

September/October 1998

VOLUME 14

NUMBER 5

Facilities Manager

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

A Profile of Joe Spoonemore

K-12 Report



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From the Editor

Steve Glazner

With more than 15,000 school districts in the United States alone, encompassing thousands more individual schools, it was natural for APPA to investigate the facilities needs of kindergarten through 12th grade (K-12) educational institutions. From its beginnings in 1914, APPA has maintained a focus on serving the facilities needs of higher education, and we have no intention of altering or diminishing that focus.

Yet there are numerous similarities among K-12 and higher education in buildings, grounds, infrastructure, equipment, and, most importantly, mission. APPA's K-12 Task Force, created last year by then-President Pete van der Have and chaired by Ed Smith, comprises facilities professionals from a variety of K-12 school districts, consultants with K-12 experience, and participants from organizations such as the Council of Educational Facilities Planners International and the National School Plant Management Association. The task force's stated mission is to "enhance global learning by sharing the facilities knowledge and resources of APPA, higher education, and the K-12 community."

The task force has met three times since December 1997, which demonstrates a high level of momentum and excitement among the members. Much of this excitement and activity can be attributed to the generous sponsorship of Rob Lange and Milliken Carpet, who brought the task force together to further the goals of APPA and the education facilities profession. We thank Milliken for their tremendous support and look forward to a long and fruitful relationship.

Read more about the goals and objectives of APPA's K-12 Task Force in this issue of *Facilities Manager*. The articles, written by members of the task force, discuss benchmarking, networking, and information resources. They will be posted on APPANet under the K-12 icon at www.appa.org.

Our cover story is a profile of APPA's new President, Joe Spoonemore of Washington State University, who took office at the end of the San Jose educational conference in August. He is a funny, politically savvy, and knowledgeable leader, and we're looking forward to a busy and challenging year at APPA and in facilities management.

In this issue you'll also find our annual meeting highlights from San Jose. We had a very successful meeting that included well-attended educational sessions, recognition for valuable business partnerships and association alliances, and well-deserved kudos for members who have contributed so much of their time and energy to the efforts of APPA. Deserving special recognition are the 1998 recipients of the Meritorious Service Award, APPA's highest individual honor: Ron Flinn of Michigan State University, John Harrod of the University of Wisconsin/Madison, and Ron Hicks of the University of California System.

I am personally pleased that the 1998 Rex Dillow Award for Outstanding Article in *Facilities Manager* went to Bill Daigneau, of the University of Texas M.D. Anderson Cancer Center. His article, "Product Based Management," was selected by the Information Services Committee as the best article written by a member last year. It is an excellent description of a new concept that has worked successfully at his institution; you can find it on APPANet at www.appa.org.

Be watching for the November/December issue of *Facilities Manager*. The theme will be space management and utilization and will include features by Ira Fink, Harvey Kaiser, and others on such topics as faculty-based space planning, place making assessments, technology-based learning, the value of collaborations, and more.

This continues to be a busy and exciting time for APPA and for *Facilities Manager*. If you have any questions or suggestions for us, please don't hesitate to contact us. In the meantime, we hope you enjoy this issue of the magazine. 📖

APPA and CMD Group Align to Advance Information and Services

CMDGROUP



At the San Jose annual meeting, APPA and CMD Group inked a five-year agreement to work jointly to improve the efficiency and quality of information, services, and technologies of the construction and facilities management industries. The relationship grew out of a mutual desire to improve the way construction and facilities managers do business.

The goals of the alliance include:

1. a clear and rich *information exchange* of construction and facilities management processes, along with sharing the skills and experiences of the organizations to

discover beneficial practices and strategies;

2. *economical access* to products, services, and programs, thereby leveraging their skills and resources to expand markets and provide better information and services; and
3. *new technologies* to capitalize on and to promote existing and emerging technologies useful to their stakeholders.

CMD Group encompasses Architects' First Source, R.S. Means, Manufacturer's Survey Association, Construction Market Data, Associated Construction Publications, CMD Canada, and BIMSA/Mexico.

To fulfill the alliance's first goal of sharing information, APPA and CMD Group have agreed to exchange and reproduce industry news, develop a process for contributing editorial content to their respective publications, and more.

In an effort to provide economical access to existing products, services, and programs and in tandem develop new ones, APPA and CMD Group reciprocally discount products and services for one another's stakeholders, investigate the feasibility of developing joint publishing and educational program opportunities, and share ownership in new joint ventures.



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Additionally, CMD Group will participate in APPA's annual educational conference and the Institute for Facilities Management as a recognized Strategic Alliance Partner. APPA in turn will endorse CMD Group seminars and workshops.

The third objective of mutual work is creating a strong alliance to promote existing and emerging technologies. APPA and CMD Group will achieve this by hyperlinking their respective web sites (www.cmdg.com and www.appa.org); gathering and distributing information via Internet-based technology; research Internet-based training and educational programs; and collaborate in the development of information resources for construction professionals and facilities managers.



Photo by Daniel Avila

Pete van der Have and Dennis Dobleske shake on the new APPA/CMD Group alliance.

The relationship between APPA and CMD Group grew out of a mutual desire to make a positive impact on the way construction and facilities managers do business. "This alliance is part of CMD Group's continuing effort to become an integral part of the construction community's diverse segments, not just report on them," says Arol Wolford, president, CMD Group. "We really look forward to working with APPA to deliver tangible benefits to both of our industries."

Says Pete van der Have, Past President of APPA, "We at APPA are excited about working with CMD Group to offer our members improved tools, information, and services to enable them to more effectively serve the education community." 🏢

Annual Meeting Highlights

San Jose conference photos by Larry Allen, Daniel Avila, and Steve Glazner.



1. President Pete van der Have poses with Meritorious Service Award recipients Ron Flinn, left, and Ron Hicks. Recipient John Harrod could not attend to receive his award in person.



2. John Harrod, Univ. of Wisconsin, Madison, received the Meritorious Service Award.



3. The President's Award went to the Institute subcommittee chairs, deans, and APPA staff who contributed to the successful rollout of the Institute redesign. Pictured, from left, are Jay Klingel, Medea Ranck, Mo Qayoumi, Pete van der Have, Kathy Smith, Don Guckert, and Emily Wren. Recipients not pictured are Cotrenia Aytch, Don Briselden, Andria Krug, and Jim Roberts.



4. Pete van der Have, right, congratulates Bill Daigneau for receiving the Rex Dillow Award for Outstanding Article in Facilities Manager. His article, "Product Based Management," can be read on APPANet.

Annual Meeting Highlights



5. Newly inducted President Joe Spoonemore, left, presents the Global Partner Award to Pete van der Have for his year of service as APPA's President.



6. Vickie and Pete van der Have sport temporary tattoos at the Welcome Party, sponsored by APPA and Johnson Controls.



7. Chris Christofferson proudly shows off his campus during the tour of Stanford University.

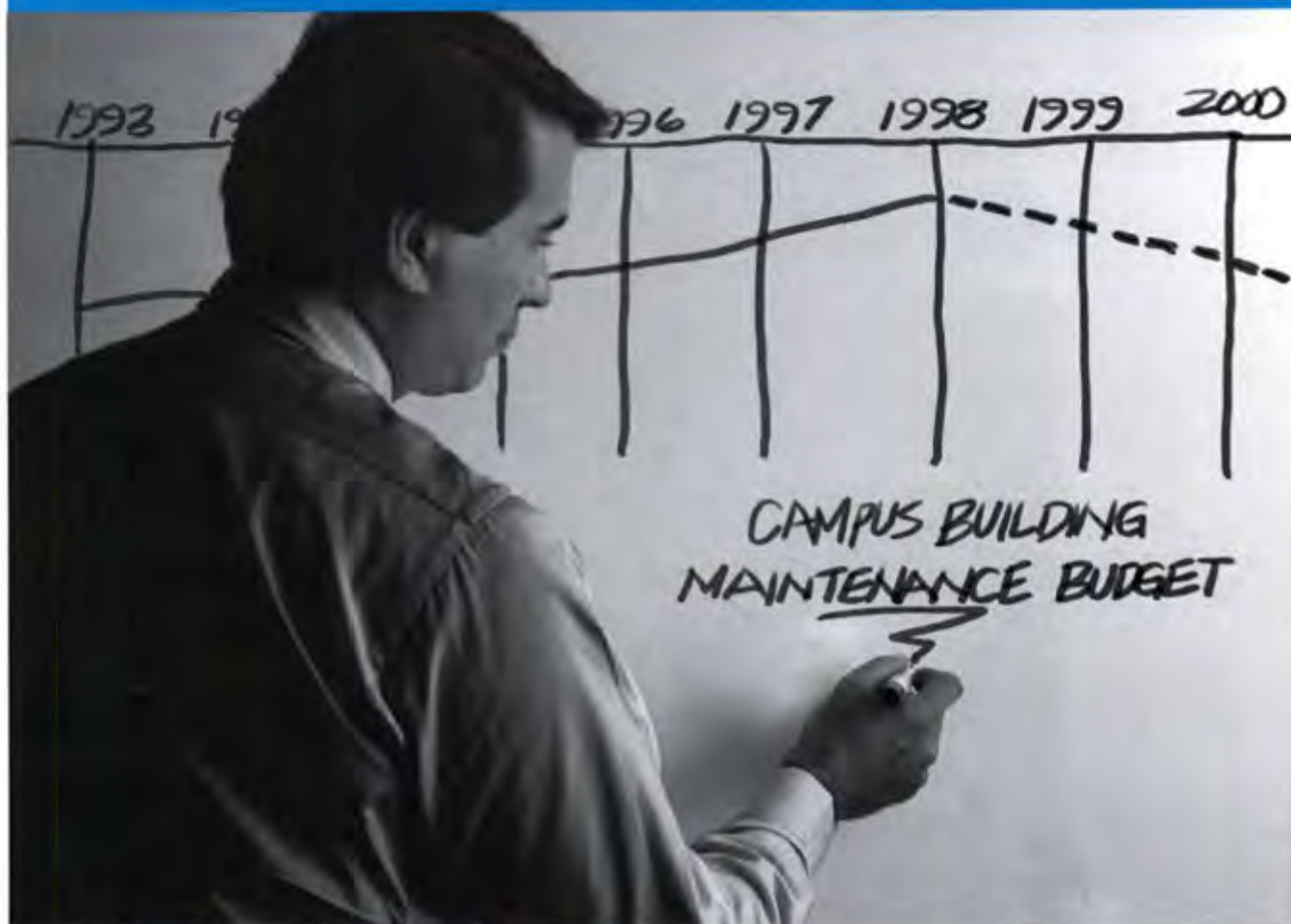


8. Former APPA EVP Wayne Leroy, right, regales members with another story.



9. During his keynote address, futurist/technologist James Canton gave a wakeup call to members on what they can expect in their personal and professional futures.

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10. The LRC Theatre featured valuable presentations by suppliers, including Bill Bell of Lerch Bates Elevator Consulting Group.

11. RMA members Charles Anderson, Wayne White, and Val Peterson, from left, enjoy a moment at the APPA Showcase.

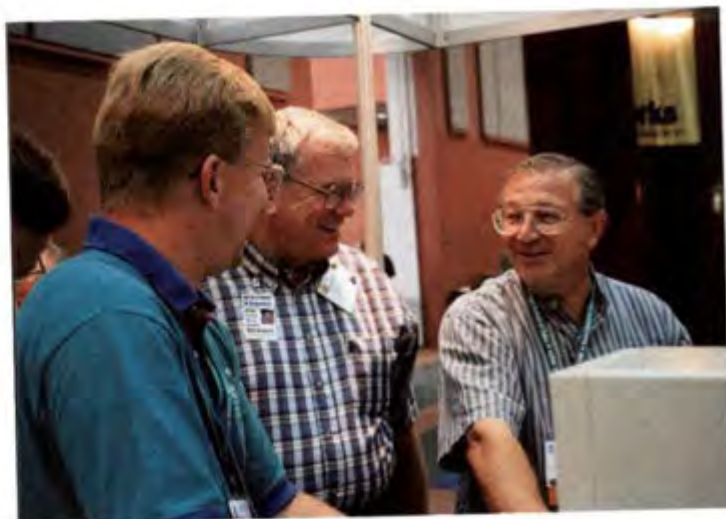
12. APPA's leadership enjoys a rare relaxed moment during the annual meeting. From left, Joe Spoonemore, Pete van der Have, Maggie Kinnaman, Joe Rubertone, Gary Reynolds, and Ron Flinn.

13. For banquet entertainment, "illusionist/extraordinarist" Craig Karges linked (then unlinked) rings from members, guessed objects while blindfolded, and performed many other feats of amazement.

14. APPA EVP Lander Medlin, right, hopes that Craig Karges' next trick won't work. He proceeded to burn two identical envelopes and would forego his fee if one of them included his check. Guess what was in the third envelope?



10.



11.



12.



13.



14.

Annual Meeting Highlights

Gold Award Sponsors!



