

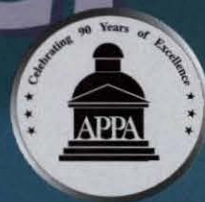
November/December 2004

VOLUME 20

NUMBER 6

# Facilities Manager

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



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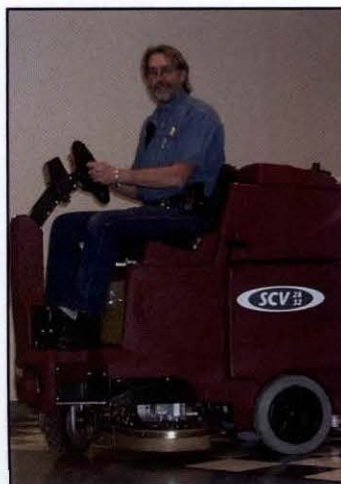
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# Facilities Manager

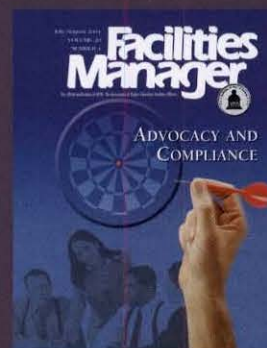
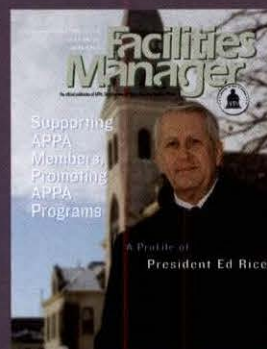
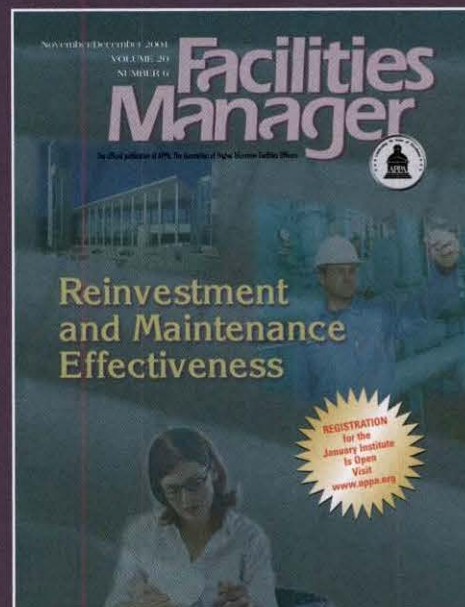
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**PRESIDENT:** Edward D. Rice,  
Kansas State University

**EXECUTIVE VICE PRESIDENT:**  
E. Lander Medlin, Alexandria, Virginia

**EDITOR:** Steve Glazner

**ASSISTANT EDITOR:** Betsy Colgan

**SUBSCRIPTIONS:** Cotrenia Aytch

**CREATIVE DIRECTION:**

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**PRINTING:** Corporate Press, Inc.

**EDITORIAL OFFICE:**

703-684-1446 ext. 236

**FAX:** 703-549-2772

**E-MAIL:** [steve@appa.org](mailto:steve@appa.org)

[betsy@appa.org](mailto:betsy@appa.org)

[cotrenia@appa.org](mailto:cotrenia@appa.org)

**WEB:** [www.appa.org](http://www.appa.org)

**ADVERTISING:**

Gerry Van Treeck

Achieve Communications

3221 Prestwick Lane

Northbrook, Illinois 60062

Phone: 847-562-8633

Fax: 847-562-8634

E-mail: [gvtgvt@earthlink.net](mailto:gvtgvt@earthlink.net)

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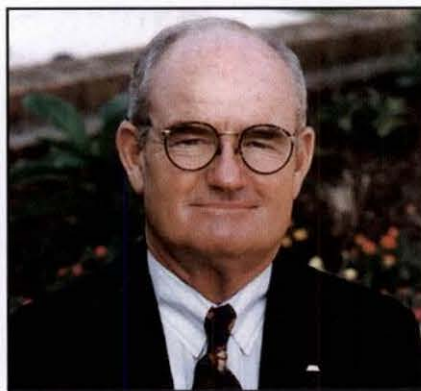
Global Partner in Learning

## From the Editor

by Steve Glazner

APP A lost a beloved colleague, friend, and leader when Charlie Jenkins passed away on November 14, 2004. He served as APPA's President in 1994-95 and truly opened the door for major positive changes that resulted in positioning APPA as a leading education association.

Charlie was recognized throughout his career for his service as President of APPA, the Central region, and of



Texas APPA. Under his leadership, Saint Mary's University in San Antonio, Texas received the 1993 Award for Excellence in Facilities Management. Personally, he received APPA's Meritorious Service Award in 1992 and the President's Award in 1991, as well as similar awards from CAPP A.

Charlie was an educator for APPA—teaching the Individual Effectiveness Skills track at the Leadership Academy as a FranklinCovey certified trainer, serving as dean of general administration for the Institute for Facilities Management, and making many presentations on leadership at APPA and regional conferences.

Charlie was also an excellent writer and editor—he was field editor and contributor for APPA's publication, *Perspectives on Leadership in Facilities Management*, he wrote numerous arti-

cles for *Facilities Manager*, and he could always catch the errant typo or questionable word choice in the best of publications.

But most significantly, Charlie was a leader and a mentor. I interviewed Charlie for the magazine in 1994 when he became APPA's President, and he offered three attributes of an excellent leader: a leader must have a vision for the future, a leader must be flexible, and a leader does not quit.

The following are several quotes from that interview of more than ten years ago. If you did not know Charlie Jenkins, you will miss him as much as those of us who had the honor.

“Leadership and management are different. Higher education is overpopulated with managers and dreadfully short of leaders.”

“Too many of us have fallen into the trap of being mostly concerned about buildings, systems, infrastructure—inanimate things—and forgotten that it's people who are our customers and the ultimate stakeholders in our success.”

“I don't have very much patience with those who say they can't do something because they're 'just a small college.' You're only as small as you think you are. I don't accept that as an excuse for not trying new ideas, not getting better, and not doing good work.”

“Be bold, be imaginative, and don't be satisfied with the status quo. Admit that we can always improve and, in fact, *must* improve, for if we don't improve the rest of the world is going to pass us by.”





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Source: Buyer's Laboratory Report, January 2003

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Compiled by Betsy Colgan



## Supervisor's Toolkit

Nuts and Bolts of Facilities Supervision

### Register for the Institute and Supervisor's Toolkit

Registration for the Institute for Facilities Management and Supervisor's Toolkit: Nuts and Bolts of Facilities Supervision opened November 1. Both programs will be held in San Jose, California, January 16-20, 2005. Track I: Individual effectiveness of the Leadership Academy will also be offered. To register, please visit [www.appa.org](http://www.appa.org).

### Look For Your 2004-2005 Membership Directory

The 2004-2005 APPA Membership Directory and Resource Guide has been mailed and should soon be in your hands. This year's directory features a more compact, desk-friendly format, as well as a CD of the directory that you can search electronically. If you do not receive the directory in the next two weeks, please contact Member Services (e-mail: [shadana@appa.org](mailto:shadana@appa.org) or [randel@appa.org](mailto:randel@appa.org); phone: 703-684-1446 ext. 227 or 232) to ensure that your mailing address is correct and that your dues have been renewed for the 2004-05 membership year. Only current paid APPA members will receive the directory. Members also interested in purchasing additional copies of the directory should contact Member Services.

### University of Missouri-Columbia Honored by IDEA

The International District Energy Association (IDEA) presented the University of Missouri-Columbia with its System-of-the-Year Award, IDEA's top recognition. The award was presented during the association's 95th Annual Conference and Trade Show, June 29 in Seattle.

The System-of-the-Year Award is given annually and recognizes an exemplary district energy system providing high-level performance and service that further the goals of the district energy industry.

"The credit for this award goes to the talented and dedicated employees in Energy Management," said Paul Hoemann, P.E., director of energy management. "It is an honor to be



**Joel Greene, (left) 2003-04 chairman of IDEA, presents the System-of-the-Year to Paul Hoemann.**

recognized by our peers in the industry as a cutting-edge organization."

For more information on the University of Missouri's district energy system, visit [www.cf.missouri.edu/energy](http://www.cf.missouri.edu/energy).

### Virginia Tech Recognizes Byron D. Nichols

Virginia Tech has awarded Byron D. Nichols, power plant superintendent, the 2004 President's Award



**Byron D. Nichols**

for Excellence, which acknowledges extraordinary contributions and sustained excellence in the performance of job duties and responsibilities.

As supervisor of power-plant operations, Nichols is responsible for local, state, and federal regulations for environmental, health, and safety issues. His close and collaborative contact with Environmental Health and Safety Services has improved his department's compliance with the multitude of regulations that impact their operations.

### Latrobe Fellowship

The College of Fellows of the American Institute of Architects (AIA) announced the 2005 Latrobe Fellowship call for entries. The deadline for submission is February 4, 2005.

The Latrobe award, named after Benjamin Henry Latrobe, one of America's first professional architects, was created to support AIA and advance the profession of architecture.

The Latrobe Fellow receives a stipend of \$100,000 for research, findings, and recommendations documented in publications, exhibitions, or educational programming that will inform, educate, and provide



new insights for the architecture profession.

For more details, visit [www.aia.org/fellows\\_latrobe\\_2005](http://www.aia.org/fellows_latrobe_2005).

## First Gold LEED Certification in Florida

The University of Florida's Rinker Hall is the first building in Florida to earn gold in Leadership in Energy and Environmental Design (LEED) certification. Administered by the U.S. Green Building Council, LEED certification recognizes buildings that meet the highest performance standards through environmentally conscious design, energy efficiency, resource conservation, and dedication to indoor air quality.

Rinker Hall, a 47,000-square foot facility designed and constructed as a "green" building, uses 35 to 55 percent less energy than typical buildings of its size and its future operation will be more environmentally friendly.

For more information visit [www.usgbc.org](http://www.usgbc.org) or e-mail Carol Walker, director of Facility Planning and Construction, [cjw@ufl.edu](mailto:cjw@ufl.edu), for more information.

## Who's Who in the Buildings Market 2004

Number 25 in the Buildings Market 2004 survey was Iowa State University, cited for their embracement of Six Sigma in their facilities management practices, their well-designed Master Plan for the university's projected growth, and their aggressive energy-efficiency benchmarking plan. Iowa State is the only higher education institution to be rated in the top 25.

The 2004 'A' list, developed by the Building's Editorial Staff, is based on industry interviews, questionnaires, and published information such as 10K reports, company websites, industry-related reports, Hoover's Online, and other published and electronic materials. A combination of reader organizations are represented in the 'A' list. Iowa State represented

one of the five categories the 'A' list rates, institutional real estate, which includes healthcare and educational reader organizations in both higher education and K-12.

For more information on the Buildings Market 2004 survey, visit [www.buildings.com](http://www.buildings.com)

## School Security

Some of the more common hardware selected for school security, whether it's for an existing facility or for new construction, include the following:

### Closed-Circuit Television Cameras

Television cameras are cost-effective and capable, and are most effective when used to observe public corridors, stairwells and exterior doors, and larger spaces such as the cafeteria and gymnasium.

### Door Security Hardware

Schools using generators can lock doors electromagnetically, which

translates into a force of either 600 or 1,200 pounds.

### Panic Buttons

Along with intercom systems, panic buttons go hand-in-hand with many school security systems.

### Electronic Security Panels

Door hardware is connected to a security-control console that monitors doorways and records all alarms.

### ID Cards

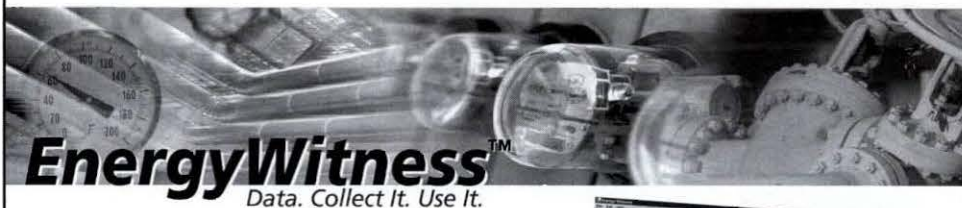
ID cards allow access to designated users and also monitor and track who enters a room and at what time.

### Metal Detectors

Each metal detector requires three people to operate it and can be costly. If metal detectors are used, they must be used at all of the school's entrances and exits. A better solution might be to use a handheld metal detector on a case-by-case basis.

Source: "Safety By Design," American School and University, September 2004 supplement.

# Engineer your Operations



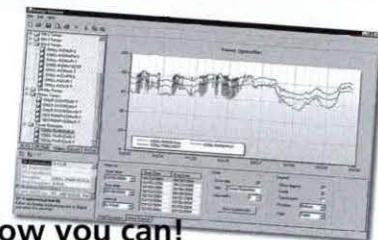
## Are you always being asked to do more with less?

- Does it take too long to get operational data, and even then, it's insufficient?
- Want to stop wasting time treating symptoms and a fix the real problems?
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## Civility ABCs

**I**n the spirit of fostering open communication and workplace etiquette, APPA offers some tips from the book *Choosing Civility: The Twenty-Five Rules of Considerate Conduct*, St. Martin's Press, by Prof. Pier Forni.

**Smile.** Smiling shows that you welcome the other person and are ready to communicate.

**Show Consideration.** Ask yourself, "How will what I say or do affect the

other person?" You don't want to spread unhappiness accidentally or unnecessarily.

**Keep Your Voice Low.** Keeping your voice low in public places will improve everyone's experience and your own.

**Give Praise.** Sincere praise gratifies others and shows that you are comfortable with yourself.

**Admit You're Wrong.** At any given moment, on any given issue, you may

be wrong. Having the courage to acknowledge it makes you more agreeable.

