor's Toolkit

Nuts and Bolts of Facilities Supervision

meeting and training sessions will be held at the Ernest N. Morial Convention Center in New Orleans. Your Toolkit registration fee includes free admission to the ISSA tradeshow on Thursday and Friday, November 18-19. Visit [www.appa.org](http://www.appa.org) to register.

## New Website Launched

Two leading organizations have launched GreenerBuildings.com, a free, content-rich website providing companies of all sizes and sectors with information and resources on the full spectrum of environmental issues related to buildings and facilities.

GreenerBuildings.com is a partnership between the U.S. Green Building

Council and the National Environmental Education & Training Foundation's GreenBiz.com and is designed to help companies understand the business case for green building and help them access organizations, tools, case studies, news stories, and other resources related to greener building practices.

The site includes a calendar of green-building events and information on a range of topics including architecture and design, building materials, energy use, facility management, and water use.

"USGBC is committed to providing resources to further the green building movement," said Rick Fedrizzi, president and CEO, U.S. Green Building Council. "Greenerbuildings.com is another tool for reaching even broader audiences with the green building message."

The site will be updated weekly with news, events, guest columns, and new resources. Users can keep up to date through a free electronic newsletter, *GreenerBuildings News*.

## 2004 Edition of MasterFormat

The Construction Specifications Institute (CSI) has released the section number and titles for the upcoming 2004 edition of MasterFormat™, the specifications-writing standard for most nonresidential building design and construction projects in North America.

"Instead of waiting for the release of the complete new edition later this year, we decided to post the new section numbers and titles now so users may start familiarizing themselves with the changes and begin making plans for their transition to the new edition," said Executive Director Karl Borgstrom, Ph.D.

The new section numbers and titles are part of the most extensive update and expansion of MasterFormat since it was created 40 years ago. Also, the 2004 edition broadens MasterFormat's scope to cover engineering related construction, in addition to nonresidential buildings.

Master Format is a product of CSI and Construction Specifications Canada—visit [www.csinet.org/masterformat](http://www.csinet.org/masterformat) for more information.

## EDUCAUSE Releases Survey Data

The results of the fifth annual survey conducted by EDUCAUSE on Current IT Issues have been released. This survey identifies the issues that leaders in higher education information technology see as their most critical challenges. The survey gathered responses from 35 percent of the 1,638 primary representatives of EDUCAUSE member institutions that represent public and private, associate- through doctorate-granting, and all-sized institutions. Three findings from the survey that are especially notable are:

- For the second year in a row, funding IT remains the number one issue in terms of its strategic importance to the institution, its potential to become even more significant in the future, and its consumption of IT leaders' time.
- Security and Identity Management remains among one of the top ten issues, rising from eighth to third in 2004.
- Two new issues made the top ten in 2004—Business Continuity/Disaster Recovery and Governance, Organization, and IT Leadership.

The complete Current Issues Survey article can be accessed in a PDF

*Continued on page 8*



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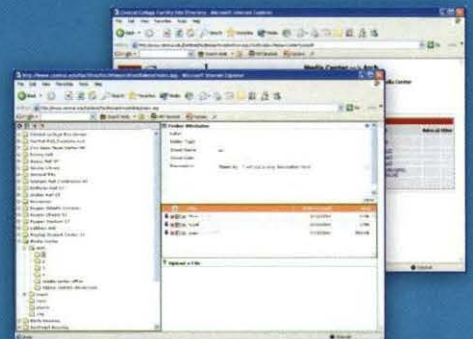
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Continued from page 6

format at <http://www.educause.edu/asp/doclib/abstract.asp?ID=EQM0422>.

### New Help Recycling?

Recycling material at today's colleges and universities is no simple matter. Recyclable items range from electronic equipment to computers to solid waste to hazardous material. Compliance with EPA regu-

lations can be a driving force to develop and maintain a successful recycling program. With that in mind, the following organizations may help with some of your recycling dilemmas.

### The Federal Electronics Challenge

([www.federalectronicschallenge.net](http://www.federalectronicschallenge.net)) provides acquisition and procurement checklists, operation and maintenance resources, and recycling suggestions.

### The Electronics Products

#### Environment Assessment Tool

([www.epeat.net/resources.htm](http://www.epeat.net/resources.htm)) provides a tool that users can apply to identify environmentally preferable products.

### Plug-In to eCycling

([www.epa.gov/epaoswer/osw/conserve/plugin](http://www.epa.gov/epaoswer/osw/conserve/plugin)) educates the public about electronics-recycling opportunities.

### WasteWise

([www.epa.gov/wastewise](http://www.epa.gov/wastewise)) is a voluntary EPA program that targets solid-waste reduction.

### Hospitals for a Healthy Environment

([www.h2e-online.org](http://www.h2e-online.org)) offers hospitals information and guidance on green purchasing and reducing waste and waster-disposal costs.

### Electronics Industry Association Consumer Education Initiative

([www.eiae.org](http://www.eiae.org)) provides customers with information on recycling and reuse of used electronics.

### Recyclable Battery Resource Campaign

([www.epa.gov/epaoswer/osw/conserve/plugin](http://www.epa.gov/epaoswer/osw/conserve/plugin)) aims to promote the recycling of portable rechargeable batteries from cellular and cordless phones, laptops, cordless power tools, and two-way radios.

### Lamp Recycling

([lamprecycle.org](http://lamprecycle.org)) provides information on recycling spent mercury-containing lamps.

### The Cellular Telecommunications & Internet Association

([www.ctia.org](http://www.ctia.org)) seeks to educate the public on options for properly recycling wireless devices. 📶

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# Executive Summary

## The 2004 Forum in Review

by E. Lander Medlin

**The date:** July 24, 2004  
**The scene:** Washington, D.C.  
**The set:** Marriott Wardman Park Hotel

No, we weren't filming the latest spy thriller movie, but we were engaged in an action-filled week at APPA's annual Educational Facilities Leadership Forum this past July. Over 700 attendees consisting of educational institutions, governmental agencies, and business partners and suppliers participated in APPA's annual educational event.

The Forum provided a full range of educational offerings with an opportunistic focus on regulatory, safety, security, and code compliance issues. This was an appropriate educational venue given our location in the nation's capital. Attendees flooded to these program offerings and attended other sessions such as the application of our staffing guidelines, the latest formulation of our facilities performance indicators data collection effort, perspectives from our effective and innovative practices award winners, and approaches to better health and wellness.

Each day we had the opportunity to converge with a general session. Our opening keynote was provided by two exceptional leaders in the field of higher education—David Ward, president of the American Council of Education (ACE) and former chancellor of the University of Wisconsin, Madison, and William E. "Brit" Kirwan, chancellor of the University



System of Maryland, and presently chairman of the board for both ACE and the National Association of State Universities and Land Grant Colleges (NASULGC).

Ward framed his remarks around the larger issues facing higher education and its relationship with the federal government and the public at large. He set the context of his discussion points around the theme of the three As—accessibility (capacity), accountability (accreditation), and affordability (college cost). Ward explained that conceptually, members of Congress blend these three issues, yet these issues need to be considered more distinctly given the complexity of the higher education enterprise. Not doing so leads to a "one size fits all" policy-making approach by the federal government. He stressed the importance of thinking strategically, not bureaucratically, with a focus on customization and individualization as the key in this new information age. He further stressed that although the purpose may be good, unfortunately the process, regulations, and actions are flawed and problematic.

Ward's second concern centered on the proliferation of regulations. Again, regulations are necessary but not based on a "one size fits all" or one-standard strategy. His third concern

was that the higher education community is in desperate need for "bipartisanship," yet that remains elusive and troubling at best and will require more work by all of us to frame our respective constituency message to ensure that we are heard. Finally, Ward stated that we are doing a poor job in explaining the changes and/or progress we have made to restructure ourselves from a bureaucratic tradition and culture to an effectively managed public/private, "not-for-profit" enterprise.

Brit Kirwan focused his remarks to a greater degree on the trends and/or dilemmas institutions are facing and provided important examples and statistics for us to reflect on and consider within our own institutions and departments. Kirwan illustrated the dilemma we face by referring to the opening line in Charles Dickens book, *A Tale of Two Cities*, "It was the best of times, it was the worst of times...." He said it is the best of times because higher education is appreciated by the public who recognize the importance of a college degree and the career options and opportunities that it affords. It is the worst of times given the systemic, continuing dis-investment rate in higher education by state legislators and federal policy makers. He reiterated a familiar question: "Will a higher education degree become an individual benefit or remain a public good?"

Kirwan further described the elements of the "perfect storm"—increasing enrollments and demand, decreasing funding from all sources, and rising tuition rates—all with the intent of preserving quality but with the corresponding negative impact of freezing demand specifically for students from low-income families. He framed a response role for facilities professionals by focusing on a num-

**Lander Medlin is APPA's executive vice president. She can be reached at [lander@appa.org](mailto:lander@appa.org).**



ber of specific ways the University System of Maryland has approached cost containment and achieved lower cost alternatives versus the present model which he believes is not sustainable over the long term. Kirwan eloquently stated that in order to maintain quality, support this high demand, manage low public general fund support, and meet our responsibilities to this nation, we must embrace structural changes to the present model. He encouraged facilities professionals to take advantage of this opportunity for increased dialogue and conversation with senior institutional officers. The time is ripe. The time is now.

Our second general session speaker was Howard Putnam, former CEO of Southwest Airlines, with the topic "Successful Strategies through Turbulence." He said, "turbulence is inevitable but misery is optional" and stressed that turbulence can also be a

The Forum provided a full range of educational offerings with an opportunistic focus on regulatory, safety, security, and code compliance issues.

positive catalyst to create change. And, indeed we are in the midst of great change as the rules of engagement have shifted since 9/11 with the wake up call we all received as a result. Putnam identified a number of challenges APPA facilities professionals must face and potentially change. They are:

- Doing more with less,
- Outsourcing,
- Recognition of your value,
- Cost containment,

- Breaking down the silos (flat organizations/ less bureaucracy),
- Mergers, consolidation, and
- Changing employee demographics (generational differences, etc.).

Therefore, facilities professionals must think long term with a focused and inspired vision. If the vision is simple, direct, and clear, it should lead to the value proposition and ultimately the development of a brand. Correspondingly, the culture you develop must support this vision and direction. Quite simply, it works; no matter what level you are engaged.

Putnam emphasized again that you have to stick to the vision, work it, be responsible for it, and be accountable to it. To do this well over time takes open and honest leadership; putting people first; creating your niche; defining your product or service; ensuring simplicity, quality, and value; enabling productivity; caring about



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the little things; and communicating continuously. Everything must occur by design! Putnam's best advice for educational facilities professionals was:

- Have a succinct vision,
- Define what business we are really in,
- Create a value proposition,
- Prioritize areas for cost containment,
- Evaluate areas that may be better outsourced,
- Develop a culture that supports the vision,
- Breakdown the silos that inhibit progress, and
- Have some fun!

And most of all, remember, it's all about people!

Our final general session speaker was Darin Goodwiler of the Department of Homeland Security, Federal Protective Service (FPS). He described how FPS is organized to do business and stressed the importance of and greatest challenge throughout the department as communications. He focused the remainder of his remarks on the "5 Ds" we must answer to ensure a secure system.

The "5 Ds" are:

- Determine the threat,
- Determine the adversary,
- Detect and assess the attack,
- Dispatch responders (equal to or greater than your adversary), and
- Delay attack.

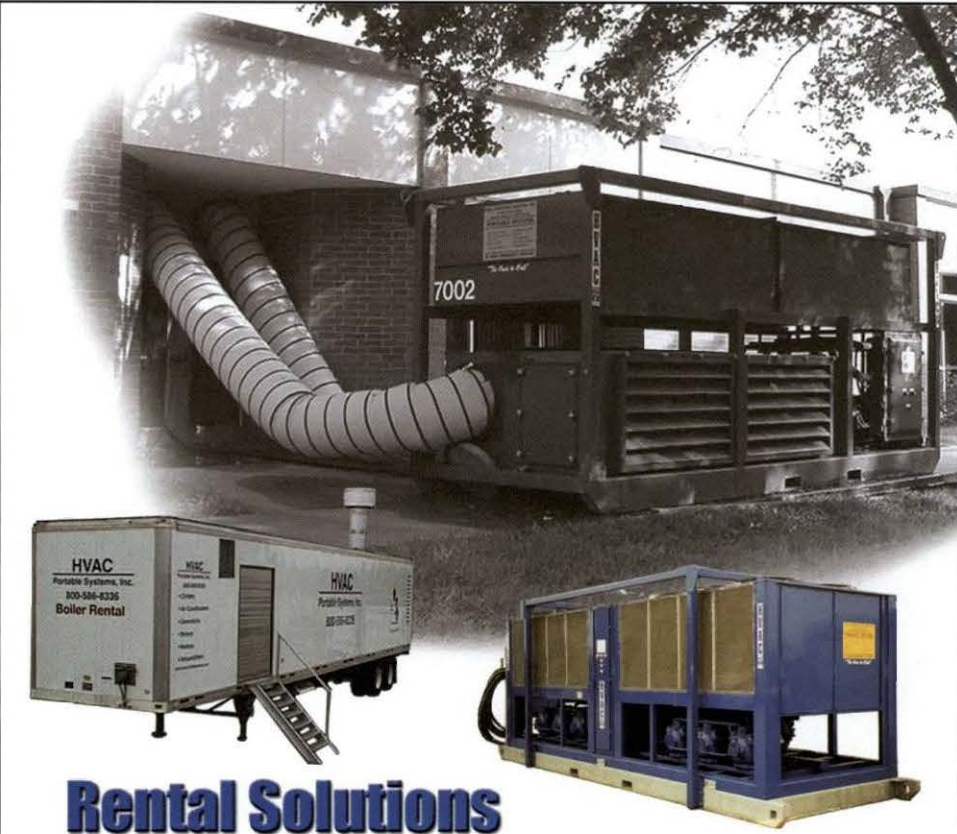
In addition, during the Q&A period, Goodwiler stated that our principal threats are the following: 1) person threat—where we might represent a potential breeding ground for terrorist infiltration; and, 2) technological threat—through our computers, laboratories/research equipment, and biochemical hazardous materials.

As you can see, the lion's share of our effort at the Forum goes into the educational program content. However, the daily breakfast gatherings and closing banquet afforded us many opportunities to both inform members

of our association and facilities profession activities/progress and appropriately recognize the diligent and serious efforts by many members and their organizations/institutions to reach for or achieve excellence against standards set by their peers and the industry profession. In fact, this magazine issue includes a recap of the Forum by highlighting our many

contributors, strategic business partners, and award recipients.

So don't miss out on all the learning and fun next year! I encourage you to join us next August 4-6, 2005, at Disney World's Dolphin Hotel in Orlando, Florida. 🏰



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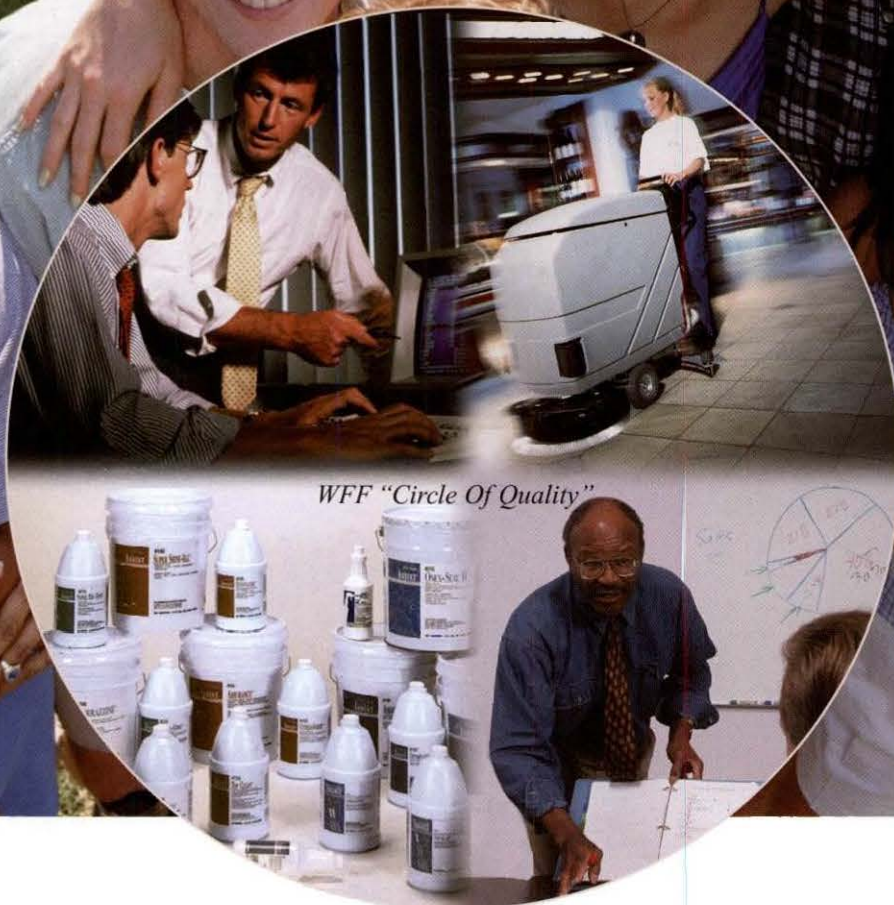


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# Membership Matters

## Women, Work, and APPA: It's Not Just Programs—It's People!

by Randel Edwards



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Debbie Guillen-Aguilar



Elaine Lee-Price

Anita Bailey (Phillips Exeter Academy, [abailey@exeter.edu](mailto:abailey@exeter.edu)); Ada Baldwin (University of North Carolina—Greensboro, [albaldw2@office.uncg.edu](mailto:albaldw2@office.uncg.edu)); Pamela Graham (Texas State University—San Marcos, [pg11@txstate.edu](mailto:pg11@txstate.edu)); Debbie Guillen-Aguilar (University of Southern California, [debbie@fms.usc.edu](mailto:debbie@fms.usc.edu)); Elaine Lee-Price (Rose-Hulman Institute of Technology, [elaine.price@rose-hulman.edu](mailto:elaine.price@rose-hulman.edu)); Maggie Quinn (Regis University, [mquinn@regis.edu](mailto:mquinn@regis.edu)); and Mary Vosevich (University of New Mexico, [mvosevic@unm.edu](mailto:mvosevic@unm.edu))

*Seven women agreed to an interview on APPA and their work in facilities management. Their facilities management experience ranges from four to 22 years, with an average of 12 years. Their experience with APPA is comparable to their work experience. These members represent all six regions of the association.*

**Randel Edwards:** What influenced you to find employment in facilities management?

**Guillen-Aguilar:** While growing up I always had a great appreciation for blue-collar work. My father had a job as a cement contractor. Seeing him work hard to complete jobs while keeping customers happy always seemed to amaze me.

