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NUMBER 1

Facilities Manager

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

**ENERGY, UTILITIES,
AND THE ENVIRONMENT**

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Contact: Betsy Colgan
betsy@appa.org

The image features a black mortarboard cap, a stack of three books with red and white spines, and a rolled diploma tied with a blue ribbon. These items are resting on a weathered, light-colored stone pedestal. The background is a light, neutral color with faint, thin lines.

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Global Partner in Learning

From the Editor

by Steve Glazner

Are you less than excited when you see another

"energy and utilities" article or theme issue hit your desk? What can possibly be added to the body of knowledge on energy-related topics that we can even care about? Besides, many facilities administrators have resigned themselves to the belief that they have little control over energy pricing, consumption, or meaningful strategy for reinvesting energy savings.

That said, the truth is that more attention, scrutiny, and innovation are occurring now in campus utilities management than ever before. State, provincial, and federal budget cuts are hindering virtually every publicly funded institution. Open staff positions are being eliminated, and campus employees (many from the facilities division) are being "let go."

The most savvy facilities professionals are using this opportunity to develop an energy strategy that supports the mission of the institution, to actively participate in campus energy/utilities policy-making, and to create effective and beneficial facilities financing programs. Joe Whitefield shows us the success that Middle Tennessee State University has had by supporting this approach.

Mo Qayoumi, dean of the energy and utilities track of APPA's Institute for Facilities Management, provides us with a valuable overview—a baseline look—of the trends and forces that are affecting the discussion on energy, utilities, and the environment.

We're pleased to share Kate Burke's description of the work that we're trying to accomplish at the U.S. state level. APPA, the National Association

of College and University Business Officers, and the National Association of State Energy Officers—coming together through our mutual involvement in the U.S. Department of Energy's Rebuild America program—are laying the groundwork for supporting public institutions and state energy offices to work together more effectively.

And from the environmental standpoint, we include a recycling case study and an introduction to the topic of mold in schools. These are only two examples of the many programs and concerns continuing to affect the quality of our campus facilities.

For regular readers of the Facility Asset Management column, don't despair that Matt Adams is not included in this issue. We are introducing a variety of guest columnists to alternate with Matt, and we are happy to have Jay Oschrein contribute his views on eliminating the term "deferred maintenance" for "facilities reinvestment." Whether we talk about facilities reinvestment, renewal, or modernization, it is clear that we must move away from the negative, backward view of facilities stewardship that "deferred maintenance" has become.

And finally, we introduce appa.org, a new column from Suzanne Healy, APPA's website production specialist, on the latest improvements to the APPA website. We are continually adding resources to the site, and we want to share our progress as we move toward a new website design. 🏠



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HBCUs Spotlighted by Radio Host

Historically Black Colleges and Universities (HBCUs), along with other colleges and universities, prospered during the economic boom of the 1990s, but have recently hit tough economic times according to *The Chronicle of Higher Education*, December 6, 2002, (pA27). A syndicated morning radio host is doing what he can to change that. Tom Joyner, heard on more than 100 stations across the country, spotlights a different college each month, broadcasting his show from that campus or nearby and encouraging donations for scholarships. The September 2002, "college of the month," Claflin University, in South Carolina, received \$304,000 in donations as a result of his appeals.

The Tom Joyner Foundation, based in Dallas, doles out the contributions to the colleges who then decide which students will receive the scholarships. According to the IRS, the foundation raised \$5.7-million in 2001.

The first university featured on Joyner's radio show was Howard University in March 1998—approximately \$20,000 was raised. "It has been growing ever since then," said Thomas Joyner Jr., the radio host's son and president and chief executive officer of the foundation.

Alabama A&M University has received the most money to date based on appeals from the radio show—more than \$600,000 since it was featured in May 2001.

Students Surveyed on Learning

The National Survey of Student Engagement, now in its third year of reporting, measures how colleges encourage student learning. The

Chronicle of Higher Education, November 22, 2002, (pA55), reports that in the spring of 2002, 135,000 freshmen and seniors from 613 four-year colleges were surveyed. The results of the survey found that students who experienced diversity—that is, those who attended diverse institutions or participated in diversity-related activities—reported higher levels of engagement than other students. Specifically, these students were more involved in active and collaborative learning, reported greater satisfaction with their college experience, and showed more progress in personal and educational growth.

"The bottom line is that diversity is good," said George D. Kuh, director of the survey and a professor of higher education at Indiana University at Bloomington. "It's good for all kinds of reasons, not just being exposed to different people."

Some colleges have set up programs to improve student engagement. Radford University, for instance, began offering workshops to teach professors how to increase student involvement in the classroom.

The \$3.3-million survey is cosponsored by the Pew Forum on Undergraduate Learning and the Carnegie foundation for the Advancement of Teaching and is available online at www.indiana.edu/~nsse.

University of Colorado Takes First Place in Solar Decathlon

At the recent 10-day Solar Decathlon competition, sponsored by the Department of Energy and held at the National Mall in Washington, D.C., the University of Colorado at Boulder took first place. Teams from 14 universities from

around the United States competed in building homes (approximately 500 square feet) that blend aesthetics and modern conveniences with maximum energy production and efficiency. Second place was awarded to the University of Virginia, with Auburn taking third.

"The University of Colorado at Boulder has earned their place in the sun, with their win in the first-ever Solar Decathlon," said Secretary of Energy Spencer Abraham.

Teams had to figure out how to harness the power of the sun to supply all the energy for an entire household, including a home-based business along with transportation needs of the household and the business.

University of Virginia Wins Awards

Recycling Award

The Virginia Recycling Award for Colleges and Universities was presented by the Virginia Recycling Association to the University of Virginia's recycling program for outstanding effort in the amount of materials recycled, the amount diverted from the landfill, the income generated from the sale of recyclables, and the overall organization and operation of the program.

"The faculty, staff, and students of UVA made it possible for us to have an award-winning program because they get the idea: they recycle," said Dennis Clark, manager of the Division of Recoverable and Disposable Resources.

Program Champion Award

For the second straight year, the University of Virginia recycling team received an EPA WasteWise Award, designed to recognize success in meeting waste reduction goals. UVA's

recycling program follows the state mandates and has succeeded in lowering the percentage of the University's solid waste (currently 40 percent) sent to the landfill.

The award was presented to Gina Casciano, UVA's recycling student education coordinator and 3rd year student and Dennis Clark, manager of the recycling program, in Washington, D.C., on October 10. UVA was one of only five institutions to receive an award at the WasteWise Annual Meeting and Awards Ceremony for their innovative approaches to waste reduction.

WasteWise is a free and voluntary partnership program launched by the EPA in 1994. The program provides guidance and recognition to the nearly 1,300 participating organizations working to find practical methods to reduce municipal solid waste and improve financial performance. For more information about the WasteWise program, visit www.epa.gov/wastewise.

Colleges and Universities Collect PGMS Awards

The Professional Grounds Management Society has recognized 22 grounds management programs for excellence in the Society's 2002 Green Star Awards Competition. Held in conjunction with the Green Industry Exposition, the 30th Annual Awards were presented in Nashville, Tennessee, during the PGMS Annual Conference.

Eleven of the 22 total awardees went to colleges and universities nationwide. Leading this trend were three Grand Award winners in the School or University Grounds category: Grand Valley State University, Illinois State University, and University of Mississippi.

Overall, PGMS presented 11 Grand Awards, its highest honor, as well as 11 Honor Awards in 11 categories of competition.

The PGMS Green Star Awards program is conducted with *Landscape Management* magazine. For a complete listing of the colleges and universities that were honored, visit www.pgms.org/pgmsnews/2002pgmsgreenstars.htm.

White Paper Sent to EPA

The development of environmental management systems (EMS) is of special interest to many colleges and universities. Also, colleges and universities recognize that regulatory reform is necessary with respect to higher education. Representatives of higher education have engaged in meetings with the Office of Solid Waste and continue to promote ongoing discussions regarding the preparation, guidance, and development of regulations on hazardous waste management for the academic sector.

With this in mind, four associations (Campus Safety, Health and Environmental Management Association [CSHEMA], National Association of College and University Business Officers [NACUBO], American Council on Education [ACE], and APPA: The Association of Higher Education Facilities Officers [APFA]) came together and created a White Paper "Environmental Excellence in Higher Education" for EPA that addresses significant issues surrounding the application of certain environmental regulations to colleges and universities.

Sheldon Elliot Steinbach, vice president and general counsel of ACE, states in the letter that, "It is our understanding that higher education's participation in the performance partnership will not detract from the regulatory reform efforts already underway. In fact, it is our hope that this initiative can be integrated with a regulatory reform approach to truly promote environmental excellence in the higher education sector."

A copy of this paper is available at the following website address:

<http://www.appa.org/maintenance/best.html>.

Rebate Service Offered

A free utility rebate report service for qualified educational facilities is now available through Aqualine Resources, Inc., a water and energy conservation company. The free rebate report service is a new component of the company's Educational Retrofit Program that assists K-12, college, and university facilities to upgrade their aging energy- and water-related infrastructure to more cost-efficient systems.

The utility rebate report service provides educational facility directors and managers with a comprehensive, up-to-date listing of available national, state, and local utility rebates available to offset the cost of upgrading energy and water systems. The report is customized to the geographic location of the facility so only those rebates for which the facility qualifies are included. Possible rebates typically include chillers, boilers, cooling towers, lighting and controls, HVAC, sewer, and water.

"Reducing energy cost is a major concern to most directors of facilities, but staying current with rebate programs is very difficult. Many times our depth of knowledge in the areas of rebate programs, financing, and innovative design and engineering practices have helped upgrades get funded that otherwise could not have," noted David Fleischer, president and CEO of Aqualine Resources, Inc.

In addition to the free rebate report service, Aqualine's Educational Retrofit Program also provides a no-cost, no-obligation preliminary savings analysis that identifies potential utility cost savings at the educational institution.

To learn more about this program and to qualify, contact Aqualine Resources at 1-800-617-0007 ext. 3410.

Syracuse Signs with EPA

Syracuse University has taken advantage of the U.S. Environmental Protection Agency's innovative self-audit program with an agreement to conduct a comprehensive environmental audit of its main campus and two smaller facilities. This agreement, the first of its kind with a private college or university, is part of EPA's national initiative to help institutions of higher learning comply with environmental regulations.

"Both EPA and Syracuse get something very positive out of this agreement," said EPA Regional Administrator Jane M. Kenny. "This agreement helps the university protect human health and the environment. It helps it to more effectively discover and fix violations. It reduces or eliminates financial penalties and it conserves EPA's resources."

With an enrollment of more than 18,000 students, Syracuse University has agreed to undertake comprehensive environmental audits, self report any violations, correct deficiencies in its environmental management, and take steps to prevent recurrence of violations. EPA has agreed to waive gravity-based penalties for self-disclosed violations. The agreement covers all major federal environmental programs, including air, water, pesticides, solid and hazardous wastes, hazardous substances and chemicals, environmental response, emergency planning, Community Right-to-Know, and toxic substances control.

"This agreement allows both EPA and Syracuse University to better do their jobs," said Syracuse University Chancellor Kenneth A. Shaw.

EPA's Colleges and Universities Initiative, established in 1999, was started because many institutions of higher learning were not aware of their responsibilities under environmental law or had failed to implement strategies to comply with the law. For more information on EPA's Voluntary Audit Policy, visit www.epa.gov/region02/capp/cip and for the

Colleges and Universities Initiative, www.epa.gov/region02/p2/college.

Universities Face Penalties for Noncompliance

Columbia University, Long Island University, and New Jersey City University face a total of \$1.1 million in penalties for alleged violations of hazardous waste regulation. The EPA, as part of its ongoing efforts to ensure the protection of those working at and attending institutions of higher learning, has issued civil enforcement

"EPA encourages colleges and universities to take advantage of these programs, but they should also keep in mind that we will continue to inspect institutions that are not taking part in them."

actions against the three universities alleging violations of federal and state laws that provide for the safe handling of hazardous wastes.

"These complaints and penalties highlight the real benefits of the self-audit and disclosure programs that EPA is promoting at colleges and universities," said EPA Regional Administrator Jane M. Kenny. "EPA encourages colleges and universities to take advantage of these programs, but they should also keep in mind that we will continue to inspect institutions that are not taking part in them."

The civil complaints charge the universities with violations of state laws and the federal Resource Conservation and Recovery Act, which ensures that hazardous waste is managed in an environmentally sound manner from "cradle to grave." The three complaints include orders requiring the universities to promptly address the alleged deficiencies and to comply with all appropriate federal and state hazardous waste laws.

Each university is ordered to take steps to comply with applicable feder-

al and state requirements and to submit a written notice of such compliance. If the university is not in compliance, it must state the reasons for the noncompliance and provide a schedule for achieving prompt compliance. Each of the universities has the option to contest the facts alleged in the complaint, request a hearing on the issues raised by the complaint and compliance order, and/or enter into negotiations to reach a settlement agreement with EPA.

Animal Rights vs. Research Gains

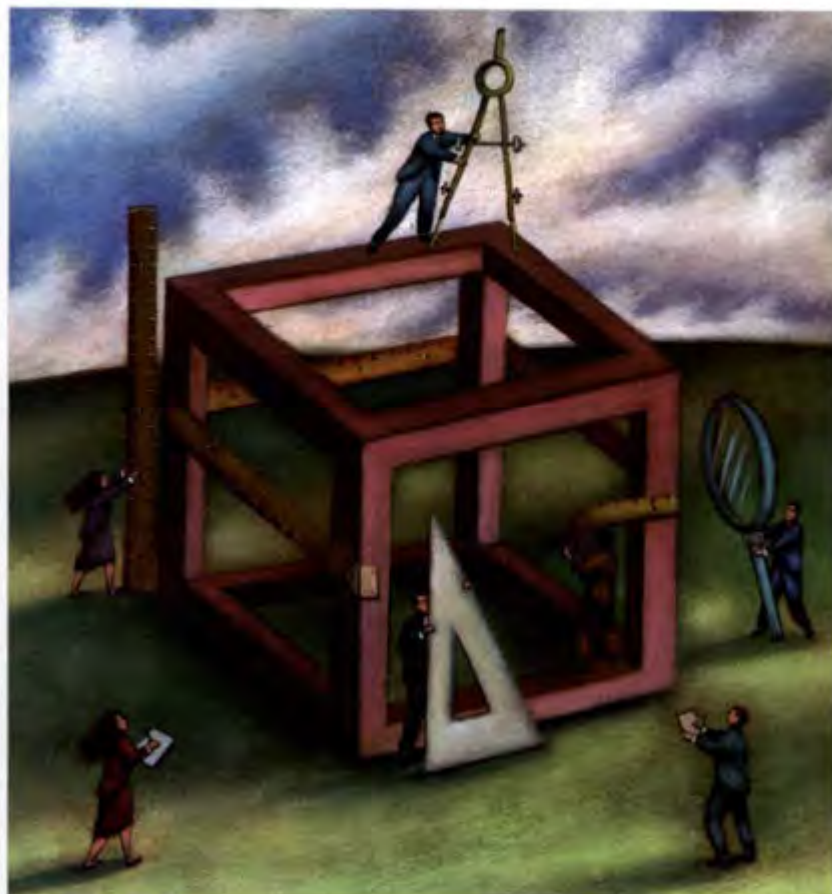
Animal rights terrorism and eco-terrorism are growing threats to university research facilities and staff throughout the United States. A report from the Task Force on Eco- and Animal Rights Terrorism of the National Association of State Universities and Land-Grant Colleges (NASULGC) encourages community and campus leaders to act immediately to improve security and expand public awareness of this threat.

NASULGC represents 214 public universities, many of them heavily engaged in a wide variety of research activities.

Animal rights activists and eco-terrorists seek to curtail research relying on the use of animals, biotechnology, and genetically modified organisms for the advancement of science. University facilities and researchers have been the targets of activist groups such as the Earth Liberation Front and the Animal Liberation Front. The Attorney General has designated such groups as domestic terrorist organizations.

Animal rights terrorists and eco-terrorists have claimed credit for the destruction of the University of Washington's Center for Urban Horticulture in May 2001, causing at least \$1.5 million in damage. According to the task force, these terrorists are also responsible for the resignation of a leading HIV virus researcher from his university and his subsequent withdrawal from research. ■

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Provides Solutions

by Suzanne Healy

When you hear words such as construction, redesign, and maintenance, you might naturally think of building projects. However, when a Web manager uses this terminology, these words take on a different meaning. In the case of APPA, these words mean that a website "facelift" is in the works.

As the faces of our members change, the association must also change to better meet their needs. One of the best ways to meet these ever-changing needs is through the website. With improved technology and more information available to our members, APPA's website must continually evolve to help them do their jobs better.

Suzanne Healy is APPA's website production specialist. She can be reached at suzanne@appa.org.