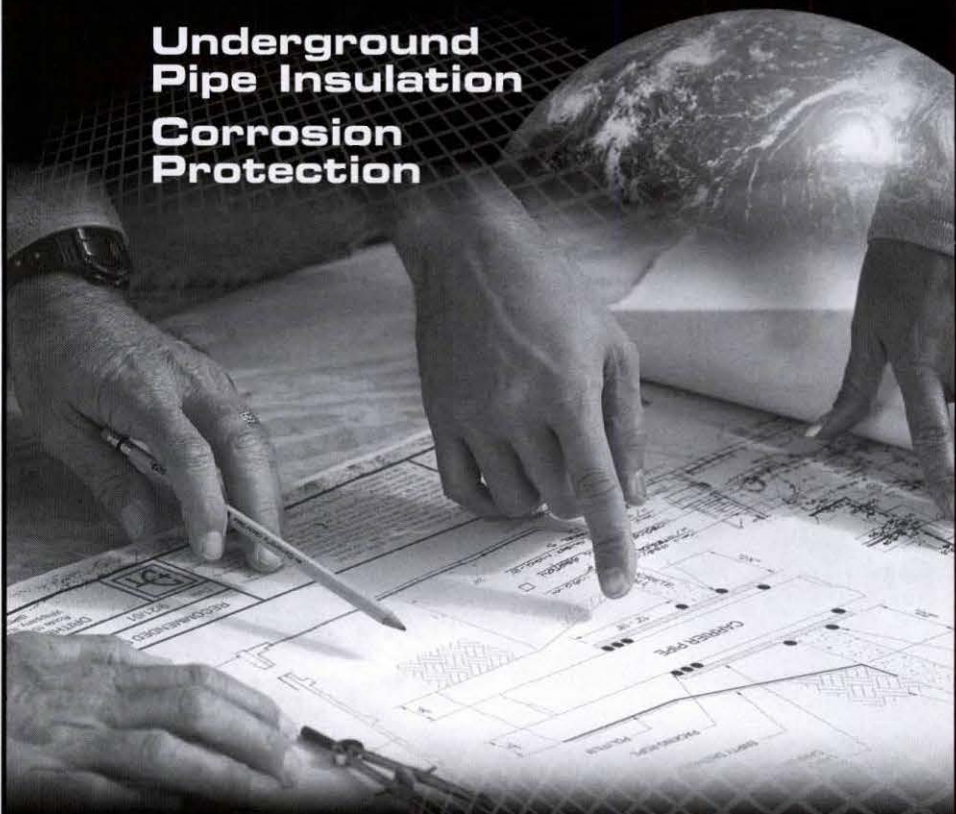
**Don't Ridicule, Humiliate, or Demean.** Show your anger but don't let it overpower you. You can express your thoughts without attacking the other person.

**Let Others Be Kind to You.** Part of being considerate is accepting and treasuring kindness. 🙏

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## Facility Facts

**12,627,000**

Number of college students projected to attend public U.S. higher education institutions this fall.

**3,841,000**

Number of college students projected to attend private U.S. colleges and universities this fall.

**17,200**

Capacity of the largest residence hall system in the country at Michigan State University, East Lansing, Michigan.

**80 square feet**

Size of a two-person bedroom at New School University in Manhattan.

**\$11 billion**

Amount colleges and universities will spend on construction projects this year; 70 percent of which will be allocated to new buildings.

**240,000**

Number of existing buildings on college campuses; a 600-percent increase since 1950.

**16,500**

Number of iPods Duke University gave to incoming freshmen this year.

Sources: APPA, NCES, and the Washington Post





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# Executive Summary

## How Important Is What We Do?

by E. Lander Medlin

This fall marked the culmination of our nation's focus on the presidential election.

What better time to discuss the issues and challenges of our institutions and our profession from the perspective of several of our higher education presidents and vice presidents. My visits to the regional meetings this past fall afforded me the opportunity to listen to presidents and vice presidents across the country discuss the changing higher education landscape, their perception of campus facilities, and the important role of the facilities professional from their vantage point.

Generally speaking, the presidents' view of the higher education landscape today and for the foreseeable future can be organized around some constants, some changes, and some challenges. We will continue to face constant pressures such as resource scarcity with rising tuition costs, increased demand with diminished capacity, and continued calls for accountability from the public. What will change is the intensity of demand and how this intensified demand will impact both public and institutional policy decision making regarding the allocation of existing resources and corresponding new funding strategies. The combination of these constant pressures and forces and the changes they portend have increased the complexity for achieving reasonable long-term solutions. The challenges are to focus our efforts together and share the responsibility of finding new approaches to fund old problems, increasing our collective efficiency and effectiveness to improve our cred-

ibility with our constituencies, and engaging in a constructive dialogue with our stakeholders to ensure the continued quality of our educational programs and learning environment. Albeit simplistic, it really boils down to the three As—accessibility, affordability, and accountability—which will remain the focus of our regents and trustees, presidents, and vice presidents for some time to come.

Within this landscape lie our presidents' perceptions and expectations of campus facilities and the role of the facilities professional. Their comments can best be captured under four main categories: mission-driven facilities; service and support roles; impact of technology on the built environment; and community involvement and engagement.

- **Mission-Driven Facilities.** It is critical that facilities professionals understand the importance and necessity of tying facilities needs with their institutional mission, vision, and strategy. It was clear to these presidents that alumni identify with certain physical infrastructures, potential students are influenced by their first impressions of the buildings and grounds, and both faculty and institutions compete for the best research and teaching space. Their comments are reinforced in a recent article by Barry Munitz appearing in the *Chronicle of Higher Education*: "When looking back on their college days, many people find that their most vivid and lasting memories include a mental image of their alma maters: the buildings, grounds, and other tangible settings of their campus lives." Therefore, the importance of campus facilities is seemingly understood. However, the ability to effectively tie specific building and infrastructure needs with strategic

institutional plans and program directions must begin with the facilities professional. We must improve our ability to collect, organize, and present the necessary data, information, and facts that are credible and compelling from the perspective of senior institutional officers.

- **Service and Support Roles.** Thoughtful and strategic planning and processes were continually emphasized. Yet we must continue our efforts to efficiently and effectively deliver our services, thereby further minimizing the cost of education. At the same time, our ability to provide flexible spaces and adaptable buildings and systems was reiterated as the lines continue to blur across and between programs and the facilities requirements continue to change given today's environment and the information age unfolds.
- **Impact of Technology on the Built Environment.** Technology continues to be ever-present on everyone's minds and requires a constant focus on flexible and adaptable systems and spaces that makes planning for the future necessary. As the impact of the nature of knowledge crosses all known boundaries, space needs will follow suit. Again, technology and its implications on the built environment must be mission-centered. Of equal importance is the use of technology to drive improvements in systems, structures, and processes.
- **Community Involvement and Engagement.** This category takes on a bit different twist as the focus of the presidents' comments were not just centered on better communication and collaboration across all constituencies, the surrounding communities, and the state. Their comments focused on the possible new and different

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



partnership opportunities that must be explored by sharing services, facilities, and staff, both within the campus itself and between campuses. Shared services models are starting to emerge and we will need to be on the forefront of these initiatives.

In the final analysis, it was the recommendation of the presidents from higher education institutions that the facilities professional focus on engaging the community in the following ways to deal most effectively with these constant pressures, changes and challenges.

- **Communication.** Communicate in a clear, consistent, and open manner and listen more closely and attentively.
- **Consultation.** Consult more regularly with faculty, staff, and other stakeholders, especially on major projects and large dollar expenditures.
- **Anticipation.** Anticipate potential problems and use your knowledge


one of the keys to our effectiveness will be the ability to most effectively utilize our knowledge and expertise about the built environment to strategically impact the mission of our institutions.

and expertise to recommend potential solutions.

- **Integration.** Integrate everyone into our programs, projects, and services so folks do not feel marginalized.
- **Perception.** Manage the messages, as perception is reality.
- **Participation.** Participate in campus academic and administrative governance to build stronger relationships and alliances.
- **Integrity.** Be a trusted partner who will honestly state the facts, situation, and implications so

decisions can be made completely and legitimately.

It is clear from listening to these presidents that one of the keys to our effectiveness will be the ability to most effectively utilize our knowledge and expertise about the built environment to strategically impact the mission of our institutions. And, this will ultimately impact the common good for all. As to our continued importance and value, Barry Munitz provides wonderful insight in his previously referenced article from the *Chronicle* when he stated the following: "In fact, for many of us, the iconic campus buildings and the spaces that surround them symbolize the meaning of higher education in America... colleges cannot afford to ignore their physical heritage—not financially, not politically, not intellectually. Too much is at stake: our collective memories, history, and achievements." 🏛️



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# Membership Matters

## Take Advantage of What APPA Offers

by Brooks H. Baker III

This morning I woke up early as I usually do, started the coffee pot, and walked out on the front porch. It was a beautiful morning on the farm in Alabama and being able to see all of this beauty as the sun rises is a very special treat. I especially enjoy the fall part of the year when the turkeys and wild quail wander close enough to the house to be observed for a few minutes at a time. On occasion, we will have a flock of geese in the field in front of the house as they make their southerly journey in the fall.

I was fortunate to be reared on a farm (that's southern for growing up) by parents who understood the value of education and knowledge. From the time I was old enough to walk on my own, my dad was taking me to meetings at the agricultural extension center and to educational sessions sponsored by the Department of Agriculture at Auburn University. He would take me to sessions on animal health, grazing practices, proper use of fertilizer, and other topics that would help our little farm to be the best that it could be. In my dad's opinion, being a member of and being active in the Cattlemen's Association and the Farm Bureau were conduits to knowledge and information and provided a network that could help us achieve excellence. As a result of this involvement, he was able to develop a farm that was recognized as being able to deliver a product with unsurpassed quality.

**Brooks H. Baker is the associate vice president for facilities at the University of Alabama at Birmingham and APPA's Immediate Past President. He can be reached at [bbaker@fab.uab.edu](mailto:bbaker@fab.uab.edu).**



After coming to work at the University of Alabama at Birmingham, one of my first orders of business upon entering this new field was to find others who had successfully negotiated the road toward excellence in facilities management. APPA became my organization of choice, which has turned out to be a tremendous decision for me and for my university. I can remember my dad running into problems on the farm for which he had no immediate answer. He would pick up the phone and call the local county agent or a member of the Cattlemen's Association to see how they handled the same or a similar problem. When I run into challenges on the farm, guess what, I still call people from that association for help.

Who do you call when you run across a problem that you have never seen but realize your counterparts at other institutions have probably walked that trail before? As members of APPA, we have a wonderful opportunity for networking and building relationships that can lead to answers when we have these tough questions.

My parents taught me the value of reading and staying hungry for knowledge, so the periodic publications that are available through the Cattlemen's Association and other

agricultural associations were always on our coffee table and used as references. APPA resources appear to be almost unlimited when looked at as a whole. Our bimonthly magazine, *Facilities Manager*, which you are reading right now, has a wealth of knowledge in each issue that can be of great benefit as we go about our business every day. In addition, APPA publishes books on facilities topics that help us to improve in our ability to be "world class" facility managers.

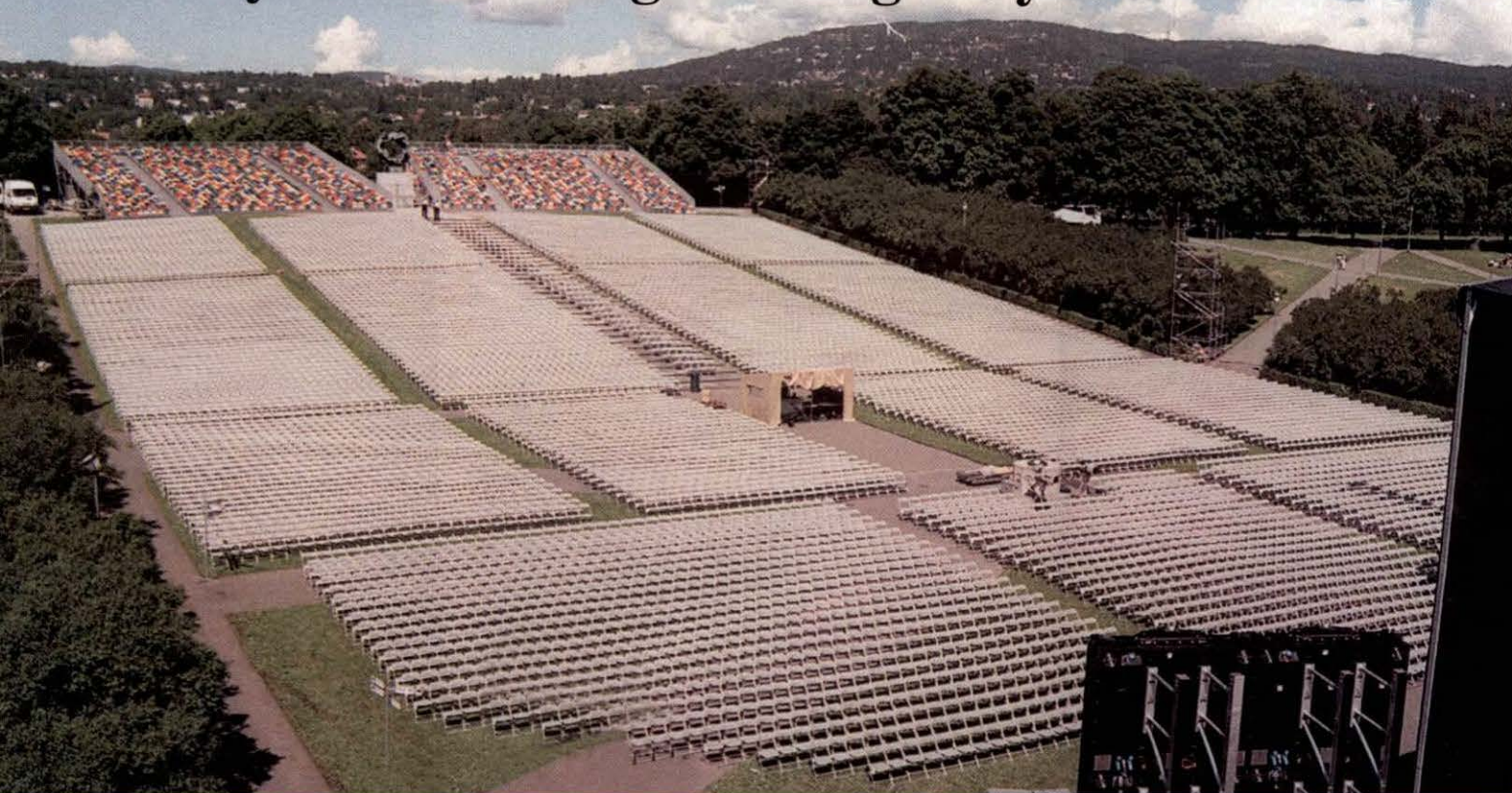
It baffles me why anyone in our line of work would not be an active member of APPA when it is so obvious that this affiliation would assist in their professional development and in their delivery of service to their institution. Thinking that it costs too much to be a member of APPA is like the farmer who thinks fertilizer costs too much. Just as no crop can produce its best without some type of fertilizer, we cannot be the best facility managers without growing our knowledge and our network of resources through APPA.