**Bailey:** The job I applied for itself—architectural drafting and design—was appealing.

**Randel Edwards is APPA's director of member services and can be reached at [randel@appa.org](mailto:randel@appa.org).**

**Vosevich:** Previously, I was working in agricultural research and was dissatisfied with that work. I was looking for a position where I would utilize my education and skills. I thought a position in higher education would enable me to not only use my skills and education but also continue to develop them.

**Lee-Price:** Truthfully, I sought an employment opportunity with Rose-Hulman based on their sterling reputation as an educational institution and as a positive employer in our community. I had previously left a position that required vast travel and at that time in my personal and professional life, travel was not conducive to my priorities.

**Quinn:** A daily sense of accomplishment and a life-long love of construction.

**Graham:** I was unhappy with my employment and started looking at higher education and the opportunity to get a master's degree. With 25 years in procurement, I naturally fell into a spot that opened in the procurement department.

**Baldwin:** The director and assistant director of Physical Plant encouraged me to apply for the job as housekeeping administrator. I didn't think I had a chance, but they believed in my qualifications and in me. Here I am four years later.

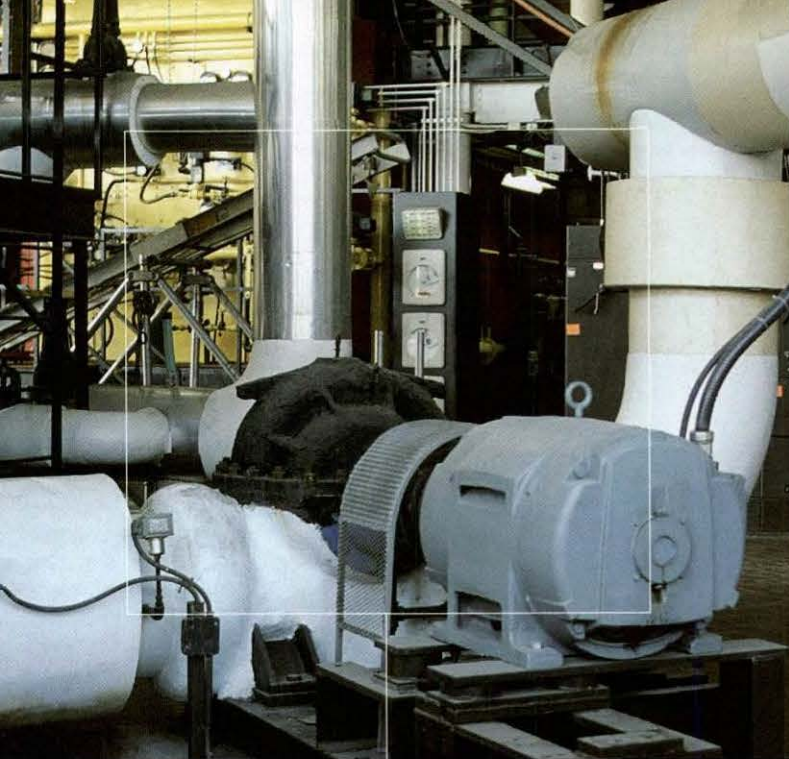
**RE:** What are or what have been your challenges working in facilities management?

**Baldwin:** One of the challenges that I face is doing more with less like everyone else. Preparing budgets and filling positions are always challenging. Another challenge that is unique in the housekeeping industry is motivating a staff that is underpaid and where 80 percent of the employees work two jobs in order to survive.

Technology is also challenging. While equipment and products become available to do more with less, the mindset of some employees and upper management doesn't always change. The perception of housekeeping is "mop and bucket, broom and vacuum." However, with SARS,

*Continued on page 16*



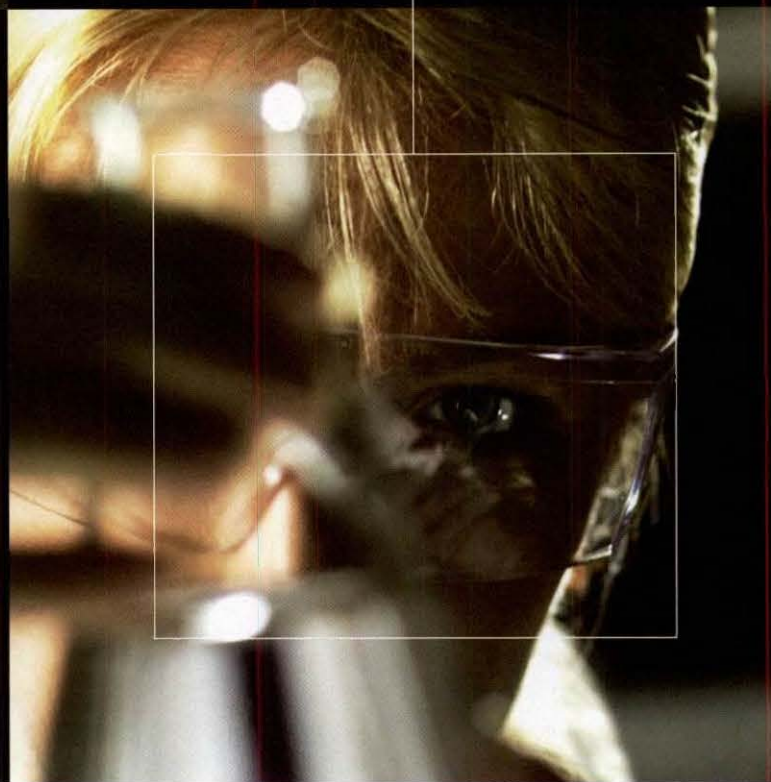


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...we adequately tracking  
organizational occupancy and  
recovering indirect costs asso-  
ciated with funded research?

# When...

...was the last PM performed  
on this equipment?



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Continued from page 13

indoor air quality, mold, environmentally friendly products, pest control, and other topics, more than just a mop and bucket, broom and vacuum are involved.

**Graham:** I work in a facilities department where the vice president and all six directors are male. We have 25 supervisors in the department. I am only one of three female supervisors. Men are being groomed for management positions, but women aren't.

**Bailey:** The very real gender differences, and the "good old boy network" that sometimes prevails.

**Quinn:** Other than the ubiquitous politics, I find that fostering the individualism common in maintenance workers and yet maintaining control over their work can be tricky.

**Lee-Price:** I walked into a situation where the staff had not had direct supervision for several years. Can you

A frustrating fact of my job in facilities management is receiving equitable pay as opposed to my male peers.

National figures just recently released indicate that on a whole, females are earning \$.77 on the dollar as opposed to males.

imagine? I walk in and implement policies and procedures and accountability. Needless-to-say, I wasn't the most popular person on campus. Slowly, we have formed trust and a real team made up of mutual respect and admiration.

A frustrating fact of my job in facilities management is receiving

equitable pay as opposed to my male peers. National figures just recently released indicate that on a whole, females are earning \$.77 on the dollar as opposed to males. What we must realize is that not only are our base salaries affected yearly, but also our long-term earning through retirement and benefits take a hit as well.

**Vosevich:** I have had two challenges. The first one was more noticeable when I first started working in facilities, but it still lingers somewhat. That is the challenge that other folks in the facilities arena have with the opposite gender. I once worked for a vice president who said, "You're not like one of the guys." I said, "That's pretty obvious. But it doesn't mean I bring anything less to the table." Men and women do relate to one another differently, but it's about people—not about men and women. It's about treating people with respect because they're human beings. Once you learn that, it's not a problem.

The second challenge is resource-oriented. We have accountability for how we use our resources—human and financial. The financial resources challenge is dealing with deferred maintenance and modernization. The human challenge is, "Where will we find the workforce of tomorrow?" We are not raising our children to become custodians and maintenance workers. We are going to have to look seriously at growing our own.

**RE:** Of what accomplishments are you most proud?

**Quinn:** Improving the organization, relationships, and productivity of the employees I manage.

**Graham:** I am most proud that I reintroduced a true customer service attitude in the facilities department. Prior to my arrival, the department was internally focused rather than externally focused. They didn't realize that they were here solely to fill the needs of their customers. I adopted an attitude that no matter what it takes

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to fill the customer's needs we are going to do it. If it means dropping everything you are doing to drive across campus to make a delivery, that's what you need to do.

**Bailey:** Sticking with facilities all these years [19 years] and making it through some tough times.

**Lee-Price:** My children. The relationship I have with my husband; my faith. My community involvement (community rent is all so important). Forming a team with the people I work with daily. And my involvement with advocacy for human rights.

**Baldwin:** Receiving a scholarship from SRAPPA to attend the Institute for Facilities Management! I am a two-time recipient of the SRAPPA scholarship! Also being elected as the district director of the Middle Atlantic District and Board Member of the International Executive Housekeepers Association, Inc.

**Guillen-Aguilar:** Facilities Management Services was awarded the APPA Award for Excellence in 2000. The California Council for Excellence (CCE) awarded the California Challenge Award to the Customer Resource Center, under my leadership in 1999. The awards competition emulates the Malcolm Baldrige National Quality Award criteria and honors those private and public sector organizations in California that achieve excellence in the workplace.

**Vosevich:** We have been able to elevate the importance of facilities to our university community. Our folks now understand that facilities play a key role in the work that they are doing. Recently, we had someone say we can't apply for this grant because we don't have the facilities for it. It gave us a new appreciation of what facilities had done [in educating others].

**RE:** What advice would you give to women that are contemplating a career in facilities management?

**Lee-Price:** Have your ducks in order. This is still a predominately male pro-

fession and you really need to do your homework and know your stuff. Don't have a female agenda; have a professional agenda that benefits you and your school. Agendas aren't always negative so be sincere and earnest. Women are breaking through the glass ceiling and I'm thrilled, but we had better be qualified to do the job.

**Graham:** Definitely get the education first if you are serious. Get an engineering degree or the appropriate technical training so that you know the difference between an L and a P trap.

**Guillen-Aguilar:** Learn the profession, stay focused, and pull together a support system of women in similar type positions.

**Bailey:** Be strong and persevere; be yourself; maintain confidence in your abilities and value within the organi-

zation; find solutions to problems together and move on; and maintain a sense of humor.

**Vosevich:** I would say to all women, "To thine own self be true." They can't work in a more interesting and dynamic environment in higher education. They have to reach for the stars or they are never going to get there.

**RE:** How did you become acquainted with APPA?

**Vosevich:** When I started working in higher education, one of my colleagues was serving on an APPA committee.

**Lee-Price:** My vice president introduced me to APPA and the Institute for Facilities Management program. Yes, I'm a graduate.

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<sup>1</sup>Software developed in consultation with Jack Dudley, P.E., Editor and Co-Author of the First Edition of the *Custodial Staffing Guidelines* and Co-Author of the Second Edition. Mention of APPA does not imply endorsement of the product.

<sup>2</sup>ISSA Cleaning Times used by permission of ISSA, Lincolnwood, IL., [www.issa.com](http://www.issa.com)

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**Graham:** When I came on board in facilities and inquired about getting ahead, I was told go complete the APPA Institute for Facilities Management. I have been to two tracks of the Institute.

**Guillen-Aguilar:** In 1993, I was invited by Maurice Hollman to attend my first APPA seminar in Quarteline, Idaho. Maurice has encouraged and mentored me to become a part of this great organization. I would like to

The most important thing about APPA is that it strives to stay on the leading edge of technology, planning, and construction within the facilities profession.

give special thanks to Chris Christofferson, Brian Worley, and Hildo Hernandez for encouraging me to get involved.

**Bailey:** By working for and with someone who was and is a strong supporter of APPA at all levels. He has always encouraged his staff to get involved.

**Baldwin:** At the University of North Carolina at Greensboro, each manager is encouraged to become an active member of APPA and to attend the Institute for Facilities Management. We are also encouraged to continue our leadership development by attending the Leadership Academy.

**RE:** For you, what is the most important thing about APPA?

**Baldwin:** NETWORKING!  
NETWORKING AND MORE  
NETWORKING!

**Guillen-Aguilar:** The most important thing about APPA is that it strives to stay on the leading edge of technology, planning, and construction within the facilities profession. I am most impressed with the newly established Center for Facilities Research (CFaR).

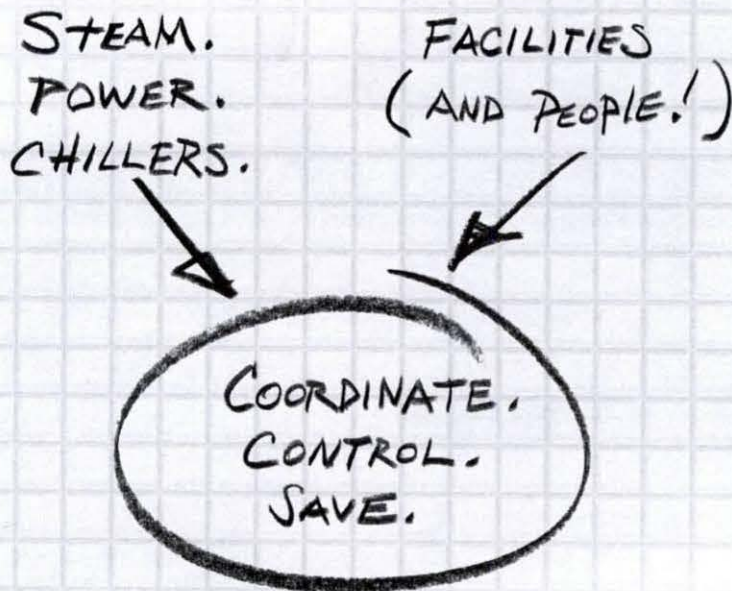
**Quinn:** Gaining broader perspective of the work and networking with other professionals.

**Graham:** I would say the education. It is a very unique education. I don't know if it is available anywhere else. I am not aware of any other programs that can actually provide a facilities manager this type of information and training.

**Vosevich:** The huge resource that APPA is with its network of people around the world and country to help me perform my job better. We don't have to reinvent the wheel because we can get on the listserv or pick up the phone and call a colleague.

**Lee-Price:** Oh my gosh, THE NETWORKING with your peers from all over the world. The support APPA's faculty provides us within the classroom and outside the classroom is of high value. Lander Medlin has

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become my inspirational hero. She consistently avails herself when and where needed anytime you send out an S.O.S. APPA has afforded me the opportunity to become educated on a global level with issues in our field.

**RE:** *What is your perception of APPA with regard to women and opportunities for leadership within the organization?*

**Vosevich:** I have had opportunities to get involved with APPA at various levels. I think it has been very open and receptive in that regard. It's hard in some ways because there are only so many positions in an international organization, but clearly the opportunity is there. It will not be given to you. It has to be earned, whether serving on the education committee or as a regional representative.

**Quinn:** I feel that APPA welcomes women to the program, and have noticed an increase in female participants over the past five years.

**Bailey:** I have had a sense for some time that APPA is striving to involve more women in the organization. I think that first impressions can hurt. Many women still see the organization as a men's network, on initial look. Unfortunately, some of these women do not return as a result. APPA needs to find a way to help women feel comfortable from the start so that they will want to return.

**Guillen-Aguilar:** I believe that more women need to become involved. I think it begins at the management level in encouraging women to join and attend the seminars. After that it is up to the individual. I believe that APPA promotes diversity and its goal is to have a more diverse organization with minorities and women.

**RE:** *How do you think we might encourage more women to join APPA or to participate in APPA?*

**Graham:** Mentoring is the key thing—informal and formal. If there's not an informal mentoring process in your organization and with other peer organizations, then you create a formal one. It's a little bit of a training process. The motto of another organization that I belong to is "Lift as you climb."

**Guillen-Aguilar:** I would like to see each member of APPA reach out and sign up one or more women into the organization. That would be a start or perhaps simply start a mentor program for women using existing board officers to implement the program.

**Baldwin:** Communicating the need by e-mails, the website, and regional meetings. Another arena is at the Institute for Facilities Management



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JOIN APPA! Become active if you can. Attend as many regional meetings as possible. Contribute ideas where needed and strive to make APPA part of your career.

where perhaps a presentation of the opportunities for women in the organization could be held. Directors and assistant directors are vital in recruiting and supporting women interested in participating in APPA.