In the coming months, there will be a new look to the APPA website. However, on our way toward this new look, some changes have already been made. Some of these changes are:

• **Awards Submissions Are Now Electronic**

Please visit www.appa.org/membership/awards/index.html to submit and/or nominate your colleagues for the Meritorious Service Award, the Pacesetter Award, Effective and Innovative Best Practice's Award, and the Award for Excellence.

• **Check out APPA's Archives**

Discussions from the APPAinfo list are a great source of information for members and can now be searched by visiting www.appa.org/resources/appainfoarchives/index.html. With the growth of the list and an increasing number of members accessing it, it is important to capture this knowledge.

Inside APPA, a twice-monthly e-mail newsletter, is also now archived and can be searched at www.appa.org/resources/enewsletterarchives/index.html.

• **Looking For Technical Advice?**

APPA is proud of the involvement of our dedicated business partners. However, their involvement is not just limited to an appearance at the regional meetings or the Educational Facilities Forum. They are now available online as a source of information for all members. The mission of "Ask the Business Partner" exchange is to provide direction for "one stop shopping" for all of your facilities needs. Please visit this resource at www.appa.org/resources/askthebusinesspartners/index.cfm. Look to 2003 to be a big year for appa.org! 🏠

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APPA Regional Reports

Eastern Region

B. Kent Donley

ERAPPA Newsletter Editor

St. John's, Newfoundland, North America's oldest city, was the host of the 52nd ERAPPA annual meeting and educational conference September 28-October 2, 2002, where the theme was *Living on the Edge*. The Host Committee of the Atlantic Chapter, representing over a dozen universities from the Atlantic Provinces of Canada, overcame the challenges of being separated by hundreds of miles of geography to put together a memorable conference at the most easterly point on the North American continent.

The ERAPPA Board held its regular meetings on Friday and Saturday. After the board meetings ended, the early arrivals to the conference enjoyed a special seafood dinner Saturday night at the Marine Institute followed by a haunted hike through the hills of St. John's.

Sunday morning several brave souls challenged a cold, blustery wind to play golf at the Pippy Park Golf Course in the hills west of St. John's. Later Sunday afternoon, delegates and guests had their choice of a campus tour of Memorial University of Newfoundland or a boat tour to Cape Spear. While it was too late in the year to see whales and too early for icebergs, the boaters saw plenty of white water and felt the rolling waves of the North Atlantic resulting in several hats being blown overboard.

ERAPPA President Mike Sofield officially opened the Exhibit Hall at the St. John's Convention Center on Sunday night with delegates, guests, and business partners enjoying two hours of food and drink while they renewed old acquaintances and made new ones.

Monday morning began with the welcome address from John C. Crosbie, chancellor of Memorial University of Newfoundland, who gave a colorful look back at the 500-year history of St. John's and Newfoundland. Dr. Richard W. Richards presented the keynote address. His talk, peppered with humorous anecdotes from life in Newfoundland and Labrador, brought home the important message that no matter how technologically advanced we become, our work is and always will be centered on people.

While the delegates and business partners attended the educational sessions and networking breaks on Monday and Tuesday, spouses and guests were treated to two day-long tours. They visited a soap stone sculptor, historic landmarks in St. John's, Signal Hill (which offers a panoramic view of St. John's and where its most visible landmark, Cabot Tower is located), and the quaint fishing villages of Cupids and Brigus.

Over 200 delegates, guests, and business partners attended a lively dinner theatre on Monday evening where they enjoyed a delicious three-course meal. The cast of the show *A Grand Estate of Affairs* called on members of the audience to help settle a dispute over an unclaimed inheritance dating back to the late 1700s. These "volunteers" may have gotten a little carried away in their roles and probably had some explaining to do when they returned home.

The annual business meeting was held Tuesday morning with the election and installation of new officers for the coming year. This slate of new officers is the result of several months of re-evaluating and restructuring the ERAPPA Board. The new officers are: President, Norman B. Young (Univer-

sity of Hartford); President-elect, Kevin M. Petersen (University of Hartford); Vice President for Chapter Affairs, Ronald G. Dupuis (Wilfrid Laurier University); Vice President for Education, Willy Suter (American University); Vice President for Membership Michael F. Delleo Jr., (Emerson College); and Vice President for Technology and Communication, Joseph M. Lalley (Cornell University). Sheri Vucci (Smithsonian Institution) was re-instated as Treasurer and David Bull (University of Massachusetts at Amherst) as Secretary.

Tuesday ended with a cocktail reception in the lobby of the Delta St. John's Hotel followed by the annual awards banquet. APPA President Phil Cox was on hand to present APPA Certificates of Achievement to Robert Carter, Barbara Graham, Joseph Lalley, Thomas Stepnowski, and Carol Trexler. ERAPPA President Mike Sofield presented ERAPPA Certificates of Merit to Don Briselden, Joseph Lalley, Thomas Stepnowski, Carol Trexler, and the outgoing editor of the *ERAPPA News*, Rick Wareham.

Before outgoing President Mike Sofield turned the gavel over to the new ERAPPA President, Norman Young, he presented Certificates of Appreciation to more than two dozen members of the Host Committee, recognizing their hard work in putting together such a successful conference. A special note of thanks goes to each member of the Host Committee with additional kudos for the committee co-chairs, Cynthia Whelan and Donald MacIsaac.

Those who were able to stay around on Wednesday had an opportunity to venture out to Cape Spear and witness the first light striking the North

American Continent. Unfortunately, the weather did not cooperate, but it did not deter two bus-loads of would-be sun worshippers from making the trip. Hot coffee and sweet rolls made up for the clouds, wind, and rain.

The conference ended Wednesday morning back at the Delta St. John's Hotel with an address by Rex Murphy, one of Canada's most widely known television and radio personalities. He drew on his own experiences in both the political and media worlds as he reminded the audience of how important it is not to lose sight of common sense values when evaluating programs and projects.

Next year's 53rd meeting will be held September 27-October 1, 2003, at the Loews Hotel in Philadelphia where the theme will be *We The People...edu*. See you there!

Southeastern Region

Jewell Winn

SRAPPA Vice President for Communications

Emory University hosted the 51st annual SRAPPA conference with the theme *Bridging the World in 2002*. The conference took place in the heart of beautiful Buckhead at the Grand Hyatt Hotel, Atlanta, Georgia, October 12-15, 2002. Bob McMains and his staff are to be highly commended for hosting an outstanding, well organized conference.

President Sam Polk capitalized on the theme by organizing an HBCU networking event during the conference that brought together seventeen representatives of HBCUs from around the country. This special event consisted of a welcome luncheon, where the role HBCUs have played in higher education was explained, and an informative session which was designed to acquaint HBCUs with the benefits of membership in APPA.

The conference kicked off on Saturday with a golf tournament and

outing at Stone Mountain Park (a pristine park of 3,200 acres containing the world's largest high-relief carving depicting three heroes of the Confederacy). The day was filled with family activities, an old-fashioned barbecue, and a laser show. The exhibit hall opened on Sunday with 104 vendors represented, displaying various prod-



HBCU representatives attend the SRAPPA regional meeting in Atlanta.

ucts and services. The First-Timers Breakfast meeting was well attended, as were the HBCU welcome lunch, and the HBCU informative session. Highlights of Sunday evening included several tours of the Emory campus along with a reception and a fun-filled Casino Night where millions of dollars of fake money was won and lost as attendees appeared to have the time of their lives.

Monday morning was back to business with the annual business meeting. The slate of officers presented and unanimously voted upon were as follows: President, Bill Elvey (Virginia Tech); President-elect, Bob McMains (Emory University); First Vice President, Lee Comer (West Virginia University); Second Vice President, Marion Bracey (Xavier University); Secretary/Treasurer, David Gray (Middle Tennessee State University); Vice President-at-Large, Ron Brooks (University of Memphis); Vice President for Communications, Jewell Winn (Tennessee State University); Vice President for Long-Range Planning, Jeff Turner (Liberty State College); Junior APPA Delegate,

David Anderson (University of Southern Mississippi); Senior APPA Delegate, Mike White (University of Miami); and APPA Delegate-elect, Sam L. Polk Sr. (Tennessee State University). Jewell Winn will replace Ron Brooks on APPA's membership committee and Ron Brooks will replace Darryl Crider on Awards and Recogni-

tion. In addition to the officers being voted upon, the Bylaws and constitution revisions were approved.

Over twenty educational sessions were presented on Monday. Attendees had lunch with the exhibitors, continued with afternoon educational sessions, and then prepared for a semi-formal night at the fabulous Fox Theatre with dinner and dancing.

The spouses were shown a grand time as well. Their days consisted of tours of the CNN Center, Underground Atlanta, World of Coke, Carter Presidential Library, Cyclorama, Atlanta History Center, Martin Luther King Memorial, and the Swan House. Educational sessions continued on Tuesday. Lunch and a t-shirt and cap toss highlighted the noon hour along with a casino auction that was held for attendees to use the money they had won at Casino Night. Tuesday concluded with the annual banquet with George Wright giving the keynote address and APPA President Phil Cox installing the new officers. SRAPPA was also honored to

Continued on page 14

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have Lander Medlin, APPA executive vice president, attend the conference and speak to the attendees of the First-Timers Breakfast and the HBCU attendees.

Incoming President Bill Elvey stated, "We can all make a significant, collective difference in improving SRAPPA's diversity by GROWING IT." He asked the membership to adopt a "Diversity is Personal" approach at our individual institutions. Elvey also plans to re-focus efforts on the financial health and well being of SRAPPA during the next year. Lastly, President Elvey plans to extend the planning horizon for hosting the conference in out years, attempting to get at least a verbal commitment from host schools for the 2006 through 2008 conferences.

The 2003 conference will be hosted by Lee Comer of West Virginia University in Morgantown, West Virginia at the Lakeview Resort and Conference Center, October 11-14, 2003. See you there!

Midwest Region

Ernie McVay

MAPPAs Newsletter Editor

Iowa State University hosted MAPPAs 2002 annual meeting September 29-October 2, 2002. *Planning for Excellence in Uncertain Times* was the theme of the meeting and "excellence in planning" certainly describes this outstanding event.

With the unseasonably warm weather, the 150 participants and 12 spouses were able to enjoy the peaceful surroundings of the Gateway Center Hotel which is located just a short drive from the beautiful Iowa State campus. Its Asian gardens were an unexpected surprise in the heart of the rolling Iowa countryside. Naturally, our participants and hosts were greatly appreciative of the support provided by our 120 business partners who attended the conference. These

business partners provided 50 booths in the exhibit hall.

The keynote speaker on Monday morning gave an energizing and fun talk. While Deadra Stanton's "Don't Shoot Skinny Rabbits" may have been the best stand-up routine many of us have ever seen, her message was most appropriate in these times of uncertainty. Deadra is a motivational speaker who assisted the attendees in identifying the stress factors in their lives and provided information on how to cope with these factors.

All educational sessions for the conference were grouped into one of four topics: Business and Finance; Delivery of Service; Security/Safety; and People. Following the keynote address, four concurrent sessions were held on Monday morning.

Another opportunity to network and visit the tradeshow finished up the afternoon before we headed off to see the Iowa countryside via locomotive. We were treated to a ride on the Boone and Scenic Valley Railroad. The autumn sunshine was warm and bright as we traveled back through time and had an opportunity to see a view of Iowa that most of us did not know existed. The forested rolling hills were beautiful to observe and passing over the narrow bridges above the river canyons was quite thrilling.

After a full day on Tuesday of engaging educational sessions, the annual MAPPAs banquet with an all-Iowa dinner was a fitting end to the conference. Each item on the menu was Iowa produced with the farm or producer for each item identified during the meal. The night's entertainment, the Barn Owl Band, played a lively mix of bluegrass music that inspired outgoing MAPPAs President Alan Bigger to lead a group of our spoon-playing members in accompanying the band.

New officers for the 2002-2003 year include: President, Clay Shetler (Goshen College); President-elect, Chris Ahoy (Iowa State University); Secretary, John Ott (Ohio State Uni-

versity); and Treasurer, Jerry Carlson (Illinois State University).

A special thanks goes to our program and host committees whose hard work resulted in many members stating that it was "the best conference ever." We look forward to next year's conference which will be held in St. Louis, September 27-October 1, 2003, and will be hosted by Southern Illinois University/Edwardsville. Be sure to mark your calendars now!

Central Region

Ed Bogard

CAPPAs Newsletter Editor

Fifty years of success was evident during CAPPAs 50th annual conference held in Spearfish, South Dakota, September 28-October 2, and hosted by Black Hills State University. Spearfish, South Dakota is nestled in the heart of the Black Hills, home of historic Mount Rushmore. The Black Hills region is an artist's pallet of colors any time of the year, but was especially beautiful this past fall. A tour of Custer State Park and the surrounding area gave everyone an opportunity to visit the Crazy Horse Monument, which will be four-to



five-times the size of the Presidents' faces when completed. At the Crazy Horse Monument, we were given the opportunity to review a significant collection of Native American artifacts and learn about the historical events that helped shape our country.

During our scheduled visit to Mount Rushmore for the final lighting ceremony of the season, we experienced one of those rare events that will be indelibly imprinted on our brain and that will be played back for years to come. When the lighting ceremony begins, it is completely dark and the faces of the Presidents (Washington, Jefferson, Lincoln, and Teddy Roosevelt) are not visible. The slide show accompanying the ceremony begins and as it moves through the periods of history depicted by the four presidents, the faces begin to become visible as the spotlights on them became brighter. As the slide show and dialogue reaches a conclusion, the faces are brightly illuminated. At this point, a park ranger came on the stage and announced that this was the last lighting ceremony of the season and, consequently, our nation's flag, which was prominently and continuously displayed for the past 150 days, was to be lowered and stored until next season. She asked that any veterans in the audience who wanted to participate in the lowering ceremony come onto the stage. There were perhaps 30 men and women who stepped forward. They formed two lines facing each other. The audience was asked to sing our National Anthem as the flag was lowered and passed down the line of veterans. It was folded tri-corner and presented to the park ranger. A microphone was passed around and each veteran gave his or her name, branch of service, and the conflict during their service years. They ranged from WWII to Desert Storm. The event was heart-warming and emotional; there was not a dry eye in the audience.

The educational conference began with a keynote breakfast and welcome



Lander Medlin, Charlie Jenkins, and Ed Rice share a moment at the conference.

address by Black Hills State University President, Dr. Thomas Flickema. He challenged everyone at the conference to be "participants" not "attendees," to be "activists" not "pacifists," and to make the next 50 years even more productive than the last 50. The first formal educational session began with an inspirational keynote address by Charlie Jenkins, a prophetic lecturer and long-time member of CAPP, who has retired from physical plant work and is now a consultant to colleges and universities in personnel management.

Monday and Tuesday were filled with educational sessions, business partner exhibits, spectacular food, and great opportunities for networking. Although the conference keyed on sessions addressing critical issues we are all facing, the annual banquet gave us an opportunity to relax and renew old acquaintances and forge new ones. This was especially true this year, since a cornerstone of this conference was to bring together as many emeritus members as possible. Based upon the number present, this effort was deemed a success. Lander Medlin, executive vice president of APPA, was a welcome addition to the program, bringing a thread of continuity from the other regions. She was also able to articulate the many activities that APPA is involved in, both in the United States and abroad. Lander continues to be a stable influence in the association and provides the incentive

our region needs to continually evolve as we improve the quality of service to facility management leaders and service providers in our region.

At the annual business meeting, President Art Jones and our immediate past president Al Stoverink reviewed the key points and accomplishments of the past year. It was also a time to remember the loss of Neil Morgensen, CAPP Treasurer, whose untimely death in April resulted in some appointments to fill. Neal Swarnes was appointed Treasurer and Aggie Armstrong was appointed Membership Chairperson. Both were subsequently elected to these positions at the annual business meeting.

On a brighter note, the Technology Conference, so aptly handled by Pat Apel, was a success and will be presented again in February 2003 in San Antonio, Texas. A number of the state chapters in our association are active in the Technology Conference which offers additional educational and networking opportunities.

Our past president, Al Stoverink, was able to attend the Missouri Chapter (MOAPPA) annual conference at Truman State University and reported that it was an excellent educational experience. Following the MOAPPA meeting, he attended the Texas Chapter (TAPPA) annual meeting in Bandera, Texas, home of many famous dude ranches. The Texans were magnificently hospitable and made

everyone feel at home. They offered some great educational programs and a unique setting for a very extensive array of exhibitors. It was great to see the large turnout and to realize that the dedicated members we have in Texas are indeed a tremendous resource for CAPP and APPA.

As always, there is a concerted effort to attract new membership and to engage them in active participation in the many programs that help make CAPP an organization dedicated to the professional development of its membership. A new ad-hoc committee has been formed and will be called CAPP Electronic Communications Task Force. Its mission is to provide recommendations to the CAPP Board and promote the free flow of information and communication within CAPP. The current chair is Terry Majors of Southeast Missouri State University in Springfield, Missouri.