15. CMD Group/R.S. Means Co. sponsored the Keynote Speaker.



16. Johnson Controls sponsored the Harley Davidson Welcome Party.

Silver Award Sponsor!



17. Viron Energy Services sponsored the Military Networking Reception.

Bronze Award Sponsors!



18. American Thermal Products sponsored the registration tote bags.



19. Lerch Bates North America Elevator Consulting Group sponsored the annual meeting commemorative pins.



20. O'Brien Kreitzberg donated the IBM Thinkpad for the scavenger hunt prize.



21. Sears Industrial sponsored the name badge cords.



22. TMA sponsored the second annual 5K Fun Run, which took 70 members and their families through the campus of Stanford University.



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Annual Meeting Highlights



23.



24.



25.

Business Partners Strengthen APPA Offerings!



26.



27.



28.



29.

23. APPA celebrated its Strategic Alliance Partners. From left, Ken Guthrie, Construction Specifications Institute; Kevin O'Donnell, Professional Grounds Management Society; and Dennis Dobleske, CMD Group.

24. Pete van der Have thanked Rob Lange of Milliken Carpet for his support of APPA's K-12 Task Force.

25. Several suppliers received special recognition for their work with APPA. From left, Deb Naughton, Sodexo Marriott Services; Chip Ray, Nalco Chemical Company; Mary Jo Hogoboom, Cutler-Hammer; Chip Larson, U.S. DOE Rebuild America; and Pete van der Have.

26. Cutler-Hammer received kudos from APPA for its continued support of the Institute redesign.

27. APPA greatly appreciated Milliken Carpet's sponsorship of three meetings of the K-12 Task Force last year, which allowed it to gain much-needed momentum (see articles in this issue).

28. Nalco Chemical Company continued to support APPA's leadership activities. This year they sponsored a facilitated retreat that helped define APPA's research agenda for the coming years.

29. APPA congratulated the U.S. Department of Energy's Rebuild America program for its ongoing work with APPA in the area of energy management and opportunity assessments.

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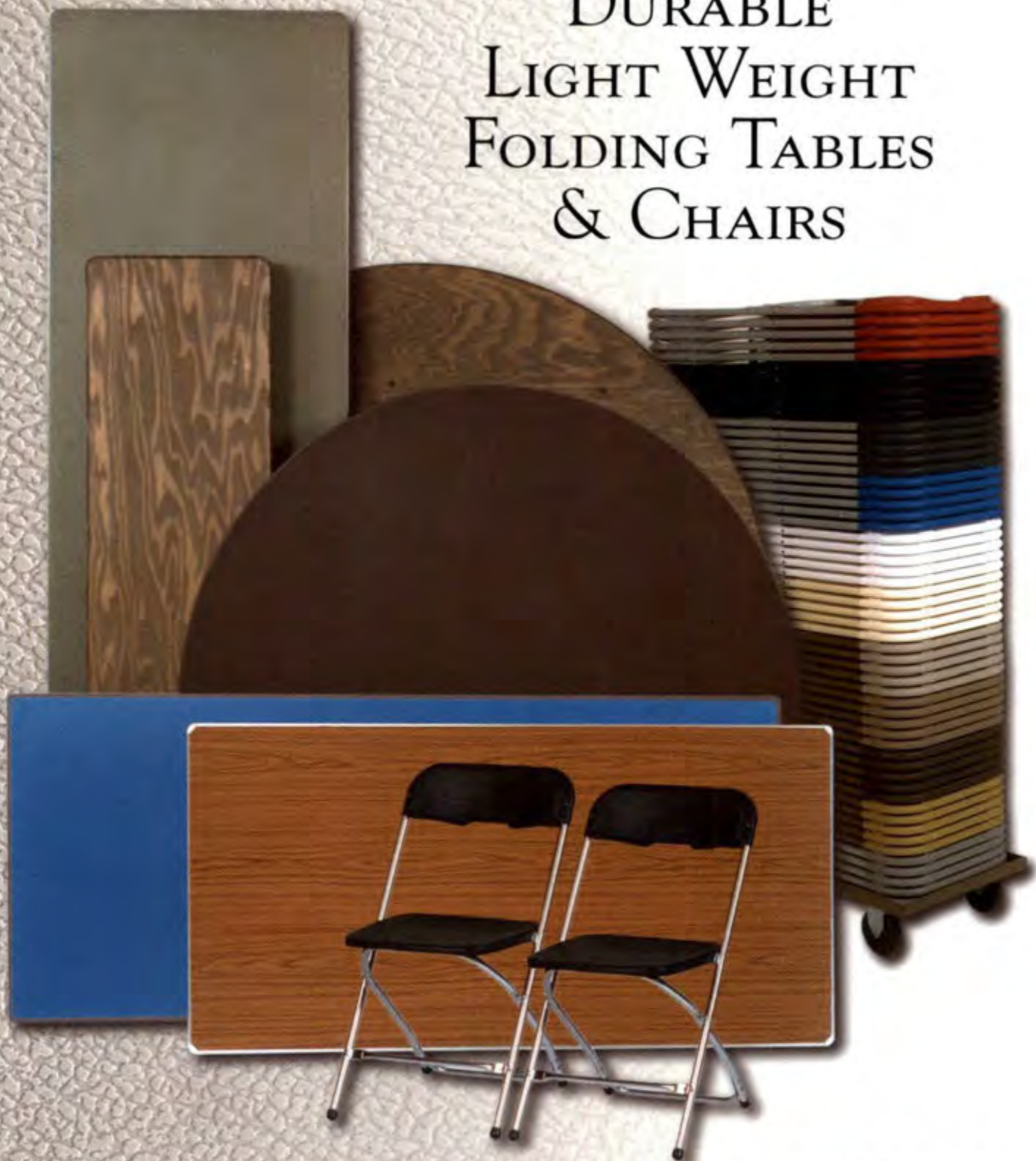
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Executive Summary

A Reflection

by E. Lander Medlin

This has been an exciting year for APPA. We have experienced success both financially and in our program areas. This should be no surprise given their interconnectivity.

We began the year with the daunting task of finalizing the development of our leadership academies under the auspices of the new Professional Leadership Center. We now have three, one-week program offerings which focus on the requisite leadership skill sets across three developmental levels: individual (personal) development, organizational development, and professional development. As you may remember from the January/February 1998 issue of *Facilities Manager*, the Professional Leadership Center encompasses three areas: education, research, and recognition. The three academies represent completion of the educational component of the Professional Leadership Center. To date, significant progress has also been made in the areas of research and recognition.

An article published in the September/October 1997 issue of *Facilities Manager* detailed the initial steps in identifying the future trends in higher education and facilities and our changing professional role. A second team of your esteemed colleagues met in June 1998 to further this effort and has laid the ground work for a future research agenda for APPA. More information and updates

will follow in the magazine and on APPA's website. The recognition component of the Professional Leadership Center will take the form of a "fellows" program. Criteria for the "fellows" program will be finalized this year.



Lander Medlin at San Jose meeting

Photo by Steve Glazner

The long-awaited redesign of the Institute for Facilities Management was unveiled at the January 1998 Institute for Facilities Management program in Houston. The redesign consists of the movement from the former three-track program to four and encompasses both core and elective courses. These core and elective courses are offered in each of the four core competencies: General Administration and Finance; Operations and Maintenance; Energy and Utilities; and Planning, Design, and Construction. The rich educational content of both the new leadership

academy and the redesign of the Institute for Facilities Management offers members increased opportunities for professional growth and development, collaboration, and networking.

The third edition of the ever-popular *Facilities Management* manual, offered in a four-volume slipcase set, definitely met the mark. The revision was substantive and timely, with the process requiring more than three years to complete and engaging over 100 professionals in the field of facilities management. The 67 chapters of this four-volume set provide facilities professionals with the most informative and up-to-date body of knowledge needed to manage and lead in our educational facilities today.

Membership is the foundation of any association with retention being a key indicator of success. Retention rates in the 90th percentile are considered exceptional, so our 96 percent retention rate speaks volumes. Yet these numbers are not easy to achieve. Therefore, retention of our present members this past year was (and will continue to be) a key focus by both the volunteer members of the Membership Committee, their counterparts in each state, and the APPA staff. We thank you for making APPA your "Association of Choice" by exercising your choice to renew your membership this year.

The consistent return of our members is essential not only for financial success but the long-term health and vitality of the association. By the same token, recruitment of new members is important and never ending. We want to extend a hearty welcome to our new members from

Lander Medlin is APPA's executive vice president. She can be contacted at lander@appa.org.

all the membership categories (Institutional, Associate, Affiliate, and Subscribing (corporate) members who chose APPA for the first time. We thank you and look forward to the opportunity to serve your facilities needs well into the future.

President van der Have launched a K-12 Task Force this past year charged with the responsibility of advising the Board of Directors on directions we should take in the K-12 educational facilities area. We believe we have many existing programs, products, and services that could be utilized immediately to serve the needs of the K-12 education facilities professional. The task force has been hard at work exploring the alignment with present services and opportunities for additional services. The task force identified an initial set of recommendations to the Board at the San Jose meeting. See the article in this issue for more information.

We continue to benefit from strong strategic alliances and business partnerships with other associations, federal agencies, and the business community. These relationships have been invaluable to support and sustain growth, study, research, and development of new programs and services. Indeed, many of our accomplishments would not be possible without their generous support of both time and money.

I am sure that you were as surprised as I was at the announcement by Wayne Leroy of his retirement last March. Wayne experienced a very successful tenure as both APPA's executive vice president for four years and its associate vice president for ten years. The depth and breadth of Wayne's contributions to the association will be felt for years to come. As a good friend and colleague, he will be sorely missed.

During Wayne's tenure and, as a result of significant work developed in concert with the membership and the Board, we crafted the vision to become a "global partner in learning"

and established a comprehensive association strategic plan. Much progress has been made over the past two years that has led to profound changes within the association. Readily apparent are those changes previously mentioned in this report along with ever-expanding information and services on APPANet; closer relationships with our regions; and continuous improvement of our daily staff operations.

In the coming year, it will be just as important and just as strategic to reassess the longrange plan for the facilities profession. This will provide the association with much needed focus and the ability to leverage our available resources most effectively. All these efforts continue an alignment with our combined mission "to support educational excellence through quality leadership and professional management."

These activities and many more have been accomplished by the tireless effort of our volunteers, business partners, and staff for which we should all be proud. Yet we have only scratched the surface. The opportunities that exist in our profession and the education community abound. To take full advantage of these opportunities we must be poised to act. We can only do so successfully through our collective energies. We have benefited from this collective effort in the past; we plan to do so long into the future.

Therefore, as a staff, we have committed ourselves to create synergy by building relationships. We recognize that the association exists to serve the needs of the facilities profession. And, it is in that vein that we not only welcome, but invite, your feedback, advice, and guidance. We look forward to the opportunity to serve you in the years to come. 🏠

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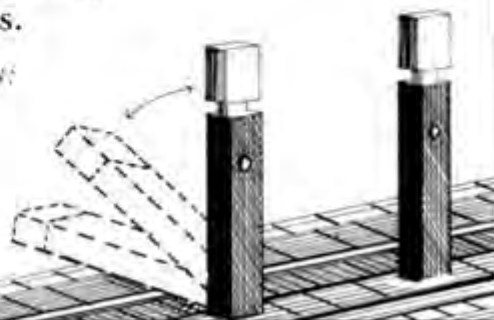
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Y2K Embedded Base Systems: Will It Become Your Nightmare?

by Charles A. Sippial Sr.

Imagine it is ten minutes after midnight on January 1, 2000, and your campus has no power except the emergency generators serving your most critical systems. You are told to report to the command center to meet with your university president and senior campus officials. Your president turns to you and asks you to present your plan for having the campus back in operation by 8:00 a.m. on Monday, January 3, 2000. Besides the loss of electrical power, natural gas has been curtailed and meteorologists are predicting a freeze. The power and gas company report that they have full crews working on the problem but cannot tell you when the systems will be operational. They are blaming the problems on Y2K, the Year 2000 bug. I don't know about you, but this would be my worst nightmare.

Some experts are predicting that the above situations may indeed happen if we ignore the Millennium Bug/Y2K/Year 2000 problem. I am acknowledging that I am an old timer in the facilities business and rely heavily on the bright folks who have grown up with computers. I turn to them when something does not come on or when the screen freezes up. I am a big "dummy" when it comes to understanding this one-eyed monster that controls four

to five hours of my daily life. Now that I have established my expertise on this issue, let me tell you of my fear of the unknown that is less than 15 months away.

A year ago I started reading articles and having discussions with my associate directors about the impact on our institution's facilities of the Year 2000 (Y2K) change. Our concern was with the change on computer calendars and clocks from 99 to 00 and how the systems might read that two-digit year as 1900, not 2000. At first, we felt somewhat smug in thinking that the Y2K change would have almost no impact on the

systems we own, operate, and maintain. In thinking back now, I still cannot remember why we felt this Y2K thing was not something to worry about. I guess I felt that it was a system/telecommunication problem and that the computer people would come up with a solution well before 1/1/00. We all felt that many systems were simply time clocks and, if need be, we could just turn them back to a prior year. No problem. Everything would be under control.