**Vosevich:** Well, I think that the leadership in the respective organization is responsible. They have to make the opportunity available to people. They have to provide opportunities for them to attend the Forum, the Institute, or APPA meetings. Initially, I had to go and ask for this opportunity.

Also, we have to look throughout our organizations to see who can benefit from APPA. You can just see people blossom by attending any of APPA's educational programs or meetings. I have heard people say that they don't have the money for APPA pro-

grams. I say they can't afford to do without them.

**RE:** *What would you say to other female facilities professionals about APPA?*

**Graham:** That it's a wonderful resource. There's a lot of information available to you to help in your job and help you make better decisions, as well as to improve processes and procedures. It seems to me to be a wealth of knowledge and information.

**Bailey:** Give it a try, and be ready to provide feedback on how the organization can work for you (and we need to provide that opportunity and make it visible for all women who come).

**Baldwin:** JOIN APPA! Become active if you can. Attend as many regional

meetings as possible. Contribute ideas where needed and strive to make APPA part of your career. APPA is the organization that is focused on our needs as facility professionals and addresses our issues and concerns. APPA prepares us to become better female leaders for the future maintenance of our facilities and the management of our employees.

**Vosevich:** If you have chosen this for a career, APPA will provide you with the resources you need not only for your current position but for any position you have in the future. It's not just programs ... it's people. 🏢

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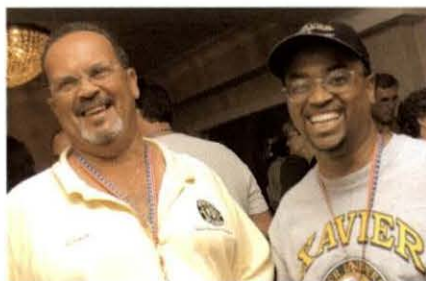
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## *Washington, D.C. Forum Highlights*

The 2004 Forum was successful in many ways—a wonderful exhibit hall, great educational sessions, fun events, and best of all, a great group of attendees who had the benefit of attending the many sessions and also networking with their peers—always one of the main reasons to attend an APPA event.

### *Networking at its best!*



Photography: Rhonda Hole



## ***We did some hard work.***

*Signing the TEFMA/APPA agreement.*



**David Ward,**  
president of the American  
Council on Education



**Dr. William "Brit" Kirwan,**  
chancellor of the University  
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**Darin Goodwiler,**  
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*And installed a new Board of Directors.*



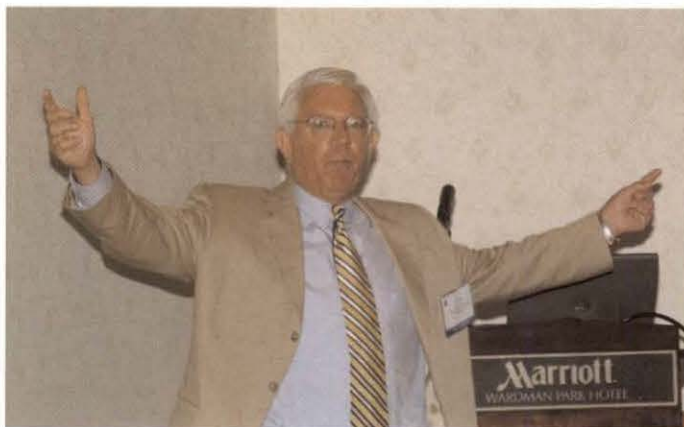
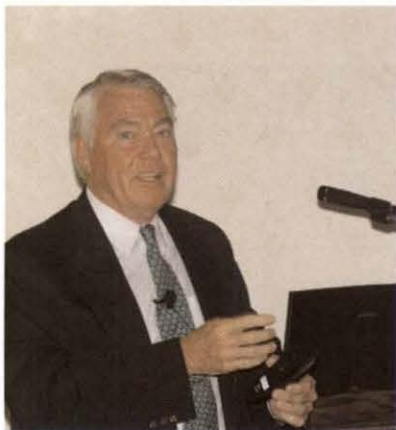
*2004-05 APPA Board of Directors*



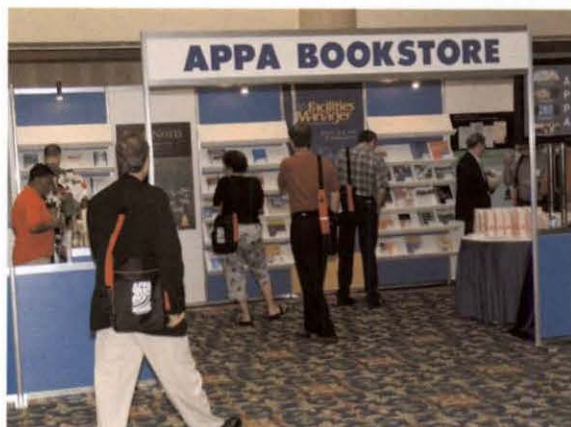
*Outgoing Senior Regional Board Representatives*



*When we weren't at sessions listening to interesting speakers,*



*we were at the bookstore looking at APPA's newest publications or checking our e-mail from the office.*





*We had fun with our colleagues at “Evening at the Smithsonian”—  
how much is that Hope Diamond worth again?*



*And were sad to say goodbye to a couple of old friends—  
Jim Roberts, former vice president for Educational Programs  
Vickie Younger, former vice president for Information & Research.*







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## President's Award

The President's Award is given to APPA members (both individuals and groups) who have demonstrated exceptional achievements in facilities management and who have made outstanding contributions to the association. Below Brooks Baker awards the winners! (Absent: Douglas Erickson.)



Vickie Younger and James O. Roberts



Michelle Estep



FMEP Review Team  
(Jack Hug, Holly Judd, and Doug Christensen. Absent: David Cain, H. Val Peterson, Rich Bowen, Ron Hicks, Jim Christenson, Ward Simpson, and Francine Moore.)

## Pacesetter Award

The Pacesetter Award is designed to further encourage participation in APPA among those who have already made significant contributions in their regions or chapters. Below are the 2004 Pacesetter winners with Brooks Baker and Alan Bigger, vice president for Professional Affairs.



Kevin Folsom, Craig Bohn, Paul Smith, and Al Stoverink.



### ***Rex Dillow Award***

The Rex Dillow award is presented to the author of the best article published in *Facilities Manager* from the past six issues. This year, the award is presented to Richard Robben of the University of Michigan for his article from the May/June 2004 issue titled "Quality Measurement in a Facilities Management Environment."



### ***APPA Fellow Award***

APPA's highest individual achievement award, the APPA Fellow designation brings with it both recognition of specific accomplishments to date and expectations for continuing involvement in APPA's leadership program through research and mentoring. The first recipients of this honor are:



**Douglas K. Christensen**



**William A. Daigneau**



**Jack Hug**



## ***Meritorious Service Award***

Each year, the Meritorious Service Award is presented to the individual member(s) who have made significant, life-long contributions to the profession of educational facilities management. This year's recipients are:



**Christopher Ahoy,  
Iowa State University**



**Mohammad H. Qayoumi,  
California State University/Northridge**



**Leo Yanda, University of Arkansas**

## ***Staff Awards***



**2004 Welcome Committee  
Chair: William Suter,  
accepting for Suter is  
Sarah High**



**2004 APPA Spouse/Guest  
Orientation Program Chair:  
Susan Sofield**



**APPA Photographer:  
Rhonda Hole**



## Award for Excellence

APPA's highest institutional honor is the Award for Excellence in Facilities Management. This award recognizes those educational institutions whose facilities management organizations have demonstrated excellence in overall operations and effectiveness. The 2004 award winners are:



Emory University—Facilities  
Management Department



University of Memphis—  
Facilities Department

## Effective & Innovative Practices Award

The Effective & Innovative Awards recognize programs and processes that enhance service delivery, lower costs, increase productivity, improve customer service, generate revenue, or otherwise benefit the educational institution. The 2004 awards go to:



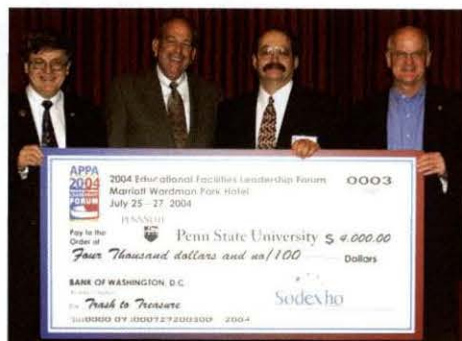
Brigham Young University  
"Capital Needs Analysis"



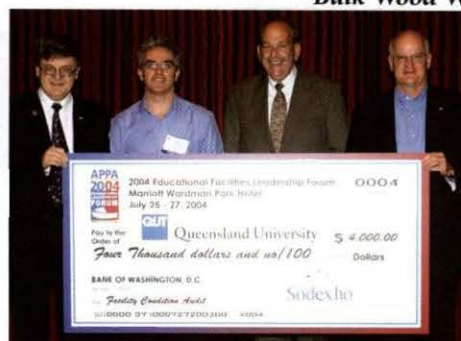
Dallas Theological Seminary  
"An Army of One"



Illinois State University  
"A Town and Gown Effort that Turns  
Bulk Wood Waste into Savings"



Penn State University  
"Trash to Treasure"



Queensland University of Technology  
"Facilities Condition Audit"



## Eagle Award

The Eagle Award is given to those individuals who, on behalf on their company, have found additional ways to partner with APPA on projects and programs at various meetings. This award is given only when merited and is awarded this year to Randy Ledbetter, UNICCO, and James Sebesta, Sebesta Blomberg & Associates.



## Individual Rising Star

The Individual Rising Star recognizes individuals who are "up and comers" in the organization's eyes. This year the award goes to Cloriza Lomeli, GBBN Architects, and Bill Nelson of GLHN Architects & Engineers, Inc.



## Special Recognition

This year APPA gives special recognition to the Smithsonian Institution for opening the Natural History of Museum to our attendees for "Evening at the Museum." Vice President for Information & Research Mike Sofield accepts this award.





## APPA-2004 Business Partner Awards

APPA's Business Partners provide products and services to the facilities management marketplace or have an interest in reaching facilities managers in the educational environment. We appreciate the support of our Business Partners and present the 2004 award recipients below.

### 2004 Platinum Award Recipients



*Applied Management Engineering, Inc.*



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***The banquet had it all.***



New President Ed Rice



An award for a longtime staff member,  
Maxine Mauldin



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*A gift to charity*





***Thanks to Brooks and Virginia Baker for their dedication to APPA during the past year,***



***and Kudos to the APPA staff for making it all happen!***



***See you August 2005 in***  
**Orlando**





# Supporting APPA Members, Promoting APPA Programs:

## A PROFILE OF PRESIDENT ED RICE

by Ruth E. Thaler-Carter

**H**e may have been a brash know-it-all in his youth, and “maybe I still am,” but APPA’s 2004-05 President Edward D. (Ed) Rice, Ph.D., is humble about his new role in the association. “My goal for the job is to make my boss look good, because then we all look good,” he says. As APPA’s new volunteer leader, he sees his “boss” as the membership and his “job” as continuing to make APPA “the greatest professional association.” “My goal is to help every member in APPA understand how great their association is, and more importantly, what it can do for them,” says Rice.

### Career Highlights

Rice comes into the APPA presidency with a strong professional career and equally strong record of association involvement.

Rice earned an associate degree in engineering and technology from the University of Nebraska at Omaha and a B.S. degree in engineering technology from the same institution; an M.S. in adult, occupational, and continuing education at Kansas State University; and a Ph.D. in the same discipline at KSU as well. Over the years, his commitment to professional development led him to the College Business Management program at the University of Nebraska at Omaha; the APPA Institute for Facilities Management; the Executive Develop-

ment Institute, University of Notre Dame; and APPA’s Leadership Academy.

Rice has developed a commitment to lifetime learning that fits well with his APPA involvement and the association’s mission (“to support education excellence...”) and vision (“Global Partner in Learning”) statements. “I’ve been a non-traditional student all my life,” he says. “I’ve learned that it is important to reevaluate yourself regularly, and constantly start all over again as a student. You have to go into new experiences with high expectations and enthusiasm, and then you’ll get a great payback. Adult learning has really stimulated me and changed how I see what I should do on campus. Even little things matter—like defective light bulbs—as well as trash piling up or someone in our division accidentally turning off power and causing a member of the academic community to lose research. I see our responsibility for such things as illustration that the facilities division is really here to help—to provide as much service as possible to students, faculty, and campus visitors.”

Rice’s career has taken him to several campuses. He was construction manager at the University of Nebraska at Omaha from 1971-78, when the university experienced a significant increase in capital construction. From 1978-80, he was associate director of facilities at Montana State University, where his responsibilities included construction, planning, grounds, custodial, and telecommunications. He then moved up to director of facilities, serving in that position from 1980-87. Montana State had about 10,000 students and was about half the size of Rice’s current institution, Kansas State University in Manhattan, Kansas.

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*Ruth Thaler-Carter is an award-winning freelance writer/editor who has contributed often to APPA publications and also has written for a variety of education associations and institutions. She can be reached at [ruth@writerruth.com](mailto:ruth@writerruth.com).*





**Brooks H. Baker III passes the gavel to the 2004-05 APPA President, Edward D. Rice.**

Rice moved to Kansas State in 1987, serving as director of facilities management until 1990 and, since then, as associate vice president (AVP) for administration and finance. In that role, he is responsible for the university's division of facilities, with a budget of \$22 million, plus capital construction of about \$20 million a year over the past three years.

The division serves the main campus, the College of Veterinary Medicine campus, and the College of Technology and Aviation campus in Salina, with more than 22,000 students and 6.5-million square feet of buildings. "The division of facilities comprises five areas under the management of five directors reporting to the AVP—Administration and Finance, Maintenance and Utilities, Services (custodial and grounds), Architecture, and Resources (safety, training, employee relations, and customer relations)," he says. His division has 450 full-time and about 100 part-time and temporary employees.

While his volunteer service is weighted heavily toward his professional interests—he's past president of the Central and Rocky Mountain regional associations of APPA, and past member of the APPA Professional Affairs Committee—Rice also has cultural interests outside the job. He is a member of the Beach Museum of Art Advisory Board in Manhattan, Kansas, and he and his wife Janet belong to the First United Methodist Church, where he currently serves on the planning committee.

As for the association, Rice recalls, "My experience with APPA started in 1973, when my boss back then, Don Peterson, returned from his first APPA conference, very excited. I knew enough to know that if Don was impressed, it was the real thing." He attended his first APPA educational program the following spring, a workshop in Santa Barbara, California, that "had a profound effect on me," he says. "To this day, I can recall the willingness of people to discuss issues and help young pups like myself, and the value of hearing future APPA leaders such as Val Peterson, Pete van der Have, Don Mackel, and Jack Hug talk about their experiences."

That led to attending "many" APPA educational programs over the years and becoming involved in two regional executive boards, serving as president of two regions, joining the APPA Board of Directors, and now ascending to the association presidency.

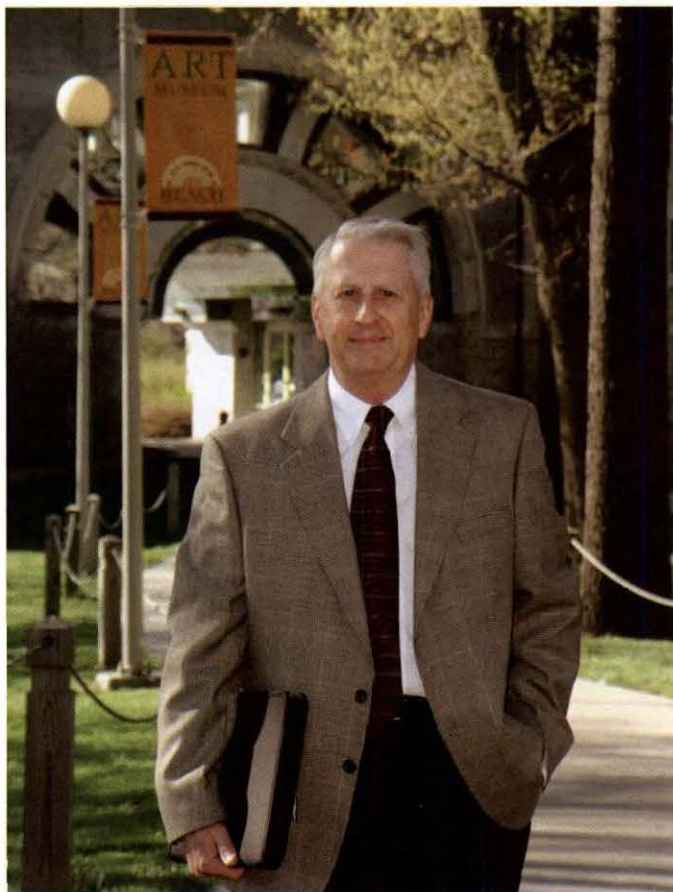
Don Peterson may have drawn Rice into APPA, but he credits his mentor, Mike Reuck (retired head of facilities at William Jewell University, Liberty, Missouri), for his current level of involvement in APPA. "Mike probably really pushed me most toward becoming President of APPA," says Rice. "As a fly fisherman, I can say he tried a dry fly called APPA and really hooked me good!"