Mark your calendar for the 2003 annual conference which will be at Texas A&M University Corpus Christi October 10-October 14.

Rocky Mountain Region
Stephen Baldick
RMA President

The majesty of the Rocky Mountains inspired our theme, *Higher Expectations*, for the 2002 RMA educational conference. With this vision in mind, we endeavored to provide all participants with the opportunity to experience Canadian hospitality in the relaxed alpine culture that is Banff. This setting provided the perfect backdrop for collaboration, learning, and socializing.

We were honored to welcome to the conference, APPA President, Phil Cox of Cornell University; Executive Vice President, Lander Medlin; and Staff Liaison for RMA, Medea Ranck.

The day before the actual conference began, Saturday, we welcomed

many people to Banff. Rejuvenated by the crisp mountain air, 50 golfers awoke early Sunday morning to make the 45-minute trek to the world-class, 36-hole Kananaskis Country Golf Course nestled in the Rocky Mountains. Meanwhile, the companions had the opportunity to take a tour of the Banff museums, Cascade Gardens, or hike in Sunshine Meadows, one of the largest alpine meadow systems in the world. That evening, our Business Partners hosted a social event to reacquaint with old friends and meet new ones.

We got down to business first thing Monday morning. Ross Watson, a blind mountain climber from Canmore, Alberta, began the day with a motivational presentation on the importance of teamwork. Ross provided many insights into this oft discussed, but less understood topic, based on his life-or-death experiences climbing

making and information gathering purposes.

As the delegates were adding to their toolkit of facilities management knowledge, many companions took this opportunity to enjoy themselves. Some chose to be pampered at the Willow Stream Spa in the Fairmont Banff Springs Hotel while others chose to see the world from a new perspective and took the 7,500-foot gondola ride to the top of Sulphur Mountain.

Concluding a day of new insight, new ideas, and new friendships, we journeyed to the donut tent for the "Mount View Barbecue." After a superb beef dinner, we were entertained into the night by the unique musical styles of *The Suds* (and even a few solos from our fellow delegates!).

The Business Partners welcomed us for breakfast on Tuesday morning for a final opportunity to show us how



RMA attendees at the 2002 Conference in Banff

some of North America's highest peaks. A written transcript of Watson's presentation is included with our final proceedings, and an audio version is available for download from the RMA 2002 website at www.ucalgary.ca/rmappa2002.

Motivated by Watson's message, delegates set off to learn from our colleagues and industry experts about information reporting, facilities design, asset management, energy management, customer service, project management, and environmental concerns. Particular emphasis was placed on harnessing the benefits of emerging technologies for decision

their products and services could benefit our operations. Later, Ron Medlin offered our companions a glimpse into the world of nutritional pharmacology. At noon, we enjoyed a tour of the teal waters of Lake Louise and shopping at the historic Chateau Lake Louise.

The conference closed on Tuesday evening with a banquet site overlooking the mountains in their evening splendor. Classical guitarist, John Gulart, provided a beautiful background for a delicious dinner featuring breast of pheasant. Jebb Fink, a local television personality, entertained us with his comical perspective on the similarities and

differences between Americans and Canadians. At this juncture, we recognized some of the many contributors to the success of RMA. The Lee Newman Memorial award was presented to CMS Viron for their generous support of the RMA educational conferences. The Val Petersen Award for best articles by a state correspondent was presented to Brian Nielson of the University of Utah. Both Lander Medlin, executive vice president of APPA, and Deanna Hautz, the 2002 RMA conference chair, received the President's Award. We also took this opportunity to recognize those business partners who have continuously supported RMA over the past five years.

I would like to take this opportunity to congratulate and thank the following board and committee members: 1st Vice President, Dave Brixen (Arizona State University); 2nd Vice President, Mark Shively (University of Wyoming); 3rd Vice President, Tommy Moss (Colorado State University); Secretary/Treasurer, John Bruning (University of Colorado at Boulder); Senior Representative, Craig Bohn (University of Utah); Junior Representative, Paul Smith (Pima Community College); Newsletter Editor, Paul Smith (Pima Community College); Educational Programs, Polly Pinney (Arizona State University); Information and Research, Harvey Chace (University of New Mexico); Professional Affairs, Eakle Barfield



Phil and Marsha Cox take a break from hiking

Montana State University-Billings); Awards & Recognition, Greg Wiens (Athabasca University-term ends July 2003); Awards & Recognition, George Stumpf (University of Colorado Health Sciences Center-term begins July 2003); Membership, Bob McGregor (University of Colorado Health Sciences Center-term ends July 2003); and Membership, Nancy Hurt (Colorado State University-term begins July 2003).

I truly believe we were able to achieve our Higher Expectations due to the extraordinary efforts and tireless dedication of our 2002 organizing committee: Silvio Adamo, Brad Fowler, Deanna Hautz, Angie Klaver, Brad Knudtson, Theresa Pawelko, and Wayne Stevens. A very special thank you goes to Wayne White, annual meeting coordinator, whose untiring efforts secured the support of our generous Business Partners.

We meet again next year in Sedona, Arizona where our RMA 2003 hosts, Arizona State University, are preparing

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to help us celebrate 50 years of RMA and our Golden Prospects. See you in Sedona!

Pacific Coast Region

John Wong

PCAPPA President

PCAPPA's 51st annual meeting and educational conference was held September 28-October 2, 2002, in Reno, Nevada, at John Ascuaga's Nugget Hotel. This first-class hotel provided an outstanding setting for the conference and featured sweeping views of the Sierra Nevada Mountains and surrounding valley. The Nugget also offers a full-service casino with 80,000 square feet of gambling action for those who wished to contribute to Nevada's economy.

The theme of the conference was *New Directions for the Future* and it was hosted by the University of Nevada, Reno (UNR) Facilities Services Department under the leadership of Buzz Nelson, assistant vice president. Buzz and his staff provided a first-rate conference where attendees could network with other PCAPPA members and meet the many business partners.

The conference was well attended with over 230 participants, including 49 first-time attendees. As usual there was incredible financial support from our business partners (34 booths) who shared many new products and services and offered solutions to our respective problems.

One of PCAPPA's goals is to provide increased educational opportunities for our membership. With that in mind, twelve attendees were given special scholarships to attend this conference. In addition, in 2002, financial support for six members to attend either the APPA Institute for Facilities Management or the Professional Leadership Academy was provided.

Saturday started with an unforgettable four-hour educational session and dinner cruise on Lake Tahoe, the

largest alpine lake in North America. On board the *Tahoe Paradise Hornblower*, an educational program on the environment and ecology of Lake Tahoe and the Lake Tahoe Basin was presented. The lake's crystal blue waters, fresh mountain air, and views of the Sierra Nevada Mountains made this cruise an exhilarating event.

For those avid golfers, Sunday morning provided them an opportunity to take part in the golf tournament at Wolf Run Golf Course. This challenging, top-of-the-line golf course was designed to exist in harmony with its surroundings. The winning teams consisted of Tim Ball (CSU, Long Beach), Chuck O'Regan (USC), Vance Williams (Noresco), and James Alewine (San Joaquin Chemicals).

The next stop was the University of Nevada, Reno campus tour led by Assistant Vice President Emeritus, Brian J. Whalen.

The group explored UNR's historic infrastructure to its innovative use of the most current athletic field systems and technological developments. After the tour, a Welcome Reception was held at the hotel's pool-side terrace where attendees were treated to an evening of exquisite food and music. As in past conferences, the reception provided an opportunity to renew old acquaintances and make new friends.

John Lilley, UNR president, greeted the attendees with a warm welcome at Monday's breakfast, followed with a special presentation from Dr. Stuart Robertshaw (aka Dr. Humor). "Dr. Humor" provided a laughter-filled keynote speech that brought a humorous perspective to life in the fast lane.

Gary Reynolds, immediate past president of APPA, and Chong-Hie Choi, senior director of finance and administration and liaison to PCAPPA, represented APPA at the conference. Gary delivered an inspiring message on behalf of Phil Cox, 2002-03 APPA President, while Chong-Hie updated the members on the various APPA initiatives.

We were also honored to have three representatives from Mexico attend the conference: Juan Arvizu, director of Estado de Mexico campus, Roberto Ortiz, director of Santa Fe campus,

and Omar Martin, director of Guanajuato campus. The visit from the Mexican representatives was made possible when the PCAPPA Board, during the winter Board meeting in Portland, authorized an exchange of delegations between PCAPPA and the universities in Mexico.

Dan Johnson,

CSU Monterey Bay, Lander Medlin, executive vice president of APPA, and Johnny Torrez, UC office of the president, attended a conference in Mexico City hosted by the facilities managers of the Instituto Tecnológico de Estudios Superiores de Monterrey, ITESM. ITESM is a private, 30-campus system of 92,000 students in Mexico. It is highly regarded throughout Latin America for its high-quality educational programs through the doctorate level. Several ITESM physical plant directors made a reciprocating visit by attending the Forum in Phoenix July 2002, where they were able to learn more about the benefits of being an APPA member.

The educational programs presented at the conference were exceptional



John Wong, 2002-03 PCAPPA president, accepting the gavel from Robert Quirk, outgoing PCAPPA president.

with a series of 24 sessions targeted to specific areas of interest, such as Sustainability, Management, Training, Information Management, and Energy. The sessions were very well attended thanks to the quality of the programs that Mark Hunter and his Education Committee were able to orchestrate. For those who could not attend the



Robert Quirk accepting APPA's "Effective & Innovative Practices Awards" on behalf of CSU, Long Beach.

conference and those who missed some of the concurrent sessions, several of the presentations are posted on the PCAPPA conference website (www.pcappa.org), as well as photos of the many events and sessions.

During the annual awards banquet, a number of individuals and institutions were recognized for their support and accomplishments toward improving our association.

Gary Reynolds presented CSU, Long Beach with APPA's "Effective & Innovative Practices Award." Rob Quirk accepted the award on behalf of CSU, Long Beach. He also recognized David Gonzales, UC Santa Barbara, and Dan Park, Whitman College, for their commitment in representing our region as Senior Representative and Membership, respectively.

Certificates of Appreciation were presented to the conference host, University of Nevada, Reno. Buzz Nelson and his staff were presented with individual awards for their outstanding efforts. These included: Greg

Battaglia, Melody Bayfield, Dean Borges, Scott Brown, Nancie Cozza, Dorothy Currie, Don DelPorto, Jim Duncan, Dave Eckes, John Freeman, Joann Graf, Joe Greco, Hud Horton, Michele Krick, Tommy Lean, Buzz Nelson, John Walsh, and Lyle Woodward.

The PCAPPA Meritorious Service Award was awarded to Edward Naretto, California Polytechnic State University, for his invaluable support throughout the years and for serving in various capacities both as regional president and on national committees.

The PCAPPA Presidential Certificate of Appreciation was awarded to two outstanding individuals. Chris Christofferson, Stanford University, has been a long time, very active and dedicated member serving in numerous offices and committees in both APPA and PCAPPA. One of his greatest accomplishments to our region has been his efforts in bringing technology and service to the members through the listserv and PCAPPA website. Dan Park, Whitman College, served as chair and regional representative for the PCAPPA Membership Committee. He provided enthusiasm and dedication toward increasing the membership and improving the member benefits.

Once again our friends at San Joaquin Chemical provided their support of PCAPPA's main mission through an educational scholarship. James Alewine of San Joaquin Chemical presented a check to Rob Quirk, PCAPPA president, in the amount of \$2,500. Alewine encouraged other business partners to take part in supporting the PCAPPA organization.

Be sure to attend the 2003 conference which will be held in Portland, Oregon and hosted by Townsend Angell, director of Facilities Operations at Reed College. We are looking forward to another great year!

AAPPA REGIONAL REPORT

Alan McGregor

AAPPA President

Since the Forum in Phoenix, APPAA has been very busy in the Australasian Region.

On the education front we held a fantastic conference at Brisbane, Queensland. In 2002 we returned to holding the conference on campus rather than a conference/hotel complex. Queensland University of Technology—Garden Points campus really was a wonderful venue and enabled the registration fee to be lower. It was certainly a value for the money. It was a fantastic education and social program across the days



Guests enjoyed an exciting evening at "Movie World."

of the conference and the grand finale staged at Movie World left most delegates delighted.

APPA President-elect, Brooks Baker attended the program in Brisbane, delivered a very well received plenary session, and toured many universities in Australia and New Zealand. It was great to spend some time with Brooks and Virginia.

At the AAPPA awards night of the conference our major scholarship recipients were announced and acknowledged, including our most prestigious award, the Maurie Pawsey/TAC Pacific Scholarship. This award includes attending a stream of the APPA Leadership Academy and touring some universities in the United States. The AAPPA history, the first 10 years, was also launched and well received. It is now available on the website. AAPPA's Space Planning

Guidelines, Version 2, was workshopped at the conference and it too will be launched as an update document early in 2003.

Also at the Brisbane conference both AAPPa and the Association of Tertiary Education Managers (ATEM) were busy behind the scenes negotiating the future relationship of both organizations. In the July 2002 board report, the president of APPA advised we would be going it alone for a two-year period and that this period will start in 2003 with the Adelaide conference in South Australia. I am pleased to advise that we announced at the "Adelaide launch" before the conference closed that both AAPPa and ATEM have agreed to stay together and that Adelaide will be a joint conference held September 28-October 1, 2003. Mark your calendars for September 2003 and we will see you in Adelaide, South Australia.

My focus or perhaps my "mantra" for the 2002-03 will be "Leadership and Learning." Leadership appears to be the art of getting others to want to



Alan McGregor, (left), 2002-03 AAPPa president of Murdoch University, receiving the AAPPa charter from Andrew Frowd.

Learning, the other half of my mantra, is the lifeblood of the future of the higher education FM sector. We have conferences, workshops, publications, and benchmarking survey reporting planned for 2002-03. The board is committed to this area and will continue to make a difference in providing our membership with extraordinary services. The strength of AAPPa and the quality of its services are the direct result of the efforts of the entire membership.

In July last year, AAPPa proposed that "AAPPa take the next step in its evolution and become an independent organization while retaining and growing the relationship with APPA through a strategic alliance." This is a significant challenge over the next 12 months. The membership has been briefed on this initiative and the rationale outlined. This change will only be enacted if a majority of the membership agrees. The board will continue to work the proposal up and ask the membership to vote on it in 2003.

In 2002-03, AAPPa will be putting greater emphasis on our business partners as a vital link in progressing facilities management in the higher education sector. They are an integral part of achieving the vision of our institutions. We need their collective savvy and our memberships' professional experience and skill to make a difference in facilities management. This means we need to continue the collaborative relationships we already have and develop new ones.

AAPPa is continuing to provide substantial support to HEFMA-SA and has a special grade of membership for our Southern African colleagues. The board agreed that due to the early development stage of HEFMA, a rate was struck at a level to cover the marginal costs of the services provided. In September 2002, Andrew Frowd and Alan Egan visited South Africa and participated in their conference. It is anticipated they will participate in our conferences within Australasia in 2003 and beyond and will contribute articles to our newsletter.

In November 2002, the board met in Adelaide South Australia for a strategic planning session. Our current strategic plan was developed over two years ago and has served us well. The board has addressed key strategic activities looking forward for the next five years and drafted a new plan. The three activities mentioned above will be integrated into our new plan. Alan Tracey, our vice president, led and facilitated the day and worked with the board to draft a plan that will be circulated to the membership early in 2003 for comment.

Our membership continues to be strong with 100 percent of universities in Australia and New Zealand as members.

On the financial front our reserves continue to grow, now being over \$220,000. We continue to return resources to our membership by increasing the number of scholarships, publishing improved benchmarking reports including a CD-ROM, and by upgrading our web page. AAPPa launched its new web page in November 2002. You can view the new web page at www.aappa.com. 🗺



Brooks Baker presenting Greg Simpson of the University of New Zealand with a Certificate of Appreciation.

do something you are convinced should be done. Some of the attributes of leadership are:

- searching for challenging opportunities,
- establishing a vision for the future,
- enlisting others in this common vision.

Outlined below are some of the strategic initiatives that will need strong and meaningful leadership from the board and myself.



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Executive Summary

Keeping Your Edge in the New Year!

by E. Lander Medlin

As we enter the new year, we have a tendency to do two things. First, we reflect on where we have been. Second, we resolve to do some things differently. As I reflect on this past fall's festival of regional meetings, I continue to be impressed with the quality of the educational programming and the rich networking opportunities available for those who chose to attend. My husband and I attended both the RMA and CAPPA meetings and I was fortunate to participate in SRAPPAs meeting as well. There was great pride and professionalism demonstrated by each host institution. It was interesting to visit the different campuses and observe the new and exciting programs that facilities departments are using to keep up with the changing world of technology and the reality of scarce resources. I am more confident than ever that our colleges and universities are in good hands with such great people serving their needs.