Since you are reading this article, you probably are an active member of APPA and understand all these benefits of membership. So, this is sort of like "preaching to the choir," but it is up to us, the active and participating members of APPA, to spread the word and encourage others to take advantage of APPA, the association of choice for education facilities officers. Why don't you pick up the phone or e-mail a nonmember right now? Maybe you could sign up some associate members right there in your institution and help our association grow future members and leaders.

Now, I think I'll go back out and watch the turkeys for a while, the feathered kind. 🦃



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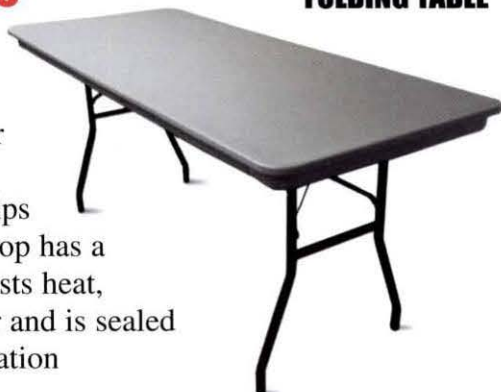
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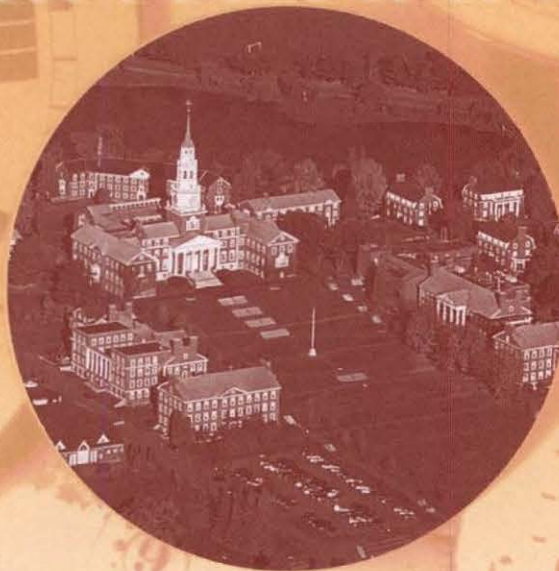
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# REVIEWING THE STATE OF DEFERRED MAINTENANCE

by Harvey H. Kaiser



[Ed. Note: This article is developed from research in progress by the author on an APPA Center for Facilities Research (CFaR) project. The project on "Facilities Reinvestment" will examine the state-of-the-art in addressing capital renewal/deferred maintenance and result in a book with findings and a recommended planning process to gain support and funding for CRDM. In this article, Kaiser sets forth some basic principles that will form the framework for the research and the eventual recommendations.]

## The Issues and Challenges

**H**igher education has historically underfunded maintenance of capital assets. Compounded by an asset portfolio of aging facility and infrastructure, inadequate funding for replacements of building systems and modernizations for current and new functions, and changing

pedagogy, colleges and universities accumulate backlogs of capital expenditures, often at the risk of institutional financial equilibrium. Under these conditions, campus buildings and infrastructure are subject to potential critical failures and disruption to normal activities, threats to health and life safety, inadequacies to support intended programs, deterioration in campus appearance, and a reduction in capital asset value. Taken together, these circumstances are grouped in the general term "deferred maintenance."

*Deferred maintenance issues are summarized as:*

- Piecemeal approach to capital planning without linkages between strategic and operational planning;
- Chronic resource shortage;
- Inadequate management policies and practices, plus internal politics;
- Misunderstood and misapplied needs assessment methodologies and tools;
- Unrealistic financial planning; and
- Lack of performance measures.

Understanding the deferred maintenance liability requires documentation of the causal factors, and includes the impact of underfunding annual operating budgeting for maintenance and replacement of building and infrastructure at the end of a life cycle, and the gap between funding required for adequate capital asset maintenance and reinvestment. Although some public systems of higher education and individual institutions

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**Harvey Kaiser is president of Harvey H. Kaiser Associates, Inc., based in Syracuse, New York. He is the author of The Facilities Audit: A Process for Improving Facilities Conditions, Mortgaging the Future: The Cost of Deferring Maintenance, and the coauthor of A Foundation to Uphold: A Study of Facilities Conditions at U.S. Colleges and Universities. He can be reached at [hkhkaiser@att.net](mailto:hkhkaiser@att.net).**



**TABLE 1: BUILDING DATA ELEMENTS**

Institutional identifier - FICE or IPEDS	Number of floors
Site identifier - institutional code	Estimated current replacement cost
Location or street address	Original building cost
Building identifier - local name	Cost of major renovation(s) - amount and date
Ownership status - owned, leased, etc.	Historic preservation status
Gross building area - gross square feet (GSF)	Type(s) of construction
Net assignable area - net square feet (NASF or ASF)	Disabled access
Year of construction - completion	Fixed equipment
Year of last major renovation	Building condition & functionality ( <i>see Tables 6 &amp; 7</i> )

have addressed these problems aggressively in recent years, many struggle with identifying their needs and presenting a persuasive and credible argument for financial support necessary to restore deteriorating and/or remedy unsafe conditions.

There are two major challenges in addressing deferred maintenance: 1) a consistent and commonly applied definition of deferred maintenance; and 2) a capital planning process identifying and integrating all campus capital needs. The basic definition of deferred maintenance is: *maintenance and repair deficiencies that are unfunded at the end of the fiscal year on a planned or unplanned basis and are deferred to a future budget cycle or postponed until funds are available.*

However, sometimes, estimates of campus "deferred maintenance" mistakenly includes major repairs and replacements for facilities more appropriately categorized as life cycle capital renewal, facilities modifications for change in use and upgrades to meet contemporary use standards, and regulatory requirements to meet environmental and life safety codes. Thus a "deferred maintenance backlog" is erroneously presented as the sum of several categories, in addition to the appropriate need to remedy existing physical conditions, by including annual life cycle renewal for facilities systems reaching the end of their useful life, and modernization/upgrade capital requirements.

A capital planning process, integrated into a long-range capital development plan by a strategic facilities planning process, comprehensively identifies capital requirements for all campus building and infrastructure based on needs assessments for *capacity* (enrollment, program), *condition and functionality*

(immediate condition deficiencies and modernization/upgrades), and *regulatory needs* (environmental and life safety codes). An additional component of a capital program is a forecast for annual life cycle renewal needs, to form a comprehensive list of capital projects for prioritization and funding allocation strategies.

### Data Elements

Data elements for analyses to address capital needs, including the deferred maintenance component, are based on methodology and tools for assessments of capacity, condition

*Continued on page 18*

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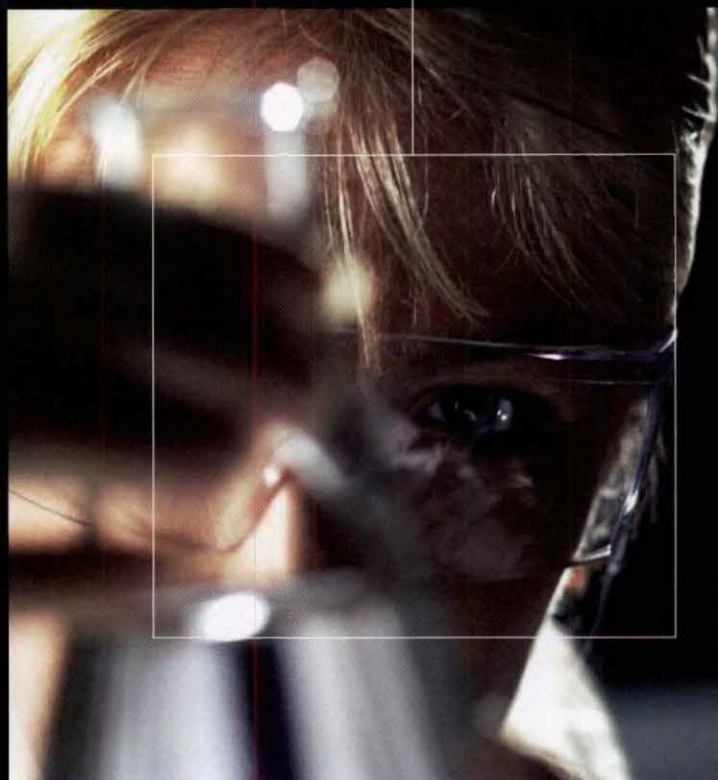


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...we adequately tracking  
organizational occupancy and  
recovering indirect costs asso-  
ciated with funded research?

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...was the last PM performed  
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and do we have the right  
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**TABLE 2: ROOM DATA ELEMENTS**

Institutional identifier - FICE or IPEDS	PEFIC Room Use Code - primary use, % use
Building identifier - local name	PEFIC Room Use Code - secondary use, % use
Unique space or room identifier - name, ID number	Assignable area - NASF or ASF
Organizational unit - name or code	Capacity - number of stations
CIP Discipline Code	Condition and functionality/suitability ( <i>see Tables 6 &amp; 7</i> )
Program Classification Structure	Disabled access

*Continued from page 15*

and functionality, and forecasted life cycle renewal. A comprehensive facilities database includes data elements required for needs assessments at levels of building and room. Data is either numerical, narrative, or both.

### Sample Methodologies

Methodologies and tools are applied for 1) a capacity analysis, 2) condition needs assessment, 3) functionality needs assessment, and 4) a life cycle renewal forecast.

### Capacity Analysis

A capacity analysis uses space planning and utilization standards to predict how much space, expressed in assignable square feet (ASF), is required for each space type (PEFIC Room Use Code). Then, by comparison of the *required*

amount of space with the actual amounts of space, the *capacity analysis* permits conclusions about *surplus* or *deficit* of space, by space type.

### Condition Needs Assessment

The assessment of *physical condition* needs is a two-part exercise to determine the current observable deficiencies and a prediction of future needs based on life cycles of building systems and components. Current deficiencies are those that are defined as immediate or critical because of failure or those with a high potential in the next 12-24 months. Thus, needs can be identified as deferred maintenance backlog because of a failure to take remedial action within past or current budget cycles or critical because of an imminent need for funding remedial action.



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Director, Physical Plant and Facilities Planning  
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**TABLE 3: NON-FACILITIES DATA ELEMENTS**

Division	Employee Data - Classification (EE06)
College/School	- Headcount
Department	- Full time equivalents
CIP Discipline Code	- Affiliation - division, college/school, department
PEFIC Room Use Code	- Classification - Admin., Faculty/Professional,
Classroom/Laboratory	Technical/Clerical, Graduate Assistants,
- Section #	Student Employees
- # of students	Research Data
- Course name	- Division
- Weekly schedule	- College/School
- Contact hours	- Department
- Enrollment limit	- CIP code
Room assignment	- Recent research expenditures - three-year average
Student Data	- E & G current fund expenditures - three-year average
- Headcount	Library Data
- Full time equivalents	- Library volumes - ACRL conversion method
- Affiliation—division, college/school, department	

**TABLE 4: GENERAL CAMPUS AND UTILITIES INFRASTRUCTURE**

Location
Capacity - design, performance
Condition/serviceability
Land use
Landscaping and open space
Transportation and circulation
Wayfinding
Disabled access
Utility Type:
- Electric power - normal and emergency
- HVAC
- Natural gas, compressed air, other specialized
- Data and telecommunications
- Water - city and campus
- Sanitary sewage
- Storm drainage

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**TABLE 5. SAMPLE SURPLUS/DEFICIT CALCULATION**

Campus	FTEs (Student)	Actual ASF	Predicted ASF	Surplus (Deficit) ASF	% Variance from Predicted
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There are alternative techniques for determining physical condition needs, with varying reliability and cost. Specific circumstances can dictate the selection of an appropriate methodology.

- *Qualitative Analysis*—a building walk-through is recorded as ratings (excellent, good, fair, poor, and unsatisfactory). The rating is converted as a ratio of the observed condition to an “excellent” condition and then multiplied by a current replacement value to determine the cost of a remedial action (lowest cost, moderate reliability).
- *Deficiency-Based Systems*—a comprehensive physical inspection performed on regular cycles, identifying observed deficiencies (condition and functionality) (highest cost, highest reliability);
- *Predictive modeling*—an assessment of facility-

system level condition through its life cycle (lowest cost, moderate reliability); and

- *Engineered Management Systems*—an assessment of asset performance combining predictive life cycle modeling and a disciplined observation of current asset performance (moderate cost, highest reliability).

The deficiency-based approach (or facilities audit) is conducted as a comprehensive building-by-building inspection of spaces and operating systems on an average three-year cycle for all facilities. Various field methodologies are based on UNIFORMAT II (Uniformat II Elemental Classification for Building Specifications, Cost Estimating, and Cost Analysis, NISTIR 6389. Washington: Department of Commerce, National Institute of Standards and Technology, 1999).