In April 1998, the University of Texas at Austin (UT) sponsored the Big 12 Physical Plant Conference. Our assistant vice president for

Selected Y2K Websites

- * **University of Texas System** <www.utsystem.edu/oir-year2000>
- * **University of Virginia** <minerva.acc.virginia.edu/~year2000>
- * **President's Council on Year 2000 Conversion** <www.y2k.gov>
- * **National Institute of Standards & Technology** <www.nist.gov/y2k>
- * **Small Business Administration** <www.sba.gov/hotlist/year2000.html>
- * **Building Owners & Managers Association** <www.boma.org/year2000>
- * **Electric Utilities** <www.euy2k.com/newsroom.htm>
- * **FacilitiesNet** <www.facilitiesnet.com>
- * **IBM** <www.ibm.com/ibm/year2000>
- * **International Information** <www.ibm.com/ibm/year2000/country>
- * **Apple Computers** <www.apple.com/macros/info/2000.html>
- * **Microsoft** <www.microsoft.com/ithome/topics/year2k>

Selected Publications

- * *Meeting the Year 2000 Challenge: A Guide for Property Professionals*, published by BOMA International.
- * "The Y2K Problem: Will It Be Just Another New Year's Eve?," by Jay Iwanowski. *Business Officer*, March 1998, published by National Association of College and University Business Officers.
- * "Evaluating Embedded Systems," by Gerard Lavery Lederer, CAE. *Association Management*, July 1998, published by American Society of Association Executives.
- * "Advice of Counsel: The Year 2000 Problem," by Richard B. Crockett, J.D. *NAEB Journal*, Summer 1998, published by National Association of Educational Buyers.

Chuck Sippial is assistant vice president for physical plant at Texas A&M University, College Station, Texas. He led a roundtable discussion on the Y2K issue at the San Jose annual meeting in August. He can be reached at csippial@tamu.edu.

administration went to the conference along with several physical plant managers. They brought back a paper that was quite impressive in describing UT's efforts to limit the impact that Y2K would have on their operation. I still believed, however, that we had everything under control at A&M.

Last May I received a magazine article that discussed the Y2K impact on embedded systems. I soon

discovered that we were not as prepared as I thought. That little queasy feeling in my stomach was moving up to my brain; you know the kind that tells you to look further and deeper. I want to point out that I was a little disappointed in the previous responses I had received, but I now realize that my people were giving me what they thought was the correct response. The problem was mine. I was ignorant of the facts and

was not asking the right questions. I sum that up as a leadership problem. I again reviewed the handout from UT and started searching the Internet for more information. I discovered that there was too much information for me to read, understand, and quickly get an overall view of the problem.

I knew I had to get the ball rolling, so I asked the associate directors to tell me who their smartest technical staff members were. I formed a task force to advise me of the full scope of our problem and work directly with me to develop solutions. I am convinced today that being ready for the Y2K change is the highest priority I have. I am delegating some of my duties to allow time for me to stay on top of this problem. The good news is that we can be ready, but the bad news is that it will take many staff hours and even more money (\$500,000 to \$1 million) to get us there.

There is no need to reinvent the wheel in approaching this task. The first action is to find out the different types of systems you have on your campus, then determine if they are Y2K-compliant. Second, prioritize the systems in order of importance—1) life safety, 2) mission critical, and 3) other. For example, your power plant operation will be much more critical to your education and research mission than a time clock that controls an air handling unit in the administration facility. You should run these priorities by your vice president.

Third, get an inventory of all components for the different systems. You should pay special attention to the embedded chips. Some embedded chips were developed in the 1970s and will read 00 as 1900. I am told that the chips report this information as 1900 and then your system logic (whatever that means!) will get confused and shut down. The basic guideline is to test each and every embedded chip, if you have time. If

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Chuck Sippial, Texas A&M University, led a Y2K discussion in San Jose.

you have less time, you may elect to check one of a group of similar chips, or you can take the manufacturers' word that it is okay. Both are risks but are your decisions to make. I strongly advise you to test everything you can as soon as you can. The period between this Christmas and New Year (when most of our institutions are closed) is a good time to test. Plus, this will give you one year to develop the solution to any problems you identify.

I am told that there are some shortcuts if time and money are critical issues on systems that are not date dependent. For example, if a clock controls elevators on a seven-day schedule and is not date dependent, you may ignore it for the time being. Even if it is date dependent, you can probably set it back 11 years to buy time and money (the calendar repeats itself every 11 years).

Another more risky technique is to disconnect the noncompliant components from the central system, which allows them to function as standalone without putting your entire monitoring system out of business. As stated, this is somewhat

risky, but if the central monitoring system shuts down or receives bad data, you may be worse off. Note: I

am not recommending this processing. I only mention it as a consideration for those folks whose backs are up against the wall and will be trying to prevent total system failure. Of course, we could always return to the old days by hiring temporary security or conduct fire watches to safeguard life and property.

There you have it. That is all I can suggest for facilities professionals behind the power curve. Please do not rely only on what I say. There is more information on the Internet than you can handle, as well as books to read. Also UT has a checklist that is on the Web at www.utsystem.edu/oir-year2000/overview.

Don't get caught short! Ask the questions. Go look for yourself and test as soon and often as you can. Don't let the "millennium bug" become your worst nightmare! 🐛

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Enhancing Communication: A Profile of Joe Spoonemore

By Alan L. Dessoff

Campus photos by Thomas A. Fleming

In his free time, Loren J. (Joe) Spoonemore likes to scuba dive and fly general aviation aircraft, but when it comes to the business of higher education facilities management, his feet are firmly on the ground.

As director of special projects, capital budgeting, at Washington State University (WSU), and as APPA's new president, Spoonemore sees his profession "at a crossroads." He is setting a course to lead the profession and the association in the right direction.

With universities competing for students, faculty, staff, and funding, facilities managers face a challenge that Spoonemore defines as maintaining a high standard of service in a continuing period of declining resources. Institutions that depend on public funding for support are apparently feeling the pinch the most, "and I don't see us having turned the corner," he states.

The simplistic solutions, he says, are to reduce expenses or increase funding, or both. "I am convinced that after years of budget reductions that we are on the ragged edge of production efficiency and innovation," Spoonemore declares. "We facilities professionals are very good at it and we continue to innovate. But we also have seen situations in which people have become overzealous and have seriously impacted the quality and reliability of their infrastructures."

Alan Dessoff is a freelance writer based in Bethesda, Maryland. This is his third APPA President profile for Facilities Manager.



Lewis Alumni Centre

Some state legislatures are responding with supplemental capital renewal funding that was not available before, Spoonemore says, and there also are movements to provide additional operating monies concurrent with capital funding for new structures. "That is a marvelous commitment," he says.

Outsourcing is another way to meet the challenge. Spoonemore cites elevator maintenance as one area where outsourcing works well. "You can invite competition and you also acquire a considerable amount of concurrent liability insurance," he explains. "This is a function that requires specific skills and training" that usually are not available from university maintenance personnel.

But outsourcing is inappropriate for situations like quick response zone maintenance, Spoonemore maintains. "It's a matter of continuity," he says. "The maintenance staff is acquainted with the customer and the systems that provide service to the customer. In those cases, we have found that outsourcing has generally not been effective."

Continuity is a key to APPA's success as well, Spoonemore asserts. With Wayne Leroy's recent retirement and Lander Medlin's succession as executive vice president, Spoonemore cites the professionalism of the association's staff. "These are the people you rely on over the long haul to provide

continuity and perspective," he says. "It is an exciting time to head APPA."

Spoonmore says he will concentrate on communication during his tenure. "There is absolutely no substitute for communication," he declares. APPA has made a "quantum leap" in its ability to communicate in recent years, Spoonmore says, citing Pete van der Have's leadership and the use of technological advances such as Internet listservs. "I will continue to utilize and promote that technology," Spoonmore says.

Last year, Spoonmore represented APPA in visits to universities in Australia and New Zealand. He returned, he says, "with a sense that we are a worldwide community, our challenges are universal, and that communication has brought us closer together."

He wants to use communication now to reach prospective members on an international level, with an emphasis on colleges. "There is a huge group of people out there in the colleges that we have not successfully attracted," he says. "We have done a great job with the research institutions and the graduate institutions, but we need to work more closely with the liberal arts colleges, community colleges, and K-12. That's where we really can be of tremendous service. We need to find an avenue to reach them. We have to get out there and beat the bushes at the grassroots level and regional level to bring these people into the fold as affiliates. We may want to restructure the dues, although most regional dues are very reasonable."

Spoonmore sees no reason to change APPA's strategic initiatives. Rather, he will concentrate on advancing them through communication. Indeed, he says, the initiatives call for communication to increase the effectiveness of education for APPA stakeholders, forge stronger links between the seven regions and APPA, expand the use of APPANet's electronic online services, promote awareness of APPA among senior officers of the institutions served by facilities management personnel, and establish a process through which stakeholder needs can be identified and understood.

Ron Flinn, an APPA Past President, says that Spoonmore "has the ability and desire to move APPA forward with firm focus on its strategic initiatives." Flinn adds that Spoonmore's "terrific sense of humor" will be an asset.

Spoonmore also hopes during his tenure to advance APPA's new Professional Leadership Center and Leadership Skills Academy, and to award the first APPA Fellowship cer-



**Sculpture "The Caring Call".
Background—Administration Building**



tificates. Further, he wants to continue to build strategic partnerships with related professional organizations, including the Construction Specifications Institute, Professional Grounds Management Society, Association of College and University Housing Officials International, and Construction Management Data Group.

Spoonmore has been an APPA member since 1974, the year he joined the Physical Plant Administration at Washington State. A 1966 graduate of WSU in mining engineering (he was named Outstanding Senior in the College of Engineering), he worked earlier for the Boeing Aircraft Co., the Anaconda Company, and the Shell Oil Co. while earning a master's degree in business administration at WSU.

Back on the campus for good, he held numerous acting or full-time positions as energy manager, maintenance/construction manager, plant services (custodial/grounds) manager, motor pool/heavy equipment manager, engineering/design manager, assistant director, and then director of physical plant. He was named last year to his current position and assigned to investigate and make recommendations for organization, operation, maintenance, and construction efficiencies, among other responsibilities.

Of all his achievements at WSU, Spoonmore is proudest that the physical plant has been able to maintain a manageable level of deferred maintenance during a period of declining resources and increasing impact of facilities on the university's ability to attract faculty and staff. He also finds gratification in the appreciation that the university administration has shown, over time, for the positive impact that a quality infrastructure has on the university's ability to attract, motivate, and retain students, staff, faculty, and benefactors. He notes that

WSU won the Governor's Energy Conservation Award in 1988 for saving \$30 million in utilities costs.

Spoonmore says technological advances have helped WSU innovate and provide more efficient energy and HVAC delivery systems and mechanical systems in general, as well as refine structural design and boost communication capabilities.

Married with two children, Spoonmore is active in the community around WSU in Pullman. A board member of the Pullman Chamber of Commerce and current chair of its Government Affairs Committee, he is a past president of the Pullman Kiwanis Club and past chair of the Board of Directors of the Pullman Daycare Center.

Spoonmore is a licensed private pilot certified to fly aircraft on state business, but his passion is to visit and/or fly vintage planes from the second World War. He has also recently discovered the thrill of scuba diving. "If you haven't chased a big crab and caught it bare-handed, you haven't lived," he insists. These activities are scheduled between backpacking, fly fishing, and skiing.



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Spoonmore also reports that following his first and only experience on rollerblades, he will delay future practice until "full-body armor" is available.

Back on campus, Spoonmore is periodically invited to address a "real world" seminar course. "I talk about corporate conscience," he says, "and the importance of mentor-mentee relationships, trust, and taking ad-

vantage of windows of opportunity. These are students who are graduating and have little sense of corporate politics. The real world is not necessarily what you read in a textbook."

With his facilities experience and leadership skills, Joe Spoonmore brings to APPA a clear understanding of the real world. 🏢

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Does APPA Belong in K-12? You Bet it Does!



by Ed Smith

The sense of urgency appears foreboding!

On one hand, reports indicate that nearly \$20 billion was pumped into K-12 facilities in the United States during the past year, a record amount. Education construction alone is projected to be over \$60 billion by the time the year 2000 arrives. On the other hand, recent reports paint a terrible picture of the condition of K-12 school buildings, revealing that an infrastructure totaling \$422 billion is in serious jeopardy.

Several U.S. Government Accounting Office (GAO) reports published since 1995 indicate that the United States would have to spend in excess of \$112 billion simply to repair or upgrade schools "to good condition." About 60 percent of the nation's K-12 schools have at least one major building system in need of extensive overhaul or replacement. Nearly 60 percent have a significant environmental deficiency, and most schools are unprepared to

incorporate the technologies of the 21st century. While inadequacies are found everywhere, central city schools stand out. Almost 70 percent of city schools have major deficiencies in their building systems.