However, as we reflect collectively on where we have been, our minds are surely flooded with concerns of a continued economic crisis. Unfortunately we cannot, as individuals, control the economy; we can only control our response to it. So, as we resolve to do things differently, I challenge you to consider focusing on the items that directly affect you and, therefore, that you can directly influence. I say this because most of us seem to feel that life is getting out of balance given the pressures and stresses placed upon us every day both



professionally and personally. As such, we are groping for answers. Much of our time is spent looking to the past or setting our sights on the future to solve this dilemma. In reading the book, *Fish! A Remarkable Way to Boost Morale and Improve Results*, I came across a poem that really captures the essence of the problem from my perspective.

"The past is history;
The future a mystery;
Today is a gift;
That is why we call it 'the present!'"

Today might not feel like "a present" but indeed it is. So much of our time is consumed by looking back at the past, which cannot be changed. A great deal more time is spent fretting about the future rather than focusing on what we can and should do today—in this present moment. The present is where we can and should focus our mental energy. This is where we will have the most influence. But, to do so, we must exercise choice!

In a study of high achievers that focused on those who rose from a life of undeniable adversity, it found that each of these people turned stumbling blocks into stepping stones. They all realized that although they could not determine every circumstance in life,

they *could* determine their reaction to every circumstance. So you see, it is a matter of attitude and how we choose to react to our circumstances.

In a presentation my husband and I did to close the CAPPA meeting, we called this attitude and our approach to maintaining a positive focus: "Keeping Your

Edge." What are some of the things you can do to keep your edge razor sharp? We focused on three items: learning, laughing, and living!

The first item we need to keep our edge is "learning." Quite simply, life has more value when you are learning something. To stay mentally sharp, it is important to stay engaged by reading, writing, and studying regularly. These are just a few ways we can gain new insights and understanding, clarify meaning, expand our imagination, and seek new ways of performing tasks. All these factors increase the worth of our work in immeasurable ways, improve our self-confidence, increase our involvement in more meaningful ways, aid in solving problems we face daily, and give us strength of purpose. Ultimately, this is learning made fun! Remember, you always have a choice, but work made fun gets done!

The second action we need to keep our edge is "laughing." That's right, laughing! When was the last time you had fun at work? Why not? Interestingly enough, I cannot think of a more boring job than working in a fish market. But the book *Fish!* states that even the fish mongers of Seattle's famous Pike Place Fish Market know

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how to have fun. They have fun every day and in doing so make a difference in their own life and the lives of every person they come into contact with. Frankly, we learn more when we are relaxed and having fun. Mark Twain aptly said, "Humor is mankind's greatest blessing." Besides, laughter is good medicine for us both physically and mentally. Remember, you always have a choice, but work made fun gets done!

The third item we need to keep our edge is "living." Living is defined as being fully present and engaged in all life has to offer. Although it may go without saying, getting an appropriate amount of rest and exercise, and following good nutrition every day is essential. So often we forget the basic

In a study of high achievers that focused on those who rose from a life of undeniable adversity, it found that each of these people turned stumbling blocks into stepping stones.

things that can improve the quality of life. Each of us can and should take time out of our schedules to take care of ourselves. Yet, we must make this choice; no one can do it for us. There is another aspect to "living" that is sometimes lost. It is being fully present and engaged with others we work with and care about. In other words, living means giving constant and consistent recognition and encouragement to others both at work and at home. This area is overlooked time and time again, yet is so simple to do. Remember, you always have a choice, but work made fun gets done!

As you launch your new year, hopefully you will choose to actively keep your edge by having strength of purpose, which is about learning; by having fun regularly, which is about laughing; and by being fully present and engaged, which is about living. 🏠

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A Few Thoughts on Our Diversity

by Phil Cox

In an earlier issue of this publication, I encouraged APPA members to consider how they might increase APPA's diversity by adding underrepresented people to our rolls of associate members. In particular, I encouraged readers to carefully consider if the race, gender, and age of those representing their college or university in APPA are truly reflective of the populations that make up the students, faculty, and staff of our institutions.

Phil Cox is APPA's President and director of facilities management at Cornell University, Ithaca, New York. He can be reached at plc4@cornell.edu.



In the Membership Matters column of this issue, Sam Polk, director of facilities management at Tennessee State University and immediate past

president of SRAPPA, describes the initiative he has led to increase the involvement of historically black colleges and universities (HBCUs) in APPA. Sam's aggressive approach to make APPA a more welcoming and inclusive association for HBCUs can serve as a model for all of us in addressing other facets of our diversity and in recruiting the historically marginalized and previously excluded groups.

Shell Oil has developed strong commitments to diversity and inclusiveness as a major strategy in order to maintain a leadership position in a giant global organization. *Shell 2001 Global Scenarios*, a house publication, states "What shapes the future is not what we have in common but the interplay of our differences." Shell believes that successful implementation of their diversity and inclusiveness strategy will lead to 1) attraction and retention of top talent, 2) increased productivity, 3) stronger customer focus, and 4) license to operate and grow.

APPA's vision to become a "Global Partner in Learning" brings up another important facet of diversity, that of nationality. If APPA is to harness the global experience in order to deliver best practices, then it must be trusted in international communities and be open to new ideas, perspectives, and expectations. To that end, a Globalization Task Force has been commissioned to make recommendations to the APPA Board regarding the preferred nature of our relationships with other international educational facilities organizations. The objective of these relationships is to foster collaborations that will create, expand, refine, and transfer the body of knowledge of facilities management

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and leadership and to provide broad access to educational and research opportunities for members. Further, the task force will make recommendations about the nature of APPA's services and the delivery to our international members. APPA has been accused by some of being a North American organization with some international members; rather than being a truly international association. We need to examine that charge and the Globalization Task Force will be a big help.

Finally, let me turn to one final facet of diversity—that of employment status. Consider, as a case in point, our requirements for institutional representatives. APPA's Bylaws state, that in order to represent a member institution, a person must be a direct, paid employee of that institution. No one would dispute, I believe, that each member institution has every right to choose to contract out its facilities management if it judges that outsourcing would be good for the school. Yet, that dues-paying institution cannot choose to have its contractor, who may be most knowledgeable about the school's facilities management issues, represent it in APPA affairs. By not allowing colleges and universities the freedom to name whomever they choose to represent them in APPA, we are turning away valuable members. How many we are turning away is a matter for speculation, but for schools that may have no facilities professionals on their payroll besides their contracted ones, they may be left with little choice but to forego their affiliation with APPA. Perhaps, even more importantly than losing members, we are missing golden opportunities to benefit from the association with a more diverse membership. Certainly, as one example, there must be a great deal that we in the academic world could learn from those in the for-profit world.

I believe that the time might be right to re-think our Bylaws and allow

If APPA is to harness the global experience in order to deliver best practices, then it must be trusted in international communities and be open to new ideas, perspectives, and expectations.

institutions to designate whomever they wish to represent them in APPA. Niccolo Machiavelli wrote four hundred years ago, "There is no more delicate matter to take in hand, nor more dangerous to conduct, nor more doubtful in its success, than to be a leader in the introduction of change. For those who innovate will have as enemies all those who are well off under the old order of things, and only lukewarm supporters in those who might be better off under the new."

I believe there may be some APPA institutional representatives who think they are well off under the old order of things and would be threatened by the prospect of changes to our membership status quo. However, I believe the majority of our members want to see APPA change in order to meet the ever-shifting needs of our profession and to survive as the association of choice to continue providing a multitude of membership benefits. Greater inclusiveness of the corporate world, most of whom are our business partners after all, would bring their ideas, experiences, talents, and perspectives to APPA, which would enrich us all.

Let me close with a quote by Charles Darwin, one that I have used before: "It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change." 🐘

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Membership Matters

An HBCU Recruitment Initiative

by Dr. Sam L. Polk Sr.

During the 1998 APPA conference in San Jose, California, a number of African American members met to discuss the relatively low participation of historically black colleges and universities (HBCUs) in APPA. As a result, an HBCU recruitment committee was formed for the purpose of increasing HBCU membership. This committee concluded that HBCUs share the same challenges as other higher education institutions—increased competition in the marketplace, demands for new technologies, and significant deferred maintenance levels. Participation in a professional association such as APPA can help prepare the facilities team to tackle these issues by providing information, resources, and a network of colleagues with whom to exchange ideas and experiences.

To gain a better understanding of the constraints facing HBCU facilities administrators and their involvement in APPA, I conducted, in 1999, a study, "Participation of Historically Black Colleges and Universities (HBCUs) in APPA and Regional Associations." The findings of this study appeared in the January/February 1999 issue of *Facilities Manager*. Briefly let me share a few of the key results:

- Sixteen percent of the HBCUs indicated that the lack of African American officers greatly affects their membership decision; 78 percent were greatly affected by the



low number of African Americans in attendance at annual conferences; and 23 percent want more HBCU issues addressed.

- Fifty-six percent said recruitment of HBCUs is necessary.
- Fifty percent indicated that a trial membership would be beneficial to continue membership.

Since 1999, APPA has made good progress in addressing these issues. Some of the progress includes:

- Two HBCU membership drives were conducted offering a one-year-free membership in 1999 and 2002 to first-time members.
- A one-time reduction of \$200 to renew membership was offered in 2002 to HBCUs who previously held membership.
- HBCU membership increased from 24 in 1999 to 31 in 2001. In SRAPPA, the eleven member Board of Directors now consists of four African Americans including one African American female. Of the five APPA committee representatives, two are African Americans.

While this is good progress, more is needed. Therefore, a new initiative was instituted in October 2001 extending to all presidents of the nation's 113 HBCUs a special invitation 1) to become an active member in APPA with a one-year-free trial membership, 2) for previous members

to renew their membership at a reduced \$200 rate, and 3) to be our guest at a special HBCU event during the annual SRAPPA conference in Atlanta on October 12-13, 2002, with all expenses paid. Simply, we wanted to encourage HBCUs—members and nonmembers—to attend the SRAPPA conference to look us over, see what we do, and gain a better appreciation of how membership could result in improved facility management. Moreover, we wanted to get input on pertinent HBCU facility issues and on ways to increase participation. To accomplish this we obtained a business partner for this endeavor, UNICCO Integrated Services. We are grateful to UNICCO and Randy Ledbetter for stepping up to the plate with more than \$20,000 to support this initiative.

The results of this initiative were highlighted during the SRAPPA conference. Seventeen HBCUs were represented: nine institutions became new members and eight renewed membership. As a result, the total HBCU membership in APPA has increased from 24 in 1999 to 40 in 2002. This brings the HBCU participation to 35 percent and closely aligns with APPA's 40 percent membership of all four- and two-year institutions in the United States.

During the special HBCU event, three specific activities took place:

- During the welcome luncheon, I was delighted to have the opportunity to give an overview of the history and role HBCUs play in higher education along with some of its unique problems and challenges.
- During the HBCU informative session designed to acquaint HBCUs with the benefits of

Continued on page 30

Sam Polk is director of facilities management and associate professor of technology at Tennessee State University, Nashville, Tennessee. He also served as the 2001-2002 president of APPA's Southeastern Region. He can be reached at spolk@tnstate.edu.



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membership in APPA, I was excited to have three APPA members lead the discussion. Lander Medlin (APPA executive president) discussed International APPA, with Art Sykes (Central Region) discussing regional associations, and Jewell Winn (Southeastern Region) the state associations.

- The informative session was highlighted with Phil Cox (APPA 2002-03 president) leading the discussion and engaging over 40 HBCU guests and other participants in ways to improve membership and participation. Some of the suggestions coming from that discussion that we intend to follow up include:

- Continue written communication with HBCU presidents along with face-to-face visits.
- Make presentations at meetings involving HBCU presidents, such

as the National Association of Equal Opportunity in Higher Education (NAFFO) and the Council for the United Negro College Fund (UNCF).

- Set-up a mentoring partnership pairing well established facilities management organizations with HBCUs who desire a mentoring partner.
- Provide scholarships to HBCUs to attend APPA training opportunities and annual conferences.
- Include more diversity and pictorial representations in APPA's print media.
- Continue active HBCU recruitment efforts.
- Coordinate a follow-up tele-conference along with a meeting during the APPA/ NACUBO 2003 meeting in Nashville.

The HBCU event at the SRAPPA conference was rated by participants to be very meaningful and worthwhile. Phil Cox said that "the HBCU initiative was spectacular in that

we now have a better understanding of how we might better serve HBCUs and that this effort is in perfect alignment with my diversity goal for APPA."

In closing, the whole of what we wanted to accomplish is summarized by one of the HBCU participants, Dr. Marian H. Smith, assistant vice president for administrative services at Alabama State University. Dr. Smith sent information received during the conference to 13 administrative leaders and facility personnel along with the following memo that stated in part,

"It was an honor and a privilege to represent our renowned institution at the SRAPPA annual meeting. From October 13-14, 2002 in the Buckhead area of Atlanta, Georgia, at the Grand Hyatt Hotel, more than four hundred administrators convened. My distinct pleasure was manifested in firsthand observation of this year's theme: 'Bridging the World in 2002' being addressed via issues peculiar to educational institutions nationally and internationally.

Novel and of unequivocal importance was the thrust for HBCU inclusion made by the outgoing president, Dr. Sam L. Polk Sr. of Tennessee State University. Relative to his efforts submitted herewith a copy of the current SRAPPA newsletter. Therein, you will find a succinct summary of Dr. Polk's efforts to ensure and increase HBCU involvement in the organization.

Finally, involvement complements performance. Interaction with other professionals ideally enhances personal knowledge and extends networking options. Personally, I feel that every professional should eagerly anticipate attendance at, at least one meeting per year. Otherwise, professional growth diminishes. It will be my resolve to encourage your participation in APPA and will encourage other HBCUs as well."

In closing, I am grateful for all who attended and assisted with this recruitment initiative. I believe that together we have validated the fact that as an organization, nothing is more important than the active recruitment, retention, and participation of the membership guided by sensitivity and diversity. To this end, let us continue. 🙏

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- The inclusive Resources section gives key links to EPA documents that describe regulatory standards and provide assistance with them, as well as Web addresses for everything you ever need to know about compliance.

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ENERGY

AN OVERVIEW

by Mohammad H. Qayoumi

This year marks the 30th anniversary of the 1973 oil embargo, an event that fundamentally transformed our views toward energy. The shock waves of the embargo were felt in almost all aspects of our lives. In some ways the embargo and the subsequent price hikes were so unusual that even a year before the incident it could not have been projected by many experts. For the past three decades we have witnessed a significant number of changes in the field of energy. Today, as we are trying to look into the future and predict what may lie ahead, it may be helpful to examine the transformations we saw in the past thirty years.

As the aftermath of the oil embargo, the United States concentrated its efforts in trying to reduce its dependence on oil imports and promote the use of coal. In the mid-1970s, the energy crisis was primarily viewed as an oil import issue. The motto during the early days of President Carter's administration was: "The United States is the Saudi Arabia of coal." By the late 1970s, a number of landmark energy-related legislations were passed. These included the National Energy Conservation Policy Act (NECPA), National Gas Act (NGA), Fuel Use Act (FUA), Public Utilities Regulatory Policy Act (PURPA), etc. The focus of the early rulings was to promote energy conservation by prescribing thermostat settings for heating and cooling public facilities, mandating minimal gas mileage for automobiles, and facilitating cogeneration systems. In these early days of rulings, applying energy con-

servation meant coping with colder buildings in the winter and warmer ones in the summer.

It is important to note that during this period even though the primary fuel prices—namely oil, gas, and coal—increased quite dramatically, the electric prices remained relatively flat. Since roughly 85 percent of electric prices are based on fixed-capital costs, fuel costs, which were part of the variable costs, had a relatively small impact. Moreover, many electric utilities had more installed capacity than what they needed. The incident that had a significant impact in reducing the future supply of electricity was the 1979 Three Mile Island nuclear accident. This incident basically brought the nuclear industry to a halt. Although many electric utilities that were in the last stages of completing nuclear plant projects were able to bring their plants online with sizable cost overruns, more than 100 nuclear plant projects that were at various stages of planning, design, and construction were abandoned.

By the early 1980s, many universities embarked on energy conservation projects using federal and state energy grants to reduce the overall energy consumption. Moreover, quite a few large universities began studying the economic feasibility of cogeneration plants. Some were even successful in building such plants on their campus. This success, coupled with the natural gas deregulation, which significantly reduced the price and increased its availability, raised our dependence on natural gas. Another contributing factor in the shift to natural gas was the environmental consideration.