### Life Outside the Office

In addition to a full plate of professional and association responsibilities, Rice has an absorbing home life as well. He and his wife Janet are regular attendees at K-State home football games, men's and women's basketball games, and—"when we can squeeze it in"—women's volleyball games. They have three sons and a daughter—Dan, Mike, Jim and Kimberly—







and five grandchildren. In fact, becoming a grandfather has been “the greatest experience in my life,” says Rice, while being a parent has been a lifelong learning experience of its own.

### Challenging Times

To Rice, the challenges of the educational facilities management profession are never really new—“they constantly recycle in some fashion.” Nowadays, “it’s energy—that has become a huge issue again; a problem becoming even bigger because we’re tied into limited resources for oil and other energy sources,” he says. “K-State has just signed a \$20-million contract for an energy conservation program with Chevron Texaco.”

While many APPA-member campuses are considering, or struggling with the trend toward outsourcing and contracting-out work (Rice says to “assess that carefully” before trying it), that is not a major issue on his campus. “We’re several hours from any major city, so outsourcing usually isn’t an option for us.” He does share colleagues’ concerns about finding qualified employees, but says that also is a different kind of issue for a campus far from major metropolitan areas. “People wanting higher salaries tend to go to the metropolitan areas,” he says.

Constant use of campus facilities creates challenges for many members of the facilities-management profession, says

Rice. Rarely is a campus “off,” “closed,” or “down” these days. In response, Rice started a night shift at KSU specifically for maintenance, “so we can get into classrooms” during the rare hours they aren’t in use.

For APPA, today’s challenges are, to Rice, somewhat ironic, because he sees them as based in the organization’s success. He feels that while APPA has been involved in producing and providing topnotch resources for members, “APPA hasn’t promoted itself as well as we should to all stakeholders—not only current members but potential ones, our peers and administrators in higher ed, and potential business partners as well,” he says. Rather than launch new programs or services, he would like to see APPA increase its efforts to market “what we’re already doing” and promote what past-APPA Board member Vickie Younger calls the WIIFM—“What’s In It For Me.” “That hits home and makes it more graphic,” he says.

Rice also believes firmly in working collaboratively and through partnerships, not to mention learning from others. “My philosophy is that you can’t do anything by yourself,” he says. “We have to constantly look for cooperation, input, advice”—another good fit with APPA’s vision of partnering and inclusion. In fact, Rice’s commitment to shared learning is so strong that he’ll cheerfully say, “I like to borrow and use good ideas.”

As APPA’s new President, Rice plans to “try to step back and promote that which is already in place, especially the Center for Facilities Research (CFaR) and improving code development in HVAC, fire safety, and security,” he says. He’s concerned about “proposed fire-code changes calling for us to check sprinkler systems weekly—that seems a bit much and is a huge expense in terms of staff, vehicles, equipment, supplies, even scheduling. It’s hard enough to handle scheduling around classroom use now!”

CFaR collects information and encourages APPA members to study the learning environment, appropriate management strategies, and their impact on education. Rice has contributed to its research resources through, among other activities, providing a version of his doctoral dissertation on



*Aerial view of Kansas State University*



workplace violence as a CFaR publication (*Facilities Manager*, March/April 2003). His Ph.D. focus on workplace violence is a good fit with the APPA vision statement, which calls for a partnership with education in planning and decision making to chart the future of members' campuses.

In his CFaR paper, Rice notes that "college and university administrators must understand that a poor work environment can contribute to violence. Work environmental factors to consider include safety and general working conditions, inept or uncaring management, inadequate reward for work, ineffective training and education programs, and inadequate communication." Rice sees all of these as areas in which APPA can help its members, not only to head off workplace violence but to make their campuses more efficient, pleasant, productive, and useful overall.

Rice also intends to continue Past APPA President Phil Cox's diversity initiative, and to emphasize the Strategic As-

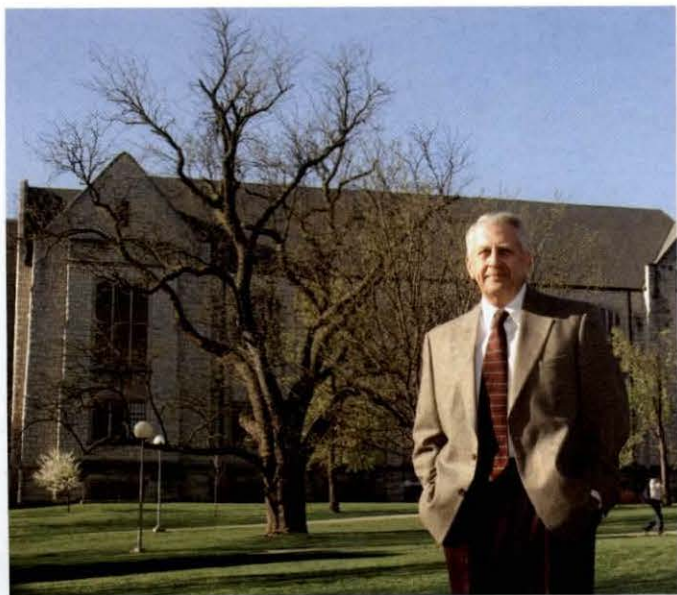


**President Ed Rice addresses APPA members at the banquet in Washington, D.C.**

Look for Ed Rice to bring prominence to APPA's stellar current offerings in his term as President. "I have worked in facilities operations at three universities and been responsible for facilities at two of those," he says.

essment Model (SAM) benchmarking process because "we need a better picture of what facilities provide to the campus community," he says. "Our resources are mainly our people, and we need to promote their contributions."

Rice also is "very excited" about "a super program" APPA recently started, the Supervisor's Toolkit, which focuses on the

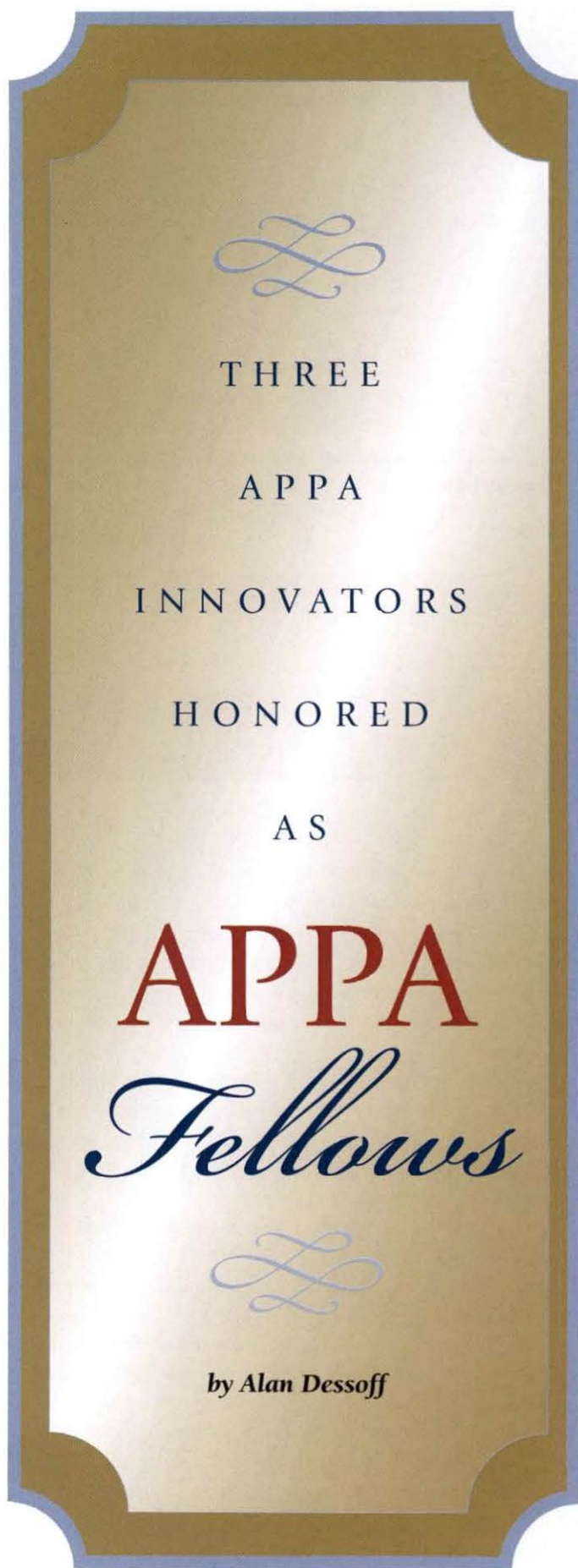


front-line supervisors "who often receive no training," he says. "They get promoted because they're great craftspeople and have no idea of what to do in a supervisory role or how to work with people. I see a great potential in this program—we have a lot of people who need this training. It's been designed strictly for their needs and should be a huge service to our employees."

Rice also has a strong interest in literature and research about the "Core of Discovery," which looks at how individuals might leave their footprints in history. "I'd like to share in being able to say we achieved our mission and did it well," he says of his hopes for his APPA tenure.

Look for Ed Rice to bring prominence to APPA's stellar current offerings in his term as President. "I have worked in facilities operations at three universities and been responsible for facilities at two of those," he says. "All of this was made possible by my exposure to APPA and its education programs. APPA has provided the vehicle for me to achieve the highest position possible in higher education facilities, as well as in the association. APPA provides great credibility in our profession, and wonderful training in leadership skills that apply to the workplace. It is vitally important that our membership realize the potential that can be achieved from participating in APPA's educational programs, and the knowledge and energy we have when we work together." 🏛️





When three past APPA officers with records of exemplary leadership in facilities management were named as the first APPA Fellows at the annual Educational Facilities Leadership Forum in July in Washington, D.C., the occasion was more than a recognition of their outstanding career accomplishments. It also represented a significant professional development for the association and the advancement of educational facilities management.

While most similar awards recognize past achievements, the new APPA Fellows program goes beyond that. "It sets a different standard. It sets some goals for the improvement of the profession. That's probably the most important thing," says APPA Executive Vice President E. Lander Medlin.

Evaluation criteria for the APPA Fellow designation include ten-year membership in APPA and a four-year or higher degree from an accredited college or university, or a combination of college attendance, graduation from the APPA Institute for Facilities Management, and full-time work experience in facilities management at a supervisory or higher level.

What distinguishes the APPA Fellow recognition, however, is the combination of other requirements:

- Completion of APPA's three-track Leadership Academy.
- Completion of an approved research project under APPA's Center for Facilities Research (CFaR).
- Publication of research results in a peer-reviewed educational or facilities management journal or in APPA's *Facilities Manager* magazine.
- Presentation of research at APPA or another educational or facilities management organization's conference.
- Two letters of recommendation and endorsement from colleagues addressing the candidate's commitment to leadership in facilities management.

"APPA Fellows not only improve themselves through education and by contributing as leaders, which is shown in their references and recommendations, but they also take the time to do a research project that adds to the body of knowledge of facilities management," explains Medlin. "APPA is attempting to improve the profession over time by the contributions of its members and/or other interested parties. Improvement of the profession is the most important meaning of the APPA Fellow designation."

By requiring completion of APPA's Leadership Academy and an approved research project, the new program focuses on two critical areas of professional advancement. The Leadership Academy provides opportunities for facilities management professionals to increase their awareness of

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issues affecting them, teaches them how to handle resulting changes, and helps them explore their own leadership potential.

CFaR, meanwhile, fills a vital need by integrating the development and delivery of research in the educational environment. Facilities management needs people who not only are qualified, skilled, and experienced, but also "are fully cognizant of the impact the physical plant operations have on education and the learning environment," explains Alan S. Bigger, APPA's vice president for professional affairs, which oversees all the association's recognition programs.

For example, he says, "if we have physical plant people who don't recognize how important it is to have good clean buildings, then they won't pay attention to that."

Accordingly, the Fellows program requires designees to write scholarly articles based on solid research "that indicates what it is that the physical plant actually contributes to higher education," explains Bigger, director of building services at the University of Notre Dame.

CFaR "will not only be a repository for facilities management knowledge but also, hopefully, will add to the body of knowledge so we can improve the profession and ultimately, improve the delivery of higher education, which is important to the economic engine of this country," adds Medlin.

The three initial APPA Fellows, while modestly shrugging off their own career achievements, hail the new program, which they played a part in developing over the course of their many years of leadership in the association.

When he was APPA President in 1995-96, "one of the goals I had was to create this kind of recognition program," says **Douglas K. Christensen**, advocate in the Office of Administrative Solutions at Brigham Young University. "APPA for a long time has been known as a facilities management group," he says. "Our goal is to build a level within APPA for those who want to go the extra mile and become change agents to help transition their organizations to the future. They do that through the skills they learn. We hope the Fellows group will become an example to the profession in how to deal with continuous improvement and change."

Christensen, says Medlin, is "a real visionary." She cites a two-year plan he developed when he was APPA President-Elect and then President "that



**Douglas K. Christensen**

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mapped our way, helped us cement who we are and what we are about. He could see it before anybody else could." She notes that Christensen is working now on a CFaR-sponsored research project—the Strategic Investment Model, otherwise known as the Total Cost of Ownership.

In addition to his term as President, Christensen was a member of the association's Strategic Assessment Model Task Force, an Assistant Director for CFaR, co-director/developer of the Leadership Academy, and a faculty member in the Institute for Facilities Management. He received APPA's Meritorious Service Award in 1992 and was the first winner of

the Rex Dillow Award for Outstanding Article in *Facilities Manager* (1987). In addition, he coordinated BYU's successful application as the first recipient of the Award for Excellence in Facilities Management (1988).

**William A. Daigneau** also was an early advocate of leadership and research components in APPA. "I felt strongly that to be a true professional, you needed to advance the state of knowledge about facilities management," he says. "There has to be some recognition of the importance not only of following best practices but also of helping to create those best practices."

Daigneau is vice president for operations and facilities management at the University of Texas M.D. Anderson Cancer Center in

Houston. He is a past APPA Vice President for Educational Programs, was a co-director/developer of the Leadership Academy, a faculty member in the



**William A. Daigneau**

Institute for Facilities Management, 1989 recipient of APPA's Meritorious Service Award, and a two-time (1998 and 2000) winner of the Rex Dillow Award.

With the third initial APPA Fellow, **Jack Hug**, Daigneau researched and wrote a book—*Planning and Managing the Campus Facilities Portfolio*—that was published in 2003 as a joint project by APPA and the National Association of College and University Business Officers (NACUBO). The book outlines in much detail the process of effectively managing facilities on a campus.

"Over the years," Daigneau explains, "I came to believe that there really is only one individual on campus who can help an institution understand the role and importance of facilities in fulfilling the institution's mission, and that is the chief facilities officer. But I found that there often was an incomplete understanding of the entire process of managing the facilities, from identifying their strategic importance to the mission to developing the organization and

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structure to make sure those facilities were there and added to the mission."

The book is the first publication to spell it all out. "I think we added significantly to the profession by covering all the aspects and steps necessary to comprehensively manage facilities,"

Daigneau says.

Hug adds, "We addressed the facility manager's need to see the bigger picture; to break out from day-to-day operational requirements and look at the total institution's facilities management as a portfolio, much as you would look at an investment portfolio, and handle it accordingly."



**Jack Hug**

Hug says he focused on "the very significant relationship" between an institution's chief facilities officer and chief financial officer. "It's generally a direct reporting relationship, and my experience has been that when it works well, institutions have been able to move mountains, and when it hasn't worked well, it has been a disaster." The book documents Hug's experience through research he conducted.

Hug is retired from the University of California, San Diego, where he was assistant vice chancellor with responsibility for campus facilities and auxiliary services. A past APPA President (1989-90), he received the association's Meritorious Service Award in 1986. He was a co-developer of the Leadership Academy and also helped develop APPA's Facilities



**Jack Hug, Doug Christensen, and Bill Daigneau**

Management Evaluation Program (FMEP). He has been a team leader on many site visits, a long-time faculty member in the Institute for Facilities Management, and a regular author and presenter.

Medlin says that in addition to their extensive career experiences and services to APPA, the three initial APPA Fellows share something else. "They never stop giving back to the

profession," she says, "Any time you call and ask anything of them, they are there and willing to help."