Perhaps out of complete frustration, the New York State Supreme Court recently ordered New York City and school officials to uphold their responsibilities and eliminate hazardous school building conditions by the year 2000. New York City's public school facilities, the largest school system in the nation with 1,100 buildings, exemplify conditions faced by thousands of the nation's school districts, that of crumbling buildings.

It all has an ominous tone for higher education facilities managers. Just about a decade ago, the serious erosion of the nation's college and university infrastructure took center stage. Fueled by a joint APPA/NACUBO/Coopers and Lybrand report, *The Decaying American Campus: A Ticking Time Bomb*, the enormous magnitude of higher education's deferred maintenance challenge quickly emerged, and gained growing national attention throughout the 1990s.

With the attention came the challenge of supporting the growing pressures from college leaders, alumni, and supporters for new buildings (most often without correlating increases of maintenance support,) while still struggling with increasing deferred maintenance pressures. Physical

After having served as executive director overseeing facilities support for the University of Southern Colorado and Pueblo County (CO) Public School District #60, Ed Smith was recently appointed as director of facilities for the University of Rhode Island system. He currently serves as chair of APPA's K-12 Task Force.

plant staffs seem to lose on both fronts. It hasn't been an easy decade, yet we in education facilities management have nonetheless been instrumental in doing the things vital to protect our institutions' infrastructure.

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So, who better than APPA leaders to assist in helping take on the enormous infrastructure challenge faced at K-12 schools? When presented with this issue at the July 1997 meeting in Orlando, Florida, the APPA Board of Directors proudly acknowledged the body of expertise within its organizational structure and created a task force to review any role it may have to help meet the challenge. The charge was

simple. See if those who manage K-12 school physical plants could benefit from a more formal relationship with APPA. The APPA staff was well aware of the dual nature of my position, jointly overseeing facilities management for a regional university and a city-wide public school system. It was not surprising that then-President Pieter van der Have asked me to chair and lead a unique task force to fulfill exactly that charge.

The initial task was to identify a number of dedicated people who could effectively oversee such an initiative. In reality, it was a simple task. Over the years, a small, but dedicated group of K-12 facilities leaders have committed themselves to APPA principles and they welcomed this opportunity to contribute. Selecting the task force, including an international representative, was intuitive on my part.

The process also focused on peer organizations that had common interests in supporting America's kids. The Council of Educational Facilities Planners International (CEFPI) was

References for Public School Facilities Issues

School Facilities: Accessibility for the Disabled Still an Issue (GAO/HEHS-96-73, Dec. 29, 1995); federal mandates for the disabled.

School Facilities: American Schools Not Designed or Equipped for 21st Century (GAO/HEHS-95-95, April 4, 1995); evaluation of adequacy of technology, laboratory sciences, and capacity for instructional modifications needed for the next century, mainly using data collected in 1994 and early 1995.

School Facilities: America's Schools Report Differing Conditions (GAO/HEHS-96-103, June 14, 1996); analyzed data, illustrative maps, estimated costs for upgrading schools to "good" condition.

School Facilities: Conditions of America's Schools (GAO/HEHS-95-61, Feb. 1, 1995); first of the GAO reports; raw data of the survey of the 10,000 K-12 schools from approximately 5,000 school districts dealing mainly with the condition of buildings.

School Facilities: Profiles of School Conditions by State (GAO/HEHS-96-148, June 1996); tables by states indicating building and environmental conditions, range of money required to make repairs, money needed to comply with federal mandates, extent of reporting capabilities, and extent of state assistance in renovation and construction.

School Facilities: State's Financial and Technical Support Varies (GAO/HEHS-96-27, November 28, 1995); level of state participation in construction and repair.

School Finance: Trends in U.S. Education Spending (GAO/HEHS-95-235, September 1995); and *School Finance: Three States' Experiences with Equity in School Funding* (GAO/HEHS-96-39, December 1995).

Single copies of the above reports are free; additional copies are \$2. Checks may be made out to the Superintendent of Documents and sent to the U.S. General Accounting Office, P.O. Box 6015, Gaithersburg, Maryland 20884-6015; 202-512-6000; fax 301-258-4066. GAO's website is <http://www.gao.gov>.

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the initial organization to participate. Subsequently, the National School Plant Management Association (NSPMA) and the National Library of Education/Department of Education sponsored National Clearinghouse for Educational Facilities (NCEF) have actively participated in the task force activities. Each offers a unique perspective to the task at hand.

Perhaps the element most critical to realizing success for the group is corporate sponsorship. A number of major corporations stepped to the forefront and offered assistance. Most prominent in its commitment was the Milliken Carpet Company of LaGrange, Georgia. Convinced by the fervor of the initial task force meeting, Milliken executives Peter Kirk and Rob Lange generously volunteered to sponsor task force activities through its initial window of opportunity, the 1999 national meeting. In truth, Milliken's commitment ensures that the task force will successfully achieve the mission of clearly defining APPA's role in K-12 facilities. It is hardly surprising that Milliken is so committed to the task force; they have been an enthusiastic sponsor of APPA activities for many years.

The task force is composed of people from different areas of North America, from both public and private schools and from the aforementioned peer organizations. The APPA staff is represented by Tina Myers. In reality, this task force differs from the traditional APPA process of regional representation. One future challenge will be incorporating more APPA representatives into the planning role. However, the basic task now is to determine what will work for the K-12 environment, and who better than K-12 managers to help achieve this goal. Most task force members have great familiarity with

continued on page 32

The APPA K-12 Task Force

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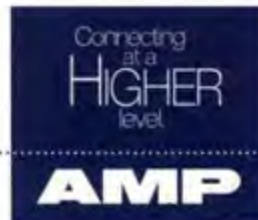
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continued from page 28

the benefits afforded through APPA; in fact, all are Affiliate members.

At the initial task force meeting in LaGrange, December 1997, the group focused on organizational issues and a workable structure. This included a lot of brainstorming, always relating to its charge and APPA's strategic planning process. A mission statement evolved to help set direction and the task force keyed on the following five broad areas for its future attention:

- developing professional networking opportunities
- enhancing educational facilities
- increasing marketing opportunities
- promoting a continuous learning environment
- strengthening facilities professionalism

Each of these areas represents an opportunity to assist K-12 managers while also supporting APPA's strategic objectives.

As the brainstorming developed the group became more and more convinced that APPA's organizational structure and proven educational programs could greatly assist K12 facilities managers. The reality is that K-12 is very decentralized, both among the many states as well as within specific state operations. Consistent training opportunities and standards are just two of many areas that can suffer due to this decentralization. APPA educational programs offer a significant opportunity for professional development that far exceeds what most plant managers are exposed to.

As the first meeting concluded, each member accepted a specific action item to work on a continuing basis. This provides some continuity since the group only meets periodically during the year. Continuing action such as this enabled the task force to develop an ongoing relationship with NCEF, an alliance with great potential for enhanced nationwide communications.

The APPA Board of Directors held its mid-year meeting in Alexandria,

Virginia in January 1998. During the meeting, it fully endorsed our initial recommendations and Milliken's offer of continued sponsorship of the group.

As a result, the second task force meeting also took place in LaGrange last March. Personal member action items were updated and the five broad area objectives were refined into three more succinct initiatives that will provide the basis for task force attention during this year. These are prominent areas that APPA's

organization can best assist K-12 and its infrastructure challenges. The refined objectives are:

- offering education and professional growth strategies
- creating meaningful standards and benchmarking tools
- developing K-12 networking opportunities

Communication is an over-arching theme in every element of the task force's mission. APPA staff will ensure that task force information is widely disseminated through the web site at www.appa.org under the K-12 icon.

Task Force Charge:

"...determine whether a relationship with K-12 facilities professionals will be of benefit to them, to APPA, and to APPA's members. We also need your task force to determine if such a relationship could be an untenable burden on APPA's current membership."

Task Force Mission:

"Enhance global learning by sharing the facilities knowledge and resources of APPA, higher education and the K-12 community."

An important point is ensuring that all of our energy and hard work is directed in exactly the right equation, in terms of time and effort. The group decided, since APPA's 1998 Educational Conference wasn't scheduled until August, that a third meeting should take place to synthesize plans for our presentation to the APPA Board. This meeting occurred during the final weekend in May.

In a broad context we focused on two areas—preparation for the San Jose meeting in terms of progress to date and a planning perspective for next year, and, surprisingly, a new area evolved, strategic relationships. We were fortunate to have Lander Medlin, APPA's executive vice president, attend the meeting. It became clear to all of us that the task force is breaking some new ground with respect to the traditional APPA problem-solving process.

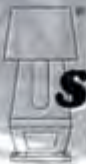
The most exciting element is that while we all feel good about contributing to our original charge, we also sense something bigger on the horizon. The K-12 Task Force is

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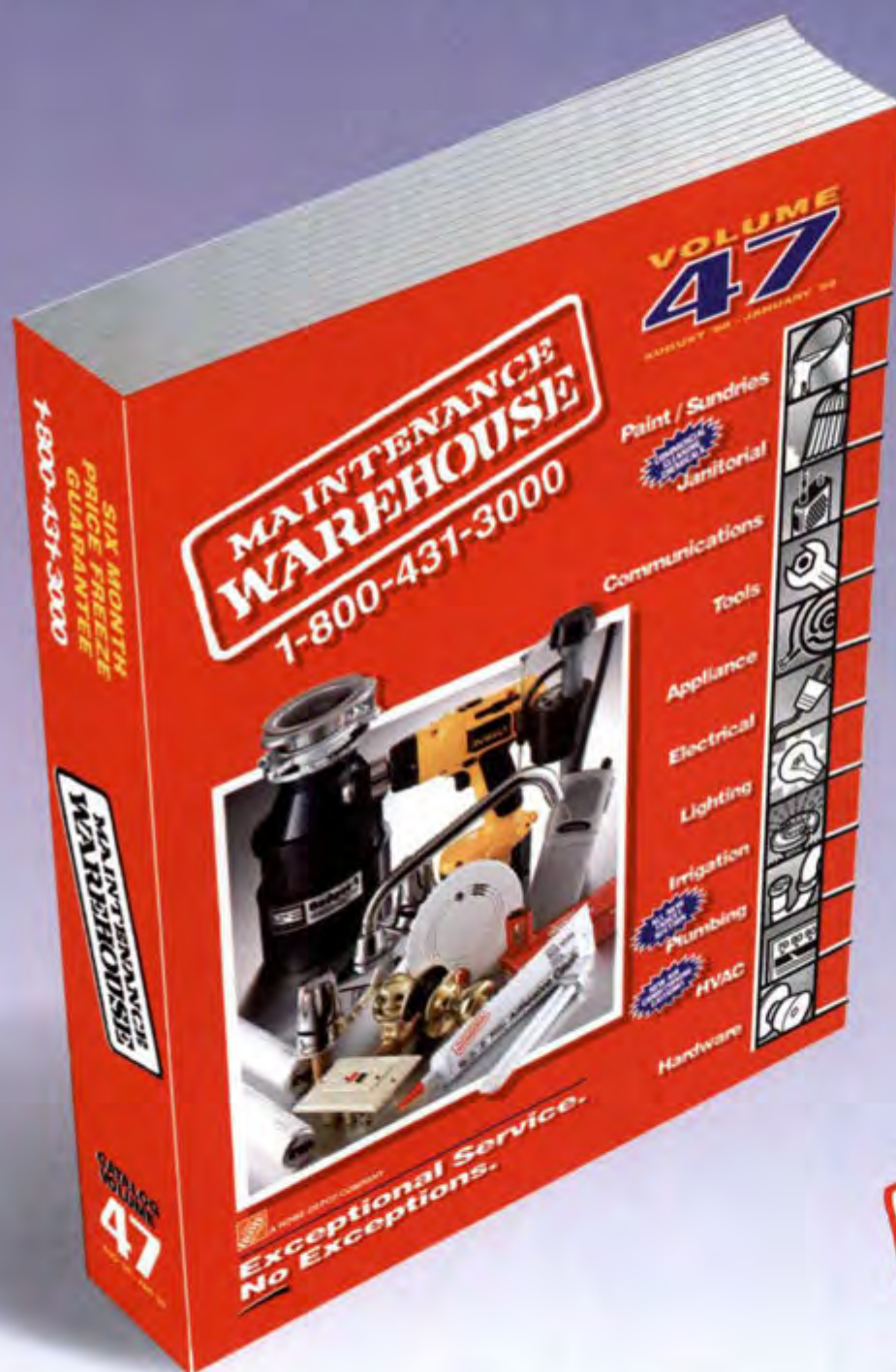
creating a unique and constructive approach in relationships among staff, corporate sponsors and organizations that have common goals and objectives. It will be interesting to follow our progress this year, and see what recommendations we can offer to the Board of Directors next year.