The next major legislation that affected energy was the 1992 Energy Policy Act (EPACT). One of the major elements of this policy was that it allowed individual states to deregulate the generation of electricity. This landmark legislation changed the nature of the electrical utilities industry which had been the same since the mid 1930s. EPACT gave the

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With the "siliconization" of energy, the price of electricity plays a more significant role in the U.S. economy than that of the price of oil. The predominant use of oil is in the transportation field, which constitutes less than 10 percent of the national economy.

states the ability to break down the vertically integrated monopolies that the regulated investment-owned utilities had enjoyed for over six decades. In other words, the generation of electricity was decoupled from transmission and distribution sectors, and became a non-regulated industry. It is interesting to note that by the mid-1990s, the cost and availability of electricity became the dominant energy issue in the United States.

One of the impacts of deregulation was the increase in our dependence on natural gas. Because gas-based electrical generators are easy to build and permission to operate these plants is easier and faster to secure, they are the only viable choice, especially for independent power producers. Natural gas consumption will significantly increase especially in electrical generation. Currently, about 52 percent of our electricity is generated by coal, 20 percent by nuclear power, 14 percent by natural gas, 10 percent by hydroelectric, and the remaining 4 percent by renewable resources. By the end of this decade roughly 70 percent of the U.S. coal plants will be more than 40 years old and in need of replacement. The replacement generators will be gas-fired units. As a result of these conversions, by 2020 natural gas will replace coal as the dominant primary fuel for generating electricity.

Therefore, it is interesting to note that even though in the 1970s the thrust of our national energy policies increased the use of coal, our dependence on coal has continually been decreasing. Based on the above figures, let us examine our current energy issues and theorize on the trend in the energy field for the next decade or more.

Oil prices in the U.S. economy have gone down considerably in the past decade due to the sharp growth of the information technology field. For instance, while information technology has added \$800 billion to the U.S. economy in the past decade, "the share of gross domestic product absorbed by oil purchases is 30 percent lower now than in 1990 despite the current high prices".

With the "siliconization" of energy, the price of electricity plays a more significant role in the U.S. economy than that of the price of oil. The predominant use of oil is in the transportation field, which constitutes less than 10 percent of the national economy. In fact, over two-thirds of the oil is consumed within this sector of the economy. The remaining 90 percent of the economy gets about 55 percent of its energy from electricity. Therefore, our future energy challenges have moved from an "oil-centered" issue to an "electric-centered" issue. In addition, as we look at the "siliconization" phenomenon, it becomes clear that the reliability of electrical energy is far more critical today than it ever was in the past. For instance, our power systems were designed and built to serve electric loads that required an uptime of 99.9 percent, or a

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Today, there are more than 400 nuclear power plants in operation worldwide. Although no new plants have been constructed since the Three Mile Island accident in 1979, there are still more than 100 plants in operation in the United States.

"three 9 reliability." This translates into a downtime of roughly eight hours per year, which was acceptable for traditional electric loads such as lighting, electric motors, refrigerators, etc. By contrast, many real time computing systems today require an uptime ranging from 99.999 to 99.99999 percent or between five 9 to seven 9 reliability. This creates a totally different set of challenges that were not present even two decades ago.

Therefore, as we look into the future, a reliable and adequate supply of electricity will become the dominant factor for the national energy scene. It makes sense to examine the technologies that may impact the supply of electricity in the next few decades. Today, electricity is a one trillion dollar per year global enterprise and a \$250 billion per year enterprise for the United States. Roughly 17 percent of the world's energy generation and 20 percent of the U.S. generation is nuclear-based. Today, there are more than 400 nuclear power plants in operation worldwide. Although no new plants have been constructed since the Three Mile Island accident in 1979, there are still more than 100 plants in operation in the United States. In the past few years several companies have been very active in purchasing existing nuclear plants and operating them very profitably. This consolidation has significantly enhanced knowledge sharing among similar plants.

Although the switch to natural gas reduces the emission of carbon dioxide (CO₂), it does not eliminate it since natural gas produces some, albeit smaller, quantities of CO₂ as a combustion by-product. To stabilize the global CO₂ emissions at the current levels the world must build 100 large nuclear plants per year. There have been some discussions about the next generation of nuclear plants based on the "Generation III" advanced light water reactors (both as pressurized water and boiling water reactors) that may be utilized within the next three decades.

One of the technologies that will have a significant impact on bulk electric power transfers will be the future development of superconducting technologies. Superconductors can carry three- to five-times the amount of current that their conventional counterparts can with less than half the losses.

Therefore, by using superconducting cables, one can appreciably increase the power carrying capacity of transmission lines with their existing right of way. The invention of a high-temperature superconductor (HTS) in 1986 greatly enhanced the economic feasibility of such systems. With HTS, the necessary cooling temperature is minus 323 degrees Fahrenheit, which can be achieved using liquid nitrogen, as opposed to traditional superconductors that require minus 452 degrees Fahrenheit using helium as a coolant. Helium costs around \$5 per liter as compared to \$0.12 for liquid nitrogen.

The Department of Energy is working on a project to develop HTS wires that will have one hundred-fold increase of capacity over the conventional wire of the same dimension and generators that will be half the size and power loss as compared with existing generation units. There are several HTS demonstration projects that are in operation around the country. For instance, in 2000, Detroit Edison installed three 100-foot HTS cable that weighed around 1,000 pounds, replacing nine copper cables that weighed 20,000 pounds.

Another technology that will impact the supply of electricity in the future is the proliferation of distributed generation systems (DGS) and the development of power "microgrids." In this environment, small electric generation units can be connected with the utility power grid using the Internet to control and access these sources. This will increase the use of renewable energy resources. It is projected that the use of renewable energy resources will continue its gradual and steady increase. However, the growth will not be dramatic. For instance, the fuel cell, a technology that was invented in 1839, has still not become economically viable. In the next two decades, fuel cell use is expected to rise, which will increase hydrogen consumption. By then, the primary source of hydrogen fuel will be coal, oil, and natural gas.

It is very clear that the energy scene has undergone major changes. However, new changes still lie ahead. In 1973 it would have been very difficult to imagine the different twists and turns that the energy industry has experienced during the past three decades. The issues and challenges of the energy industry have grown in dimension and complexity; this trend will continue in the future. It should be recognized that no matter what new technologies are introduced, nobody will have the silver bullet to solve the issue completely. Facilities administrators will have to accept the fact that managing the energy needs of their facility will continue to remain a core activity for them. The importance of energy needs may not significantly increase, but they will certainly not decrease in the foreseeable future. ■

Reference

1. "Forget Oil; It's the Century Of the Electron", *Wall Street Journal*, Feb 23, 2000, PP. A22.



by Joe Whitefield

There are many compelling reasons for colleges and universities to implement an energy management program. Administrators often cite energy and environmental stewardship, economic stewardship, and an increasing number of academic mission support opportunities as being important to them. Well-designed and implemented energy management projects and initiatives can, of course, meet many of these desires. Why then is comprehensive energy management so rare given these motivations and the significant opportunities that exist? Let me suggest the two areas I feel are most often at the heart of the problem.

First, there is often a lack of understanding by the energy management team about the primary motives of the campus administration related to prioritizing programs, projects, and initiatives. Colleges and universities are in the education business first. They are in the energy/utilities business only because utilities are necessary (a necessary evil according to some) to support the primary mission. Energy management is not truly independent of the core mission and should, like all other campus projects, appropriately consider the mission and motives of the campus.

Second, many proposed energy management projects/initiatives are either not adequately designed to specifically deliver on a primary motive or they do not communicate their benefits in terms of the primary motive. Poor performance or inadequate communication of good performance will dimin-

ish the impact of an initiative. This can, in turn, prevent a campus from receiving all of the benefits that come from sound energy management activities.

Simply put, establishing the expectations and delivering on them defines success. This article intends to address both sides of the issue by identifying the campus motives, designing an energy program to support them, and offering some suggestions for improved project implementation.

Identifying Motives

British economist Lionel Robbins defined economics as "the study of the use of scarce resources which have alternative uses."¹ The term "scarce" implies only that there is a limit to the resource (budget, time, manpower, etc.) and its use must be prioritized for consideration against other possible uses. The degree of scarcity is not the issue, only that some limit exists and decisions must be made relative to prioritizing resource expenditures and any resultant trade-offs.

This basic definition also serves as a model for evaluating energy management programs and initiatives for higher education institutions. Given the fact that capital and operating budgets for colleges and universities are limited, and many alternative uses exist, all expenditures must typically be justified. As such, projects and initiatives are often said to be "competing" for funding. Energy management projects/initiatives are no exception. If they require the use of scarce resources (which they always do), then they must compete against other campus projects/initiatives on a cost and benefit basis.

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¹Basic Economics, A Citizen's Guide to the Economy, Thomas Sowell

Energy projects typically have an advantage over other types of projects on a campus in that they provide or free up additional resources in the form of savings. Even so, establishing energy management projects as a priority can be difficult. Some of the difficulty may begin with the term "energy management" itself. It is sometimes referred to as energy conservation, energy efficiency, or even sustainability. Each of these references is a different, possibly overlapping, component of the larger category, but independently not the whole category of energy management. For this article, energy management will be considered as *the organizational efforts to efficiently manage the use and costs of utilities while effectively providing for the needs of the campus*. Yet, even this definition could mean something different to different people depending on their values and expectations, and what their previous experience has been.

Think back to previous conversations with different individuals on energy. Were the conversations with administrators similar to the conversations with building occupants? How about the financial officials, building maintenance staff, consultants, designers, contractors, legal council, procurement officials, etc? My experience as an energy manager is that these conversations usually differ greatly. Even the same issues are usually tailored and presented differently to different groups or individuals. Any and all of these people can have a significant influence on the

development, implementation, and perceived success of an energy management project/initiative.

With so many people (representing several groups) having different interests and levels of participation in the process, it is important to have a clear understanding of their expectations. Table 1 is a sample of different groups/individuals and their possible interest in energy initiatives.

With so many interests and performance criteria to be addressed, is there any wonder why energy management projects have a difficult time competing with other projects for priority position for scarce resources? All it takes is poor or mediocre performance in one of the areas of interest to put the brakes on quality projects and initiatives denying the campus of needed benefits.

The lesson is simply that the energy manager should identify and account for the different motives for the campus. Individual interests should be articulated, quantified, and rolled-up to represent the collective campus. To help with this task, I suggest starting with an evaluation of campus motives (See sidebar, "Energy Management Motives Evaluation"). This evaluation uses a rating system to help quantify the relative importance of likely motives behind an energy management program. These motives include:

- Environmental Concerns
- Financial Needs and Opportunities
- Capacity Limits of Utility Infrastructure Systems

Table 1. Various Interest in Energy Management

Group/Individual	Primary Interest	Performance Issues
Administration	Mission Enhancement	Will the project contribute to a specified goal of the university? Is it affordable? Will it enhance the university image or position?
Financial Officials	Financial Performance	How much does it cost and/or save? Is the project on budget?
Procurement Officials	Procure-ability	Were the procurement regulations followed? Are there potential protests?
M&O Personnel	Maintainability	What are the M&O requirements? Are there sufficient resources to meet the M&O requirements? Are any existing M&O 'headaches' being eliminated?
Building Occupants	Functionality	Are the building's environmental conditions (heating, cooling, etc.) improved?
Energy Service Providers	Project Performance	Is the project providing the required operational performance (energy savings, cost savings, etc.)?
Environmental Officials	Environmental Impact	Is there a reduction in or elimination of environmental insults such plant emissions, pollution, or consumption of fossil fuels?
Others	Varied	Varied
Energy Manager	All of the above	All of the above

- Maintenance and Operations (M&O) Needs
- Technological Demonstration Opportunities
- Other

It is possible to have needs and desires in each of the motivational areas. Typically a campus will have greater needs and/or desires in one or two areas and lesser in others. For instance, it is common for older campuses to be struggling under the weight of deferred maintenance (M&O needs) brought on and compounded by lack of adequate funding (financial needs). These campuses may still be quite interested in environmental issues and other considerations as well. Yet, the higher-rated maintenance and financial motives should have an undeniable imprint on the energy management program.

Whatever tool or methodology is employed, it is important for the energy manager to identify and quantify the motives. They will establish the expectations of performance for energy management projects so that they can be justified against other projects competing for the same priority. Knowing the primary and secondary expectations will allow the development of projects whose benefits specifically address the expectations.

Developing the Projects and Initiatives

Once the motives are established, the energy manager is better equipped to develop the project, or series of projects, with the goal of meeting the expressed need or desire behind the motives. There are numerous project/initiative opportunities from which to choose to tailor a comprehensive program.

They include:

- Energy Efficient Retrofit Projects (central plant, lighting, HVAC, energy management/control systems, etc.)
- Demand-side Management Projects
- Energy Savings Performance Contracting/Utility Contracts
- Commissioning/Retro-Commissioning
- Modified Operations & Maintenance Practices
- Energy Efficient Design in New Construction
- Utility Rate Negotiations
- Green Power Purchase
- Distributed Generation
- Recycling
- Metering/Sub-Metering
- Technology Demonstration Projects
- Partnerships
- Others

Each of the project/initiative opportunities should bring some measurable benefit to a campus and can be matched with one or more of the motives. The campus is now in a position to develop a specific list of projects/initiatives. Once

again, the challenge is to select the appropriate projects/initiatives that represent the best use of a scarce resource (budget) considering the alternative uses (other projects/initiatives). This prioritization of energy management projects/initiatives should be easier now that the motives have been established and prioritized.

Another factor to consider when planning the energy management projects/initiatives is the availability of in-house expertise and the need for contracted expertise. Consultants, designers, energy service providers, etc. can provide essential services necessary for successful projects. When employing contracted service providers to develop and implement a project, the campus must also share the motive behind the project. Do not assume that they have the exact same interest or motive. Ultimately, priority and trade-off decisions may be required and everyone will be better off if the expressed motives serve as the drivers. I have been involved in several

Energy Management Motives Evaluation

The purpose of this evaluation is to assist in determining the primary motivations for developing energy management initiatives. Consider the statements and issues carefully. While there may be some sense of overlapping issues (particularly financial) with different statements, the differences are important when structuring the initiatives to be considered in an energy management program.

Rate each Motive Statement in terms of importance to your organization by circling one number of the Rating Scale.

ENERGY MANAGEMENT MOTIVATION EVALUATION FORM

Motive Statement	Primary Issues Behind the Motive	Rating Scale*
Reduce Energy Consumption	Environmental, Pollution, Political, Natural Resource Issues	0 1 2 3 4 5
Reduce Energy/Energy-related Costs	Financial	0 1 2 3 4 5
Reduce Peak Energy Demand	Utility Infrastructure Capacity/Reliability	0 1 2 3 4 5
Reduce Deferred Maintenance/ Augment Capital Maintenance	Facilities Maintenance (O&M and Capital Maintenance) Issues	0 1 2 3 4 5
Demonstrate Technologies/Processes	Innovation, Research and Development	0 1 2 3 4 5
**Other	Other	0 1 2 3 4 5

* Scale: 0 - not important at all
5 - extremely important

** List Other Motivations and reasons for importance.

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"expectations" meetings with contracted service providers where the campus motives are presented, discussed, clarified, and bought into. These meetings, particularly early in the process, have proven to be useful.

Project Implementation Suggestions

Now that the framework for an energy management program exists and specific projects/initiatives are being developed, let's consider some ways to improve the implementation process and the subsequent perception of the campus personnel and facility occupants. These suggestions are for energy management projects involving both retrofit and new construction applications.

There are three primary suggestions for retrofit projects. First, design phases of a project to be accomplished quickly. Energy projects tend to be long and drawn-out and people lose patience waiting for their completion. The benefits of the project can be greatly overshadowed by the inconveniences of the project schedule. Completing projects or phases of projects can be a boost to everyone involved in the project. Second, include various measures within the scope of the project that have a "public effect." So many measures produce savings or efficiency improvements that are significant but are not seen or felt by the facility occupants. There should be a sense that the older buildings are becoming modernized. Lighting measures, various plumbing fixture upgrades, improved space temperature control, noise reduction, etc., can provide the psychological effects for facility occupants not found in other measures. Third, simplify and improve the operations and maintenance of the facilities as a result of any project. Many good projects are not completely successful due to their inability to be operated or maintained by the current staff. Complicated software routines, lack of training, or just the perception of increased workload will create operational barriers that decrease the effectiveness of the project. Strive for easing M&O requirements rather than increasing them. LED exit signs, for example, have the benefit of having their lamps replaced every 15+ years instead of two or three times in a single year like incandescent signs. The reduction in

labor activity is often more valuable than the actual energy savings achieved by the low-wattage signs.

New construction projects offer even greater opportunities for energy efficiency than retrofit projects. Efficiency should be designed in at the very beginning and not "value-engineered" out at the end. The key is to understand the priorities and trade-offs of such decisions on both the initial cost of construction and the operational costs of the facility over its life. I find post-construction, operational costs are rarely considered to any great extent in the design process. As such, the campus may be unknowingly saddled with a poor performing building that is expensive to maintain and operate.