At the awards banquet capping the APPA Forum in July, each Fellow received a plaque, a gold lapel pin, and a ribboned medallion that was placed around their neck by the APPA President. Beginning next year, the deadline for each year's APPA Fellow applications will be January 31. The application form will be available on the APPA website. 🏛️

## Some words of Fellowship...

**O**ne of the requirements for the new APPA Fellows program is that candidates are recommended/endorsed by two professional colleagues who address their commitment to leadership in facilities management. These are excerpts from letters APPA received on behalf of the first APPA Fellows:

*The APPA of today has Doug Christensen's fingerprints all over it. His service will hopefully continue for years to come. He has been on the cutting edge of many APPA firsts.*

—**Charles W. Jenkins, Emeritus Member, APPA President, 1994-95.**

*Bill (Daigneau) is a consummate professional who has contributed significantly to the leadership and advancement of the (association) in the past and continues to be an inspiring model for leaders of any rank throughout our business enterprise.*

—**Robert S. Hascall, P.E., Senior Associate Vice President, Facilities Management, Emory University.**

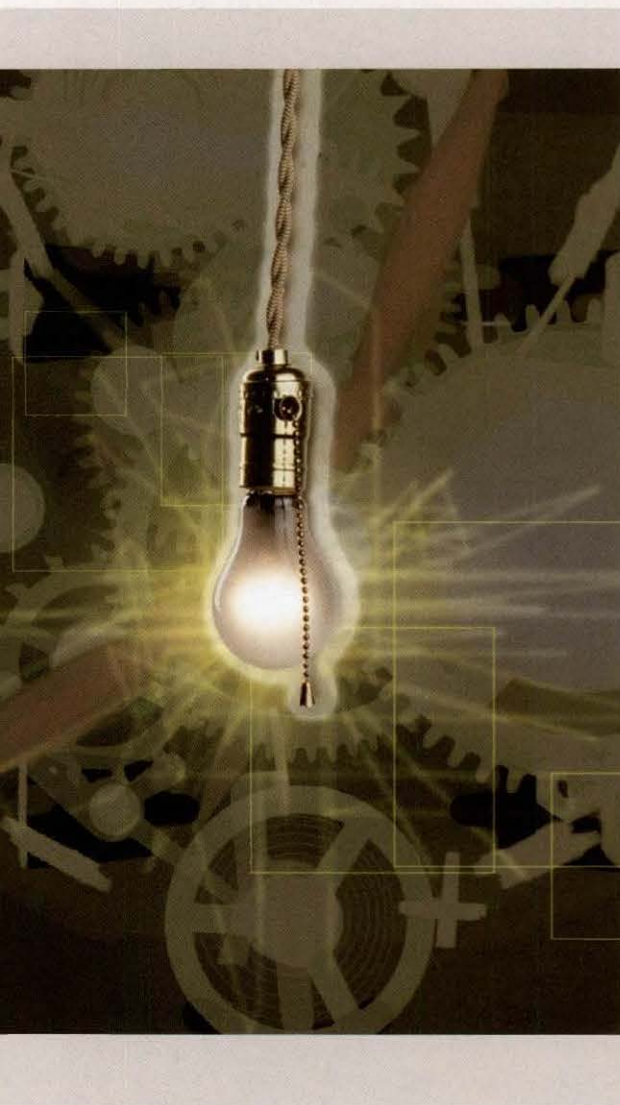
*In addition to Jack (Hug)'s unique contributions in the field of facilities management, he is a very astute professional, an inspirational leader, and a caring individual. I have always been impressed by Jack's incandescent passion in achieving excellence, strong values, sagacious insights, genuine service orientation, and alacritous commitment to assist colleagues.*

—**Mohammad H. Qayoumi, Ph.D., P.E., Vice President for Administration and Finance and Chief Financial Officer, California State University, Northridge.**



# 2004 Effective & Innovative Practices

## Award Winners Show Imagination and Practical Solutions



**A**PPA's Effective & Innovative Practices Award recognizes programs and processes that enhance service delivery, lower costs, increase productivity, improve customer service, generate revenue, or otherwise benefit the educational institution. Entries can describe either a new program or significant restructuring of an existing program or process for success.

Up to five submissions are eligible each year for a cash award of \$4,000, which is generously sponsored by Sodexho. The Professional Affairs



Committee selects the winning entries based on a point system. There were 20 entries this year from 13 schools. The five successful institutions received special recognition and a check at APPA's Educational Facilities Leadership Forum in Washington, D.C. in July.

The deadline for the 2005 Effective & Innovative Practices Award is January 31, 2005. For more information or to retrieve the award application, please visit [www.appa.org/recognition/effectiveandinnovativepractices.cfm](http://www.appa.org/recognition/effectiveandinnovativepractices.cfm).

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## Capital Needs Analysis

By Douglas K. Christensen

*Doug Christensen is advocate, Office of Administrative Solutions, at Brigham Young University, Provo, Utah. He is a past APPA President and an APPA Fellow, and he can be reached at [douglas\\_christensen@byu.edu](mailto:douglas_christensen@byu.edu).*

### Program/Practice

**C**apital Needs Analysis (CNA) is a integrated program that deals with the capital funding, planning, and projecting of needs relating to asset recapitalization/life cycle management, retrofits and renewals, improvements/modernization, and new asset planning of additional buildings/facilities and site or property needs. In other words, it combines the total capital needs into one integrated program.

This comprehensive capital asset management program began in 1981 and has served the needs of Brigham Young University-Provo, BYU Hawaii, BYU Idaho, LDS Business College, and the London and Jerusalem Centers from the same program base, using the same principles to deal with the annual capital needs and projected needs. It also includes all of the revenue of the auxiliary support groups on each campus. Each institution has a total look at all the capital needs for the institution as well as for the total Higher Educational System.

CNA is based on the cradle-to-grave management of each kind of asset. This approach to life cycle monitoring has saved millions of dollars due to the maximizing of asset investment and managing the return investment coming from the asset. It has ensured a level of funding resources that has met the capital needs of all of the institutions.

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**Empowering those who know the assets and alignment with vision/mission.** Those who maintain and operate the assets make the first inspection decision to fund, defer, or cancel the asset use based on the annual inspection process. The decision each year is made on line items that have a remaining life of one year. Once the decision is made, the annual needs verification procedure happens through supervisors, the users and stakeholders, the facilities organization, the administration, and the commissioner's office to the Board. Each stop along the way, the campus tour of needs requested ensures that the need requests match the vision and mission of the institution. Stakeholders, users, and those who maintain the facilities are each involved in the decision to move forward with a replacement or a one-time Facility Master Plan project.

**Needs driven.** The inspection process is blind to the study funding available. The purpose is to get a first-hand review of what is really needed to complete a project. Later the study cost is compared to the funds needed. This needs vs. funding driven approach has provided the right solution to a replacement opportunity. Being needs driven has provided each institution with the ability to prioritize the need rather than the cost.

**Trustees as partners.** Since this has developed into a system level program, the trustees have established some safeguards that protect the institutions from themselves. The results each year are coordinated and approved by the Trustees and sent to the appropriation committee. The appropriations are then sent directly to the institutions' facility organization and not directly through the institutions' budget. Trustees think the presidents would be tempted to use the money for something other than maintaining the facilities. The funding limit for the institutions is set at the system level so if during one year, more needs occur at one institution than another the trustees can appropriate the need rather than having funding assigned at the institutional level and having to move it around.

**Consistent high standard and resources.** The advantage of having a permanent resource in place that deals with capital needs allows the institutions to plan and maximize the useful life of assets. They know they can defer something for a year and get it replaced next year. They do not need to spend every resource when it is available. The standard is high because the life cycle costing principle for replacements gets a high quality of product, which gives longer life. Consistency of



resources and planning every asset to reach the farthest life cycle it can add to an environment that is conducive to good learning.

### **Innovation, Creativity, and Originality**

The following relates to the innovation, creativity, and originality of the program.

**Banking.** A banking concept was invented by the trustees. Because CNA functions on a 40-year Average Annual Cash Flow limit, which means whatever the average amount of funding needed in the next 40 years annually average would be the allowed limit to spend.

Because the funding amount varies each year there were two incentives built into the program. Funds not spent from the limit each year could be carried over in a bank and used when needed. The second incentive was that the bank would earn interest that would be protected from other use. We could then defer the replacement of items with a remaining life of a year knowing the funding is there. This allowed for our inspectors to maximize our useful life of an inspected asset. With funding in the bank, we could draw down more funding when needed in years that exceeded the limit. We could also bring line items forward if the life cycle was shorter than planned. This allowed trustees to plan for a level capital

budget rather than the up-and-down capital budgets of the past.

**Principle based to include all institutions.** Since other institutions of different size and purpose use the same CNA program, the program had to be principle based. Each procedure relates to a principle and a result. The institution is required to adhere to the principle and provide the result. Larger institutions required more procedures than a smaller institution. The results would need to be critical. The database was collected and categorized the same for all institutions and their revenue areas.

**Benchmarking.** The results of CNA have been compared to many different studies. APPA suggested, when it studied the deferred maintenance issues of the 1980s and 1990s, that a 2.0–2.5 percent CRV (current replacement value) was a target that most schools should try to obtain. The total CNA needs given the last 20 years suggests that once deferred maintenance is managed, 1.5 percent of CRV would meet the need. Since we do not have any uncovered deferred maintenance, we are currently funding at the 1.53 percent CRV level and have limited, but adequate, funding.

### **Portability and Sustainability**

The portability of the principles and the results framework has had a lot of testing and refinement over time. The CNA program has enjoyed the ability to be used at many levels of asset function and by many sizes of institutions during the last 20 years. Because it is principle based, it can focus on one asset or all of the assets of a mega institution or larger.

The sustainability of the program can be measured in two ways. The first is the continued use and funding support of the Board of Trustees of the basic principles and design since 1981, and the second is that the sponsoring institution, The Church of Jesus Christ of Latter-day Saints, has adopted the CNA principles and has been using it worldwide for almost ten years as their main capital needs funding program for their facilities.

### **Management Commitment and Employee Involvement**

- *Annual inspection and review process.*
- *Annual Facility Master Plan review with colleges and divisions.*
- *Institutional category leaders—set standards.*
- *Trustee's direct funding to facilities.*

### **Documentation, Analysis, Customer Input, and Benchmarking**

**Documentation is on the Web.** Due to the nature of multiple institutional uses from Hawaii to Jerusalem, the documentation and processes are available on the Web. Each year three of the 20 processes that manage CNA is reviewed by the CNA

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users group. This review includes the documentation, how well the process reached the results, and any ideas on how to improve the process. This allows the CNA process to be kept up-to-date and responsive to the users needs.

**Annual reporting of needs to fund.** The purpose of the annual inspection process is to determine the funding needs for the next budget cycle. The process mentioned is the kind of analysis that is reviewed each year. Many people are involved so as to ensure the Trustees that the limited capital funding is being used for the highest priority. The user and the customer as well as the vision of the administration are considered in the process of determining the real needs. This has become the best open and shared approach for determining correct priorities and eliminating special interest groups that would dominate the real needs vs. wants. The one question asked by the trustees is, "Did you follow the approved process?"

**Annual rollover and report to trustees.** The trustees are interested in an annual accounting as to what has changed from last year's plan. Each year we provide a 40-year average cash flow limit. This limit provides the trustees with current needs that are based on the life cycle and future master planning. Because of inflation, adding new assets, replacing assets with new life cycles and making adjustments caused by one-time projects, we report to the trustees each year details on the additions, cancels, inflation, and adjustments to the database. They know exactly what has changed.

We highlight new additions so they realize what new equipment or new buildings are doing to the funding levels for the future. This analysis and benchmarking to the trustees annually has built credibility and integrity with the trustees. Since we do this same thing for revenue areas, they understand better what reserves they need in order to meet the long-term needs of their equipment and facilities. The various institutions use these benchmarks to ensure proper auxiliary reserve levels.

**Learning organization.** We are becoming a learning organization. We are learning what is best for the institution given the culture and the standards they have set. To reach the vision and the mission assigned, we need to continue to work closely with colleges and departments.

The annual processes have given us the opportunity to work with the university community.

We are learning what equipment and systems have the greatest return on investment wherever the culture. We have learned what we can standardize for the best life cycle. We have learned how to inspect for life cycle and come pretty close to when the need is there. We are taking what we have learned and applying it to new construction and systems. We have a basis of comparison when new products or equipment are being sold. We seem to know what to look for. We are more demanding of correct installations and the involvement in the installation process. We have learned that change in key employees takes time and effort to keep the standard that has been learned. We have learned to rely on data to guide some of our replacement decisions.

Turning data into information and then into knowledge, understanding, and wisdom is our goal. We have learned the value of a representative database that speaks clearly to those we work with. We have learned to make the picture as clear for them as possible. We have learned that we have a lot to learn to provide support so that Brigham Young University and its system of higher education can reach its potential. 🏰

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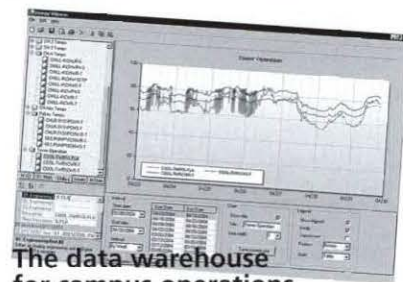


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## DALLAS THEOLOGICAL SEMINARY

### **An Army of One: Multi-Department Development of Custodial Services Training Video**

*By Christopher Graham*

*Christopher Graham is director of utilities and custodial services at Dallas Theological Seminary, Dallas, Texas. He can be reached at [cgraham@dts.edu](mailto:cgraham@dts.edu).*

It is not unusual for academic departments at Dallas Theological Seminary (DTS) to collaborate as they strive to meet the institution's core mission of "equipping Godly servant-leaders" for ministry worldwide. For the first time, however, an academic department, a communication and information technology department, and a business support department have joined forces to produce a training tool that has benefits for the entire seminary community.

This tool, a six-minute video entitled *An Army of One*, is currently being used to train custodial staff in the proper methods of restroom cleaning. It was conceived, developed, and implemented with the cooperative effort of the Pastoral Ministries, Audio Visual, and Custodial Services departments. The video, which used the technical knowledge and expertise unique to each of the departments, resulted in an immediate improvement in Custodial Service's accomplishment of its mission "to provide a safe, clean, and attractive atmosphere to those who are called to minister at DTS."

#### **Institutional Benefits and Results**

The video was produced to increase the effectiveness of custodial services in one of its core tasks—restroom cleaning. This increase in effectiveness has materialized specifically in that errant practices observed before the video's implementation, which were the result of training inconsistencies or miscommunication, have been virtually eliminated with the use of the video. This is not only because the video uses a solid training methodology to convey a well-established procedure, but also because the video draws attention to spe-

cific recurring problems experienced over the course of several years.

Not only has the video made the training task more efficient (training time has been reduced by 70 percent), it ensures that custodians are being taught the most efficient work techniques using clear, memorable techniques.

The seminary is realizing benefits not only from the end result (i.e., the video), but also from the very process of production. First, the process was itself superb training for the custodial staff. The management team was responsible for reviewing the scripts and memorizing parts. The custodians involved with filming also received training through the mere repetition of the filming process. A second benefit was the increased rapport built between key members of the three departments and their staffs. It allowed each department to observe the strengths of the other departments and appreciate their role as partners in the DTS mission.

#### **Innovation, Creativity, and Originality**

Though there are videos and other training tools on the market to assist custodial services managers in training employees on proper restroom cleaning procedures, DTS's *Army of One* video adds an innovative twist that makes it more effective than other generic training tools. In-house production allowed the video to be tailored to the unique environment in which custodians work at DTS while eliminating confusion that can be generated when using a canned training tool. This is especially important since a high percentage of the custodians at DTS are students with no custodial experience, and therefore no "custodial common sense" that most training videos presuppose.

Another unique quality in this endeavor was the way in which the departments collaborated in its creation. A video could have certainly been made by the custodial services staff to record their standard procedures. The highest aspirations and a great deal of blood, sweat, and tears, however, would have resulted in no more than an amateurish video. Instead, the videography is of the highest caliber because of the technical expertise of the Audio Visual department. The theme and script are of the highest quality because of the expertise of the Pastoral Ministries department. By capitalizing on the strengths of these departments, the procedures developed by the custodial services staff were conveyed most effectively on video.

#### **Portability**

Since the video is based on industry-accepted practices, other institutions could certainly use the DTS video directly in their training program. However, it is the process itself that other institutions should consider using. First, technical language, practices, and equipment peculiar to that institution will be used. This also allows idiosyncratic problems in custodial practices to be addressed specifically in the video. Second, beyond the technical customization allowed, in-house production can capitalize on humor, school spirit, and



other aspects of the institution's culture to make the training more effective.

Third, the missions of other departments on campus can be enhanced in this type of project. Though the Audio Visual and Pastoral Ministries departments were used at DTS, other departments could certainly be used (e.g., Information Technology department for computer-based training). Before approaching these departments, it would be helpful for the facilities leader to consider how such an endeavor could support the mission statement of the other departments. It may be a chance for educational departments (such as the communication and technology departments) to give their students real, hands-on projects as part of class assignments or internships. It may also be an opportunity for staff from these departments to try new technology and practices in a real environment.

Fourth, using in-house production allows for future editing. This gives the facilities department an opportunity to change elements of the video to reflect changes without needing to remake the entire video.

## Management Commitment and Employee Involvement

The process began with a suggestion from front-line custodial supervisors a year before the video was produced. During the year that followed, each member of the custodial services management team reviewed practices and problem areas and submitted information they wanted incorporated into the video. The Audio Visual department and the Pastoral Ministries departments were approached for assistance. The director of the Pastoral Ministries department developed the script from the procedures supplied by custodial services.

When the script was finished, it was given to the custodial services staff for review and part memorization. On the day of shooting, the head of the Pastoral Ministries department, the director of the Audio Visual department, the entire custodial services management staff, and over half of the custodial staff took part. The Audio Visual department edited the footage into the final product. When the video was completed it was immediately implemented into the custodial services training program.

The video has certainly met its primary objective of supporting a well-trained custodial department that can better serve the seminary. Equally important, it has displayed the benefits of capitalizing on the strengths of diverse departments in the institution in order to accomplish a common goal. 🏢

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# ILLINOIS STATE UNIVERSITY



## A Town and Gown Effort That Turns Bulk, Wood Waste into Savings

By Darcy Loy

*Darcy Loy is a landscape gardener at Illinois State University, Normal, Illinois. She can be reached at [daloy@ilstu.edu](mailto:daloy@ilstu.edu). This is her first article for Facilities Manager.*

### Institutional Benefits

Due to the poor economic status of the state of Illinois, institutions of higher education have seen significant reductions within their operating and personnel budgets. With the cutbacks that have taken place, the Grounds Operations department at Illinois State needed to streamline maintenance and find solutions that wouldn't compromise the integrity of the service to our customers or the aesthetics of the campus itself.