A number of important issues will receive task force attention during the coming year. First and foremost, the key three objectives will receive a great deal of attention and, hopefully, continue to move forward. To better define these objectives, I have asked the task force leaders to chronicle their thoughts about each in the accompanying articles. I have also asked Rob Lange from Milliken to express his perspective about supporting this initiative. Clearly, we couldn't be successful without Milliken's wonderful support; it just might be laying the groundwork for how we do business in the future. His perspective is one that all of us in APPA should genuinely appreciate.

As we started this initiative just about one year ago, we were the proverbial fish out of water! We weren't the traditional APPA group with the traditional roles and missions. We're probably not even sure where the journey will end. But, that is the best thing about APPA's new leaders. The term "traditional" is only one approach. Ours is another that is not only being accepted, but also being recognized as pacesetter.

So the question remains. Does APPA belong in K-12? Maybe not in the traditional sense, but, considering all the resources and expertise that it can bring to the table and examining the great challenges that currently exist in upgrading the nation's schools, it becomes more and more evident that this is a partnership that needs to exist. The challenge for the K-12 Task Force is to sort through all the chaff and offer a solid sense of guidance. Does APPA belong in K-12? You bet it does! 🏠

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The K-12 Initiative:

Expanding the APPA Resources to Meet 21st Century Needs

by David Petersen, CFM, Ph.D. and Lorenz Schoff, P.E.

The 1995 GAO Report identified over \$112 billion in needed repairs, renovations, and modernizations for the public schools in the United States. This need does not include the requirement for new construction due to growth, changes in instructional programs, or changes in technology. In addition, the 1994-95 profile of the nation's public schools revealed that the median school district is approximately 1,040 students. Approximately 60 percent of the 15,000 districts in the nation have fewer than 1,500 students, while only 5.3 percent of these districts have more than 10,000 students. However, this 5.3 percent accounts for more than 48 percent of the total U.S. public school students. In addition to the 80,000+ public schools, there are more than 20,000 private K-12 schools, thus making the total requirement even larger.

Dave Petersen is the assistant director of administrative, logistical, and operations support for Fairfax County Public Schools, Fairfax, Virginia. Larry Schoff is a senior research associate with the University of Tennessee/Department of Energy/Rebuild America, Oakridge, Tennessee.

The school facilities in the United States range in age from over 100 years to less than a year. The oldest school facilities are located in both rural and urban areas. These have to be renovated and maintained for totally different reasons. In the rural areas, these facilities are part of the community and the available funding bases are extremely limited. Urban areas are faced with limited space for new facilities and a limited funding base. Suburban areas of the nation have the newest school facilities, because this is where the recent growth has taken place in the past 25 to 30 years.

Elimination of deficiencies identified in the GAO report and those identified since the report will require increasing public financing, while the number of citizens having students in public schools continues to decline. School facilities are part of the infrastructure of any community. Thus when these requirements are added to other needed infrastructure improvements (water, sewer, and roads), the total requirement becomes staggering. The main revenue sources for states and local governments continue to be through taxes—sales, real estate, and income.

Improvement to existing school facilities will take the efforts and understanding of all parties involved: citizens, school administrators, school planners, school board members, and facility managers.

Understanding is the key. Therefore, the need is amplified for professional facilities managers to sort out the priorities and effectively apply available resources to rectify the most critical problems. Additionally, the future maintenance and renovation needs must be programmed and funded within the district's ability to provide resources. There exists no easy formula for prioritizing these issues, but efforts must be made to identify the magnitude of facility needs within each district and provide solutions.

Many of the nation's school districts do not have professional facilities managers to guide the educational administrators and school boards in their decisions concerning facilities needs. In most cases, these school districts rely on local contractors to patch up today's crisis. Even in some of our larger school districts, the lack of proper and effective facilities management input into budget decisions has been painfully obvious in national headlines.

Part of the APPA K-12 challenge, therefore, becomes dissemination of knowledge and education to school districts seeking to professionalize their facilities management staff. As an established channel for educational facilities information, APPA is a natural avenue to reach out to the K-12 community.

The need for educational and professional development can be addressed using one or more of the following approaches.

- Development of electives, focused on K-12 facility needs, for inclusion in APPA's Institute of Facilities Management
- Inclusion in existing APPA publications chapters dealing with specified elements peculiar to the K-12 facility manager
- Development of publications specifically directed to the needs of K-12 practitioners



Working session at a recent K-12 Task Force meeting.

- Training sessions for K-12 practitioners in collaboration with other organizations having K-12 members such as Association of School Business Officials (ASBO), American Association of School Administrators (AASA), American Institute of Architects (AIA), and National School Boards Association (NSBA).

A clearinghouse of available information dealing with K-12 school planning design, construction, operation, and maintenance should be available to all. The clearinghouse would also serve as a resource for practitioners to share information on problems solved or actions taken with one another. The clearinghouse would allow the small rural school districts to share in the achievements and knowledge of larger schools districts,

which is currently outside their available resources. This will allow the limited resources available to achieve its maximum impact with the improvement to school facilities across the nation.

With the acknowledged need for educational opportunities

and professional development, the increased attendance in the Institute of Facilities Management by K-12 facilities professionals should be seriously explored. Areas of growth for K-12 facilities practitioners in the areas of planning, budget development, community outreach, preventive maintenance, and benchmarking, to name a few, are ripe for preparing our colleagues for the challenges of the 21st Century.



APPA's K-12 Task Force in LaGrange, Georgia.

Photos by Dave Petersen

APPA has led the way before. It appears that the opportunity and need to continue that journey is alive and well in the K-12 community. With its long and distinguished history of attention to educational facilities needs, APPA's K-12 initiative can be a breath of fresh air to public and private school districts in North America and worldwide. 🏛️



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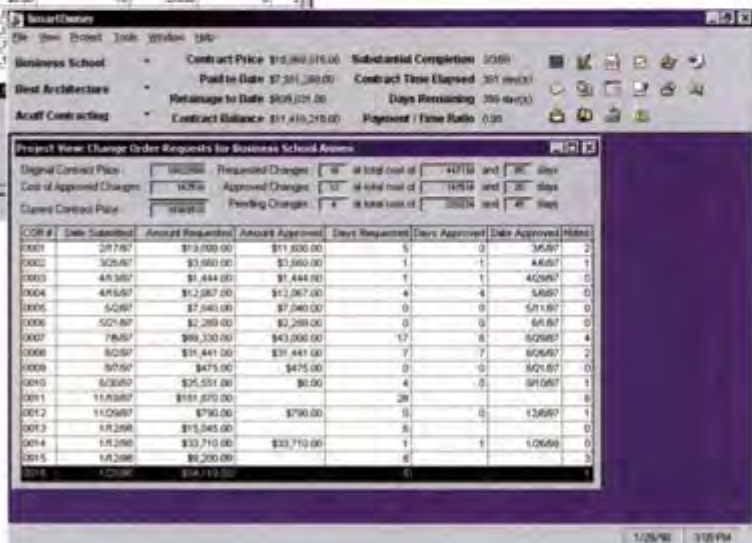


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Benchmarking

and Sharing of Best Practices:

A VITAL K-12 RESOURCE

by Don Briselden, P.E.

A Helpful Vision: What is it all about

I am trying to imagine how it must be to manage the facilities of a school or school district without the benefit of the network, shared knowledge, and access to technical resources that most of us within APPA enjoy. Perhaps it is like accomplishing a single-handed ocean sail, or climbing a rock wall without the technical gear; rather lonely and perhaps risky.

Early on in our task force discussions, it became clear that facilities managers in K-12 settings needed access to a network that could provide current and helpful information. That understanding then developed into our objective which is to provide a sustainable resource of current core benchmarking and best practices information to all K-12 facility managers.

It may be helpful to address each of the highlighted items in that objective sentence.

Don Briselden is director of physical plant at Phillips Exeter Academy in Andover, New Hampshire. In addition to serving as a member of APPA's K-12 Task Force, he is the dean for general administration and management for the Institute for Facilities Management.

- **Sustainable:** The time and resources required to support the resource model may be hard to obtain, as resources often are. The model must have a home, have a dedicated caretaker, be as simple in structure as possible, and be funded and supported at a reasonable cost over a long period.
- **Current:** If the resource model is to be useful, users must be able to extract timely information. The intent is to have the model updated continuously and to review the database to evaluate data that is over one year old.
- **Core Benchmarking:** Benchmarking is defined by one of our knowledgeable committee members as "using standards to see how well you are doing." The more formal definition is: "The continuous and systematic process of measuring and assessing products, processes and services for the purpose of achieving superior performance." Because benchmarking comparisons can be applied to any process and would include the widest range of applications, it is necessary that we clearly define the types of benchmark data that will be provided. Benchmarks can be focused on strategic comparisons as operational measurements. Our intent is to provide a model that will provide useful information in both areas. The resource model will include a well-developed set of core benchmarks. We intend to arrive at the list of core benchmarks by soliciting the needs of the users through a benchmark survey.
- **Best practices information** is defined as "capturing, disseminating, and sharing of work methods, processes, and initiatives to improve effectiveness." The resource model will provide the opportunity for participants to find out what is working in other schools and to share their proven best practices within the wider education community.
- **All K-12 facility managers:** If we are to fulfill our charter, then the model must be available to all K-12 schools and institutions. While some hard copy information may be available, our intent is to provide the products through the Internet.

Obviously such an undertaking will require support and a commitment of resources. Is it worth it? That conclusion will ultimately need to be made by the users and those who provide the resources.

Benefits of Providing Current Benchmarking and Sharing Best Practices Information

We know that the model will identify the costs and support that will be required to sustain this resource opportunity. Yes, it will have a cost side, and a significant one. What are the benefits? At this stage, we have not included a formal cost-benefit analysis. However, our view is that the long list of intuitive benefits has great appeal and pursuing the model at an affordable cost is worthwhile. Here is a partial list of the benefits that could accrue.

- Improve facilities planning
- Assist with budgeting for operations and capital renewal

- Assess strengths and weaknesses of core processes
- Identify needs for changes in organizational methods and practices
- Identify areas that are candidates for cost saving changes
- Identify processes that can be moved to a new benchmark level
- Establish quantifiable goals for continuous improvement
- Minimize reinventing established practices
- Motivate positive change
- Promote facility managers' networking
- Improve practices, processes, and services
- Provide practices education
- Provide methods to measure effectiveness; to find strengths and identify weaknesses

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Developing Implementing Strategies

Fine you say. Having an intention and an outline plan is commendable, but how will the model be developed? Well, the task force committee has identified these implementing steps:

1. Identify the strategic and operational benchmarks that are core to K-12 processes and which the processes will maintain.
2. Set the expectations for the K-12 Task Force and understand the expectations of our clients, the K-12 community.
3. Provide the necessary awareness and education so that the K-12 entity knows and understands the availability of the benchmarking and best practices resource.
4. Focus our energies so that we are delivering the resource in an effective and efficient manner.
5. Develop a resource delivery process that is sustainable over the long run.
6. Determine optimum related facility costs, utilities and services to support public education.

So, with that as a summary, I can now say that you have read what it is all about. We expect to develop a working model within a year and have it available via the Internet. As the development process moves forward we will use APPANet and the K-12 listserv to ask for feedback and suggestions. We will be back in touch. 📌



A K-16 Network—Is it Possible?

by Joe Bolton

Can APPA and K-12 facilities managers work together in resolving the enormous issues faced by today's K-12 community? The APPA appointed K-12 Task Force thinks so. However, the belief is that to forge any working relationship within the K-16 educational environment, higher education must take the lead role. Keeping in mind this premise and the theory that by acting together, facilities managers can effectively work on problems that plague all, the task force agreed on three distinct, maintenance management oriented objectives.

In this article, I will discuss one of these objectives: developing a "network" system where members of the K-12 community can access facilities-related information and communicate with APPA members or other school districts.

As maintenance professionals, each of us realizes that educational organizations across the country experience the need for data on an almost daily basis. Time and resources are expended in attempts to resolve issues someone else has already addressed, as most of this data is readily available in some form or another. So, why reinvent the wheel?

Plant managers in higher education have effectively resolved this problem through the years. But, unlike their as-

sociates in APPA, and being decentralized as public education institutions are, K-12 facility managers have not had the opportunity to organize at a national level into an information-sharing group. Hopefully, this is where APPA's proven leadership will come into play, fashioning a formal relationship with K-12 by providing guidance and support.

No doubt, a need exists to share data, which would greatly assist each of us in resolving problems dealing with:

- Aged public educational facilities
- Increased student enrollments that create class-size relief issues and more classroom needs
- Mandated requirements initiated by government entities that impact operations and maintenance budgets
- Communities that demand more and more of their local schools without increasing the funding base

These demands place undue burdens on already limited resources. In other words, facility managers are expected to do more with less. What will help to reduce the impact of and overcome these challenges? As maintenance leaders we must, unilaterally, design, agree upon and accept core benchmarking and best practice strategies (these two topics will be addressed in separate articles); then, establish a process for exchanging this data and other facility-related information. The task force believes that acceptance of these initiatives will assist in budgeting, identify areas for change, improve efficiency, improve planning, and improve services.