Actual inspections can be conducted using a spreadsheet template or computer data entry. Goals for the inspection are to

**TABLE 6. CONDITION NEEDS ASSESSMENT DATA COLLECTION TEMPLATE**

Inspection Data	System/Component Evaluation
- Facility Identifier - location, number, name	- Deficiency identifier - name, number
- UNIFORMAT II element category	- Deficiency description
- Inspector name	- Priority rating - level 1 (years 1-5), level 2 (years 5-10)
- Inspection date	- Estimated cost
- System/Component Condition Description	- Special Conditions

**TABLE 7. FUNCTIONALITY NEEDS ASSESSMENT DATA COLLECTION TEMPLATE**

Building Template	Room Template
1. Functional relationships	1. Functional adequacy
2. Architectural	2. Room/space finishes
3. HVAC	3. Climate control
4. Electrical service	4. Electrical service
5. Plumbing	5. Lighting
6. Lighting	6. Data and telecommunications
7. Data and telecommunications	7. Special services
8. Acoustics/sound and vibration control	8. Acoustics/sound and vibration control
9. Furnishings	9. Furniture and fixtures
10. Major equipment	10. Code compliance
11. Code compliance - accessibility, environmental, etc.	11. Accessibility
12. Historic preservation status	12. Safety and security
13. Safety and security	



identify routine maintenance items for annual operating budget expenditure and major repairs/replacements for two years (current year and next year capital budgets). Each major repair/replacement project should be estimated for current year and inflated costs to remedy deficiencies and prioritized for a five- to ten-year capital program.

### Functionality Needs Assessment

Data is collected and evaluated for an estimate to correct functionality deficiencies using a template for buildings and rooms, the latter based on the specific functional assignment for a PEFIC Room Use Code.

Condition, functionality, and regulatory needs are combined into a Facilities Needs Index (FNI), a baseline metric for future performance evaluation and benchmark comparisons with other facilities and institutions. The FNI is expressed as

$$\text{FNI} = \frac{\text{condition needs} + \text{functionality needs} + \text{regulatory needs (times \%)}}{\text{current replacement value}}$$

[Ed. Note: See also Cain & Kinnaman, "The Needs Index: A New and Improved FCI," March/April 2004 *Facilities Manager*.]

### Life Cycle Renewal Modeling

Life Cycle Renewal modeling utilizes factors of building systems or components estimated life along with current age and previous expenditures for improvements. Used as an independent analytical tool, the predictive (or life cycle model) provides a life cycle renewal forecast for systems with a 25-year life span (or longer). The predictive model forms the engineered management system approach which is used to identify building systems or components identified as close, at the end, or past the end of a life cycle for a facility-targeted, deficiency-based detailed assessment.

The predictive model also can be the basis of an annual renewal allowance in either an operating or capital budget. The allowance's purpose is to offset life cycle deterioration and serves to prevent an accumulation of capital repair/replacement backlog. **The allowance is in addition to a facilities operations**

Used as an independent analytical tool, the predictive (or life cycle model) provides a life cycle renewal forecast for systems with a 25-year life span (or longer).

**and maintenance annual operating budget.** Data elements required for a life cycle renewal forecast, in addition to building data elements (Table 1), include an estimated theoretical life for facility systems and components.

### Conclusion

Addressing deferred maintenance is a fundamental responsibility of the facilities management professional. Required is an understanding of the definitions and methodology to develop a credible and persuasive capital planning process. Integration into a long-range capital development case for funding and implementing a program to reduce deferred maintenance in order to offset future facilities deterioration and sustain functional facilities in support of institutional mission is also a requirement. 🏛️

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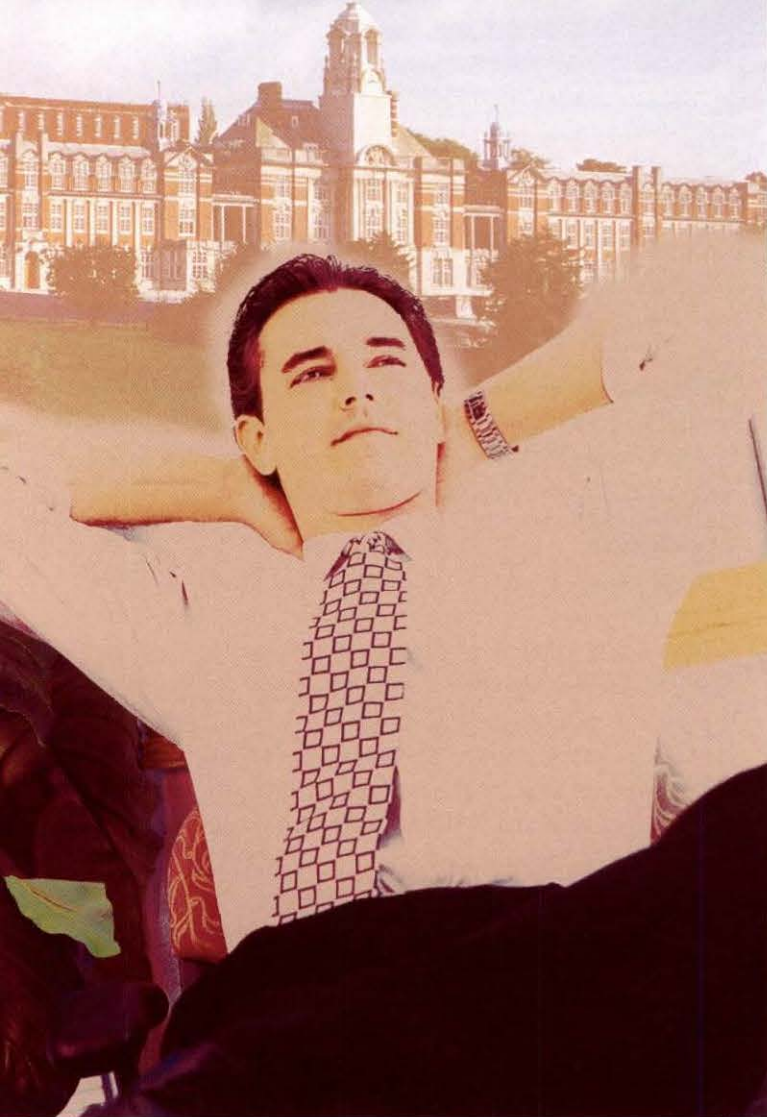
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All of us have millions of dollars invested in our facilities and in furnishings, but how involved are we in the day to day, week to week, month to month, and year to year assessment and maintenance of our facilities and furnishings? Whether we outsource all maintenance, run all maintenance through our physical plant department, or have a Residence Life maintenance staff, we still have the overall responsibility to our university, our state, and our residents to ensure we have a program of maintenance that is more than entering a work request when something is broken.

At the University of Southern Indiana we have taken an aggressive approach to managing and maintaining our facilities and furnishings by partnering with Physical Plant to go beyond the 'work-order-when-it's-broke' approach to maintenance.

We are a relatively young university, evolving from a commuter branch of Indiana State University in the 1980s to one of the largest growing universities in the state and nation, now housing nearly one-third of our student population. Our fall student enrollment is 10,050 students, and our fall 2004 resident population is just under 3,000.

Residence Life facilities currently comprise four residence halls with a total of 236 suites, four on-campus apartment communities with 43 apartment buildings and 578 apartments, and an off-campus community with 15 apartment buildings and 120 apartments. Our facilities total 934 apartments and suites with spaces for 3,200 residents for fall 2004. This is a huge investment for the university and the state of Indiana in less than 20 years of Residence Life growth; it is imperative that we protect and maintain that investment.

Since the inception of Residence Life at our university, we have had an annual program of summer rehabilitation (REHAB) for our facilities. Each apartment and suite is thoroughly cleaned and painted, and each major subsystem is reviewed by an electrical, plumbing, and general maintenance technician. But still we were in a reactive and not proactive mode of operation.

Director of Residence Life Julie Payne and Director of Facilities Operations and Planning Steve Helfrich, with the support of Robert Parrent, vice president for student affairs, and Robert Ruble, vice president for business affairs, teamed up to make maintaining Residence Life facilities a proactive effort for the University of Southern Indiana.

When I came on board as the manager of housing operations in the summer of 2002, the current summer REHAB program was well under way. The concept of the program at that time was a REHAB maintenance team led by supervisor Larry Shelton and consisting of cleaners, painters, and technicians, along with an inspection team from Residence Life of two area coordinators who would inspect and evaluate each

# To Maintain or Not to Maintain:

## A Common Sense Approach to Facilities Management

by Gregory A. Wagoner

*Gregory Wagoner is assistant director of facilities in the Department of Residence Life at the University of Southern Indiana, Evansville, Indiana; he can be reached at [gawagoner@usi.edu](mailto:gawagoner@usi.edu). This is his first article for Facilities Manager; the author thanks Dr. Thomas Rivers, Ph.D., for proofing and editing suggestions.*



apartment as it was completed by the REHAB team. Once an apartment was accepted back by Residence Life, the Residence Life central office staff would be notified that that particular apartment was ready for fall occupancy.

Being the new kid on the block, my job at that time was to observe and take notes. I was allowed, by the residence life director, freedom from other demands to spend as much time as I needed learning and digesting the whole operation. For me that meant getting a little dirty—I love the hands-on approach. Our two area coordinators took me around to show me what their role was in the program, and I made sure to let them know there would not be any changes made for this cycle. To try to implement any change once the program had begun would have only spelled disaster for all involved.



***Ruston Hall is completed this year and opened Fall 2004***

I met with the supervisors from Physical Plant, but only to introduce myself. Then I went out to observe what the work crews were doing. The crews were made up of summer student workers under the supervision of a Physical Plant lead person. Now, this is more like it—painting, hammering and nailing, cleaning, HVAC overhaul, free up that disposer—all those little hands-on items that make a facilities person happy.

What better way to learn about your facilities than to look at 870 apartments and suites?

This gave me the perfect opportunity to check quality control and find out first hand if everyone involved fully understood the goals of the program. Not surprisingly, most student workers did not know what REHAB was all about; they were only concerned with getting a paycheck. **Note Number One: “How do we get the troops motivated and have them care about the quality of their work?”**

We have our residents fill out an apartment inventory and condition form when they check out of Residence Life for the summer. So I grabbed a handful of the completed forms and continued my tour of facilities, going into an apartment and reading all four residents’ evaluations of that apartment and any comments they made. It was a very interesting exercise.

“Furniture scratched up. Cushion covers with burns, holes, and split seams. Disposer has not worked since we moved in.



***Campus apartments - four communities***

Toilet is clogged—no one fixed it, so we just used the other bathroom. The leg came off the chair and we didn’t want to bother anyone so we left it. We are not sure how the hole in the wall got there; it happened when we were gone for the weekend.” **Note Number Two: “Check into damage billing process.”**

Okay, you get the idea, but my point is there is a lot of information on these forms and we need to do something with it. **Note Number Three: “Find out what we do with apartment condition forms.”**

This information has to have more uses than just damage billing, but our thought process at the time was that the information was not needed, because each apartment would have the REHAB crew in it at some time and anything that might be on the check-out apartment condition form would surely be addressed. Maybe, but why not be sure that it gets addressed and have a copy in the apartment when the crews arrive—they could look at it and make sure they took care of all items on the form. **Note Number Four: “Make the apartment checkout form a two-part form, one for Residence Life and one for the REHAB crew.”**

We compiled a spreadsheet with all the raw data, minus the individual comments, to see what the number one complaint was. Want to guess? Furniture condition. Yes, it seems our residents think the furniture in their apartments “was picked up at a yard sale” (*actual comment*).

Time for a powwow with the REHAB supervisor to find out what is done to furniture during REHAB. Answer—nothing. It stays just like it is until it gets so bad it has to be replaced.

It was now time to go see the boss. The Director of Residence Life had been watching my progress all along, meeting with me to find out what I had learned, listening, and guiding me as I put together all the pieces to this puzzle. Generally answering each of my questions with something like “what do you want to do about it?” and “put together a proposal for me.” (*I have since learned to just go ahead and put together the proposal.*)

I could go into great detail about the furniture proposal, but that would be another article. The bottom line is we developed a furniture REHAB program to complement and



supplement our furniture replacement program. We send the hardwood frames out for sanding and refinishing and order replacement covers for the seat and back cushions—the result is furniture that looks nearly new for about half the cost of replacement. In fact, most people think it is new furniture when they walk into the apartment. What I do want to stress is that this effort was a **team effort** with Residence Life, Physical Plant, and Purchasing departments all working together with the same goal in mind of providing the best facilities and furnishings possible to our residents.

Do you ever get the idea that different departments are sometimes at odds with each other? That may be no surprise;

after all, each department is in competition with each other for resources, whether for funding or human resources. We all feel our ideas and projects are the most important on the table and need to be addressed first. So what do you do about that?

We set a standing monthly meeting with Physical Plant to sit down and discuss any housing/ maintenance issues that arose during the month, go over any projects so we all could be updated at the same time, forward-plan our housing consolidation to turn over empty apartments to Physical Plant before the summer REHAB program began, look at our deferred maintenance and long-range development plans on a regular schedule, and most importantly—we do all of this

#### **together.**

Residence Life developed a schedule for this year's REHAB program that allowed us to work hand in hand with Physical Plant and REHAB crews, viewing the program as a team effort with Residence Life being a being a part of the team and not just a customer of Physical Plant.

We attended the first day orientation session for the summer workers and impressed on each person the goals of REHAB and the contribution each person makes toward this effort. During the course of the program I made sure I got around to every crew and had a chance to talk with them more than just casually. *The result was that we found people with pride in their work and the outcome was a quality product.*

So now we have all our apartments and suites ready for the fall onslaught of incoming residents. What else can we do to be more proactive with facilities and maintenance?

How about taking a look at what you can do for yourself? "What the heck are you talking about?" you may ask.