Having said that, there are two primary suggestions for new construction projects. First, establish an energy (btu/sf) or energy cost (\$/sf) budget for the operation of the facility. For instance, an annual cost per square foot budget (i.e., \$1.50/sf) will drive many of the design decisions and subsequent trade-offs by establishing the facility performance as a priority. Design reviews (particularly of electrical and mechanical systems) can be more meaningful to an owner by incorporating the operational impacts of design decisions and designer intent. In addition, this priority will also need to be communicated with M&O personnel and facility occupants to ensure that their functional needs are being addressed while the facility is operating efficiently. Second,

have the designer document their projections with an energy report. This establishes the design intent, performance standards, and the operational parameters required to achieve the performance. It also serves as a record for future verification efforts. A sample energy report can be obtained by e-mailing the Center for Energy Efficiency at Middle Tennessee State University (cee@mtsu.edu)

Summary

Campuses are in the business of accomplishing their core educational mission by allocating scarce resources that have alternative uses. Poor energy management practices definitely hinder the accomplishment of the core mission by using scarce resources in an ineffective manner. On the other hand, a well-designed and implemented energy management program can contribute many benefits to the campus mission. This positive result is more easily achieved when the campus motives are understood and serve as the basis for the specific projects and initiatives making up the energy management program. 🏠



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NASEO and Educational Associations Working with Members to Improve Energy Efficiency



by Kate Burke

The National Association of State Energy Officials (NASEO), representing the nation's State and Territory Energy Offices, has a long history of working with other state-based organizations to promote energy efficiency in public facilities, in particular educational institutions. Recently, NASEO, APPA, and the National Association of College and University Business Officers (NACUBO), with support from the U.S. Department of Energy's Rebuild America program, agreed to share information on their members' interests and needs related to improving energy efficiency in higher education facilities and to explore joint opportunities in this sector. The NASEO Buildings Committee has agreed to make the higher education sector a top priority.

About NASEO and the Buildings Committee

NASEO is affiliated with the National Governors' Association and represents the U.S. State and Territory Energy Offices. The governors created NASEO to continuously improve the effectiveness and quality of state energy programs and to be a collector and repository of energy-related information. NASEO committees include Electric and Gas Utility, Transportation, Buildings, and Energy Data and Security, and others. Among its most active is the Buildings Committee.

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The NASEO Buildings Committee supports deployment of cost effective and energy efficient building solutions and addresses building related energy issues that are of a common concern to the states and territories. Brian Henderson (NY) chairs the Buildings Committee, with Janet Streff (MN) as Vice-Chair.

This past September at the NASEO 2002 Annual Meeting, the Buildings Committee, recognizing the importance of building a connection between state and educational facilities, determined that the top priority of the upcoming year will be to increase cooperation with college and university sector partners to aid, where appropriate, in improving energy efficiency in facilities. As a result, the committee directed NASEO staff to conduct a survey of its members to gain a better understanding of their interest, abilities, and needs in this area.

The survey included the following questions:

1. Is your office involved with promoting energy efficiency or clean energy applications in the college/university sector (e.g., performance contracting)?
Please circle: YES NO
2. If you responded 'Yes' to Question 1, please describe in a few sentences, and/or an attachment, your activities in this sector.
3. In what sector of higher education are you working? (e.g., Public Two or Four Year; Community College; Private Institution?)
4. Which campus leaders are involved (e.g., Vice President of Facilities, Vice President of Finance, etc.)?
5. What problems do you hear from the colleges and universities that keep them from participating or



reduce their participation in performance contracting or related programs?

6. If your office is not involved with the college and university sector, are you interested in exploring opportunities in this sector?

Please circle: YES NO

7. If you are currently working in this sector (or are interested in doing so), what resources would be of most help?

_____ Financing information or training
_____ Benchmarking software and tools
_____ Identification of potential partner universities
_____ Other, please specify: _____

8. Are there particular activities you might recommend where states could work together with colleges and universities under a broad joint state initiative (e.g., performance contracting, new green buildings, campus energy awareness)?

9. Are you aware of the university-related resources and/or tools (e.g., case studies, benchmarking, financing information) available from Rebuild America or Energy Star?

Please circle: YES NO

The goal of the survey is to define similar priorities and opportunities that exist between states and college and university buildings energy efficiency efforts. From the responses, NASEO, APPA, and NACUBO hope to learn more about how the organizations can work together to assist with increasing communication where appropriate; supporting energy efficiency projects and technologies; educating stakeholders; defining potential project initiatives and opportunities; and leveraging savings among the members of all three organizations. These activities would be undertaken in coordination with the State Energy Program, Rebuild America Program, and other complimentary initiatives.

NASEO Buildings Committee efforts also include 1) an Energy Star Task Force and 2) work in the K-12 Schools sector. The recently initiated Energy Star Task Force was established to serve as a sounding board to federal agencies and others on Energy Star issues and to aid the states in identifying needs and opportunities related to Energy Star and market transformation. The task force's participating NASEO members took the lead in communicating and supporting Energy Star issues led by Chair John Davies (KY) and Vice-Chair Brian Henderson (NY).

In 1999, the Buildings Committee issued a survey of NASEO members' K-12 schools activity in order to identify needs and opportunities in this sector. The survey results were used by the states, NASEO, and the U.S. Department of Energy (DOE) to both develop new energy initiatives and re-fine existing school energy initiatives. In addition, this work led to the development of the NASEO-led Cooperative Research, Demonstration, and Deployment Project. This project coordinates high-priority school-related energy research under a comprehensive initiative that includes tasks that increase adoption of advanced energy efficiency technologies in both renovation of existing schools and building new ones; educate and inform school administrators, architects, engineers, and manufacturers nationwide as to the energy, economic, and environmental benefits of energy efficiency technologies; and improve the learning environment for the nation's students. This comprehensive effort is supported jointly by the participating states and the U.S. Department of Energy.

Future efforts in the higher education sector will be determined following the completion of the NASEO survey and in close coordination with APPA, NACUBO, and the U.S. Department of Energy. The survey will allow for a more informed discussion and for the development of a strategic effort that takes into account specific needs and opportunities within the higher education sector. ■

Resources

National Association of State Energy Officials Website
www.naseo.org

Energy Efficiency in our Schools:
An Update on States Energy-Related Schools Programs
<http://www.naseo.org/committees/buildings/schools.pdf>

Buildings Committee Identification of College and University Energy Efficiency Improvements
http://www.naseo.org/committees/buildings/college_survey.pdf

Energy Star Website
www.energystar.gov

Rebuild America Website
www.rebuild.gov

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CAROLINA

'TAKES IT OR LEAVES IT' THEN 'GIVES IT UP'

by Michael Koman

Many colleges and universities experience an overwhelming burden of trash during the final days of the spring semester as students move out of the residence halls. Whatever is no longer needed or does not fit in the family vehicle is left behind. Traditional methods of dealing with the increased volume of trash would be more frequent waste container pickups, which would mean larger costs to the university. Much of this increased trash volume is actually reusable and recyclable material. By recovering these materials, the institution can actually save money on disposal and labor, keep materials out of landfills, help local organizations, meet state recycling mandates, and increase the sustainability of the university.

Past recycling efforts at the University of South Carolina included sporadic food drives by student organizations and collection boxes in an occasional lobby; never collecting more than 500 pounds of materials. In 2001, the university's housing department wanted to increase recycling and sustainability efforts and formed a coalition that included members from university housing, facilities, the residence hall association, and student government, with support and backing by the School of Environment and the Sustainable Universities Initiative. In addition, several charitable and service organizations in the local community were designated as recipients of reusable materials. The "USC Take It or Leave It" project

brought together the campus entities that were needed to make it a success, including those that would be most affected: custodial and recycling employees, maintenance personnel, and over 6,500 resident students.

The first question addressed was what to collect. Using past recycling experience and by polling students and custodial workers, a plan was developed to collect two groups of materials in two distinct ways. The first group to be collected would be personal items that were split into three parts and included clothing/shoes, non-perishable food, and miscellaneous toiletries, small appliances, and utensils. The plan was to set up three collection boxes on each floor of the 27 residence halls—one box for each group type. The boxes would be placed as close to the existing trash cans or exits as possible, under the assumption that more materials would be recovered if it were just as convenient to recycle as it was to dispose. This assumption would prove to be correct. With only a few weeks before the end of the semester, a desperate search was on for boxes. Purchasing several thousand dollars worth of boxes was out of the question. After raiding several cardboard collection points on campus for boxes, a local cardboard producer donated the 500 large boxes that were needed for this ambitious plan.

The second group of materials to be collected included bulk items such as cement blocks (used to make bookshelves and bunkbeds), loft beds/wood, and carpets. (Furniture collection was planned, but a cost-effective recycling or reuse option was not available.) Collection points were set up outside of the residence halls that were known to generate specific materials and signage was posted to identify collection points. When students moved out of the residence halls, these materials would normally be left in the buildings for

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maintenance and custodial personnel to remove. The drop-off allowed students and parents to participate in the program and avoid excess room charges for items left behind. The recycling of materials by the students helped the university save extensive labor, disposal costs, and precious time that was otherwise needed to prepare buildings for renovation projects or summer conferences.

Members of the "Take it or Leave it" committee, student organization volunteers, and students assigned to community service helped set up the boxes and signage two to three weeks prior to the end of classes. Material collections began within a week of the first boxes being placed and many of the residence assistants (RAs) and custodial personnel called in for material pickup. In the last week of the semester, most buildings needed two to three pickups. Volunteers collected materials in the residence halls in a wheeled cart, transported the contents to the lobby, and transferred them to a large gaylord container. Campus recycling personnel would then empty the gaylords as needed into a recycling truck. Once a truck was full it would be weighed at a local truck scale and the materials would be delivered to the receiving organization and/or charity. This procedure allowed the university to track the volume of recycled material.

Student government, the residence hall association, and other student groups, along with university housing staff, helped promote the project with announcements, banners, posters, and on-campus cable television commercials. The members of the residence life staff helped advertise the program on the residence hall floors, encouraged residents to participate, explained the benefits of recycling, and directed them to the drop off locations. We found that the more active a building's RAs were, the higher the participation rate and collection volume was for that building.

After school was out, collections continued for several more days, as volumes were higher than anyone imagined. Habitat for Humanity came to campus with a large volunteer force to collect the cement blocks and useable carpeting for their future projects. Habitat for Humanity was also onsite to collect over 30 tons of furniture for their cause.

The Harvest Hope Food Bank accepted almost 1,000 pounds of food. Sister Care Shelter received the half-ton of toiletries and appliances. Cooperative Ministries and the Salvation Army split the almost four tons of reusable clothing. In 2002, the university increased the numbers of charities receiving items since the large volumes of 2001 had overflowed most of the warehouses.

Major building renovations are a regular occurrence on many campuses during the summer months. Two large high rises were scheduled for major renovation this year, and with only a few weeks before school would start again, timing was crucial. Housing department personnel removed over 89 tons

of furniture in one weekend and staged it for reuse by Habitat for Humanity and other state institutions and organizations.

The university had set a goal for 2001 of four to five tons of materials to be recovered by the students, which seemed to be optimistic for this first effort. For 2002, USC was prepared for the tremendous volume generated. Learning from the experience and problems of 2001, the program was able to increase the collection volumes while cutting the effort and time nearly in half. The end results were as follows:

Material	2001 Volume	2002 Volume
Cement blocks	83,400 pounds (41.7 tons)	63,000 pounds (31.5 tons)
Clothing/shoes	7,820 pounds (3.91 tons)	8,020 pounds (4.01 tons)
Toiletries/appliances	1,000 pounds (0.50 tons)	1,100 pounds (0.55 tons)
Food	980 pounds (0.49 tons)	1,480 pounds (0.74 tons)
Wood	1,000 pounds (0.50 tons)	500 pounds (0.25 tons)
Carpet	4,000 pounds (2 tons)	80 cubic yards
Furniture	0	120 cubic yards

The grand total generated by students resulted in 98,200 pounds (49.1 tons) of materials collected for reuse in 2001. Add this to the 89 tons of furniture sent for reuse, and USC prevented over 277,000 pounds (138 tons) from going to a landfill. For 2002, students generated 37.05 tons of reusable materials, with 80 cubic yards of carpet and 120 cubic yards of furniture being collected. The reusable materials dropped by nearly 10 tons due to a reduction in cement block collecting—more people were taking cement blocks home for use the following year. Even with the drop in overall volume, USC saw this as positive since the volume of trash generated was significantly reduced from 2001. University housing knew the message was getting out. Students and their families had become aware of their impact on campus and the environment, and were now taking steps to reduce that impact. Mistakes and improvements are already being discussed as USC looks forward to. Staff and students are documenting the steps of this project; we intend this year's collection to become an annual tradition at USC. Students have already renamed the project "Give It Up" to increase attention and participation.

"The project really instilled the concept of sustainability within our students and staff while saving us valuable time and money" according to Tom Battenhouse, director of facilities for university housing. The "Give It Up" project helped local organizations, but also saved USC over \$10,000 in disposal fees and \$30,000 in labor costs. Extensive media coverage by major television and newspapers brought the university positive press and generated attention to this project and the Sustainable Universities Initiative at USC. This momentum and attention will be used to promote awareness of recycling and sustainability issues on campus for next year. 🏠

MOLD AND SCHOOLS



by Robert H. Weidner, P.E.

According to the United States Environmental Protection Agency (USEPA),¹ indoor levels of air pollutants can be two to five times higher, and occasionally 100 times higher, than outdoor levels. Nearly 55 million people, 20 percent of the U.S. population, spend their days inside elementary and secondary schools. A 1995 federal government report estimated that 50 percent of the nation's schools have problems linked to poor indoor air quality (IAQ). Students are at a greater risk because of the hours they spend in these facilities and because children have less developed immune systems. Indoor air pollutants have been known to cause discomfort, and have reduced school attendance and productivity. Indoor air pollutants can cause or contribute to short- and long-term health problems, including asthma, respiratory tract infection and disease, allergic reactions, headaches, nasal congestion, eye and skin irritations, coughing, sneezing, fatigue, dizziness, and nausea. Furthermore, poor IAQ can contribute to closing of schools, create liability problems, and strain relationships among parents, teachers, and the school administration.

Mold, found almost everywhere outdoors and indoors, can be a significant contributor to poor IAQ and/or sick building syndrome (SBS). Mold spores enter buildings through architectural openings such as doors, windows, and wall penetrations, or by attaching to people, pets, or objects that are brought into buildings. Like all buildings, schools have viable mold spores, desirable thermal environments, and

abundant food sources like wood, paper, carpet, wall board, ceiling tiles, cafeteria foods, etc. However, these mold spores remain dormant until adequate moisture becomes available.

Molds are fungi, which serve as breakdown agents of organic matter. Without molds and other fungi, we would soon be overrun with thick layers of dead trees, leaves, and other expired organic materials. Mold can be found growing on soil, foods, plant matter, and various other materials. There are over 645,000 known species of fungus and more than 100,000 mold species. At least 1,000 species of mold are common in the United States but only a few dozen are thought to be both important and common in buildings.

According to the Centers for Disease Control and Prevention (CDC), the most commonly found species of mold are *Cladosporium*, *Penicillium*, *Aspergillus* and *Alternaria*. *Aspergillus* and *Penicillium* are considered toxin producers and have been implicated as causing some health problems. *Stachybotrys chartarum*, less common indoors than the others mentioned, is a more notorious toxin producer and is considered by some mycologists to be one of the causes of "Sick Building Syndrome."

It is important to note that most routinely encountered molds are not considered hazardous to healthy individuals. However, too much exposure to mold may cause or worsen health conditions. Depending on the amount of exposure and individual vulnerability, more serious health effects, such as fevers and breathing problems, can occur but are unusual. Mycologists, physicians, public health officials, and attorneys are regularly in conflict about the health effects of mold in buildings because conclusive evidence is hard to identify. In fact, the EPA has yet to establish any regulations or guidelines for evaluating the potential health risks associated with molds. However, it can certainly be said that mold growth in buildings is an unhealthy condition for people and potentially destructive to the facility's structure.