Joe Bolton is executive director, auxiliary services, at Jefferson County Public Schools, Lakewood, Colorado.

However, before an effective network system can be successfully created, consideration must be given to resolve the following:

1. How do you involve a decentralized, K-12 school community of more than 15,000 school districts?
2. Should partnering with a neighboring APPA member organization be established in an

attempt to bridge the K-12 decentralization gap?

3. What type of data should be made available?
4. How will this data be collected and disseminated?
5. Do K-12 institutions have website capability?

Realizing the amount of effort required in finding a solution for each of these concerns, task force members felt that because of the



criticality in providing reliable facilities information, they should not rush into a problem-solving role. Each agreed to take time and formulate a viable recommendation to APPA within one year. The single greatest concern is how to communicate with the vast number of public, private, and parochial K-12 school districts. Even though a majority of these districts have fewer than 1,500 students, they also experience the same increased deferred maintenance pressures, inadequate training, and a fundamental need for operations and maintenance information as larger educational communities.

So, how do we "reach out and touch" this community? Efforts are being taken to access the U.S. Department of Education's website electronic mailing address system. This access will provide names and mailing addresses for specific public school districts, but not private or parochial schools. As the mailing lists are obtained, labels and a form letter will be prepared and mailed to individuals responsible for facility maintenance at each school district. The letter will identify why APPA's K-12 Task Force was approved and established by APPA and its goals and responsibilities. Addressees will be requested to provide input on what they perceive as top priority concerns and how best to communicate with their district. Included will be a website address to access

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Obtaining private and parochial school names and addresses will present an even larger challenge to the task force. However, task force members believe it is in the best interest of the entire educational community that attempts be made to provide facility-related information to all, not just segments. Keep in mind, as this article is being written, a centralized record repository has not been discovered to provide names and mailing addresses for this group of educational institutions. Do not abandon the ship! Two strong points of this task force are reliability and persistency. They will find a means to communicate with private and parochial schools.

You might wonder why is this mailing such a challenge? Address labels are available, all one needs to do are prepare a form letter, stuff envelopes and mail them. Not so simple! Someone must prepare thousands of labels and envelopes for stuffing, and this is just to initiate the communications process. Information must then be collected, analyzed, and made available for dissemination. The intent is to have one database format; hopefully, APPA's proposed new system will be the one utilized.

Members of the K-12 Task Force do not have all the answers yet. It will take time to develop strategies and coordination with APPA on how to build a framework and contribute in meaningful ways toward the priority objectives established by the task force. It is anticipated that a formalized recommendation will be presented during the summer of 1999 to APPA for approval and, we hope, implementation.

Your ideas will be helpful and can be provided to the task force by accessing APPANet at www.appa.org and clicking on the K-12 icon. Let this be the beginning of momentum to establish a K-16 network! 📣

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Task Force Sponsorship

Provides Learning Opportunity

by Robert Lange

Working with APPA on the K-12 Task Force has been one of the most fascinating and positive experiences of my career. Those of us at Milliken Carpet who are involved in sponsoring this task force have gained invaluable insight into the infrastructure needs, funding issues, and professional challenges encountered by those who manage K-12 school physical plants. We have gained a real appreciation for the personal and professional commitment that task force members and leaders have dedicated toward creating a better learning environment for students.

Milliken Carpet has viewed this sponsorship as an opportunity to support and learn from APPA. The task force opportunity presented itself last year in a meeting with APPA president Pieter van der Have. At the time, Milliken had just reorganized to become more specialized in the various market segments served by our company. As part of that process, I had spent the past year visiting some 250 schools and talking with people at every level who are concerned with a wide diversity of issues and needs facing their institutions and departments. When you ask a lot of open-ended questions, you get some answers you wouldn't necessarily expect. One of the questions I asked Pete was "What can Milliken do for you?" Without hesitation, he brought out plans for the K-12 Task Force. The sponsorship fits beautifully with Milliken's philosophy adopted from the Franklin-Covey Organization "to seek to understand before being understood." We immediately agreed to sponsor the 18-month effort.

What followed were three meetings sponsored by Milliken at our headquarters in LaGrange, Georgia. By gathering in LaGrange, we could provide the facilities and business

resources needed to optimize the participants' time and meeting outcomes. The group was diverse, including representatives from some of the largest school districts in North America. And yet, common concerns soon emerged. All were focused on harnessing the potential of their facilities to:

- Increase educational outcomes
- Incorporate new technologies
- Improve the image of their schools and institutions
- Protect health and safety
- Provide flexibility
- Aid in damage recovery

One reoccurring issue was the school's image. The school's appearance was cited as a key contributing factor in competing effectively against alternative choices such as private education, home schooling, and initiatives for charter schools. The growing trend toward using schools as community centers also fuels the need for aesthetically pleasing interior spaces. Many school interiors require upgrades to be used for year-round public gatherings and for events by groups such as Boy Scouts and senior citizens. Upgrading school facilities enhances the whole community.

By listening to task force members, we at Milliken could better understand how carpet could be used as a cost-effective design tool to improve the appearance of interior spaces and to update the look of facilities. As a result, we have changed our approach to educational organizations and have developed a different package of carpets and services to meet the needs of K-12 institutions.

Milliken also has taken on the infectious enthusiasm that was so evident at task force meetings. Though the challenges of K-12 institutions are daunting, the future vision that was molded in these meetings is exciting, and we believe that the challenges to accomplish this vision are achievable.

Milliken played a role in defining this future vision in 1996 as a sponsor of the Smithsonian's Classroom of the Future. The classroom was unveiled by the United States Speaker of

Rob Lange is education market manager for Milliken Carpet, LaGrange, Georgia, a business unit of Milliken & Company, which has won the U.S. Commerce Department's Malcolm Baldrige award for the company's total quality management process.

the House, himself a former teacher, to show educators how to overcome current building limitations and to integrate new technologies into classrooms. The model electronic classroom is the brainchild of Robert Carlson, the director of management and technology services for the nonprofit organization, The Council of Great City Schools. Milliken Carpet and AMP were chosen for the project for their ability to provide access flooring that conceals under-floor cabling, power sources and phone lines and allows easy access for maintenance and the constant moving of equipment.

The Smithsonian Classroom of the Future demonstrates an exciting vision for future education. However, Milliken's sponsorship of the K-12 Task Force provided broader insights, because the task force focuses on future goals as well as current realities and the changes that must be made to infrastructure to bring us closer to the vision.

To chart the journey that will bring us toward the Smithsonian's model classroom, we will need to think creatively about funding, volunteerism, products and services, and technology. At Milliken University, we learn how to "think outside the box" and the learning center offers a variety of curriculum to Milliken associates and customers. At task force meetings, we undertook some common Milliken exercises to

facilitate creative thinking. We watched a video by futurist Joel Barker. We learned from United Way on how to optimize volunteerism. And we brainstormed on how to benchmark our progress by looking outside our industry and institutions to organizations and businesses that are the best of class in their industry.

Certainly, we haven't solved the infrastructure crisis faced by America's K-12 schools. But we have begun to lay a road map that may help with future problem solving. I believe it has been a win/win experience for Milliken and the task force. The sponsorship allowed the task force to focus on its mission, rather than on funding issues. And Milliken was able to further support APPA and education—one of Milliken's core values. Milliken & Company supports a number of school programs and universities through its foundation and personal giving. Many of our associates are involved in teaching, educational fund-raising and participation on boards of trustees.

Milliken has been honored to be associated with this task force's hard work, professional passion and tenacity of purpose. We commend the task force members who have given so much of their time and talent to what I now understand to be a challenging, but meaningful journey. 🏛️

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Facility Asset Management

Community Colleges Demand More From Their Buildings

by Matthew C. Adams, P.E.

The importance of two-year education in the United States continues to increase. More and more students see community colleges as a pragmatic source for career improvement. Most localities agree and the number of community college sites continues to increase.

The formula is simple—provide the local community with an affordable and practical source of postsecondary education. However, as this form of local education expands, so do the financial commitments. In fact, the cost of providing community college education is less understood than the recognition of its public demand. States, counties, and cities are “backing-into” budgets and funding models.

There is little history from which to draw experience. Funding is often based on recent expenditures and not standards. Those standards that exist are often crude modifications of four-year university funding models. The truth is that community colleges do not operate like their four-year counterparts. In fact, they do more with less. More people are educated for considerably less cost to the students and the locality. All funding formulas embrace this fact. The funding for facilities parallels this practice when, in



fact, community college facilities are more expensive to operate than traditional university buildings.

Generally speaking, there are three types of students that attend community colleges; those that have part-time jobs, those that have full-time jobs, and those that are being retrained for new job placements (stay-at-home parents are included too). The only way that these people can attend classes is for the college to accommodate the “students” schedules. Some students work during the day and attend classes at night. Others attend classes in the morning so that they can maintain part or full-time afternoon jobs.

Either way, the college must scramble to offer classes. This leaves the colleges with operating schedules that are more like convenience stores than universities. Classes start early and they end late. In addition, most

community colleges offer both credit and non-credit weekend continuing education. Because of their proximity to the public, they typically serve as testing centers too. Arlen Solocheck, manager of facilities planning and development for Maricopa Community College District (10 campuses with 3.8 million GSF) in Tempe, Arizona, puts it this way: “Our system of ten campuses is limited by faculty. We are a six-day per week college, but we could fill classes on Sunday if we could find the faculty to teach.” All of this adds up to an operating schedule that typically exceeds by 50 percent that of traditional four-year universities.

The daily operation of college facilities creates supply budget costs. Lights, filters, chemicals, paper products, and many nominal preventive maintenance items are “used-up” each day, month, and year. Most institutions seek to minimize these costs through quality and standardization policies and efficient inventory management. Thrifty or not, institutions spend at least 10 to 20 percent of their maintenance budget on operational supplies. The plant maintenance department of a community college that operates 50 percent longer than many of its peers undoubtedly requires more maintenance supplies. The buildings are using them faster, pushing day-to-day supply costs higher. This fact is exacerbated by the logistics of multiple campuses. It is difficult to achieve the economies of scale typically associated with institutions of this size when there are many campuses. Redundancy creates waste within the district. As Solocheck sees it, “If we could combine all of the campuses into one location, the current staff and

Matt Adams is president of The Adams Consulting Group, a management/engineering consulting firm located in Atlanta, Georgia, specializing in the facility maintenance and management within higher education, school districts, and other institutions. He can be reached at mc.adams@facinet.com.

resource budget would be very adequate. In this ten campus setup we are short in almost every staff and resource allocation."

The best hope for building mechanical systems is a long and trouble-free life. Building components that are maintained as per manufacturers' specifications typically do last for the entirety of the designed life cycle. The expected life cycle for capital intensive mechanical systems is based on years of operation. The years are

based on typical usage measured in business days—"nine to five."

A pump motor may be expected to last for fifteen years under typical operating circumstances. Naturally, these systems are pushed beyond "typical" in those buildings used by community colleges. The moving parts operate longer each day for weeks, months, and years until the life cycle is reached. This life-span is reached sooner than typical design standards. Whether planned or not, major capi-

tal projects present themselves more quickly in community college facilities. The facility asset is depleted more quickly and capital reinvestment needs are proportionately greater. Assuming a professional interest by funding bodies to prevent or minimize deferred maintenance, community colleges require accelerated capital renewal funding strategies.

Community colleges stay in touch with local business. Programs are designed around the employment demand of local industry. Brenda Albright, a consultant for the Florida System of Community Colleges, has examined closely the ties that community colleges forge with local businesses. Brenda notes that "community colleges are on the front line of education for local industry. They are very much in touch with the technology and service needs of nearby companies. In order to be this market sensitive, they must have the resources to continually modify programs to meet demand."

Modifying programs often requires corresponding adaptation of support labs, classrooms, etc. New fixtures, utilities, and mechanical systems drain capital from the general budget. At the Los Angeles Community College District (nine campuses with 4.5 million GSF), renewal capital is funded on a 50/50 basis between the state and the county. Andy Dunn, assistant director of capital planning at the LACC District Office points to the fact that they compete with the state universities and school districts for funds. In a good year the district gets two million for renewal. He and his colleagues at the district are hoping that a pending nine billion state bond issue may improve the pool of funds that they can compete for. Others have decided not to wait. The Miami-Dade Community College (six campuses with 3.3 million GSF) took a bold initiative two years ago. The administration recognized the acute deferred maintenance backlog. Without any source of funds for retiring

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the backlog, the district converted almost 30 million earmarked by the state for new construction into capital renewal funds. Few institutions demonstrate the restraint necessary to forego the construction of a new building.