Simple, first we wrote a "Resident's Guide to Self-Help Maintenance." Yes, we are going to teach our residents how to do some things for themselves. And, if they do need a work request we are going to have their resident assistant or area coordinator personally look at the problem to see what needs to be done and write up the work request if needed. The folks at Physical Plant were a little skeptical about this one (*who am I kidding, we were all skeptical about it*), but agreed to give it a try.

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### Campus apartments - four communities

Then we ordered common supplies that our residents would previously contact Physical Plant to obtain: light bulbs, fire alarm batteries, bunk bed pegs, shower curtains and clips, sink strainers, toilet plungers (we were empowering our residents to plunge their own toilet), fire extinguishers, even brooms, mops, and a mop bucket. Our residents could get these items directly from Residence Life and no longer had to contact Physical Plant to issue a work request.

Regarding training, it would not do for any one of us to not know how to do any of the tasks we were going to ask our residents to do; this turned into a really fun part of the overall effort. Area coordinators and management staff went over the policy letter and practiced the tasks like it was finals week. We were going to train our entire complement of residents assistants so that by the time our residents arrived we would all be capable of teaching each resident any of these tasks.

What were the tasks? Change a light bulb, plunge a clogged sink or toilet, check a circuit breaker, check a ground-fault receptacle, and clean the filter on the through-the-wall HVAC unit. Then we added household tips such as not putting the rocks from your aquarium in the disposer (*don't laugh; I know some of you have had this same problem*), and when you turn your heater on for the first time in the cool season you may get some smoke as the dust burns off the heat element. Really, nothing complex, (*you would not want a resident to attempt to free-up a stuck disposer*), just those everyday tasks mom or dad probably did for them at home.

We had over a thousand work order requests from our residents to change

light bulbs. We let residents change their own bulbs if they are incandescent, and if they are fluorescent we taught our area coordinators and resident assistants to change them. As a result, we are down to just a few work orders for light bulbs, and Physical Plant will now call me if they do get a work order to confirm the request before it gets processed.

We had about 10,000 total work orders for Residence Life in 2001. At the end of the 2002-03 year we were down to an amazing 4,800 orders, all in the first year. Our goal was to try to cut that in half within two years. If we help ourselves and do the simple work requests, the Physical Plant department can concentrate on much larger problems, and we should be able to save some money. We are into the third year of this adventure and are now averaging about 3,000 work orders per year—considerably down from the 10,000 we started with.

We are continuing this effort and have a much stronger, *partnered* relationship with Physical Plant. We are no longer just a customer or part of the problem for them. We are part of the team and part of the solution. We do what we can to help ourselves whether it's changing our own light bulbs, plunging a toilet, or cleaning out our basement. It saves our precious resources for where they are needed most. 🏠

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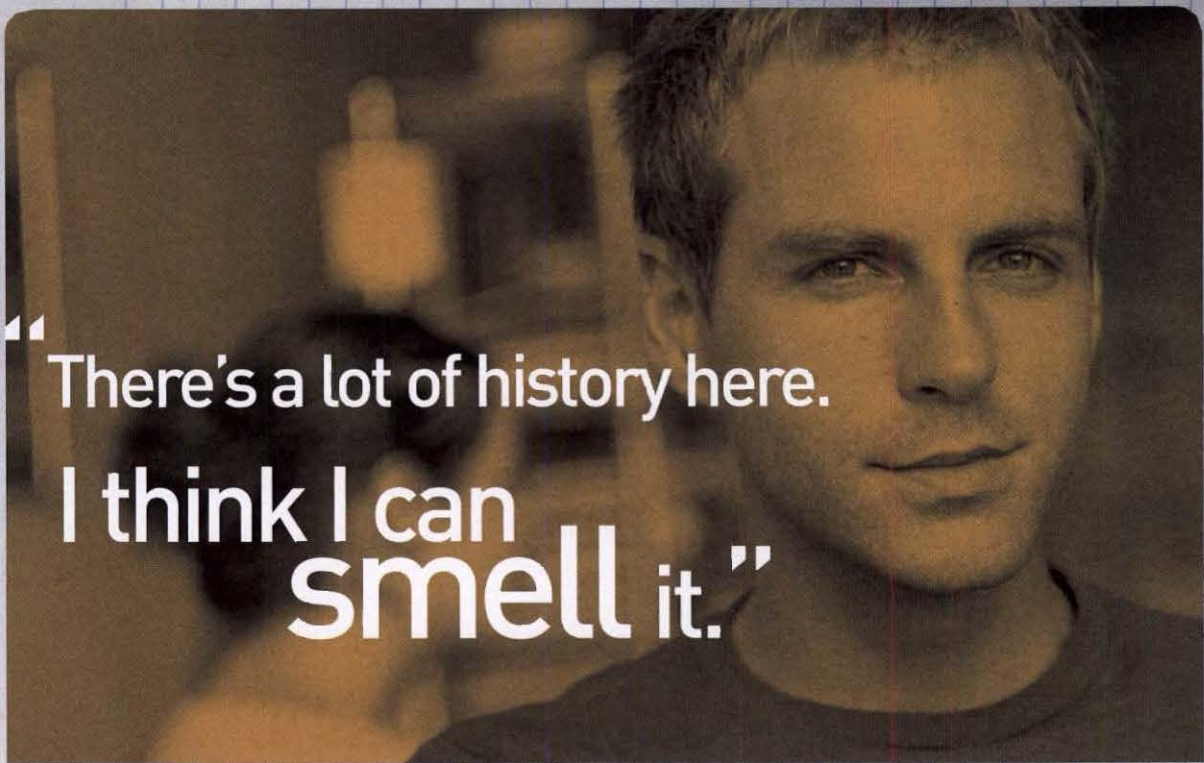
<sup>1</sup>Software developed in consultation with Jack Dudley, P.E., Editor and Co-Author of the First Edition of the *Custodial Staffing Guidelines* and Co-Author of the Second Edition. Mention of APPA does not imply endorsement of the product.

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

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# Confronting Budget Cuts:

## Making Your Budget Work for You

by Nathan Norman and Lisa Dugdale

Like many custodial departments, the University of Michigan Plant Building Services department has experienced a series of general fund budget cuts recently. These cuts are a direct result of the prolonged economic recession and the continued decline in state appropriations; in fiscal year 2003-04, Plant Building Services had to absorb a general fund cut of 6.5 percent, and in 2004-05 we anticipate another reduction of approximately 5 percent. As a result, the general fund revenue per square foot has decreased from a high of \$1.62 per square foot in 1993-94, to \$1.42 per square foot in 2003-04 (see Table 1).

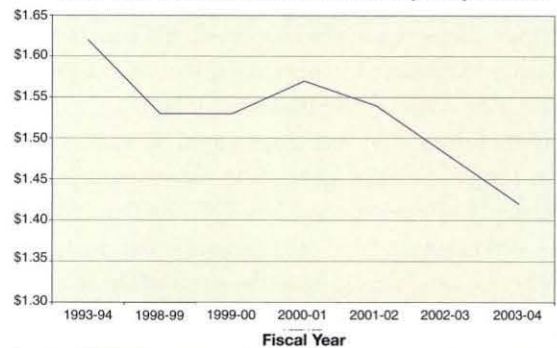
This is not a problem just affecting higher education. The budgets of many other governmental agencies in Michigan were also reduced—the Department of History, Arts, and Libraries budget suffered a general fund budget cut of 25 percent for 2003-04. Other states are facing similar economic recessions and declines in federal funding, placing many of us in the same boat when it comes to finding ways to adjust to cuts in our budgets.

### So How Should a Facilities Department Deal with This Funding Crisis?

The first response of many colleges and universities is to cut back on all spending as a defensive strategy, often result-

*Nathan Norman is director, and Lisa Dugdale is administrative assistant of plant building services at the University of Michigan, Ann Arbor, Michigan. Norman can be reached at [nnorman@umich.edu](mailto:nnorman@umich.edu). Dugdale can be reached at [ldugdale@bf.umich.edu](mailto:ldugdale@bf.umich.edu); this is her first article for Facilities Manager.*

Table 1. Trends in General Fund Revenue per Square Foot



ing in staff layoffs. However, the University of Michigan Plant Building Services was determined not to lay off staff and to deal with the crisis in a positive and proactive manner. The department's approach was to first identify its priorities as to not adversely impact the University of Michigan's core functions. The goal of Plant Building Services has been to protect those services that directly impact core services, including academics and research.

Another priority was treating custodial staff with respect in order not to affect staff morale. Supervisors kept their eye out for opportunities to reduce staff that would coincide with other changes such as natural attrition and shift changes, in order to minimize the impact on staff. Positions were eliminated through attrition, but not achieved through layoffs. As layoffs often create decreased morale in excess proportion to the actual number of jobs, supervisors knew that layoffs would decrease the productivity of the remaining staff. This would cost them more money than they saved in layoffs, and create a workplace environment that was centered on fear of losing jobs.



Once these priorities had been established, Plant Building Services chose to invest in research, technology, and training in order to realize long-term cost savings. In addition, the department combined cost saving measures and service cuts with innovative programs that achieved department and university goals.

### To Save Money, You Must Spend Money

We've all heard this saying, and most of us react with justified skepticism. When you have less money to spend, caution is important but investment is key. Plant Building Services found that reacting to budget crunches with innovation, planning, and investment in technology and training actually saved us money in the long term.

administrative offices to collect trash, the basket was less than half full. In this instance, the department data showed that daily office trash pickup wasn't a good use of custodial resources. Based on their findings, the department moved forward in instituting a service change for private offices. Plant Building Services decided to move to once a week trash collection, allowing for a 1.3 percent reduction in the department's budget.

Another area researched was employee absenteeism: days lost due to sick days and unexcused absences. Knowing your absenteeism rate is key to managing your resources. Creating a system to produce monthly performance reports has enabled Building Services to address areas of low productivity due to absenteeism. For instance, one unit had an average

## Plant Building Services General Fund Budget—Comparison and Analysis

FISCAL YEAR	93-94	98-99	99-00	00-01	01-02	02-03	03-04
REAL \$ SQ. FT.	\$1.62	\$1.53	\$1.53	\$1.57	\$1.54	\$1.48	\$1.42

How many departments have an in-depth understanding of their financial situation and opportunities for cost savings? Understanding your current financial situation is vital to looking at where future service changes could be made, but it comes at a price. At Building Services, investing in a new financial analyst position was a key decision that paid off in increased knowledge and fiscal awareness. The analyst is responsible for providing detailed analysis of the department's budget, including staffing costs, procurement, and billing monitoring.

Before the financial analyst position was created, the department relied upon the plant operations financial manager to analyze their budget. The financial manager had seven departments in addition to Plant Building Services to focus on, and therefore took a broader look at Plant Operations. The newly created financial analyst position has allowed the Building Services department to take a close look at ways to control costs, as well as to improve efficiency. The investment in this position has allowed the department to realize cost savings in excess of the costs necessary to maintain the position.

### Research

The financial analyst has been able to realize cost savings in a number of areas by analyzing and monitoring productivity and efficiency, as well as conducting research on potential cost savings. This research has provided hard data that has enabled the department to confirm that proposed changes would allow for reduced staffing levels without reducing service.

For instance, a department study produced data that showed that 60 percent of the time that custodians entered

7 percent absenteeism rate. After reviewing the performance report, the unit's area manager challenged his supervisors to take action to reduce the absenteeism rate. Within two months, the rate was reduced to 2 percent. The point is that you can't fix a problem unless you are aware of it.

### Technology and Training

Technology and training are areas in which managers are often reluctant to invest because of the perceived high cost. However, good cost-benefit analysis will show the benefits that investing in new technology and training can provide. University of Michigan Building Services took a long-term approach to investing in equipment and training that will increase productivity over several years. Plant Building Services looked at repetitive assignments such as floor maintenance, stripping, and buffing, and conducted research to identify new methods and technologies that would reduce the level of repetition. This resulted in the development of a floor maintenance program and the revamping of the department's custodial program. We increased our training investment by spending more time teaching custodians and supervisors good floor maintenance techniques, as well as providing refresher courses for those who had been trained in outdated methods. Finally, we purchased riding floor scrubbers to replace walk-behind floor scrubbers, in order to increase productivity and reduce operating costs.

### Innovative Programs

Another way that Plant Building Services dealt with budget cuts was to develop innovative programs that supported the





***Riding floor scrubbers are used by the University of Michigan Building Services to increase productivity and reduce operating costs.***

goals of the department and university while allowing for necessary staff or service reductions.

#### ***Employees Working out of Classification (EWOC) Program***

EWOC is a career development program that provides training to qualified custodial employees who desire upward mobility into facilities maintenance, grounds, waste management, and supervisory positions. These positions are for six-month periods, and the EWOC participant is paid by the host department instead of Building Services. Building Services typically schedules EWOC during slow times of the year, and the vacated positions are often left unfilled, allowing for some cost savings. Not only does it provide career opportunities to Building Services employees, but also it allows Building Services to decrease their staff during times when they don't require high staffing levels, thus creating a win-win approach.

#### ***High Performance Teams***

The introduction of "high performance teams" to Plant Building Services has enabled the department to increase the level of productivity, while creating a more cohesive and effective work group. A high performance team is defined by Plant Building Services as "an interdependent team of job experts who are empowered to accomplish a common purpose guided by a mission statement and performance standards to which the members hold themselves mutually accountable." Research has shown that effective work teams increase customer and employee satisfaction in many work environments, but few Building Services' departments have implemented teams at the custodial level. At the University of Michigan, Plant Building Services' high performance teams have been able to interact more effectively with customers, decreasing the need for supervisory oversight and increasing employee efficacy and satisfaction.