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While there is no practical way to eliminate mold spores from a building's indoor environment, the best way to stop mold from growing and becoming a potential health problem is to take away the moisture source. When excessive humidity, moisture, or water accumulates indoors and goes unnoticed or un-addressed, mold growth will occur. The following steps should be considered to minimize water or moisture accumulation and thus minimize mold growth in schools:

- **Humidity Control**—Provide proper air-conditioning and/or ventilation systems to maintain indoor humidity levels between 30 to 60 percent. Humid spaces (restrooms, locker rooms, kitchens, janitors closets, etc.) and associated fixtures or equipment (showers, hoods, dishwashers, dryers, etc.) should be ventilated directly to the outside.
- **Building Inspections**—Look for visible signs of mold growth or investigate areas with noticeable moldy, musty odors, discolorations, stains or fuzzy growths on the surface of building materials. Visible signs of water damage (ceiling tiles, basement walls, etc.) standing water (restrooms, mechanical rooms, etc.) or condensation (windows, exterior walls, roofs, floors, or piping) should also be investigated for mold growth. Searching behind and underneath building materials, including destructive testing, may be necessary if mold growth is suspected but not visible to the naked eye.
- **Leaks, Spills, or Flooding**—Clean and dry surfaces damaged by water within 24 to 48 hours of occurrence. Fix or repair the moisture problem source or leak. Clean and disinfect mold on hard surfaces with water, detergent, and/or bleach and replace materials heavily damaged by water that show mold growth.
- **Condensation Control and/or Removal**—Minimize the potential for condensation to form on windows, exterior walls, roofs, floors, or air-conditioning piping by providing additional insulation and/or vapor barrier. For equipment drain pans and piping, ensure that proper drainage is provided and that the correct type of insulation is utilized on cold surfaces. Close-celled insulation is preferred over fiberglass insulation on cold pipes and equipment.
- **Floor and Carpet Cleaning**—Clean up spots and stains as soon as they occur and prevent excess moisture accumulation during cleaning operations. Avoid the use of carpet where moisture problems are regularly anticipated (basement floors, drinking fountains, sinks, etc.).

Once viable mold growth has been determined or suspected, immediate steps should be taken to minimize the potential health effects and the continued damage caused by the mold. The first priority is to identify and correct the moisture source if possible. In some cases, this may require the help of a professional to investigate the potential moisture sources. Laboratory testing, including air, wipe, and bulk samples, may be necessary to help determine the types of molds present in order to establish the potential health risks to the building occupants and to respond to concerns by concerned parties. Once the moisture sources have been identified and/or mold testing has been completed, a remediation plan should be developed and put into action. The remediation plan may include cleaning and disinfecting of the contaminated area and/or partial or total removal of the contaminated materials depending on how extensive the damage. Most large-scale, mold remediation work including cleaning, disinfecting, and removal should be performed by experienced professionals. 🏠

Footnote

1. United States Environmental Protection Agency. "Indoor Air Quality Tools for Schools: Actions to Improve Indoor Air Quality." Publication # 402-F-99-008. September 1999.



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We've Got to Stop Meeting Like This!

by James E. Christenson

One definition of meetings: Places where people go to learn how to do better the things they know how to do already, but don't have time to do because of too many meetings.

There isn't a person among us who has not complained about meetings. There are too many of them. They last too long. Nothing is accomplished. There's no purpose. The leader is not prepared. The list of negatives extends to the horizon.

At one of the universities I served, I occasionally tallied the hours I spent in meetings. The total averaged 46 hours per week! That total did not include the meetings that I was asked to attend but could not because I was already committed to more important meetings. The result of this schedule was that I needed an 80-hour work-week to get my "real work" done.

While this university suffered from a severe case of "meetingitis," created in part from the perceived need to develop policy anew for each situation, we all suffer from some deficiency in the meetings we attend and, perhaps, in the meetings we call.

How do you feel about the quality of your staff meetings? How does your staff feel? Are the meetings only a convenient opportunity to share some information and assign tasks? Or, worse yet, do they provide a forum to gripe about the administration or the impossibly tight budget?

The University of Michigan was fortunate to have an in-house expert on conducting meetings. He was a



sociology professor and a friend that I often met on weekends as we came from opposite directions jogging or skiing along the nearby Huron River. Most of his time was not spent in traditional sociology. It was spent advising major corporations, the Business School, and administration colleagues on how to run meetings in a total quality environment. This person, John Tropman, shines the light of common sense and humor on every issue he faces, but especially on the subject of meetings.

Much of what follows is based on what John taught us personally, either from his book, *Making Meetings Work, Achieving High Quality Group Decisions*, or from the seminar he provided for Michigan APPA in 1996: "Effective Meetings: What Makes Them Sick, What Makes Them Tick; or How to get as little done as you do now in half the time."

The principle benefit of meetings is to generate quality decisions. That doesn't make sense to Americans steeped in the lore of rugged individu-

alism and accustomed to casting their own one-to-nothing votes when deciding critical issues. The Japanese, especially, have much more experience in group decision making. Beginning 40 years ago, other cultures began to realize that there are advantages in involving others in making decisions. In the last 20 years especially, it has become apparent that the quality of decisions can be greatly improved if there are diverse backgrounds among those asked to contribute to a decision. Such a group has a built-in error correcting mechanism. A variety of solutions are proposed in response to a stated objective. Questions are invariably raised by those with backgrounds differing from the person making each proposal. The leader can thus minimize the chances of being blindsided while improving the resulting decision. This can only happen, of course, if everyone is encouraged to be candid. Otherwise, the result may be fatal groupthink. Finally, and not a minor consideration, a decision reached by consensus will be supported.

Any meeting involving a decision should involve four types of people: people who know the problems, people who know solutions, people who control resources, and people who are decision makers looking for work. With that group, Tropman says, decisions get made, the decisions are of high quality, and the team members have fun.

But we sometimes have to do other things at meetings, too. Most meetings involve three activities: provide information, decide, and discuss (but don't decide—yet). This is the sequence of a good meeting. It begins by getting everyone on board with easy warm-up items, concentrates peak energy in the

Jim Christenson is an APPA member emeritus and can be reached at jchriste@jackelec.com.

middle of the meeting, and allows members to decompress toward the end. More specifically, a two-hour meeting may have an agenda outline like this:

1. Discussion of minutes (10 minutes)
2. Announcements (10 minutes)
3. Easy decision item (10 minutes)
4. Moderate difficulty decision item (25 minutes)
5. Hardest item (40 minutes)
6. Discussion (15 minutes)
7. Easiest item (10 minutes)

Professor Tropman's rules for meetings include the following:

- **Rule of 1/2.** Get all necessary materials (minutes of last meeting, agenda for coming meeting, and any reports) out to participants halfway between meetings.
- **Rule of 1/6th.** Items from the past constitute 1/6th of the meeting while 4/6th of the meeting should deal with the present, and 1/6th with the future (blue-sky discussion). A subrule is the two-meeting rule. Controversial or blue-sky items must be discussed at one meeting and if a decision is necessary, that decision must wait for the next meeting.
- **Rule of agenda.** Make it specific, with time blocks. Without an agenda, it is like the conductor of an orchestra asking the audience as they arrive what they would like to hear.
- **Rule of minutes.** Make the topic titles equal the corresponding agenda items. Highlight decisions.
- **Rule of temporal integrity.** Start and end on time. Waiting for late-comers only encourages the habit.

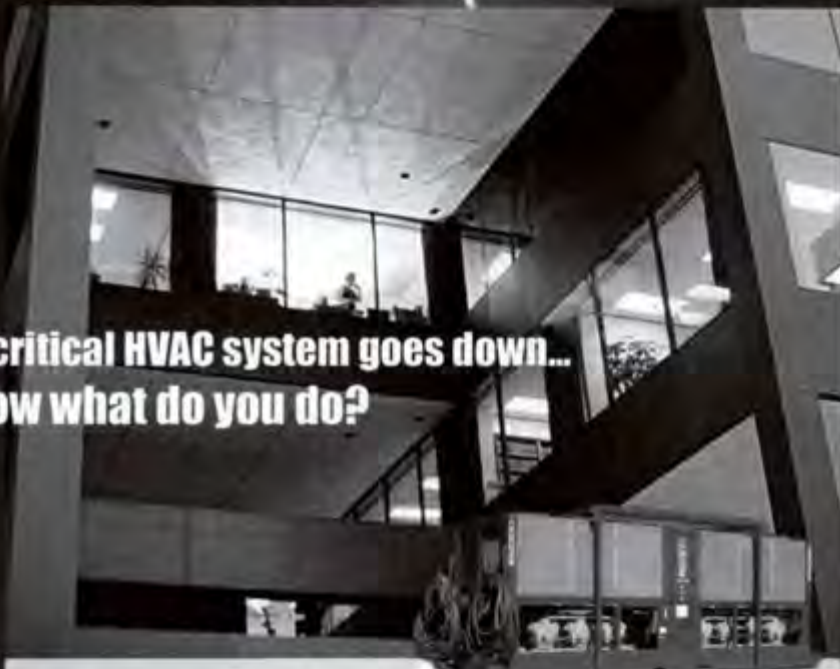
Stephen R. Covey's familiar Seven Habits also apply to the conduct of meetings. The most important is Habit #5: Seek first to understand, then to be understood. In fact, when views appear to be completely divergent and emotions are high, Covey suggests that each speaker begin by restating in his or her words the point made by

In the last 20 years especially, it has become apparent that the quality of decisions can be greatly improved if there are diverse backgrounds among those asked to contribute to a decision.

the previous speaker to that previous speaker's complete satisfaction before making his or her own statement. In doing this, parties often find that their views are not as divergent as first appears.

Meetings can be productive and fun. It is up to us to make them that way and to influence others to move beyond the mundane. 🏢

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Facilities Reinvestment: A Better Case for Deferred Maintenance

by Jay Oschrin

When it comes to talking with the people in your organization who hold the purse strings, it pays to choose your words carefully. As facilities managers, we have all grown comfortable using the term *deferred maintenance* to refer to maintenance, repair, or replacement work that has been put off for one reason or another. But when we use the term in our presentations to governing boards and state organizations, we rarely get the reaction we hope for. We may receive some additional funding, but it is almost never enough to relieve us of our maintenance deficit—or save us from making the same pitch the next year.

I have been thinking about this issue for some time, and it seems to me that one of the problems is the term *deferred maintenance* itself. If you remember the scene in *Cool Hand Luke*, you will understand the problem. "What we have here is a failure to communicate."

Think about your presentation from the point of view of administrators or board members. While we are running through our list of deferred maintenance priorities, they hear us saying, "We know what needs to be done, but you have been too cheap to let us do our job properly. Because you have failed us in the past, we are saddled with this problem today." In other words, you have inadvertently made your listeners feel defensive, hardly a sound basis for cooperation.

Jay Oschrin is the president of Diversified Intelligence, Charlottesville, Virginia. He can be reached at jayo@telligence.net. This is his first column for Facilities Manager.



Administrators or board members might think, "Well, these repairs have been deferred for at least a year or two now, and nothing catastrophic has happened." The obvious conclusion: why not defer most of them again since the likelihood of anything bad happening, at least based on the record, is slim.

They might fixate on the word *maintenance*. "Why oh why," they might say to themselves, "am I wasting my time worrying about replacing fan belts and furnace filters? Let's get on to something important." In fact, if that is all we are talking about when we use the term *deferred maintenance*, we are wasting their time.

While deferred maintenance does mean routine service, it also means making repairs that range from reglazing windows to repairing a roof. It includes replacing perfectly functioning components to address modern building standards, whether that includes meeting fire codes and ADA standards or installing double pane windows or a more efficient boiler.

And it even encompasses retrofitting buildings to meet new institutional missions or mandates.

There is a lot more to deferred maintenance than meets the eye—especially when that eye belongs to a person who is not a facilities manager by training. To make matters worse, when you use the term *deferred maintenance*, you are selling yourself short. You are conveying the impression that you are the kind of person who gets so immersed in the details that you miss the big picture.

A better tactic would be to think and talk about these issues in terms that reflect your understanding of the scope of the project and that place the issues in a context that financial managers can better understand. The term of choice, I think, is *facilities reinvestment*.

Facilities reinvestment is a way for you to establish common ground. By introducing the conversation in terms of facilities reinvestment rather than deferred maintenance, you are shifting the focus of the conversation from your own to-do list to the larger institutional priorities that you both share. You are moving away from technical issues where you have all the competency to financial issues where you both have expertise.

Equally important, you are presenting your point in a forward-looking light. Deferred maintenance is a make-up game. Facilities reinvestment is about the future (see figure 1). Money spent on deferred maintenance removes a deficit. Money spent on facilities reinvestment provides a return that can be measured in reduced operational expenditures, increased efficiency, and new market opportunities.

Couching your presentation in the terms of facilities reinvestment also

There is a lot more to deferred maintenance than meets the eye—especially when that eye belongs to a person who is not a facilities manager by training.

enables you to draw on tools such as the lifecycle audit that can help you distinguish between components that should be maintained, repaired, or replaced. Such tools can help you establish reasonable return on investment that can result from reinvestment.

You can argue that whether you use the phrase *deferred maintenance* or *facilities reinvestment*, you are talking about the same thing. But in this time of tight budgets and fiscal austerity, it makes sense to make a distinction that could catch the attention—and the goodwill—of your audience. 🏛️

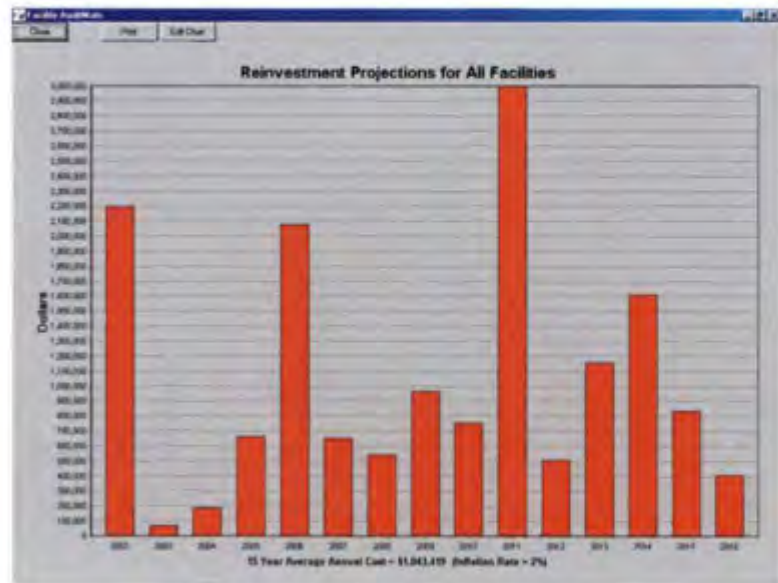


Figure 1. Deferred maintenance is a make-up game.
Facilities reinvestment is about the future.

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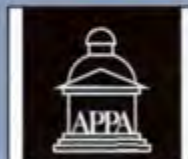
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Hidden Renovation Costs

by Santo Manicone

Recently, a school was planning to demolish an existing structure that had been used for a research laboratory. The building consisted of 127 biological and chemical laboratories ranging in size, with 12 laboratories still in operation. In managing a project this size, with a laboratory move, special planning and consideration is needed as well as "capital monies." Based on experience, we are all aware that this type of project seems to carry a number of hidden costs such as transporting chemicals, removing asbestos, decontaminating equipment, and finding satellite storage areas for chemicals and chemical disposal.

This article was written in response to a number of facilities that are currently experiencing the "over the budget curse" in their laboratory renovation and expansion. It will provide an overview of the problems that may be incurred and present a series of procedures and checklists to manage the activities associated with a move or renovation. The activities necessary for moving or renovating a laboratory can be broken down into four phases: 1) planning, 2) decontamination and moving, 3) construction and renovation, and 4) occupancy. The hazards of a move or expansion/renovation depend on the types of laboratories involved; however, the approach applies to all laboratories.

Santo Manicone is president of Facility Support Services, Hamden, Connecticut. He can be reached at support@snet.net.



Planning

Moving a laboratory requires careful planning in order to account for the safety and health of those involved—laboratory occupants, moving personnel, renovation contractors, and occupants of surrounding areas who are not involved in the move. Health and safety personnel and relevant facilities personnel must maintain open, continuous communication among these groups.

A project or move coordinator should be appointed to obtain the required facts related to the move or renovation and to coordinate various activities. For large projects, a committee that includes representatives of all involved parties and is chaired by the move coordinator is desirable.

Laboratory occupants must identify the equipment and chemicals that are to be moved to their new location and the appropriate handling procedures. They may also be responsible for decontaminating equipment and surfaces. Health and safety professionals will provide advice and assistance in assessing potentially hazardous conditions and will specify appropriate decontamination procedures.

Steps in the planning phase

- Identify potential hazards and specify remediation techniques.
- Initiate a program to minimize the amount of hazardous materials to be moved. Reducing the volume and weight of materials will also reduce the potential for a disastrous accident.
- Anticipate finding unknown and unlabeled materials. If possible, arrange to have a contract lab perform identification. If identification is not possible, these materials must be disposed of as unknowns, which is costly.
- Review equipment and material needs and discard items that are not needed. This is the time for a major house cleaning.
- Identify who must be notified about your move. This could include the radiation and biological safety offices for your facility or outside agencies such as USDA (for veterinary or plant service permits that are laboratory-site specific). If radioactive materials are to be removed, the U.S. Nuclear Regulatory Commission or a state licensing agency may require prior approval of the regulators via an amendment to the license. Because this process can be time consuming and may delay the actual move schedule, it must be included in this early planning stage. In addition, if the laboratory is being moved to an entirely new facility, that facility will need appropriate licensing and permitting.