Planning and executing major maintenance activities is always difficult for plant administrators. One or more of the faculty, staff, and student contingents may have schedules that impede maintenance work. Many projects require the shutting down of utilities or major building systems. Others are simply too intrusive to complete with the campus population nearby. As a result, many projects are completed after hours or during the weekends. This results in increased over-time charges and interrupted work schedules. All institutions are faced with this dynamic. It is an important resource management issue. The loss of at least four hours at the end of each day and some weekend time "windows" only serves to intensify the consideration. When projects cannot begin until 10:00 p.m. instead of 5 or 6, large projects become more difficult to complete. Costs most certainly rise as does the temptation to "defer" maintenance. Some community colleges have even given up the idea of scheduling major maintenance projects during typical working shifts. They have added "swat" teams that complete large capital projects specifically during the graveyard shift and during open weekend time-slots.

During a recent study comparing the maintenance costs of urban universities with that of more rural institutions, the issue of traffic surfaced. With space in short supply, these universities placed large numbers of faculty, staff, and students in less E&G space. The benchmarks revealed that many urban institutions, who served the "working" or "part-time" student populations, endured very dense flows of continuous traffic through their facilities. The typical four-year institutions showed ratios of

350 to 650 gross square feet per campus person or body (sum of faculty, staff, and student full-time equivalents). While their "expanded schedule" urban, four-year counterparts showed ratios of 150 to 250 GSF per FTE. Collection of similar data for community colleges revealed that their traffic densities are even greater. For example, Georgia State University in downtown Atlanta has just under 170 GSF per FTE. While Miami-Dade Community College has just under 60 GSF per FTE.

The effects of dense traffic in college buildings are most evident in custodial departments. Large volumes of faculty, staff, and students prevent custodial crews from executing their routine cleaning procedures. Continuous classes and traffic will not allow anything other than light cleaning. Most colleges with such intense traffic flows report that only policing activities can be completed during building operating hours. The day staff dedicates the entire day to keeping up with the high-traffic areas. Plumbers are frequently drawn from maintenance projects to assist the day crews with restrooms during the peak hours.

The successes of the many community college systems nationwide are impressive. Students are educated and placed within local industry quickly and professionally. While often funded equally or less than their traditional four-year university peers, community colleges are nimble enough to do "more with less." Unfortunately, the it is clear that the facilities are punished and depleted faster than planned. The unique operational and logistical nature of these institutions demonstrates a clear need for specifically designed capital funding models. When one of the nations largest colleges forgoes the construction of a new building in order to fund renewal, the "handwriting is on the wall." 📢

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If You Can't Measure It, You Can't Manage It

by Howard Millman

Question: Why is automating the physical plant like an invasion of pigeons?
Answer: Because they both involve a lot of squawking, ruffled feathers, and people getting dumped on.

One benefit of working as a consultant is that I can occasionally tell the truth even when it might ruffle some feathers. This is one of those times.

For the past five years, a private university headquartered in Massachusetts (that limits it to about one in 500, but they requested anonymity and in a moment you will see why), enjoyed some success with their maintenance management system. Their \$7,500 system which, by the way, is no longer sold or supported, kept good track of work orders, PM tasks, and even managed the simpler rehabs.

Since they bought the source code, the physical plant's techies could get under the hood and change the way the software looked and behaved. Maybe even tweak its performance a tad. But when they tried to transform a pigeon into a hawk, they got an Albatross.

Changing times

In the half decade since the school bought the system, their needs have evolved. Five years ago they were ecstatic over the ability to answer a routine repair order inquiry. Well, as politicians say, "If a little bit is good, then a lot has

got to be better." They wanted to track more projects, multiple shops, FAS codes, larger projects, and inventory. Actually, they had little choice; the physical plant director had to expand the quantity and quality of the data his staff collected since he now based their unit's budget and manpower forecasts on the information.

Somewhere about this time, a new vice president arrived who insisted on receiving consistently accurate measurements of productivity, departmental and individual performance as well as job cost tracking with inventory allocations. That was just for starters. As a newcomer, he sought to assess the qualities of the existing software. The existing system's champions sang its praises while others recommended replacing it. He heeded the cheerleaders.

Well, every database has an engine, and unlike the children's fable, this engine chugged but couldn't make the grade. It slowed to a crawl. So instead of doing a couple of things well, the system did a number of things poorly.

Do you remember the vintage Keystone Cops silent movies? How they would swarm onto a Model T's running boards and immediately crash into a wall and then back up over a hydrant? Then turn left, narrowly miss a mother pushing a baby carriage only to careen into a parked truck?

Figuratively, that pretty much describes what happened along with some finger pointing and people making statements that made them feel good but did little to resolve the situation.

Some of the people on the upgrade project, myself included, could see where this process would end. Unfortunately, the process had to, and did, run its course. The school spent a metric ton of green and soft money (I estimate about \$90,000) trying to bolster the familiar old system rather than scrap it and start over with a newer, more scalable system.

Ultimately, the vice president and the director, neither of whom arrived in town on the back of a turnip truck, finally decided to adopt a newer system. It cost \$65,000 including some hardware upgrades, and now they have a foundation that will carry them into the future instead of tying them to the past.

Two of the techniques they used to accomplish this change warrant sharing. First, the director appointed someone to head up the project whose primary mission was to head up the software's acquisition and implementation (including the all important training). Since they could not spare anyone in house, they brought in a consultant.

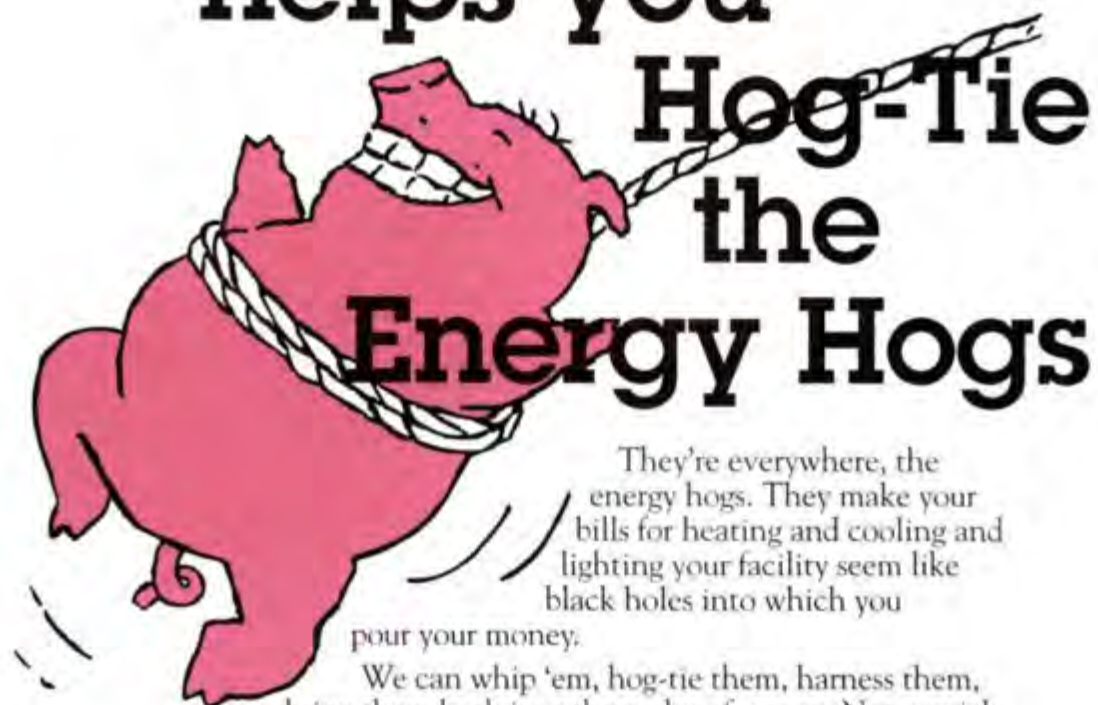
Second, the director asked everyone involved to write down the answers to three questions:

1. What are the problems with the existing software?
2. List the solutions available.
3. Which one of those solutions do you recommend?

By clearly defining the problem and asking for input on solutions, he attained consensus on what was really wrong and how to go about fixing it. And no one had to eat crow. 🐔

Howard Millman operates Data System Services, LLC, a vendor-independent consultancy that helps universities and university hospitals select the best products and practices to automate their facility management processes and transform data into knowledge. Reach him at 888-271-6883 or hmillman@ibm.net.

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The Bookshelf

Book Review Editor: Dr. John M. Casey, P.E.

The four books reviewed in this issue cover two familiar and two not-so-familiar topics. The familiar topics of HVAC efficiency and energy management are discussed in the reviews by Matt Klein and Paul Wenner. Willy Suter's observations on the book concerning the impact of information technology on the academy, and Joe Powell's review of the conversion of *Architectural Graphic Standards* to CD-ROM format, both cover new ground. Readers are encouraged to sample each of these works, since potentially valuable information has been uncovered for each of us by fellow professionals in the facilities management field.

—JMC

Efficient HVAC Systems Deskbook, edited by Albert Thumann, P.E., C.E.M. Lilburn, Georgia: The Fairmont Press, 1997. 380pp., hardcover.

I would not encourage anyone to purchase this book. Instead, get this one from the library first to see if it deserves a place on your bookshelf. Be warned, however; this book has greater potential for improving air quality more by being a dust-collector than by its content on air quality. Does that mean that it

doesn't contain any useful information? Quite to the contrary, it does have useful information. But, the information tends to be rather specialized and is mainly for professionals who are very experienced in mechanical systems and building energy-use problems. Even then, in many cases, the reader needs to be a literary miner to harvest the nuggets of information in most of the chapters. Outside of the Fundamentals of HVAC Systems section, most of the



information is not basic. As for the Fundamentals section, readers would be better off getting fundamental information from other sources, given the poor quality of this section.

One of the most frustrating things about the book is that the sections and chapters are not effectively tied together and information is not effectively organized. The book does not contain a foreword or introductory chapter to explain the book's purpose and organization. Moreover, each of the book's sections does not contain introductions or overviews to explain its content, organization, or goals; such information is not always evident. The reader also cannot de-

pend on the index to help find where information is contained in the book. I could not find in the index a number of what I considered key words, some of which appear in subtitles.

One of the greatest shortcomings of the book is the large number of editorial errors in some sections of the book, particularly the first chapters. I also found that some of the information, particularly in the section on indoor air quality, my area of expertise, to be errant, vague, potentially misleading, and/or dated. Several other chapters appeared to be more sales jobs for a specific technology, such as two chapters on natural gas technology, than unbiased information that a professional could use to intelligently decide whether to use such technology. One chapter on chillers appeared to have blatant commercialism. At least I call it commercialism when I see specific mention of a single company's product. All of these problems did not make me feel confident in the book's content and credibility.

Each of the sections, except the first, contained what looked like a hodgepodge collection of trade-magazine or journal articles thrown together under the general topic of each section. In many of the chapters, the information tended to be for specialists in the energy management field. I literally felt like I was dropped into the middle of conversations at an energy systems cocktail luncheon. According to the Acknowledgments, each chapter was apparently a presentation made at Association of Energy Engineer's World Energy Engineering Congress or International Energy and Environmental Congress. If so, most of the material appears to have been seminar presentations and not

John Casey is manager of the engineering department of the physical plant division at the University of Georgia, Athens, Georgia. If you are interested in reviewing a book for The Bookshelf, contact Casey at jcaseype@uga.cc.uga.edu.

reviewed papers. If they were reviewed papers, I would have to question the review process. However, given the shortcomings of the book, I would definitely hope that it is not the proceedings from these conferences.

When I first saw the title of the book, the "Deskbook" part of the title made me think that the book was a reference on making energy-use systems more efficient. The various section titles further contributed to my deception. I suspect that the "Fundamentals" section of the book was thrown in as a, rather poor, justification for being able to add "Deskbook" to the title. If the author really intended this book to be some kind of reference, he should have: organized the overall content better; included more basic information to help the reader understand various concepts; had the authors include more descriptive information and organize the information so that the reader could more easily comprehend it, and been more selective about what to include and exclude in the book.

The book does contain very useful information-in places. For example, one chapter contains decision logic on whether to replace a chiller or convert it to alternate refrigerant. A couple of case studies on converting to natural gas could also be useful. The book also contains information that would be very useful to a specific problem such as the two chapters on TB problems. I readily admit that I learned something from about every chapter, and I don't consider myself to be a wide-eyed child in HVAC technology fantasyland. But, this book will not win any awards for user-friendliness of its technical content, and a large number of pages would have served better staying part of the tree.

If you are the type of person who likes to browse technical books the way some people like to read bad romance novels, you might have the patience to read through this book. If you are a busy person, you might get

very frustrated, like I did, sieving the information. I would give this book 4.0 feather dusters on a scale of 5.0 with 0.0 being the best, representing a book that will be used a lot.

Matthew Klein

President

Indoor Air Quality Solutions, Inc.
Bethel, Ohio

Architectural Graphic Standards, CD-ROM, Version 2.0, by John R. Hoke Jr. FAIA, editor in chief. New York: John Wiley & Sons, Inc., 1998. \$400 for AIA Members, \$450 for non-members.