#### ***Recycling Initiative***

When the department's lead team was discussing decreasing the frequency of private office trash pickup, they thought about how this initiative could positively impact the university's vision. To lessen the impact on the environment as a goal of the university and of Plant Operations, Building Services decided to add recycling pick-up to their weekly office trash collection, and to offer new recycling receptacles to increase recycling rates. The result was an innovative program that fit all three aspects of the triple bottom line approach of maximizing positive impacts on people, profits and planet. Not only has the program reduced the number of custodial hours spent cleaning office areas, but it has increased the amount of recyclables collected in these areas.

#### ***Conclusion***

Budget cuts often provoke understandable defensive reactions among facilities managers. However, instead of burying your head in the sand, have your department reevaluate your investment in research, people, and technology. When implementing a decrease in services, combine it with positive outcomes to help mitigate some of the negative effects. Budget cuts are never a pleasant experience for a department, but with a little planning and innovation, your department might just find that they emerge better off than they were before the cuts! 🏰

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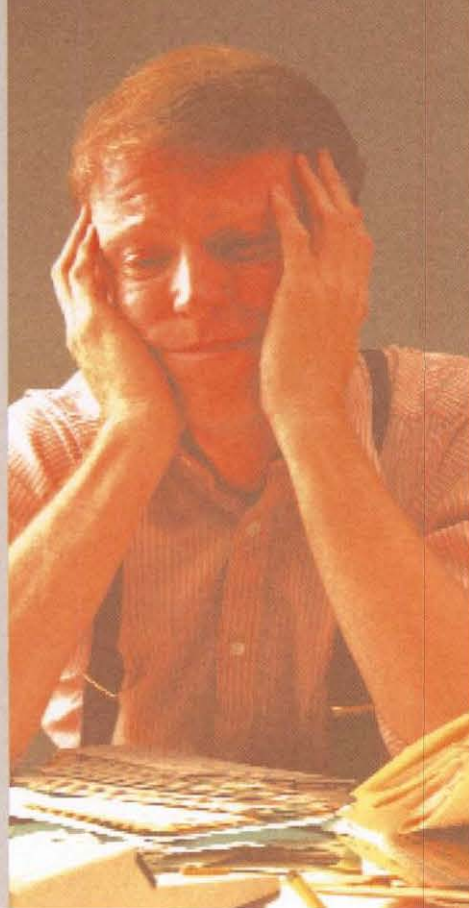
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# Don't Reinvent the Wheel



## Washington's POS Consortium Is Useful Tool for Colleges and Universities

by Phil Partington

Since 1996, the State of Washington has realized the benefits of the Plant Operations Support (POS) Consortium, designed to unite isolated public facilities managers. The POS Consortium now comprises more than 750 facility professionals in various roles. This self-sustaining, government program combines technology and operational services to enhance public facilities stewardship and serves as “resource central” for solutions and opportunities. The primary goal of the program continues to be finding ways to utilize public sector expertise and resources to extend the “lives” of tax-supported facilities and save dollars. Consortium staff coordinate, link, broker, research, and facilitate the various issues and requests of its members.

On any given day, staff will field requests from members looking for surplus furniture, equipment or materials; serve as construction/project managers; research solutions to physical plant problems; respond to on-site assessment requirements or locate hard-to-find, outdated system components.

More than 2,000 requests for assistance are received each year, resulting in more than \$17 million in avoided costs and outright resource savings since 1996. A number of colleges

and universities belong to this novel “family” of public facilities managers, including the University of Washington, Evergreen State College, and Washington State University.

Jerri McCray, associate vice president for the University of Washington, calls the Consortium “a real success story. It’s a best practice approach to carrying out the mandate of the state, focusing on resource sharing, while helping others with a commitment of teamwork and partnership for quality outcomes,” she said.

### The Consortium

POS invites any public agency to join the Consortium. In order to remain a self-sustaining program, POS requests a tuition fee determined after assessing the size and number of operational sites of the facility. POS offers this guarantee: “If you don’t receive full value from the program, we’ll extend your membership free until you do.” In nearly seven years of business, POS has never had to make good on that guarantee, but instead has saved its members two to five times the amount of their tuition—usually in just one transaction.

The benefits enjoyed by Consortium members are unlimited. The Evergreen State College (TESC), a four-year public institution and long-time Consortium member, realized some considerable savings while responding to recent Consortium offerings. Professionals from the college’s child care center jumped at the opportunity to secure a number of rubber playground pads from another Consortium member in 2003. The pads were offered to members for the cost of hauling them away—quite a value for a tightly-budgeted facility.

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**Phil Partington works in plant operations support for the State of Washington’s Department of General Administration, Olympia, Washington. He can be reached at [ppartin@ga.wa.gov](mailto:ppartin@ga.wa.gov). This is his first article for Facilities Manager.**



Facilities maintenance professionals from TESC took full advantage of another Consortium salvage/reuse opportunity last month by securing a number of air conditioning and mechanical systems from the State Capitol building in Olympia. The Capitol is undergoing extensive renovation and the existing air handling and air conditioning systems would have been removed and disposed of by the general contractor.

"This was an outstanding opportunity for the college to secure much-needed equipment in an economical way, while practicing sustainable operations," said Sekeli Manu, college HVAC supervisor. "We've gotten our value from the Consortium times five with this one transaction."

POS staff has accumulated an extensive shared collection of lessons learned by others in the facility management business. An electronic discussion list allows members to advertise surplus or salvage items, solve problems, answer questions, and simply learn from each other's experiences. Additionally, when members contact POS staff with a research request, they are assured that a knowledgeable staff member will immediately begin work on the challenge or issue. The staff member will gather necessary information to answer the request in short order, saving the requesting member time.

The POS program also offers professional development opportunities to members at no cost. Semi-annual videoconferences and intermittent workshops keep members up-to-date on the newest happenings in facilities maintenance and operations. Mo Hollman, associate senior vice president for facilities management services at University of Southern California, and Alan Bigger, director of building services at the University of Notre Dame, were featured presenters at a Consortium videoconference last year.

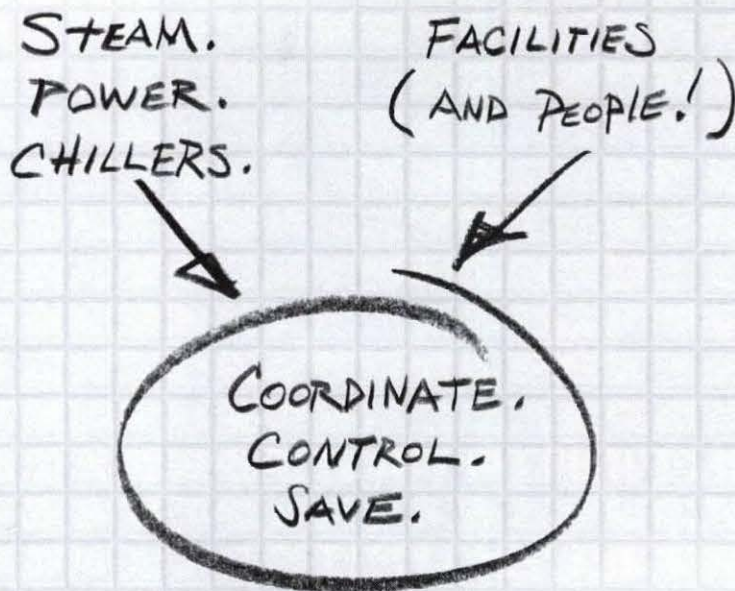
The POS website offers useful facilities-related data. The site, [www.ga.wa.gov/plant](http://www.ga.wa.gov/plant), also provides links to programs and other sustainable operations sites where members can obtain surplus or salvage materials for free or nearly free. Links to other Consortium member sites and professional organizations are also provided. Finally, POS publishes a quarterly online newsletter, *Shop Talk*, which spotlights members using best practices and/or innovative

practices, shares ingenious ideas, and showcases new products.

"With the consortium, there are always quality outcomes. Someone is always getting something," says McCray. "We work like teams and in partnerships in order to mitigate the challenges of our operations. The more we can share resources, the more effective we can be." 🏢

For additional information about the Plant Operations Support Consortium, contact Bob MacKenzie at 360-902-7257 or [bmacken@ga.wa.gov](mailto:bmacken@ga.wa.gov).

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## IN EIGHTH GRADE I Learned How to Follow the Leader

by Fred Gratto

*Fred Gratto is assistant director of facilities at the University of Florida, Gainesville, Florida. He can be reached at [fgratto@ufl.edu](mailto:fgratto@ufl.edu).*

Many years ago my teacher assigned me to work on a project with three other students in our class. I don't recall how the leader was chosen but I was asked to be one of her helpers. This annoyed me because I thought I was the better leader. I was probably wrong about my leadership skills since this was many years before I understood the relationship between leaders and followers. I pouted quite a bit playing second fiddle and refused to be a team player. After causing trouble for a while, I realized that if I cooperated, things went much better. This helped the leader, which in turn helped each of us because we were all in the project together.

After the assignment I still wanted to be a leader and I had gotten a little bit smarter. I discovered how important it is to follow, something I have been mindful of ever since. A few years later our football coach put his spin on the leader/follower relationship: "Everybody can't be the quarterback. You all have different skills and experience. All of you didn't get here on the same boat but you're all in the same boat now."

A casual trip to any bookstore or library will reveal that there are plenty of books available about leadership. There are very few however, about those who follow leaders. Nonetheless, since there are many more followers than leaders in the world, considering how to improve the performance of these people might be worthy of consideration because followers impact the performance of leaders and the organizations they serve. In fact, I have noticed that two of the best tools in facilities management are good advice and passionate leadership, often from followers.

Anyway, at work, home, or anywhere else, sometimes we are leaders and sometimes we are followers. When our role is to follow, there are several things we can do to help our leader, our organization, team, or any other group we are part of. Perhaps the first thing we can do is to stop and take a fresh look at how important followers are. Albert Einstein knew the importance of followers: "A hundred times every-day I remind myself that my inner and outer lives are based on the labors of other men. I must remind myself in order to give in the same measure as I have received and am still receiving." This great man understood how important followers are to leadership success. Despite the worth and merit of being a follower, sometimes society takes a dim view of having to follow. It seems like everybody would rather lead.

I recently saw a car advertisement on television. Audi's motto is *Never Follow*. Fortunately, this is not the way effective organizations work. In fact, they can't work this way. Somebody has to follow the leader so we need to understand just how important this role is.

When I got my first leadership job many years ago, I thought about supervision of others. Now, I understand that supervision is a contradiction. It is neither super to others nor does it create a vision. Leaders need followers and followers need leaders. One is not superior to the other and



both are needed to carry out a vision, wherever it comes from. Learning about this relationship convinced me that effective leadership is much more collaborative than I believed when I got out of college.

I'm not the only one who didn't understand that followers are critical to effective leadership. In the early part of the previous century, Frederick Taylor's Theory of Scientific Management minimized the input of workers. In 1911, he explicitly and without apology stated: "In the past man has been first. In the future, the system must be first." Taylor believed there was only one right way to do things and that workers were not supposed to think, because that was the job of supervisors. In his vision, human and machine were to work together like clockwork. To organized labor he was a soulless slave driver. To the bosses he was eccentric and a radical. To his admirers he was a misunderstood visionary.

Today, his approach to managing human resources is intellectually out of fashion, and few admit sympathy with its precepts. In contrast to his notion that workers are supposed to just do what they are told and merely follow, effective leaders these days value the opinions of followers. Leaders understand that they are not the only ones who can have a good idea or understand the best way to do something. Nor are they the only ones who have the power to influence work units.

Followers can also wield influence with other followers and with the leader. Peter Scholtes put it this way: "Almost nothing is accomplished by an individual working alone. Most work is obviously a collective effort. Yet, even workers who seem quite independent depend on others for ideas, stimulations, feedback, moral support, and administrative services. When an individual makes some heroic effort and accomplishes an extraordinary task, often he or she can take the time to do that work only because others have filled in on the less heroic parts of the job. When someone is credited with a success, he or she is individually honored for what was most likely the work of many." Since you're a

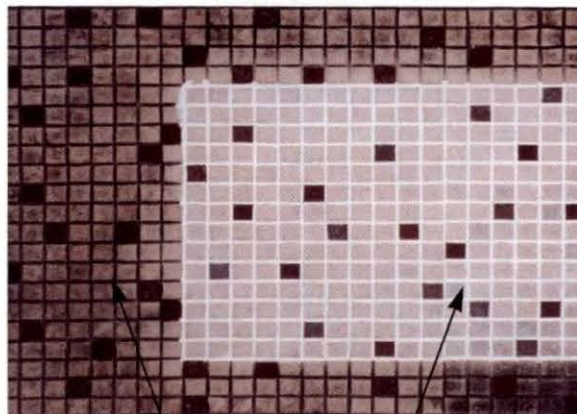
leader, you know this is an accurate statement and you understand that effective leaders place a high value on input and help from followers. You understand this but what you might not have done lately, is consider what you can do to improve your performance as a follower. When I stop to consider my role in physical plant, it occurs to me that there are five things I can do to be a better follower. Some of these may apply to you as well.

### Check Your Attitude

Let's face it. None of us like the idea of submitting to someone else. The classic American phrase is "No one is going to

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Let's face it. None of us like the idea of submitting to someone else. The classic American phrase is "No one is going to tell me what to do!"

tell me what to do!" Lots of people might share this sentiment but there are still plenty of people who like following and excel at it. There are even plenty of people who relish the role of second fiddle and prefer it. I like following because I know followers are effective partners with leaders, not docile, conforming, underachievers. There should be no discomfort being a follower. It's not a term of weakness. The sooner we move beyond these images and get comfortable with the idea of powerful followers supporting powerful leaders, the sooner we can fully develop and test models for dynamic, self-responsible, synergistic relationships in our organizations. Followers are the key ingredients that allow leadership to take place and the support that gives leaders strength. Since everyone doesn't see it this way, one thing that might need to be changed is your attitude or my attitude about following.