Removing potential hazards

- List what must be decontaminated.
- Decontaminate equipment that has been chemically, radioactively, or biologically contaminated before the move, such as cages that housed animals that were excreting

- oncogenic chemicals, infectious agents, or radioactive markers.
- Complete a thorough radiation survey to determine contamination levels. Examine the radiation safety office records for prior contamination incidents, radiation survey results, and so forth.
- Survey hoods or ventilation systems used for radioactive labeling. This survey should be conducted by the radiation safety office and should include any engineering controls such as filters and filter plenums that were used to reduce the release of radioactive materials.
- Collect all packaging items needed before the moving date. Carts, plastic bags, toweling or other cushioning, absorbent materials, sealable plastic or plastic-lined boxes, labels (e.g., Fragile, Universal Biohazard, ID, location, Caution, Radioactive Material), sturdy tape, and spill kits should be readily available.

Establish safety and emergency procedures for all phases of your move. For chemicals, biological agents, and radioactive materials, it is important that all handlers are properly trained in potential health hazards and handling techniques. Potential emergencies include material spills, fires, slips and falls, and cuts. Protective clothing and spill-absorbent material should be readily available during packing, moving, and unpacking. Ample fire extinguishers should be available and personnel appropriately trained to use them. Labeling is of prime importance. Each container or piece of equipment must have adequate labels identifying the agent, hazards, and precautions.

Decontamination and Move

All equipment and fixed structures must be prepared for moving and decontaminated as necessary. Most of the preparation can be done just one day before the move, thus minimizing disruption of the laboratory work. Once decontamination is finished,

any work that can recontaminate the premises must be prohibited.

Regulated biological materials include all genetically engineered microorganisms; recombinant plants and seeds; organisms requiring USDA permits; and human tissue, blood, or body fluids. Although human pathogens are generally not regulated, care must be taken to ensure that they will be contained during the move.

All biological materials must be packaged before the move. Proper packaging consists of a primary sealed container placed within a secondary, sealed, unbreakable container, with

A project or move coordinator should be appointed to obtain the required facts related to the move or renovation and to coordinate various activities. For large projects, a committee that includes representatives of all involved parties and is chaired by the move coordinator is desirable.

enough absorbent material surrounding it to contain and absorb any spill.

Do not cut corners when packaging and labeling your biological, radiological, or other potentially hazardous materials.

For moves within a facility, freezers and refrigerators can be moved intact, if all the contents are in sealed, unbreakable containers, and the unit remains closed or, preferably, locked. Because contents can shift, loose items should be placed in boxes or secured in some other way to avoid breakage and spills. For shipments offsite, appropriate Department of Transportation requirements related to packaging and labeling must be followed.

On moving day, laboratory personnel should be available to oversee the move and train the movers. Coordination and minimum-awareness training of everyone involved in or near the moving activities should be performed so that they have a general idea of what will happen and their specific roles in the process.

The use of proper packaging can minimize spills and injuries as overloaded or overweight boxes can contribute to spills as well as back injuries. A spill kit consisting of disinfectant, absorbent materials, paper towels, plastic bags, tongs or dustpan and brush, lab coat, respiratory protection, gloves, and safety glasses must be readily available during the move.

Occupancy

After a facility has been cleared by the movers, it may have to be decontaminated. Have standard operating procedures in place so that the radiation safety and necessary laboratory personnel can proceed with decontamination of the remaining equipment and structures. When the decontamination is finished, the radiation safety officer must file a final survey qualifying the facilities and equipment for unrestricted use. A record of the survey must be kept in a permanent file.

Smooth Sailing

Decommissioning or moving a laboratory increases the potential for hazardous exposures. To reduce the risk to personnel, the decommissioning and/or moving should be divided into separate steps. During the planning phase, potential hazards and mitigation techniques are identified. Mitigation may be as simple as reducing the amount of material on hand or limiting the chemical ordering for that department. If proper planning is done, the remaining steps will proceed smoothly with a minimum loss of work time and the move should be relatively trouble free. 🏠

The Bookshelf

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

This issue of "The Bookshelf" looks at two books, one controversial in its own way and written for a limited audience and one for a wider audience (also with controversy). Whether you read the reviews, the books, or both, I hope you have a successful and productive New Year.

How to Manage the Design & Construction of Your Own Home . . . Or Anything Else!

by Charles G. Hanna Jr. Denville, New Jersey: Critical Path Publishing Company, 2001. 188 pages, softbound.

I received a copy of this book with a note saying that the book "challenges the conventional methods" of design and construction. My read of the book indicates that while there are some controversial comments and approaches, it doesn't challenge the processes that good facility managers already have in place. That is probably because as owners and operators of large facilities, we have developed unconventional methods out of necessity. However, some recommendations described in the book are unconventional even for most higher education facility officers.

Ted Weidner is president of Facility Asset Consulting, Amherst, Massachusetts. He is a coauthor of APPA's recent book *Maintenance Staffing Guidelines for Educational Facilities*, and can be reached at tweidner@charter.net.



The author insists on the use of critical path method (CPM) scheduling and dismisses simpler methods such as Gantt (bar) charts. My experience says this is wise advice that is not often adhered to. Every chapter begins with a segment of a critical path schedule (instead of an outline) to lay out the important elements of discussion. This simple technique immediately demonstrates how easy it is to understand a CPM chart and how flexible it can be. Even if you are not schooled in CPM, you will quickly learn how simple this chart is to understand and how important it is to running a project well. Each chapter includes examples from the author's experience of the "or anything else"—plans, design, or construction challenges from public or corporate work. The book really can be used for projects other than houses.

The author challenges the process by recommending that the project be managed by the owner rather than relying on a single consultant to make it happen. He does this by breaking the project down to 34 different chapters—steps in the project—and recommending many different contracts with professionals and contractors. Frankly, there are a lot more than 34 steps even in simple

house construction, but the detail presented here, mostly in the planning and preparation area, is valuable for any owner. The owner is the beneficiary of the construction project as well as the payer of all costs so the argument that he/she should be intimately involved in the project by acting as the construction manager is reasonable, particularly if cost savings of 50 percent can be realized. If you have the time, or can convince your supervisor that the resources must be dedicated based on the information provided in this book, then you are on the way to success.

If you chose not to follow all the recommendations, including the use of more owner-friendly design and construction contracts, you will still benefit from an increased understanding about where cost-saving (value engineering) steps should occur, who should be involved, and how much effort should be put into them. Similarly, the advice about waiting until everything is planned appropriately before signing a contract with the designer or contractor is beneficial. I have seen too many projects get started without knowing what was desired and what steps would be followed to disagree with any of these cautions and recommendations. But too few people in higher education realize that the money is saved up front, in the planning stages of the project.

If you are a registered architect, as I am, you might be offended by some of the comments made; that's understandable. However, as a owner of large facilities, I have to agree with many of the comments. Similar comments are made about engineers and other professionals (but not quite as often). Regardless, *How to Manage . . .* provides the reader with good

information about capital projects and should be included in your library if only to provide you with a different perspective about the process; a perspective that should challenge you to work differently and better in the future.

Free Agent Nation: How America's New Independent Workers are Transforming the Way We Live, by Daniel H. Pink. New York: Warner Books, 2001. 346 pages, hardbound.

If you missed the presentation at the APPA Educational Facilities Forum in Phoenix, you can obtain part of the information by reading *Free Agent Nation*. This book, written by a new free agent, describes the elements behind and demographics of a growing group of independent (free agent) entrepreneurs working in the United States. Whether these people became free agents through disenchantment of the corporate working world (and I'll include organized higher education) or out of personal preference, they are portrayed as a driving force in our society and economy.

The author describes the types of people that make up this group of independent workers—how they network and replace the water cooler, what kinds of resources they draw on to accomplish mundane office tasks (sometimes relying on each other), what challenges they face resulting from social and political history (quarterly tax payments, employer and employee social security payments, limited or costly health care), and how they handle the freedom to work whichever 24-hour period they desire. The author even threatens establishment education with more home-schooling, apprenticeship, vocational training, and distance education rather than traditional, residential higher education; look out!

If you are contemplating becoming a free agent, out of frustration or because you are taking early retirement but wish to continue working, this book might be for you. If you are already a free agent, maybe you will learn a little more about what drives you or others in a similar situation. And for everyone else, it may inspire you to work differently.

Addendum

"Skeptical Redux"—the task of writing a book review may generate disagreements. Four months ago a favorable review of *The Skeptical Environmentalist* caused one reader (at least there's one out there) to suggest that the opposite viewpoint expressed at www.worldwatch.org be considered more seriously.



Researchers who were discredited in *Skeptical* had similar, opposite comments at the World Watch Institute website; these differences were noted but the reviewer elected to accept the author's premise. The reviewer recognizes that there are different ways to interpret data; that is what keeps the scholars on our campuses active and appreciated. On the environment, the jury may still be out, but good stewardship is important in the meantime. Whether one agrees with a controversial author's interpretation of data or not, it is hoped that these reviews are interesting and inspire you to read more than your strategic plan.

Books in Brief

Technologies for Facilities Management, course book produced by BOMI Institute, Arnold, Maryland.

This textbook will help facility managers keep pace with the changes in technology, as well as update them often about the impact of technology on building occupants.

"In today's commercial property industry, facility managers need to know how individual building systems work so they can connect the systems together to get one end result," said Darryl Pitt, instructional designer for BOMI Institute. *Technologies for Facilities Management* give facilities managers a comprehensive insight into the integration of building systems, helping them rise to the challenge of today's technology.

For more information about *Technologies for Facilities Management*, visit the Institute's website at www.bomi-edu.org or call 1-800-235-2664.

Guidelines for Peer Review in the Fire Protection Design Process.

Bethesda, Maryland: Society of Fire Protection Engineers.

This book is in response to the increase in the use of performance-based fire protection design and addresses desirable features of the initiation, scope, conduct, and report of a peer reviewed fire protection design system. *Guidelines for Peer Review in the Fire Protection Design Process* was developed by a task group of experts in the fire protection engineering field and were made available for public review and comment prior to publication.

To obtain a free copy of the guidelines, contact the Society of Fire Protection Engineers at www.sfpe.org or call 301-718-2910. 📖

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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.net.

Youngs 2002-2003 Repair & Maintenance Catalog is now available. The expanded 232-page catalog is a detailed reference guide for hard-to-find maintenance products. Included is a full line of furniture parts, glides, casters, wheels, locker parts, and commercial hardware for doors and windows. Replacement hardware for bathroom partitions such as latches and keepers are presented with detailed illustrations and specifications for installation. This is just a small sample of all the products and information loaded into this catalog. To receive this free catalog, call Youngs at 800-523-5454 or visit www.youngscatalog.com.



Kimberly-Clark Professional introduces a new recyclable and disposable soap system that never needs refilling. The ALL-N-1 soap system combines the soap and the dispenser into one disposable unit. The dispenser has a wall-mounted bracket and can be changed in seconds. The ALL-N-1 soap system dispenser is discarded and replaced when the soap runs out. The unit is made of plastic and can then be recycled. For more information, call Kimberly-Clark Professional at 678-352-6208.



Keystone Ridge Designs, Inc. offers a sneak preview of the new 2003 Leesburg Series. Facility managers, designers, and landscape architects may now choose from another exclusive Keystone Ridge Designs series. Spacious and classic, the Leesburg's clean lines and airy style create an impression of grace and refinement equally at home in an historic setting or an urban streetscape. Each piece is safeguarded with KEYSHIELD, Keystone's trademarked powder coating, providing an extremely durable finish. For complete details, call Keystone Ridge Designs at 800-284-8208.



System Sensor, a division of Honeywell, introduces Acclimate, a new multi-criteria fire detector. Acclimate calculates input from two sensor technologies (Photoelectric or Thermal) and equates these signals to pre-determined responses in order to identify fire scenarios in the quickest manner. Acclimate automatically adjusts to the local environment and sets the detector's operating parameters based on historical data for each installation. Additional software minimizes the effects of unwanted transient alarm sources by monitoring both the current environment and trends in signal, e.g., increasing heat or decreasing photo-signal. For further information, call System Sensor at 800-736-7672.



Gateway Safety announces its new website which is loaded with product and eye safety information. Gateway Safety is now online with a completely revamped website. The renovated site offers more value than before with a new interactive product-of-the-month feature, a constant industry and government news feed, a safety resource page complete with eye injury first-aid tips, and of course complete access and information to more than 50 Gateway Safety products. For additional information, visit Gateway Safety at www.gateway-safety.com.



Interior Concepts launches Degrees, its latest product line of custom manufactured furniture for the educational marketplace. Degrees caters to the higher education market particularly focused on technology-intensive environments such as technology and computer labs. However, Degrees is also appropriate for media centers, reception areas, administrative areas, and instructional classrooms. Custom manufactured, Degrees is designed to meet the needs of the curriculum, not just provide a standard-size desk. For greater detail, call Interior Concepts at 800-678-5550. 📞



Coming Events

APPA Events

For more information on APPA seminars and programs, visit our website's interactive calendar of events at www.appa.org/education.

Jun 8-12, 2003—Professional Leadership Academy. Rancho Mirage, CA.

Jul 27-29, 2003—Educational Facilities Forum. Nashville, TN; co-located with NACUBO.

Sep 14-18, 2003—Institute for Facilities Management. Indian Wells, CA.

APPA Regional Meetings

Sep 17-20, 2003—RMA Regional Meeting. Sedona, AZ. Contact Polly Pinney, 480-965-6106 or polly.pinney@asu.edu.

Sep 27-Oct 3, 2003—ERAPPA Regional Meeting. Philadelphia, PA. Contact Fred Long, 215-951-1315 or long@lasalle.edu.

Sep 27-Oct 1, 2003—MAPPA Regional Meeting. St. Louis, MO. Contact Robert Washburn, 618-650-8560 or rwashbu@siue.edu.

Sep 27-Oct 1, 2003—PCAPPA Regional Meeting. Portland, OR. Contact Townsend Angell, 503-777-7763 or townsend.angell@reed.edu.

Sep 28-Oct 1, 2003—AAPPA Regional Meeting. Adelaide, Australia. Contact Brian Phillips, 61-08-8302-1648 or brian.phillips@unisa.edu.au.

Oct 10-14, 2003—CAPPA Regional Meeting. Corpus Christi, TX. Contact Ron Smith, 361-825-2422 or ronsmith@falcon.tamucc.edu.

Oct 11-14, 2003—SRAPPA Regional Meeting. West Virginia University. Contact Lee Comer, 304-293-2330 or lcomer2@wvu.edu.

Other Events

Feb 2-4, 2003—Annual Conference of Association of Applied IPM Ecologists. The Urban-Ag Interface and the Future of Agriculture.

San Luis Obispo, CA. Contact Jill Klein 707-265-9349 or www.aaiet.net.

Feb 3-4—Revaluing Construction—the International Agenda. Manchester, UK.

For more information, visit www.revaluing-construction.com or call +44(0) 1923 664775 or events@bre.co.uk.

Feb 12-14—6th Annual IDEA Campus Energy Conference. Austin, TX. Contact Kevin Kuretkich, kuretkich@mail.utexas.edu.

Feb 20—North Carolina APPA Conference. University of North Carolina at Greensboro, Greensboro, NC. Contact Baker Melson, 336-256-0431.

Feb 26-27—Waterproofing & Moisture Control. Madison, WI. Contact Nora Kaufman, 608-262-8219 or kaufman@edp.engr.wisc.edu.

Mar 2-5—ACUI Annual Conference. Chicago, IL. Contact www.acuiweb.org or 812-855-8550.

Mar 18-20—National Facilities Management and Technology Conference/Exposition (NFM&T). Baltimore, MD. Contact Tim Rowe, 414-228-7701 or tim.rowe@tradeexpress.com, or www.nfmit.com.

Mar 24-27—SFPE Spring Professional Development Week. Las Vegas, NV. Contact Julie Gordon 301-718-2910.

Mar 24-25—The Design of the Office Building. Cambridge, MA. Contact Customer Service 617-496-0436.

Mar 24-25—Crime Prevention Through Environmental Design. Cambridge, MA. Contact Customer Service 617-496-0297.

Mar 24-25—Building Green: Water Reuse in Site Design. Cambridge, MA. Contact Customer Service 617-496-0436.

Mar 25—Maintaining Professional Balance Throughout Your Design Career. Cambridge, MA. Contact Customer Service 617-496-0436.

Mar 27-28—Designing Streetscapes and Landscapes for Security. Cambridge, MA. Contact Customer Service 617-496-0297.

Apr 27-30—TAPPA Meeting. Arlington, TX. Contact Miles Abernathy 512-471-1600 or e-mail: miles@mail.utexas.edu.

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