John Wiley & Sons continues its reputation for leadership with the release of the CD-ROM version of *Architectural Graphic Standards* and this subsequent version 2.0. This electronic version of the ninth edition of *Architectural Graphic Standards* takes full advantage of the ease and speed of search and cross referencing information to the point of redundancy. Five methods of locating information are offered: the traditional CSI MasterFormat®; building systems and components; interest topics; traditional alphabetical work index; and should all else fail, by exact word search or proximity.

On the surface, *Architectural Graphic Standards* on CD-ROM is what you would expect a "book on disk" to be and a little more. Many of the illustrations found in AGS are available in CAD Compatible Vector Format, based on the American Institute of Architect's CAD Layer Guidelines. These images may be imported, altered and manipulated in accordance with the Software License Agreement. Illustrations not available in vector format may be copied and sized as a raster image and pasted into a document. Text is structured with SGML codes, also for use in cut and paste applications.

AGS on CD-ROM offers much more than the ninth edition of *Architectural Graphic Standards*. This program includes context-sensitive Web links for access to product manufacturers, trade and professional associations. More than just a search engine, access to appropriate and selective Web sites is integrated seamlessly within AGS. Selecting the Industry Links icon from the toolbar offers links to references, associations, and resources for the Active Object, including website links which often include *Architect's First Source Profile* for the Manufacturer, as well as the specific Manufacturer's Home Page. Selecting the Web link, AGS launches your default browser using the URL as the location.

John Wiley & Sons, Inc. promises to post updates including industry links via the AGS website at regular intervals. Licensed users will be able to download updates from the Wiley website keeping their version of AGS current. At approximately twice the price of the print version, AGS on CD-ROM needs to deliver more, and it does.

Joseph Powell, AIA
Design Architect
University of Georgia
Athens, Georgia

The Learning Revolution: The Challenge of Information Technology in the Academy, edited by Diana G. Oblinger and Sean C. Rush. Bolton, Massachusetts: Anker Publishing Company, Inc., 1997. 241 pps, hardcover.

During the past 20 years we have heard over and over about the challenge presented by the growth in information technology. As facility professionals we have been faced not only with the need to make good use of new technology, but also to support the growth in technology used by oth-

continued on page 57

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ers. Our own growth in sophistication has often helped us develop an understanding of how better to support those who rely on our services.

The growth in information technology in higher education has required leaders to challenge the assumptions that have underpinned how education has been conducted and how results are determined. *The Learning Revolution* is a collection of papers from leaders in higher education from across the United States. The book is edited by two of IBM's leading higher education specialists, and describes the state of change and the technology based roots of this change in higher education. The message in this book is very simple. *The pace of change and the volume of change we face have increased dramatically. This situation has created challenges across the higher education industry, and we not only have to change what we are doing today but also change how we plan for the future.*

The Learning Revolution is not a treatment of the specific challenges faced by facility services providers or financial planners. It is a treatment of the issues of change and technology from the perspective of the academic community. This is not the place, then, to look for answers to questions about what to do. It is, however, a good introduction to what your customers are facing as they struggle with the explosion in possibilities created by growth in information technology. Leaders in higher education are redefining higher education in order to provide the best education possible with the tools available. Traditional terms such as "teach" and "lecture" describe methods that are becoming less and less descriptive of the educational process and less relevant to students.

The Learning Revolution has three parts. Part one includes a general discussion and description of the roots of the change in information technology, and general statements of the

challenge faced by higher education. Part two presents papers by authors from a wide range of roles in higher education discussing how educational leaders are dealing with the challenge of information technology today. While none of the papers is a treatment of the challenge for facilities professionals, most of us will see that our issues abound just beneath the surface of issues such as "distance learning" or the growth in the use of notebook computers. Part three deals with what all of this means in the future, and facilities issues, though not the focus of the papers, are everywhere.

It is vital for facilities professionals to read books like *The Learning Revolution* because all of those involved in managing higher education must begin to learn from one another and make active learning part of all we do. In the past, faculty and students asked us to do things and to be effective in reacting to their needs. However, just as our academic institutions have had to become more proactive in dealing with students, facilities professionals must become more proactive in working with every one in the educational process.

One of the results of the growth in technology in the delivery of education and services to students, is that facilities professionals need to know a lot more about what is going on in the classroom. The days of a focus on clean rooms and the right number of chairs are over. These concerns are still critical, but they must share our attention with the more complex and rapidly changing technology challenge we face.

In summary, the editors have written and assembled an interesting mix of topics that do a good job in illustrating the diversity of issues facing leaders in higher education. I recommend the book for facilities professionals who lack confidence in their understanding of these issues.

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Those with healthy "academy" partnerships and a mature understanding of the issues can also gain from this book, because complacency and confidence helped create the current need for urgent action.

William G. Suter
Physical Plant Director
American University
Washington, DC

Guide to Energy Management, 2nd edition, by Barney L. Capehart, Ph.D., CEM, Wayne C. Turner, Ph.D., P.E., CEM, and William J. Kennedy, Ph.D., P.E. Lilburn, Georgia: The Fairmont Press, Inc., 1997. 515 pp., hardcover.

In the preface the authors state one of the primary reasons for writing this book: "This growth in energy management has brought many newcomers into our profession." One of my first impressions of the book was that it read like a college textbook, without all the theoretical background. The authors apparently used parts of the book for college level courses they had taught. The book includes numerous examples in each of the chapters, with study questions and problems at the end of the book. Each chapter also includes an extensive bibliography for those who want to delve into particular topics in more detail.

The book begins with an introduction to energy management which briefly describes the need for saving energy, the design and implementation of an energy management program, and some of the basic energy accounting necessary for a successful program. The authors then discuss in detail preparing for and conducting a facility-wide energy audit. There is some examination of the nine major systems to audit, the identification of energy management

opportunities (EMO), the audit report and finally the energy action and implementation plan.

The authors do a good job of describing the various schedules and rate structures for electric and natural gas service, as well as considering the costs of other utilities such as water, sewer, steam, and chilled water. This discussion leads to monthly energy bill analysis, and reviews some ideas to consider in order to reduce utility costs. Following this section, a chapter is devoted to economic analysis and life cycle costing of various EMOs with numerous examples worked out. This chapter provides a very good introduction to this important part of energy management for the newcomer, and also furnishes a good refresher course covering various options for the more experienced energy manager.

The next several chapters look at the major energy users in a typical facility, such as lighting, HVAC, and steam generation and distribution. I thought the authors did a good job investigating and explaining the various types of lighting, lighting needs, maintenance of lighting systems, and opportunities for lighting EMOs. The lighting chapter finishes with a four-page list of light saving ideas for the energy manager to investigate at his/her facility. The HVAC chapter briefly describes how various systems work, the energy efficiency ratings of various HVAC system components, and possible improvements in HVAC operation. This chapter concludes with a good briefing on how to calculate HVAC loads, with appropriate examples and the necessary tables for calculating each type of load. The next major energy user discussed is the steam generation system, and two chapters are devoted to explaining the combustion process, type of boilers, fuels, and the overall heat balance of a boiler system. Various energy saving ideas are mentioned including waste heat recovery methods, and a number

of boiler efficiency improvements to consider.

The book next explores various HVAC control systems and the role of the computerized building automation systems in saving energy. I thought that this topic should have been developed more fully, as central computerized automation systems play a major role in energy savings in a great number of facilities today. Along with this discussion, the importance of a competent maintenance staff and the role of developing a preventative maintenance program are examined.

The authors conclude with the topic of process energy management. Although there are some ideas applicable to university facilities, such as motors and variable speed drives, most of the chapter and examples are better suited to an industrial environment.

Overall, I thought this book would make a very good introduction to energy management for the college student interested in pursuing a career in the energy field. The book would also be well suited as a starter for someone already in facilities management or operations but with only little to moderate energy management experience. There were numerous references to other sources of information for anyone with a need to pursue a more in-depth study of the topics. The experienced energy manager, however, probably would not find many new ideas in this book on fundamental energy management.

Paul A. Wenner, P.E.
University Engineer
Miami University
Oxford, Ohio

Coming Events

For more information on APPA seminars and programs, contact the APPA Education Department at 703-684-1446, ext. 230 or ext. 231.

Sep. 20-25—*Institute for Facilities Management*. Portland, OR.

Jan. 17-22, 1999—*Institute for Facilities Management*. Reno, NV.

Feb. 7-13, 1999—*Leadership Academy: Professional Skills Program*. College Park, MD.

Mar. 14-19, 1999—*Leadership Academy: Individual Effectiveness Skills*. Stanford, CA.

Apr. 11-16, 1999—*Leadership Academy: Organizational Skills*. Notre Dame, IN.

June 20-22, 1999—*Educational Conference & 86th Annual Meeting*. Cincinnati, OH.

July 16-18, 2000—*Educational Conference & 87th Annual Meeting*. Fort Worth, TX.

APPA Regional Meetings

Oct. 2-6—*CAPPA regional meeting*. Little Rock, Arkansas. Contact host Jerrel N. Fielder Sr., University of Central Arkansas, 501-450-3196.

Oct. 4-7—*MAPPA regional meeting*. St. Paul, MN. Contact Thomas Dale, University of St. Thomas, 612-962-6530.

Oct. 4-8—*PCAPPA regional meeting*. Palm Springs, CA. Contact James Hansen, California State

University/San Bernardino, 909-880-7206.

Oct. 16-20—*SRAPPA regional meeting*. Birmingham, AL. Contact: Brooks Baker, University of Alabama/Birmingham, 205-934-4427.

Nov. 1-4—*The Power of an Idea: The 1998 ERAPPA Conference*. Providence, RI. Contact Dave Bull, 413-545-6465.

Other Events

Nov. 1-4—*NACAS 30th Annual Conference*. Anaheim, CA. Contact the National Association of College Auxiliary Services, 540-885-8826.

Nov. 7-13—*PowerSystems World '98: International Conference*. Santa Clara, CA. Contact PowerSystems World, 805-650-7070.

Nov. 16-20—*Comprehensive Five-day Training Program for Energy Managers*. Dallas, TX. Contact the Association of Energy Engineers, 770-925-9633.

Dec. 2-3—*L.A. Buildings & Real Estate Show*. Los Angeles, CA. Contact L.A. Buildings, 203-840-5616.

Dec. 3-4—*Mealey's Construction Defect Litigation Conference*. Marina Del Rey, CA. Contact Mealey Publications, 1-800-MEALEYS.

Dec. 3-4—*Energy Procurement & Management*. Washington, DC. Contact AEE Energy Seminars, 770-925-9633.

Dec. 8-11—*CAUSE98: The Networked Academy*. Seattle, WA. Contact EDCAUSE, 303-449-4430.

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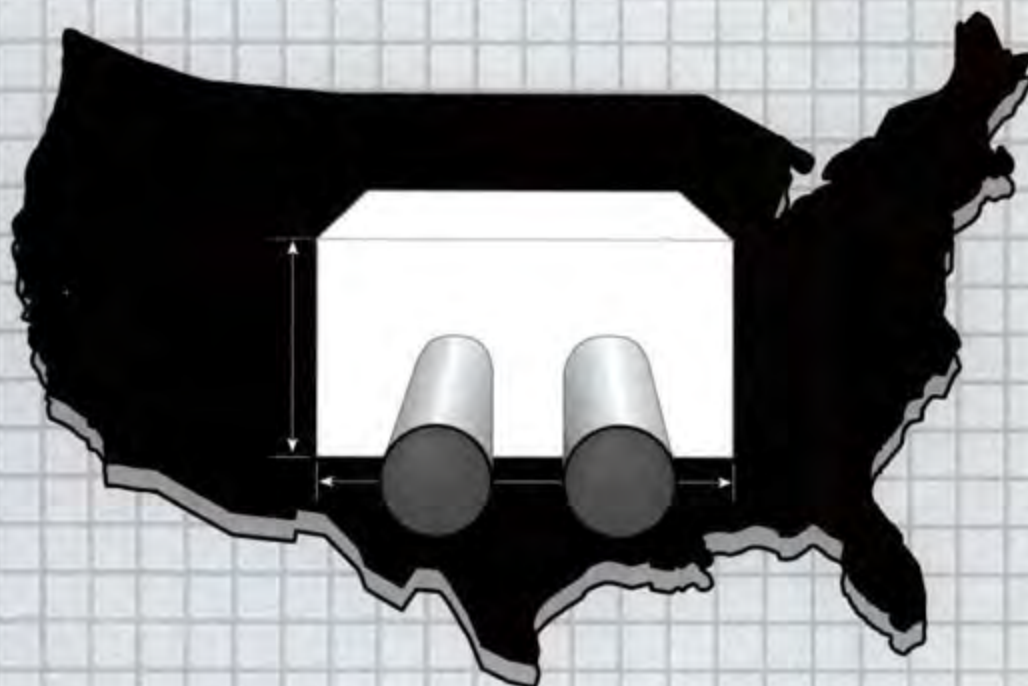
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