Here's another way to look at it: all great leaders were once great followers. The world of sports offers many examples of

this fact and so do the organizations where we work. Stated another way, a follower is the only person that can one day become a leader. Pat Williams, senior vice president of the Orlando Magic basketball team has a message for all of us: "Try to forget yourself in the service of others. For when we think too much of ourselves and our own interest, we easily become despondent. But when we work for others, our efforts return to bless us."

### Stay in the Loop

We have often heard that knowledge is power. Indeed, knowledge is like a lubricant that makes it easier to do more because we know more. To help ourselves and empower others, we should pass along information as soon as we get it. There's really no reason not to. We have e-mail, cell phones, meetings, and face-to-face contact. When you get information as a follower, let others know what's going on. This helps them and helps the organization. James Champy, said it this way: "Everyone must be in the know. Unless they are, you can forget about getting total mobilization; in fact, everyone not-in-the-know will see nothing in your efforts but a conspiracy. No one is going to go through the ordeal of a total mobilization without knowing why, or what for. The successful manager today isn't the one who is entrusted with secrets, but the manager who wins trust by sharing what he or she knows."

### Connect the Disconnected

Indoors or outdoors, climate determines whether plants thrive or fail to grow. The climate of any organization can likewise have a major influence because it affects the morale, learning, and productivity of people. A supportive work environment helps people believe in their potential and provides motivation for success, especially if they feel they are respected in all their diversity, including different types of talents and learning styles. Lack of a supportive environment is a debilitating factor.

For example, in Charles Dickens' novel *David Copperfield*, young David returns from a happy visit with friends to find his widowed mother remarried to Edward Murdstone, a harsh and domineering man. Mr. Murdstone and his pesky sister Jane determine to conquer David's spirit through cruel punishment and intimidation. Early in the process, David describes his feelings: "I might have been improved for my whole life, I might have been made a better creature...by a kind word." Copperfield wanted to hear a word of encouragement, understanding, and reassurance that he was still welcome at home. He was certain that any act of appreciation by Murdstone would help him obey and respect the man. But, to his dismay, no kind

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words were ever offered. This is not unusual because the tragedy of *not* speaking a kind word is as old as time. As you consider followers and your role with them, are you trying to force them to do what you want or are you leading by example and encouragement? Dwight Eisenhower used a piece of string to demonstrate the ability to influence people. "*Pull it and it will follow you any where. Push it and it will go nowhere at all.*"

My observation is that a lot of people in our organization would do better if someone noticed them...if they felt they belonged...if they were pulled along...if their dignity and worth were affirmed once in a while. Aren't these to the soul what food is to the body? Leaders ought to notice people and say something nice once in a while. Followers should too. Follow the leader. Support him or her by saying something nice to your peers, to those you lead, and to the ones who follow you.

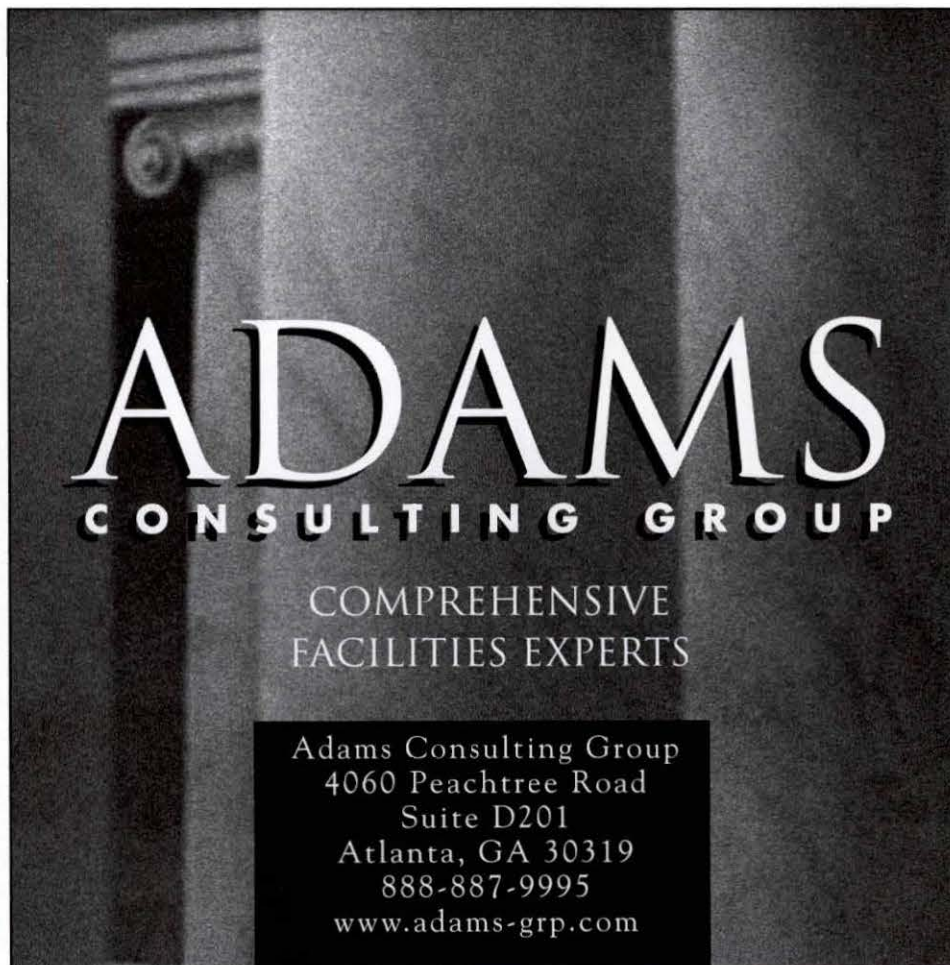
I sent an e-mail to my boss recently, subject: "Why not say something nice?" A few months ago I nominated him for an award. He didn't win but I thought he might appreciate knowing what I said, so I forwarded the nomination form to him. Good deeds like this help people in any organization feel better about the work environment and this helps the leader. Besides, we need to say something nice at every opportunity so people don't wither and die on the vine from neglect. Mark Twain knew the value of praise and being noticed. He said he could live for a month on one good compliment. I've seen examples like this, and you probably have too.

I read a short story recently about an American fighter pilot. He was speaking at a meeting and a man in the crowd recognized him. "You're Charles Plumb. You flew jet fighters in Vietnam. You were on the aircraft carrier *Kitty Hawk*. How in the world do you know all that," asked Plumb. The man replied that he had been on the same ship and was responsible for packing Plumb's parachute." Later that evening Plumb thought about the man who had spoken to him and wondered how many times he had stood in the belly of a ship carefully folding parachutes for men whose lives might depend on them. How many times had he passed by the guy without speaking because he was a fighter pilot and the other man was just a low-ranking sailor? The message is clear to me, as stated by Chalfee: "Whether we lead or follow, we are responsible for our own actions and we share responsibility for the actions of those we can influence."

My observation is that a lot of people in our organization would do better if someone noticed them...if they felt they belonged...if they were pulled along...if their dignity and worth were affirmed once in a while.

Lots of people at work don't get noticed and they notice that they don't get noticed. Here's how my dad said it: "People will sit up and take notice if you sit up and take notice of what makes them sit up and take notice." My observation is that 90 percent of people who fail at work are not actually defeated. They simply quit. They still come to work, but they're not really there. It doesn't have to be this way.

We need to get involved with people so they can follow the leader with us. Beyond using and sharing your abilities at work, there is another thing you can do to make an impact: share yourself. Let me illustrate. There are people in every organization who say and do nice things. They get involved. Then, there are people who expend themselves for others. They crawl into the concerns of others. They enter into the difficulties and absorb some of the affliction in the process. They decrease the burden. Also, there are people who answer



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questions, ask how things are going, or pass along directions from the leader and go back to the office. Then there are people who impart themselves—their concerns, struggles, aspirations. They share part of themselves, nurturing the group down the path toward growth as a team.

What do you do? Do you use only your talents or do you share yourself? Do you help the disconnected people in your organization get on board and connect with the team to help the leader? While pointing out the value of relationships, Lander Medlin once mentioned that our culture seems to claim that whoever dies with the most toys wins and asserted

that this reasoning is askew: "It is not the number of toys we have, but the number of meaningful relationships we create. It is not the number of toys we have, but the number of people we touch. It is not the number of toys you have but the impact you have on others."

## Become a Champion of Learning


"New" and "Improved" are words that have long been used in advertising to sell products. Business leaders understand that the public's eagerness to buy a new and improved product does not necessarily mean complete dissatisfaction with the former product. It simply means there is a belief that it

can be better. This reasoning applies to facilities organizations at colleges and universities because your responsibilities are legion. You are expected to orchestrate a vision, be adept at policy and governance, be an instructional leader, be skilled in communication and community relations, understand and implement long-range planning, ably manage the organization, have skill in staff evaluation and personnel management, and demonstrate technical knowledge which supports the mission of the organization. None of these critical tasks can be accomplished without knowledgeable and capable followers, ones who are always striving to learn more and contribute more.

There are better ways of doing things. As we learn more we can accomplish more. As we follow and support leaders, we ought to keep learning to enhance our own performance. Just as the pizza guy does, we need to keep delivering over and over again. New skills and abilities help followers get better results, perform at a higher level and keep delivering. Training might be considered a journey without a finish line. Ken Blanchard said it best: "The sign on your bathroom mirror should say, *Getting better all the time.*"

Followers should take their own need for training seriously, because of the positive impact it has on an organization. The process of continual learning is referred to as *personal mastery* by Peter Senge and the importance of it is clear in this statement: "The core leadership strategy is simple: be a model. Commit yourself to your own

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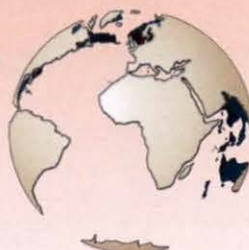
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We need to get involved with people so they can follow the leader with us. Beyond using and sharing your abilities at work, there is another thing you can do to make an impact: share yourself.

personal mastery. Talking about personal mastery may open people's minds somewhat, but actions always speak louder than words. There's nothing more powerful you can do to encourage others in their quest for personal mastery than to be serious in your own quest."

Personal commitment to learn more and follow better sets a good example that can inspire others to recognize their obligation to help the leader succeed. As champions of learning we can set the tone and expectation level in the organizations we serve. I'm not sure if training is a right or a privilege, but I do know this: organizations that do not provide the right rewards and opportunities end up training their talent for the competition.

### Understand and Appreciate Your Important Role

I'm so old that I have to look both ways before I cross a room. Nonetheless, I can still remember the first time I tried to ride a bike. My father helped me get on the seat, steadied the bike until I was ready, and gave it a shove to get me started. Despite being well coached, when the bike started to move my only concern was pedaling so I could keep going. Steering never occurred to me so the bike veered to the left and into the front porch. In my second attempt I focused on steering so that I wouldn't run into something. I concentrated so hard on where I was going that I forgot to pedal. After just a short distance the bike rolled to a harmless stop and I fell over on the lawn. During my third try I learned how to use my feet to pedal and my hands to steer at the same time. It was my earliest lesson about what it means to work together. Another biking incident thirty years later also provided an example that helped me consider the important relationship between leading and following.

My blind cousin, same age as me, accompanied me on a three-day bike trip across Iowa on a bicycle built for two. I steered and we both pedaled. We worked well together and had a great ride because we understood our roles and dependence on each other. Both of us had to pedal but only one could steer. It's like this in any organization. You can get almost everything you want at work if you help other people get what they want. This is because there are certain things that all followers must do and there are certain things that only the leader can do.

The value of a follower is measured by how completely the follower helps the leader do his or her job, just as leaders help followers do their jobs. It must work both ways. Success comes when we learn to work together and understand that it is just as important to follow faithfully as it is to be out front. According to Farrar: "It is a scientific fact that when Canada

geese fly in formation they travel 70 percent faster than when they travel alone." Geese profit when they work together and so do all of us in facilities management. Here's another fact to consider: Geese honk from behind to encourage each other. That's not what we mean when we honk from behind.

### A Few Parting Words

Leaders and followers go together like peanut butter and jelly. You know what it takes to be a good follower. A good follower should do the right things. A follower should know what the right things are, everybody else does. Being a good follower starts with having the right attitude. With a good attitude, everything is possible. If you need to check your attitude, consider these words in Led Zeppelin's "Stairway to Heaven": "Yes there are two paths you can go by, but in the long run there's still time to change the road you're on." 🏰

### Notes

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## Maintenance for Sale!

by Matt Adams, P.E.

**T**here is a time and place for facility administrators to wear the hat of "Entrepreneur."

Similar to the owner of a growing business, all management levels of facilities at an institution have a role in promoting, expanding, and even marketing and selling their services. Both groups should believe that they make a better mousetrap. However, the outcome is not to make a profit for our commercial peers; it is advancing the interests of the institution. This can take the form of uniform standards of care for one or more of the maintenance functions, for example, consistent service standards across the campus for grounds maintenance. Another outcome to profit is cost savings or a net-sum gain for the institution as a whole. Senior facility administrators have understood these objectives for years. Unfortunately, without proper organizational design and management, these objectives result in a "bigger is better" scenario that is ultimately self-defeating for the institution. So the question has now become what should we sell and how should we sell it in order to meet the recognized objective of institutional advancement?

Customer service priorities and stewardship of an institution are not mutually exclusive. In some cases, disproportionate focus on only one of the above objectives results in a campus that is either too centralized or too decentralized. Years ago, the traditional physical plant director in-



correctly perceived a superior understanding of the facility management requirements of the campus. As a result and with much arm twisting and politicking, most, if not all facilities management services were located within the centralized physical plant department. We have all seen how this story ends. The plant becomes inattentive to the specific service priorities of the unique institutional departments co-located on campus. Campus customers become unhappy and perception of the centralized physical plant wanes. During the 1990s, the pendulum swung too far in the other direction in response to this dilemma. There are still some campuses that have three or four independent facility management departments. Each one is dedicated to meeting the unique and specific facility support requirements of a particular department, for example residence life, student union, health, or athletics. This scenario eventually proves to be less than optimal. There is a net sum increase in facilities management costs to the overall institution. In addition, the service levels vary noticeably from department to

department. Hindsight illustrates that either extreme is incorrect. What then is the middle-of-the-road solution that works for everyone on campus?