As representatives of the green industry we have a responsibility to provide a service with an affordable price tag to both our customers and employers/corporations.

The department reviewed our mulching program for cost effectiveness and decided that if we were to continue the program a more economical solution needed to be found. This past year the town of Normal was also facing significant problems pertaining to mulch and after meeting with town officials a solution was found that would be beneficial to both agencies. We offered to purchase a smaller set of screens for the town's tub grinder (in order to produce the quality of product we desired) at an expense of \$900 and also stockpile the product. The town in turn agreed to accept other wood material (desks, doors, lumber, etc) from our collection site and would "custom grind" for the university during their slower, winter months. The following are benefits that the university itself received from this agreement:

- Budget reduction of \$16,000 annually resulting from not purchasing hardwood mulch.
- Environmentally proactive; this program makes a positive statement that our department is committed to recycling and the reduction of waste.
- Redirection of wood waste from campus landfill to a beautification tool.

- Reduction in refuse hauling/costs; less disposable material means less frequent pick-ups by refuse company = savings.
- This agreement helps strengthen the relationship between "town and gown" and demonstrates that working together can solve a problem that benefits both agencies.
- Allowed the department to continue to mulch as it deemed aesthetically and culturally necessary.

### Innovative Characteristics of the Program

Many times the need for drastic measures in order to achieve a certain goal calls for "thinking out of the box." The arrangement between the town of Normal and Illinois State University in regard to the production of mulch is a unique and innovative solution that benefited not one, but two agencies with different problems.

- Illinois State's Grounds Department benefited from the fact that over the years we have worked closely with the town's staff and have met regularly to keep each other updated on projects that affect both agencies.
- This program establishes an alternate disposal venue for items that no longer hold significant value for the university and makes a statement that the university is environmentally proactive.
- We now have the ability to take university wood waste and produce a product that benefits the cultural and aesthetic value of the campus from something that is unattractive.

### Portability and Sustainability

The ability to recycle wood waste into hardwood mulch can be adapted for use by any educational institution using the following criteria:

1. The need exists for hardwood mulch at your facility and would be considered as a cost savings venture.
2. Wood waste is already being generated at your particular facility.
3. An established program is in place by your city government that provides the service of picking up landscape waste, grinding it into mulch, and providing it to residents.
4. A good relationship with your local government officials. If your public works department doesn't have a grinding program in place, this is the perfect opportunity to show how it could benefit both.
5. Special screens need to be purchased for the grinder in order to get the quality of mulch that we all expect to use on the grounds of our facilities.
6. Adequate storage space at your facility to house the processed mulch.
7. This program can remain in place indefinitely, as long as both parties are willing to continue.

### Management Commitment and Employee Involvement

Due to the success of this venture with the town of Normal, management will remain committed to the initial agreement as long as the town is willing to grind mulch for our department. It has proven to be extremely cost effective, and the savings that the program is incurring annually is



highly significant. It also makes a strong statement for the university that we are committed to reducing our waste and are recycling what products we can.

Employees are involved in many aspects of this program. Staff is responsible for sorting the wood waste, removing large pieces of metal that would damage the grinding equipment, and hauling the waste to the Public Works department. The staff compared the mulch that we were purchasing and the mulch being produced by the town and the general consensus is that the mulch being ground is exceeding the quality of the material being purchased in color and longevity; they both seem to be lasting longer.

### Documentation, Analysis, Customer Input, and Benchmarking

The benchmarks of this program were all related to finding a way to continue the application of hardwood mulch in a manner that would be cost effective for our department. By partnering with the town of Normal, we have found a successful and cost effective solution that benefited all of us and at the same time developed a better product in the process.

When reviewing the documentation and analyzing the data, we found that this program is saving the university and

tax payers a significant amount of money and is keeping enormous amounts of wood product out of our landfills. Annually, the university recycles 195 tons of wood material, which equates to a cost savings of \$8,937 to the university in landfill expenses. An additional \$16,000 annual savings occurs as we no longer purchase mulch. The town of Normal also benefits by saving \$2,800 per year in staffing, trucking, and chip disposal. The total recognized cost savings to the taxpayers is \$26,837 yearly.

Studies have shown that the majority of college students choose their particular venue of higher education by how the campus looks before academia. A campus' aesthetics is a huge recruiting tool for a university, and over the past several years Illinois State has been able to attract a "more preferred" student (higher ACT scores, class rankings, etc.) because of its outstanding facilities. Our department's goal is multi-faceted as we strive to provide a beautiful campus and excellent customer service in a cost effective manner. 🏰



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## Trash to Treasure Program

*By Michele Guisewite and Paul Ruskin*

*Michele Guisewite is auxiliary and business services marketing officer at Pennsylvania State University, University Park, Pennsylvania; she can be reached at [mcg10@psu.edu](mailto:mcg10@psu.edu). Paul Ruskin is the communications coordinator for the office of physical plant at Penn State; he can be reached at [pdr2@nw.opp.psu.edu](mailto:pdr2@nw.opp.psu.edu). This is their first article for Facilities Manager.*

Before leaving campus at the end of spring semester, many Penn State students donated items they no longer wanted to the Trash to Treasure program. Four hundred volunteers then sorted through the donations, gave any food items to local food banks, and put everything else up for sale at Beaver Stadium. People began lining up outside Beaver Stadium 90 minutes before the sale started—we estimate that more than 9,000 shoppers attended the sale. All cash proceeds benefited the Centre County United Way member organizations.

### Institutional Benefits

At Penn State University Park, the spring move-out waste stream represents the largest single waste challenge (200 tons) generated in two days. Before the Trash to Treasure program was instituted, the waste-collection process consisted of placing seventeen 20-cubic-yard rollofs throughout the residence hall areas. The rollofs were pulled on demand until all waste was removed. The costs associated with this process were in excess of \$12,000 for tip fees and hauling alone. This does not include the labor to carry the materials from the building and place them in the rollofs.

The Trash to Treasure program allowed for the timely and cost-effective collection and transport of unwanted but usable materials by using a predetermined collection route and setting up donation/staging areas in the residence halls. The program also diverted these usable materials from the refuse stream to the recycle/reuse stream.

Other institutional benefits of Trash to Treasure include:

- savings of \$56/ton for each ton diverted from the landfill,
- labor savings for the material hauled from the rooms in the building to a ground floor staging area,

- labor and equipment savings for hauling waste to the landfill,
- dollars earned help our neighbors in need through the United Way and its 36 agencies, and
- increased interaction with members of our community, which strengthens the “town/gown” relationship.

### Characteristics or Qualities That Make This Program Different or Innovative

The Trash to Treasure program has formed nontraditional partnerships to achieve the desired goal of enhanced waste-collection processes and the sale of donated materials. Students were asked to donate reusable items that would otherwise be disposed of in the refuse waste stream. They placed the materials in a predetermined donation area in their residence halls. Office of Physical Plant personnel collected the donations and took them to the sale location, where United Way volunteers prepared the materials for sale (cleaning, separating, folding, etc.).

The Trash to Treasure program was backed by an innovative marketing campaign, which included a slogan, posters advertising the sale and promoting donations, a website ([www.hfs.psu.edu/treasure](http://www.hfs.psu.edu/treasure)), table tents for the dining commons, flyers, and several radio ads. More information on the Trash to Treasure marketing campaign is available at [www.hfs.psu.edu/treasure/marketing](http://www.hfs.psu.edu/treasure/marketing).

### How This Practice Can Be Used By Others

Institutions facing similar waste challenges can easily institute a program like Trash to Treasure. The procedures for collecting, transporting, and selling the items are flexible. For instance, donated items may be left in specified areas in the residence halls, collected at curbside staging areas, or personally delivered by the donor. Any volunteer group could be called upon to set up the sale, and the proceeds could benefit any philanthropic institution, social services agency, or health-care provider.

### Management Commitment and Employee Involvement

The Trash to Treasure program was conceived and developed by several different individuals in the Penn State community. Office of Physical Plant's Deputy Associate Vice President Ford Stryker, the chair of the environmental stewardship committee, recognized the need to reduce refuse and increase recycling/reuse items found in the waste stream. He challenged Fraser Grigor, assistant director of facilities services for Housing and Food Services, to create a plan of action that would address the large volume of materials typically landfilled as a result of spring move-out.

Plans for the Trash to Treasure program began to take shape during open meetings that Grigor held with identified stakeholders. It was decided that materials that were typically landfilled would instead be collected and sold, and the proceeds would be donated to the local United Way, which serves 36 agencies in the Centre County area. The United Way and



The Trash to Treasure program was backed by an innovative marketing campaign, which included a slogan, posters advertising the sale and promoting donations, a website ([www.hfs.psu.edu/treasure](http://www.hfs.psu.edu/treasure)), table tents for the dining commons, flyers, and several radio ads.

its volunteer workforce—which consisted of Penn State students and staff, as well as members of the Centre County community—were charged with organizing the sale.

### Results, Analysis, Customer Feedback, and Resulting Benchmarks

Results of the spring Trash to Treasure sale, held at Beaver Stadium on May 24, 2003:

- 69.4 tons collected
- cost avoidance (landfill tip fees and hauling)—\$4,441
- labor and material costs—\$20,024
- profit from sale—\$37,623
- value of food collected (six tons @ \$1.50/lb.)—\$18,000
- labor savings (Housing)—\$10,000

The Student United Way was formed as a result of the Trash to Treasure Sale, and the Trash to Treasure program

continues to impact the campus community in many other ways. In November 2003, the Trash to Treasure team was presented with Penn State's prestigious Quality Service, Quality People Award for their efforts. In addition, the Trash to Treasure Sale Room recently opened on campus to sell additional items donated throughout the year. 🏰

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**Queensland University of Technology**

## Facilities Condition Audit

*By Brian Fenn*

**Brian Fenn is associate director, operations, at Queensland University of Technology, Queensland, Australia. He can be reached at [b.fenn@qut.edu.au](mailto:b.fenn@qut.edu.au). This is his first article for Facilities Manager.**

Queensland University of Technology (QUT) is Australia's fifth largest university with 34,000 students. The Facilities Management Department is responsible for all aspects of asset management including:

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### Background on Initiative

In 2001-02, the Facilities Management Department at Queensland University of Technology embarked on an ambitious, strategic facilities condition audit. The facilities condition audit was aimed at gathering high-level data on QUT's built assets and infrastructure. The audit covered the physical condition, legislative compliance, 15-year capital renewal needs, asset functionality, and elemental asset replacement and deprival valuations of 4,000,000-square feet of assets.

Survey findings were risk assessed and the results presented to the university's senior executive in a prioritized "risk-assessed" package.

### Institutional Benefits

The initiative informs the asset management planning process at the corporate level by providing comprehensive and meaningful data on the condition, compliance, functionality and future capital renewal needs of each asset.

In the ever growing litigious society in which we live, the facilities condition survey identified, assessed, and minimized risk by recommending and implementing risk-minimization strategies.

A serendipitous outcome of the project has been the transfer to our constituents/clients (including senior executive and faculty staff) of facilities management concepts, principles, definitions, language, and understanding. This has helped greatly in communicating with our clients on facilities management issues.

The survey has identified moderately dysfunctional and highly dysfunctional space (650,000- and 160,000-square feet respectively) and highlighted the changing needs of the university.

The aims and deliverables of the survey were carefully "workshopped" and clearly articulated from the outset. On completion, the project delivered more than 50 comprehensive reports on the university's major buildings as well as detailed in-ground infrastructure reports for each campus.



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The project was a collaborative partnership between an external engineering consultancy, a building surveyor, an architect, a quantity surveying firm, and QUT's facilities management department. Key survey findings were included in QUT's Asset Management Plan (AMP) for 2003-07.

### **Innovative Practices Characteristics**

The innovation lies primarily in the synergy of the five fundamental asset data sets that made up the facilities condition survey. The functionality audit of institutional space, the risk-assessment of all findings, and the front-end, user-friendly Access database developed to manage the data added another dimension to an already innovative project. QUT is unaware of any other university that has undertaken a single integrated project of a similar magnitude.

Our research indicates that the extensive, focus group driven functionality assessment, based on five weighted criteria (location, size, access to support services, utilization, and fitness-for-purpose), that formed part of the survey at large is the first ever undertaken in the university sector.

The QUT facilities condition survey methodology has become the benchmark for other institutions and recently has been adopted by a number of other universities in Australia and New Zealand. Further interest has been shown by local councils and state government bodies in Queensland.

### **Portability and Sustainability**

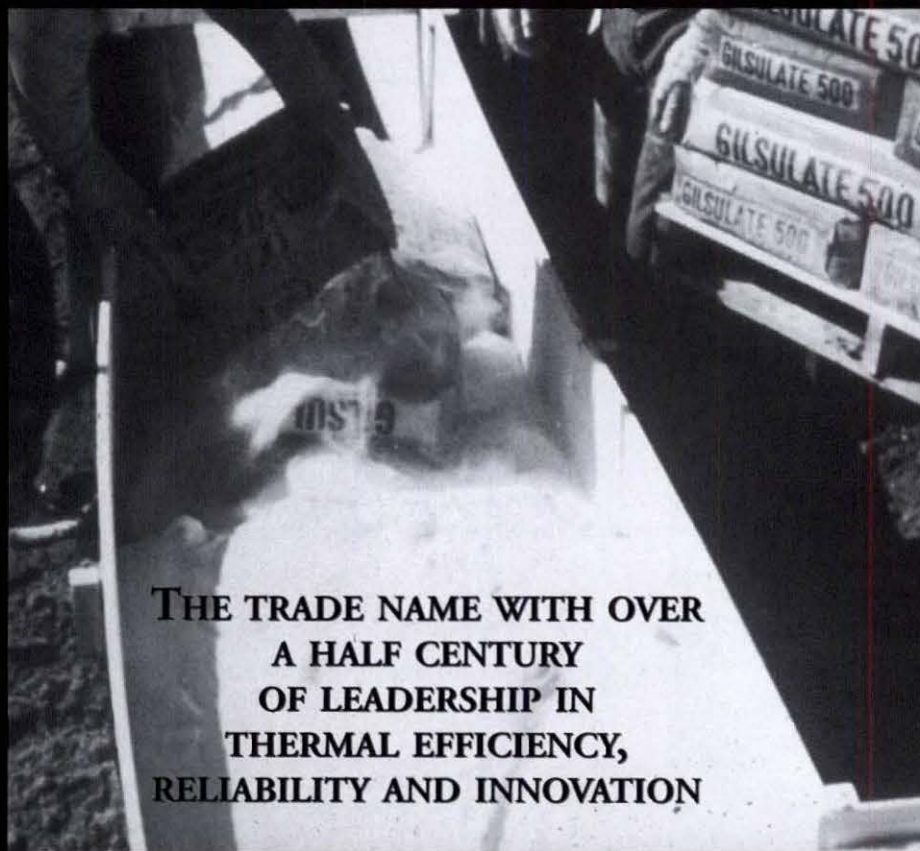
The initiative was presented and discussed at two workshops (Australia and New Zealand), and the methodology developed by QUT has since been adopted to varying degrees by several institutions. The facilities condition survey is founded on robust and proven facilities management principles and can be implemented within both public and private, university and non-university organizations with little or no customization.

QUT has willingly and freely shared its survey briefing documents, survey methodologies, and findings (including its innovative tool for measuring space functionality), and database design and structure with the university sector at large. It is our intention to undertake similar surveys on a quinquennial basis.

### **Management Commitment and Employee Involvement**

Senior management considered, approved, and funded the project. The findings were subsequently presented to the Vice-Chancellor's (aka President's) Advisory Committee where the project was commended and the recommendations supported. Additional funding was provided to address the high-risk/high-priority works identified during the survey.

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During the post-project briefing process with individual senior managers (deans, pro-vice-chancellors, directors), further support and commitment was clearly evident.

Project stakeholders included facilities management staff (at all levels), faculty and divisional managers, heads of schools and departments, the student body, the university community at large, and the university's senior executive group. The project briefing documentation clearly identified stakeholders and the scope of interaction with each group.

The project management team (comprising an external consulting engineer, an architect, and a QUT moderator) held scores of meetings with self-nominated representatives from all operational areas of the university, culminating in over 60 focus group meetings involving more than 250 academic and professional (general) staff members. The in-house maintenance staff (a key stakeholder group) added significant value to the project through scheduled daily briefing meetings with the external survey team.

The project has received commendations from within and outside of the institution and has been recognized in Australia as "best practice."

### **Documentation, Analysis, Customer Input, and Benchmarking**

The creative design of the Access database has allowed almost unlimited data analysis opportunities. The currency of the asset data is managed by a simple, user-friendly facility

that archives all completed maintenance, compliance and capital renewal works.

At the macro level, the survey has provided the university with a number of institutional benchmarks or indices covering such areas as deferred maintenance, legislative compliance, capital renewal, and functionality. The survey has also provided a risk profile for the university's physical assets and infrastructure.

All reports have been electronically scanned and imported into the FM Department's management information system and are accessible via Web-enabled technologies.

Customer stakeholders contributed to the facilities condition survey at various stages throughout the project, including inspections, functionality focus group sessions, and post-project debriefing meetings.

We believe QUT has established the benchmark for comprehensive facilities condition surveys. The inclusion of detailed life-cycle costing analyses of depreciated assets ("deprival values") and genuine functionality evaluations of institutional facilities at the micro, macro, and systems level has added another dimension to the more traditional facilities audits covering backlog maintenance, compliance, and capital renewal. The packaging and presentation of all survey findings based on formal risk assessments provided the perfect means for presenting the survey findings to the institution's senior executive team. 🏛️

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# The University of Texas Sewer Rehab:

## Using Trenchless Technologies

by Leonard Friesenhahn, P.E.

“**O**ut of sight, out of mind” is an adage your top administrators may apply to your campus wastewater collection system but as a facilities professional, you know how serious a sanitary sewer overflow can be. The structural failure and collapse of a sewer main can cause a blockage leading to the overflow of sewage from man-holes and building drains. Sanitary sewer overflows can cause serious environmental and property damage with the potential for monetary fines and bad publicity for your school. Sewer main piping rehabilitation using trenchless technologies provides a number of innovative options to restore life to aging sewer mains without the inconvenience and significant expense of the open-cut method.

Aging infrastructure is becoming a major concern for facilities personnel, as many educational institutions are well into their second century of existence. The University of Texas at Austin was established in 1883 and over the past 121 years has grown to be the nation's largest single-campus university. Portions of the campus wastewater collection system have been in service since the 1930s. The university's Utilities and Energy Management (UEM) department is responsible for

maintaining the nearly seven miles of sewer mains running beneath the 400-acre campus. UEM, headed by Juan Ontiveros, is a department of the Campus Planning and Facilities Management portfolio. The department is also responsible for generating electricity and steam, providing high-voltage electrical distribution, producing and distributing chilled water, and maintaining elevator and escalator systems.

In 2001, UEM began taking a more proactive approach to maintaining the campus wastewater collection system. UEM hired a contractor to clean and perform remote television inspection of all the university-owned sanitary sewer mains. Industry experts recommend thoroughly cleaning your sewer mains and performing a detailed, well-documented inspection every three to five years. The inspection videos and reports are useful in deciding which repair method to use and they also provide a record of the sewer's size and length, the location of taps and manholes, and the location and nature of any trouble spots. With a new baseline established, UEM performed a condition assessment of the sanitary sewer mains and identified the most critical areas for repair. UEM also used the inspection results to develop a long-term plan to rehabilitate the campus sanitary sewer mains, in an effort to add at least 50 years to the system's useful life. The inspection identified five sections of the most-heavily used sewer mains to be at or near collapse.

*Leonard Friesenhahn is utilities project manager for the University of Texas at Austin; he can be reached at [leonard.friesenhahn@austin.utexas.edu](mailto:leonard.friesenhahn@austin.utexas.edu). This is his first article for Facilities Manager.*





**Sewer liner (sock) at manhole. Black hoses circulate hot water to cure resin.**

At the University of Texas at Austin, funding for infrastructure improvements is appropriated annually. Of course, various groups lay claim to this funding, and UEM staff had some concern that the need for sewer repairs might not receive the priority that it deserved. UEM decided to promote the project with some audio-visual showmanship. UEM provided several videotapes from the sewer inspections and had a



**Workers feed epoxy-saturated 'sock' from refrigerator truck into manhole. Cold prevents resin from hardening prematurely.**

campus group edit them into a high-quality three-minute taped presentation, narrated by a professional with a "news-caster" voice. The effect was to make real for the first time this "out of sight, out of mind" problem. The video showed a type and extent of infrastructure damage that upper-level administrators had never seen before, and significant funds for repairs and rehabilitation were approved in 2001. You can

see project photos over the Internet at [www.utexas.edu/utilities/md.html](http://www.utexas.edu/utilities/md.html).


The first step in the repair and rehabilitation process was to make point repairs where the piping was at or near collapse. The most severely damaged piping sections were found to be localized and of relatively short lengths. These point repairs were made using the open-cut method, which was the best option for pipe in such poor condition. A total of 527 feet of failing sewer piping was dug up and replaced. UEM took the opportunity to add three manholes in a 600-foot long straight run of piping to allow for better maintenance access. With all of the structural failures and near-failures repaired, the sewer mains were ready for trenchless rehabilitation.

UEM evaluated the various trenchless technologies available to rehabilitate piping found to have only limited structural damage. Some of the structural problems that can be corrected using trenchless technologies include pipe with pieces missing, radial and longitudinal cracks, infiltration, and offset joints. The trenchless technologies considered for our projects have included cured-in-place pipe (CIPP), deformed/reformed pipe, and pipe bursting.

The first trenchless repair option considered was cured-in-place pipe. This process uses an

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**Workers feed epoxy-saturated 'sock' into manhole.**



**Juan Ontiveros, Jose Bustos, and Leonard Friesenhahn at the CIPP installation manhole.**

pressed flat and folded over. This forms a U-shaped cross-section that is small and flexible enough to be pulled into a round sewer pipe of the same nominal diameter. When the liner pipe is in place inside the sewer, steam is circulated

*Continued on page 67*

epoxy-impregnated felt tube or "sock" that is inverted into the host pipe to form a pipe-within-a-pipe. A water column is the driving force for the inversion process. The water pressure both inverts the sock into the sewer and expands it against the inside of the existing pipe. When the sock is in place, the water in the sock is circulated through a boiler and heated to 180 degrees Fahrenheit. Circulation at this temperature is maintained for a calculated amount of time, based on the size and length of the sock, to cure the epoxy resin. The curing time can range from one to eight hours or more once the curing temperature has been reached. Once cured, the sock becomes a solid, impermeable pipe-within-a-pipe. The sock ends are manually cut out at the manholes and the taps are restored by a special TV-guided robotic hole saw.

The second trenchless option considered was deformed/reformed pipe. This process uses thermoplastic pipe, either HDPE- or PVC-based, that has been heated until it softens and then

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through the liner causing it to re-soften and expand into its original round shape. After the liner cools, the ends are trimmed and any taps are restored from inside the sewer main.

The third trenchless option considered was pipe bursting. This method actually allows you to increase the diameter of your sewer main, if upsizing is needed. A pipe-bursting contractor winches a bursting head through the sewer that uses pneumatic or hydraulic force to push outward on the walls of the existing pipe. New HDPE sewer pipe is attached to the bursting head and is pulled in place as the original pipe breaks outward. Other pipe materials, including cast iron and steel, also can be used with this method. Excavation is typically required to restore existing taps to service. Also, a launching pit and a receiving pit are required for inserting and removing the bursting head. Pipe bursting has the potential to damage nearby underground utilities and can cause heaving of the grade level if the sewer is shallow or if the line is significantly upsized.

UEM developed rehabilitation project bid specifications with the help of sample specifications obtained from NASSCO

(National Association of Sewer Service Companies). NASSCO is working to standardize sewer condition classifications and assessments for the industry and is a good resource for information related to sewer cleaning, inspection, and repair. UEM specifications require the successful bidder to provide a bypass pumping plan, a traffic control plan, and a detailed project schedule as part of the preconstruction planning process. The specifications emphasize that the bypass-pumping plan must include adequately sized pumps, a standby pump for each active bypass pump, and plenty of well-maintained hoses that do not leak. Even a tiny amount of leakage, just a few drops, at a hose fitting can upset some members of the campus community.

UEM's first trenchless rehabilitation used deformed/reformed pipe to line 215 linear feet of 10-inch concrete sewer main. After repairing a collapse using the open-cut method, video inspection showed the remaining pipe to have severe corrosion and pipe deterioration from hydrogen sulfide attack. A portion of this sewer main runs underneath the turtle pond, an area used by the Biological Sciences Department to study aquatic plant and animal life.

An open-cut repair was definitely not an option. UEM hired a contractor experienced with deformed/reformed pipe

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installation. The crew brought the project's deformed pipe to the site on a reel. The pipe was winched through the host pipe and, when in position, steam was injected inside the deformed pipe to expand it into its original round cross section. The entire installation was completed in one day.

UEM performed a second trenchless rehabilitation by hiring an experienced CIPP installation contractor to rehabilitate 1,569 linear feet of 12-inch sewer main piping spanning eleven manhole sections. A manhole section is considered to be the sewer piping running between any two manholes. The project's 12-inch sewer mains run through the center of cam-

pus and drain a number of large lab buildings as well as the famous UT Tower.

Since the access manholes are located in narrow, busy streets, the project was scheduled for the semester break between the summer and fall sessions when the student population was at a minimum. The contractor mobilized for the five-day project with a refrigerated truck carrying all of the wet-out liners for the project, a boiler truck for heating and circulating water to cure the inverted liners, bypass pumps, hoses, support equipment, and an experienced crew.

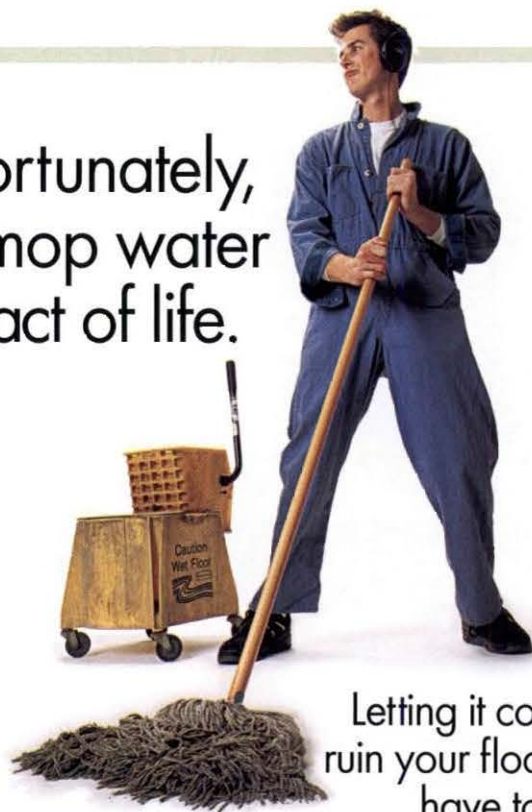
Although the crew was faced with a variety of equipment

problems, they were able to make the necessary repairs and avoid any failures in the installation and curing process. When the liner installation was completed, the contractor performed a post-installation TV inspection to prove the quality of the final product. This video documentation now serves as a new baseline for these manhole sections.

When you perform a periodic inspection of your campus wastewater collection system and the data indicates a need for rehabilitation, consider the trenchless technologies available. Trenchless technologies are constantly evolving, as new and improved processes are developed to provide innovative solutions for difficult problems. CIPP has provided an excellent solution for restoring life to the aging sewer mains at the University of Texas at Austin.

UEM recently completed its third trenchless rehabilitation project. This project used CIPP to rehabilitate 888 linear feet of 24-inch sewer main that drains the 80,000-seat football stadium and surrounding buildings. The Longhorns have some of the best athletic facilities in the nation, and now the same can be said of the stadium's wastewater collection system. 🏈

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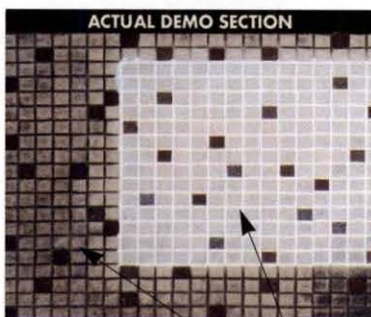
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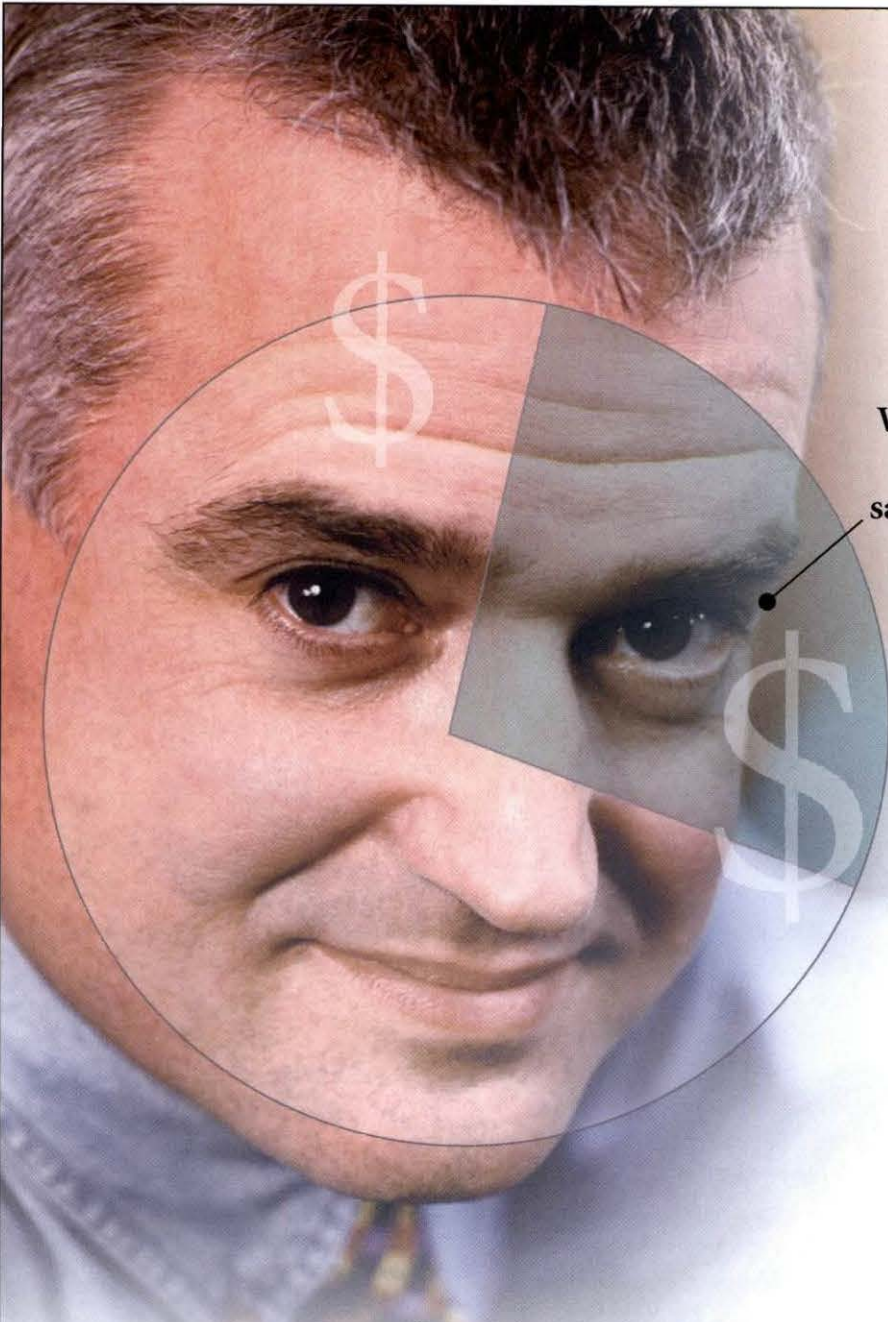
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## Life Cycle Cost Modeling: Replacement or Supplement?

by Daniel C. Harrison

All of you are by now familiar with the concept of conducting a facility condition analysis (FCA). A perceived option has been growing over the last few years, which is the use of life cycle modeling to replace the FCA. But is the life cycle model a viable replacement for the FCA, or a valuable addition to the FCA process? I contend that it is in fact the latter, a valuable addition to the process.

The facility condition analysis is the best method available for predicting short-term (ten years or less) facilities needs with reliable accuracy. The FCA involves an actual, physical inspection of facilities, noting existing conditions and identifying facilities needs within the ten-year period covered by the standard FCA. This process not only identifies the facilities needs, but also prioritizes these needs, and establishes budget level cost estimates for correcting the identified deficiencies. The FCA process will also take into account changing facility uses and changes in building codes and laws governing use and construction of facilities. It paints a real picture of the actual needs for a physical plant over a ten-year window.

The FCA, while detailed and comprehensive, only tells part of the story. A fully documented FCA database will outline the short-term needs and put together a plan for addressing these needs, but does not address the issue of continuing cyclical facility needs. This is why the life cycle model (LCM) is an invaluable adjunct to the



FCA process. All too often, an institution will conduct the FCA, quantify the need, and present the results to the budget decision makers, sometimes resulting in budget increases to deal with existing backlogs of facilities deficiencies. When this happens, there is a temporary increase in the overall condition of the facilities, but it often proves to be short-lived.

After the budgetary authorities have provided significant increases in facilities budgets to address backlogs, the prevailing tendency for these authorities is to assume that the problem has been addressed and has now gone away. Nothing, however, could be further from the truth. In the real world of facilities management and operations, the problem never goes away and is never solved, because facilities renewal is a never-ending cycle. When a roof is identified for replacement in the next five years, it will also require replacement 20 years later, and 20 years after that, and so on. All major building systems and components have finite life spans, regardless of the level of maintenance funding. Obviously, inadequate routine maintenance funding can severely degrade the life cycle of a system, but no amount of

over funding can result in a system or component that never needs replacement. The life cycle can be extended somewhat, but never indefinitely.

The model (and I use this term as an example, not the way it should be) that occurs most often in the facilities management is as follows. The FCA documents a significant backlog of deferred facilities renewal requirements. Additional funding for the next five to ten years is secured, providing a temporary boost in the quality of the physical plant. After a few short years, the budgetary authorities believe that the problem has been addressed, and once again, facilities budgets become squeezed (in other words, cut).

Reduction in funding levels force the deferral of standard component renewal items, resulting in an increasing backlog of unfunded facilities needs, with the attendant decrease in overall condition of the physical plant. This trend continues until a new FCA is accomplished, and a new pitch is made to the budgetary authority (usually a completely new cast of characters), to start the renovation cycle over again. This method is the typical one encountered at most facilities organizations, but it results in greater periods of poor overall facility condition, without any positive impacts on actual investment requirements over time.

This is where the LCM comes into play as a critical tool of facilities management. The FCA identifies known needs within the near future, but the LCM clearly demonstrates the principle that proper stewardship of facilities is a continuous, ongoing process. The goal of the LCM is to identify all major systems and components in a facility that require renewal, and then quantify the LCM by assign-

**Dan Harrison is vice president of ISES Corporation. He can be reached at [danh@isescorp.com](mailto:danh@isescorp.com). This is his first article for Facilities Manager.**



ing a life cycle and a unit component renewal cost to each item. This data is then utilized to predict renewal costs for a facility out over a 50-year period or longer.

The resultant LCM data can be utilized in two ways. The first method is to predict variable costs for component renewal in each of the covered years of the model and to support capital budgets of differing levels in each future year. This method of application works best in a single building environment or in situations where you have a group of facilities that have identical construction ages and are at the same points in their respective life cycles.

For instance, if you have a campus where all the buildings were built within the same time frame (realistically only applicable for newer campuses), all the roofs will be on the same life cycle and all the major MEP systems will be on the same life cycles, etc. In this scenario, the LCM can be utilized to show that there will be years with relatively little in the way of renewal needs, but there will also be years in which the required facilities budgets spike due to concurrent failure of major systems within the same period of time.

The other method of utilizing LCM data revolves around the same base data, but does not attempt to predict actual expenditures in given years. Instead, the predicted expenditures over time are converted to a basic equal payment series, thus supporting the premise that facilities budgets must be maintained at or above a given level in the facilities maintenance organization to properly maintain and manage the facilities portfolio. This method works well in large, diverse facilities organizations such as those encountered in the higher education and government sector.

A typical physical plant in those environments includes a large quantity of facilities, built over a span of many years (sometimes over 200

**The LCM is not, however, a replacement for the FCA, but rather an augmentation.**

years or more). In situations such as this, individual buildings will have spikes in their projected funding requirements on a year-to-year basis, but when the overall portfolio is addressed, there is a leveling tendency that comes into play. The LCM is used to support the proposition that funding needs requires maintenance at or above minimum threshold levels if facilities are to be adequately maintained.

The LCM is not, however, a replacement for the FCA, but rather an augmentation. The LCM supports overall budget levels over long periods of time, but does not take into account facility use changes or build-

ing code changes, etc. It also will not provide a tool for properly prioritizing needs among competing facilities. The FCA establishes the real picture for the short term, prioritizing the need and dealing with use and building code changes. The LCM supports the premise that facilities funding cannot be reduced (unless you are willing to accept significant degradation of your facilities), and that facility needs are truly cyclical and the need never goes away.

When the FCA and the LCM are utilized in conjunction with each other, and the resulting data presented in an authoritative manner, the results clearly demonstrate that the facility manager truly understands his short-term financial needs, and also supports long-range budget projections for capital funding requirements. 🏢



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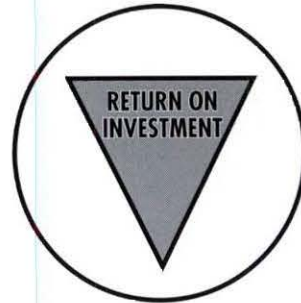
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# The Bookshelf

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

There are books for every subject and this month's selections provide further proof of that. The first book reviewed is a small one, but dense in volume; the second is an esoteric manual. Since books come in all shapes and sizes there is probably at least one that you can register your opinion and recommend to readers. So let me hear from you.

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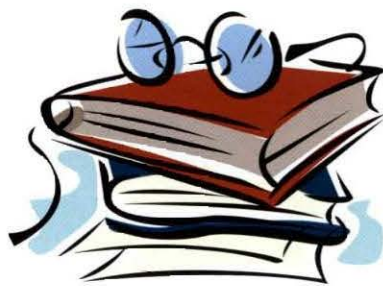
**School Maintenance & Renovation: Administrator Policies, Practices, & Economics**, by Glen I. Earthman and Linda Lemasters. Lancaster, Pennsylvania: ProActive Publications, 2004, 202 pages, hardcover.

There are not many books focused on K-12 school maintenance so when one comes along it merits review. *School Maintenance & Renovation* is written by school administrators for school administrators. It provides some great insights into school financial structures, which vary by state, and some good arguments to maintain, rather than ignore facilities.

The book is organized for someone coming to a K-12 administrative job in an existing facility and provides a good foundation into the finances of facilities in schools, which are considered a cost rather than a resource. Working with the assumption that the school will eventually need capital work in the form of rehabilitation, renovation, expansion, or replace-

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**Ted Weidner is president of Facility Asset Consulting, Amherst, Massachusetts. He can be reached at [ted@weidnerfac.com](mailto:ted@weidnerfac.com).**



ment, the authors present the details of working with architects and contractors.

I was most interested in their presentation of maintenance—why preventive maintenance is good and saves money, over why it is ignored or deferred. The authors introduced the elements of preventive maintenance, indicating that manufacturers have recommendations on what equipment to maintain and when to maintain it in order to keep it running. They discussed staffing needs and how to balance those needs with skills and budgets through right-sourcing, calling it “external management services.” They also discussed computer maintenance management systems and the use of technology to keep an eye on what is being done.

The book packs a lot of information into a small space. It doesn't go into the depth that most facilities professionals would require, but it does a good job of presenting the value of good facilities management to administrators who might prefer to focus only on the instructional side. If there is a fault in the book, it is the metrics suggested for measuring the effectiveness of a maintenance program. The measures presented were cost based rather than performance based so the cheapest, but not necessarily most

effective, maintenance would get the positive recognition. Other than that one fault, it is a good book.

If this book is aimed at administrators (principals and superintendents, typically the supervisor of this readership), why would I recommend it? I recommend it because it presents a favorable point of view about maintenance that facilities professionals don't often get. When we see successful arguments for maintenance presented in a non-technical way, it's good for everyone. So, for a different, but valid perspective on good school maintenance, add *School Maintenance & Renovation* to your bookshelf and think about getting your boss a copy so he or she receives your message from a different perspective.

\*\*\*

**Recommended Practice for Planned Indoor Lighting Maintenance**, by IESNA Maintenance Committee. New York: Illuminating Engineering Society of North America, 2003, 34 pages, softbound.

Lighting design is a rather specialized area; not many architecture programs have courses in it. Maintenance of lighting is even more esoteric. It is easy to install lighting and think that it is adequate or good; it is another thing entirely to show that money isn't being wasted with this lighting. However, there are many opinions about lighting—whether it is adequate or not, whether it is economical, and whether it is effective. Although the booklet discusses several lighting issues, I am

*Continued on page 75*



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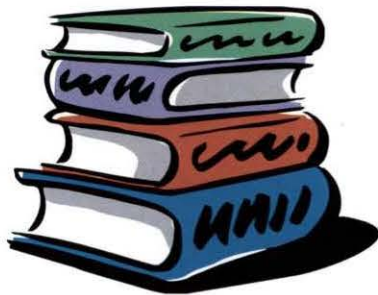



going to stick with the maintenance focus.

I still have my lighting design handbook from architecture school, although it has been updated several times since then. It's a large book and the latest edition of it isn't cheap—\$500. To be an effective facility operator you don't have to purchase an expensive handbook to tell you more than you need; you can use *Lighting Maintenance* instead. This booklet contains much of the data that appears in the more expensive handbook—factors such as luminaire dirt depreciation, lamp lumen depreciation, room surface dirt depreciation, and others—that are used by lighting designers to provide adequate light for an application. The book also includes reasons and proof why maintenance of luminaries (light fixtures) is important.

Thus, a program of good lighting maintenance will result in more economical lighting design and less electricity consumed—double savings.

Issues of spot v. group relamping are discussed plus the added approach of spot and group relamping, including the economics. What should be done when cleaning a light fixture? What tools and chemicals should be used and which ones should be avoided because they damage the fixture? One important fact the booklet states is that when cleaning is done periodically and correctly lighting levels are 10 percent higher. Thus, a program of good lighting maintenance will result in more economical lighting design and less electricity consumed—double savings. The booklet also provides examples of how to prove to your boss and others the validity of the savings claims.



Whether you are involved in lighting or not, this booklet provides compelling reasons why preventive maintenance for lighting is important and why it should be done. It provides the reader with tools to manage operational lighting issues as well as the foundation to manage lighting retrofits and new construction projects. It's not free, but like good maintenance, it will pay for itself. 

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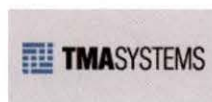
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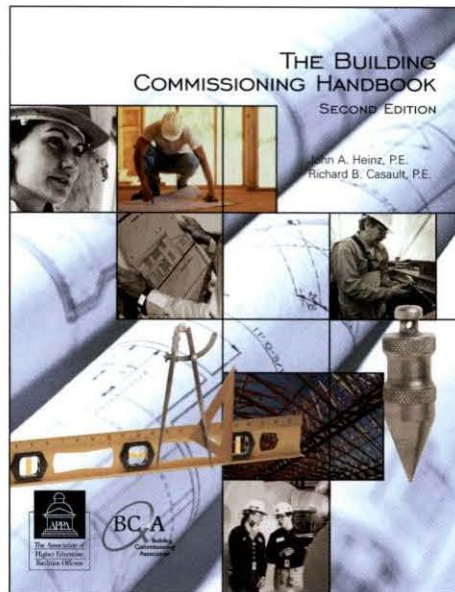
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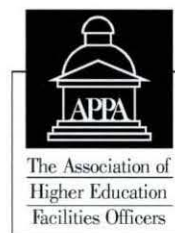
*Building Commissioning Handbook*, Second Edition contains:

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- An actual case study to test your skills.
- Extensive Appendices with information on
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The authors share with the readers the lessons they have learned in over 40 years in the "owner" role as facilities managers and engineers at one of the nation's leading universities, where they have implemented a successful commissioning program. Through their subsequent experience as commissioning service providers, leaders, and trainers, they convey state-of-the-art recommendations to help you get the greatest benefit

from your commissioning investment. By applying the commissioning process described in the *Handbook*, the odds of completing your projects on budget and on schedule greatly improve. Building commissioning, properly applied, is the owner's optimum quality assurance program.



This publication is jointly published by APPA and The Building Commissioning Association.

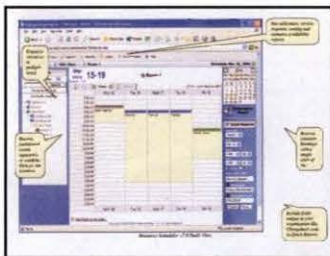
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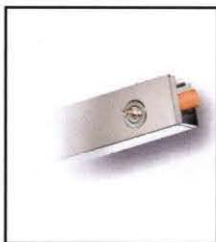
# New Products

New Products listings are provided by the manufacturers and suppliers and are selected by the editors for variety and innovation. For more information or to submit a New Products listing, contact Gerry Van Treeck, Achieve Communications, 3221 Prestwick Lane, Northbrook, IL 60062; phone 847-562-8633; e-mail [gvtgvt@earthlink.com](mailto:gvtgvt@earthlink.com).

**Meeting Maker, Inc.**, has launched Resource Scheduler for Microsoft® Outlook®/Exchange®, an advanced Web-based tool that addresses the resource scheduling needs of the more than 115 million Outlook/Exchange users. Also announced was Resource Scheduler version 7.0, a version that provides significant upgrades to the popular software tool that helps hundreds of organizations solve problems associated with management, utilization and scheduling of business resources. Resource Scheduler offers customers increased return on investment by addressing the major inefficiencies that can occur when scheduling resources across an enterprise. For additional information, please call Meeting Maker, Inc. at 781-530-2645.



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**Natare Corporation** announced that the United States Patent and Trademark Office granted the company a U.S. Patent covering methods for making aquatic components slip-resistant. NataTread®, their exclusive slip-resistant surfacing, is commonly used on the horizontal surfaces of all Natare



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# Coming Events

## Coming Events

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## APPA Events

**Nov 3-6—ACUHO-I/APPA Housing Facilities Workshop.** Tampa, FL. Visit [www.acuho-i.org/facilities/index.html](http://www.acuho-i.org/facilities/index.html).

**Nov 15-20—APPA/ISSA Supervisor's Toolkit: Nuts and Bolts of Facilities Supervision.** New Orleans, LA.

**Jan 16-20, 2005—Institute for Facilities Management.** San Jose, CA.

**Jan 16-20—Supervisor's Toolkit: Nuts and Bolts of Facilities Supervision.** San Jose, CA.

**June 19-23—Leadership Academy.** Las Vegas, NV.

**Aug 4-6—Educational Facilities Leadership Forum.** Orlando, FL.

**Sep 18-22—Institute for Facilities Management.** Norfolk, VA.

**Sep 18-22—Supervisor's Toolkit: Nuts and Bolts of Facilities Supervision.** Norfolk, VA.

## APPA Regional Meetings - 2004

**Sep 18-21—RMA Regional Meeting.** Jackson Hole, WY. Contact Mark Shively, 307-766-2537; e-mail [mshively@uwyo.edu](mailto:mshively@uwyo.edu).

**Sep 22-25—PCAPPA Regional Meeting.** San Diego, CA. Contact Scott Burns, 619-594-6001; e-mail [sburns@mail.sdsu.edu](mailto:sburns@mail.sdsu.edu).

**Sep 26-29—ERAPPA Regional Meeting.** Syracuse, NY. Contact Robert Britton, 315-443-3529; e-mail [rkbritto@syr.edu](mailto:rkbritto@syr.edu).

**Oct 8-13—CAPPA Regional Meeting.** Kansas City, MO. Contact Darrel Meyer, 816-759-1061; e-mail [MeyerDA@ac.kcmetro.cc.mo.us](mailto:MeyerDA@ac.kcmetro.cc.mo.us).

**Oct 30-Nov 2—SRAPPA Regional Meeting.** New Orleans, LA. Contact Marion Bracy, 504-483-7507; e-mail [mbracy@xula.edu](mailto:mbracy@xula.edu).

**Oct 31-Nov 3—MAPPA Regional Meeting.** Cleveland, OH. Contact James Cesen, 216-368-6537; e-mail [jac5@po.cwru.edu](mailto:jac5@po.cwru.edu).

## Other Events

**Oct 6-8—Preventive Maintenance and Repair of Buildings and Grounds.** Madison, WI. Contact Raymond C. Mutations 608-263-3372, [matulionis@epd.engr.wisc.edu](mailto:matulionis@epd.engr.wisc.edu) or visit <http://epdweb.engr.wisc.edu/WEBG040>.

**Oct 17-19—IFMA's World Workplace 2004.** Salt Lake City. Contact 713-623-4632, [events@ifma.org](mailto:events@ifma.org), or [www.worldworkplace.org/northamerica/2004/](http://www.worldworkplace.org/northamerica/2004/).

**Oct 27-30—AIA Annual Academy of Architecture for Health.** Washington, D.C. Contact Cara Battaglini 202-626-7426, [carab@aia.org](mailto:carab@aia.org).

**Nov 16-19—ISSA/INTERCLEAN.** New Orleans. Contact 1-800-225-4772 or visit [www.issa.com](http://www.issa.com).

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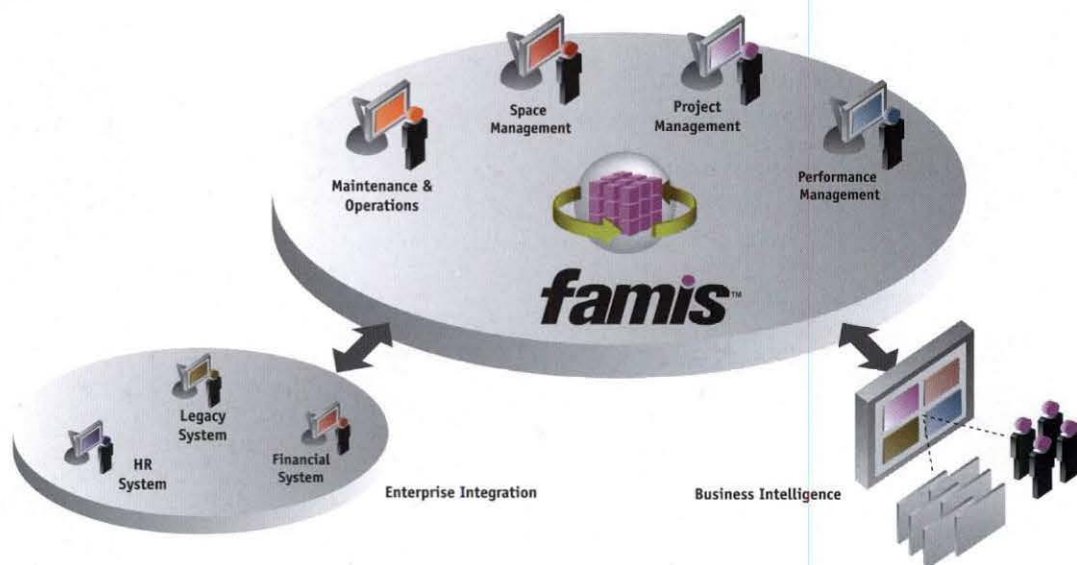
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