At the University of Arkansas, Mike Johnson, the AVC for Facilities Management has realized that the optimal arrangement of providing services and saving on costs is achieved through open communication of needs and priorities. To do this, a committee was formed that would decide on the breadth, scope, and control of all facility services on campus. The Campus Executive Facility Committee receives equal input from each of the five supporting committees including, Operations & Maintenance (O&M), Housekeeping, E,H&S, Planning, and Infrastructure. As a result, an approach to campus-wide grounds maintenance standards and management is now under consideration. With this committee format, the O&M and Grounds Committee seeks to openly communicate, coordinate, facilitate, analyze, and partner. This committee is representative of all other service considerations and asks the following questions:

- What parts of the campus will the central grounds crew maintain versus the smaller crews of Residence Life, etc.?
- Who is financially responsible for the additional service scope absorbed by the central plant? How are the funds billed and transferred?
- What are the specifications of the "Memorandum of Understanding" that clearly explains the service provider relationship between central plant and its potentially new customer?

At the University of Maryland, Shawn Flynn, assistant athletic director, expresses positive sentiments

**Matt Adams is president of The Adams Consulting Group, Atlanta, Georgia. He can be reached at [matt@adams-grp.com](mailto:matt@adams-grp.com).**



Customer service priorities and stewardship of an institution are not mutually exclusive. In some cases, disproportionate focus on only one of the above objectives results in a campus that is either too centralized or too decentralized.


regarding their balanced approach to purchasing maintenance services from the central plant department. On the College Park campus, the central plant department employs a cost effective method associated with their close proximity to the athletic facilities. In addition, they have solid skills in the mechanical trades as well as local knowledge of the on-campus facilities. Flynn buys the bulk of his required facility maintenance services from the central plant. In only a few cases, the central plant department doesn't sell what Flynn needs. The very specialized requirements for maintenance of an athletic field are not within the skill set of the central plant department. In addition, the more traditional central plant operation does not respond well to the unique weekend and holiday schedules of athletic events. Because of this, Flynn buys these overtime services from contractors.

Athletic departments present what can be considered the reality test for selling central plant services. In reality, a central facility services department is not capable of satisfying the very particular service requirements associated with maintaining athletic fields. Recognition and understanding of this reality is the new best-practice approach for administrators of the central plant. In other words, don't even try to sell a service that will become a high-risk, low-reward proposition. For residence life

departments, quick response clean-up or light carpentry repairs is a requirement. The resident assistants on campus will never be happy with a centrally dispatched carpenter responding to quick-fix issues.

In the end, the facts speak for themselves. A rational approach to expanding or even contracting what the central facility services

department sells works best. Is it cost effective for both parties? Are we completely satisfied that we can meet the service expectations of the customer? Are we advancing the interests of the institution? When analyzed openly with the various stakeholders, the optimal balance between centralized and decentralized maintenance services is achievable. 🏢



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# Institute for Facilities Management Enjoys Montreal



Attendees at the September Institute for Facilities Management enjoyed wonderful weather at the Queen Elizabeth Hotel located in the heart of Montreal's downtown district. The 320 Institute participants, joined by 26 people attending Supervisor's Toolkit: Nuts and Bolts of Facilities Supervision, participated in a full week of classes and took advantage of the warm Canadian



hospitality, great restaurants, friendly people, and a beautiful city. The week-long program concluded with the Thursday evening graduation banquet, where 50 graduates who have completed all four tracks of the Institute were recognized.

We look forward to our return to San Jose, California, January 16-20, 2005. All four tracks of the Institute program will be offered, and for the first time, the first track of the Leadership Academy. Registration is now open for both the Institute for Facilities Management and the Leadership Academy. Visit [www.appa.org](http://www.appa.org) for more information.

Thanks to all who attended the Institute; your enthusiastic discussions in the workshops will provide helpful feedback on the program. We are looking forward to seeing you again in January 2005 and at other future APPA events.

**Cheryl Gomez, Don Guckert, Jay Klingel, and Mary Vosevich**  
INSTITUTE FOR FACILITIES MANAGEMENT DEANS



# September 2004 Graduating Class

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Scott D. Anderson  
Timothy P. Anderson  
Mary E. Banfield  
John Barber  
Greg Battaglia  
Bill Herrera Beardall  
Robert D. Beebe  
Donald Burnett  
James Cain  
Sylvestre Cantu  
Bill Casey, Jr.  
Lettie H. Cobb  
David Fields  
Charles Fosselman  
Ronnie L. Gammage  
Ronald Gilmore  
Phyllis Hooven  
Frederick E. Jenoure  
Matthew Jeréb  
Michael J. Klimaszewski  
Charlie E. Lester  
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Sylvia Manning  
Barry McHugh  
Mark Menefee  
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# The Bookshelf

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

As the calendar year winds down, my attention turns to more pleasant things. The books reviewed this month are a pleasant relief for facility officers who have to manage many job hazards. If you've encountered a reference to a facility hazard that could be beneficial for your colleagues, be daring and send me a note. Getting your thoughts published is easier than you think and fun too.

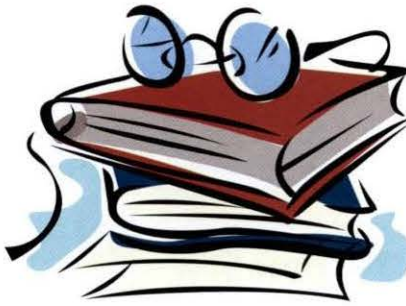
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**Fire Resistance of Structural Steel Framing**, by John L. Ruddy, et al. Chicago: American Institute of Steel Construction, Inc., 2003, 123 pages, softcover or PDF download.

There have been numerous articles in the popular press about the problems of steel fire protection following the 9/11 attack on the World Trade Center. Whether the attack inspired the authors to write *Fire Resistance of Structural Steel Framing* is not clear. My experience with this type of reference is that it usually takes a few years to develop so perhaps work on this book began before the event.

As this review is written, cement prices are at record levels with supplies limited world wide. Cement is the glue in concrete and mortar.

*Ted Weidner is assistant vice chancellor of Facilities Management & Planning, University of Nebraska-Lincoln, Lincoln, Nebraska and president of Facility Asset Consulting, Amherst, Massachusetts. He can be reached at [tweidner2@unl.edu](mailto:tweidner2@unl.edu).*



Concrete has proven to be an excellent structural material for buildings and bridges instead of steel; although there still must be some steel reinforcing. The advantage of concrete is its natural fireproofing. So, steel becomes potentially vulnerable when the preference is to build a more naturally fireproof structure. Whether this has

This book is not for the casual reader. It is focuses on building codes, structural and thermal properties of steel, and steel design.

caused the increasing cost in cement and the decreasing cost of steel is an issue for others. *Fire Resistance* can provide sufficient evidence to designers and building owners that steel should remain a safe and acceptable material for building construction.

*Fire Resistance* is a well organized book beginning with building code requirements and fire testing tools. Design issues are presented next with a focus on columns, beams, and trusses. Finally, there is a discussion that analyzes existing conditions from both fire protection and structural durability perspectives. An extensive appendix reproduces important physical characteristics used by designers from three other references.

This book is not for the casual reader. It is focuses on building codes, structural and thermal properties of steel, and steel design. Many facility officers won't find this an essential reference; it is more valuable for structural designers and code officials. But I still recommend this book for the same reasons I would recommend industry handbooks for structural, mechanical, and electrical design. No good facility library should be without this reference; it provides sufficient rationale to choose steel over concrete when weighing fire protection and cost issues if all other factors are equal.

\*\*\*

**HazMat Data for First Response, Transportation, Storage, and Security, 2nd edition**, Richard P. Pohanish. New York: John Wiley & Sons, 1170 pages, hardbound.

Knowing how to deal with all types of materials is not just the legal thing to do, it is the right thing to do. But there are so many materials, liquids, solids, and gases, that keeping track of everything that's necessary is not easy. In addition, many facility officers have responsibility for remote areas that are accessible from the main campus or work location only through several miles of public roads. As soon as we start using public roads to move cleaning materials, we begin to fall under various OSHA, EPA, and DOT regulations.

Placarding, response methods, and prevention all need to be coordinated with the materials being transported; errors can cost lives, damage the environment, and result in some bad



Placarding, response methods, and prevention all need to be coordinated with the materials being transported; errors can cost lives, damage the environment, and result in some bad press.

press. Most people want to avoid these potential problems. So, it is best to be forewarned and that's what *HazMat Data* strives to do.

This is not a pocket edition to refer to in the event of an incident, rather it is a sizeable book. It's not an all-encompassing book either; there are many chemicals that could not be included. But, it has over 1,400 materials identified and highlights those chemicals that may be prone to terrorist use. It's a good reference book that should be on the shelf of every organi-



zation that moves materials on public roads or requires placarding on its vehicles. It is informative and straight forward. The only improvement needed is some improved formatting to make the chemical names stand out more clearly in order to find them in an otherwise gray presentation. 🏢

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# APPA'S 2005 *Awards & Recognition* PROGRAM

Each year, APPA recognizes outstanding individuals and institutions for their contributions to the education facilities profession. APPA is pleased to announce it is now accepting awards for 2005.

## *Award for Excellence*

The APPA Award for Excellence is designed to recognize and advance excellence in the field of educational facilities. Originally established in 1988, the Award for Excellence is APPA's highest institutional honor and provides educational institutions the opportunity for national and international recognition for their outstanding achievements in facilities management. The award is designed to encourage a systems perspective of facilities operations as a critical contributor to the overall institutional mission and vision. The Award for Excellence designation is valid for a period of five years. **Award submissions are due no later than January 31, 2005.**

## *Effective & Innovative Practices Award*

Sponsored by Sodexo USA, APPA's Effective & Innovative Practices Award recognizes programs and processes that enhance service delivery, lower costs, increase productivity, improve customer service, generate revenue, or otherwise benefit the educational institution. Entries can describe either a new program or significant restructuring of an existing program or process. Up to five ranked submissions will be eligible for a cash award of \$4,000. Winning entries will receive special recognition on both APPA's website and in APPA's *Facilities Manager*. **All entries are due no later than January 31, 2005.**

## *Meritorious Service Award*

Each year, APPA members bestow the Meritorious Service Award upon the individual member or members who have made significant, life-long contributions to the profession of higher education facilities management. APPA's highest individual honor, the Meritorious Service Award is given to no more than three individuals a year. Individuals must be an active member of APPA for a minimum of five years; attended and participated in meetings and other functions at the international level, and demonstrated continued and distinguished service to the association. **All entries are due no later than January 31, 2005.**

## *APPA Fellow*

While most awards recognize past achievements, the APPA Fellow designation brings with it both recognition or specific accomplishments to date and expectations for continuing involvement in APPA's leadership program through research and mentoring. This is APPA's highest individual achievement award. Individuals must be an active member of APPA for a minimum of ten years; graduated from APPA's Institute for Facilities Management; completed APPA's Leadership Academy; and completed an approved research project under APPA's Center for Facilities Research. **All entries are due no later than January 31, 2005.**

## *Pacesetter Award*

The Pacesetter Award is designed to encourage further participation in APPA among those who have already made significant contributions at their regions or chapters. Up to seven Pacesetter Awards will be given each year. **All entries are due no later than January 31, 2005.**

*APPA encourages you to contact your regional representative to discuss how you can apply for an award. To receive an application and guidelines, visit [www.appa.org](http://www.appa.org) for additional details. All award submissions are due no later than January 31, 2005.*



# New Products

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

**MAXIMUS** announces the availability of FacilityScheduler as an integrated, optional module for FacilityFocus, the company's facilities management software solution. FacilityScheduler is a powerful scheduling solution which can be deployed as a stand-alone scheduling and reservation system or as a fully integrated maintenance and personnel scheduling solution. It delivers a coordinated, enterprise-wide view of an organization's facilities maintenance and shop scheduling activities and can track the availability of conference rooms, classrooms, auditoriums, training rooms, and similar facilities. For additional information, please call MAXIMUS at 800-659-9001.



**Edwards Signaling & Security Systems'** new Millennium System Master is a fully supervised personnel notification control system for both emergency facility evacuations and every day process control communications. The System Master is simple to program and operate using a nine-button keypad and an easy to read, 40-character LCD display, with Dynamic Zone Control, enabling zone reconfiguration through a series of simple keystrokes without the need for system rewiring. Employing both voice and tone to alert, warn, and communicate, the System Master features 65 built-in tones, hand-held microphone operation, and stores up to four, five-second, field-recordable voice messages for playing over remote speakers. Request more information from Edwards at 203-699-3300.



**Field Server Technologies** offers the FS-B4010 which links energy meters, fire alarm panels, and other devices to the BACnet backbone used throughout the campus. With energy management a very high priority on campuses across the country, the FS-B4010 integrates a wide variety of vendors using such protocols as Modbus, LonWorks, and Simplex. If energy management controls are a primary focus, the FieldServer gateway may solve the problem. For more information, call Field Server Technologies at 888-509-1970.



**RBI** now provides high efficiency Futera II Series boilers with an optional stainless steel jacket. The brushed stainless steel jacket provides corrosion resistance for indoor or outdoor installations in harsh environments such as coastal areas and from processing applications requiring wash down. Futera II Series boilers featuring non-condensing design, provide up to 85 percent efficiency with industry leading NOx levels of less than 10 ppm. The boiler features an advanced troubleshooting and self-diagnostic control that provides step-by-step cycle of operation. Each step is automatically tested and indicated, allowing for simplified and less costly troubleshooting. Quality components include a rugged heat exchanger with bronze headers and fittings that prevent rust and corrosion for the life of the boiler. For additional details, call RBI at 413-568-9571.



**Intromark Incorporated** introduces U-Watch, a new drain P-trap/J-bend for sinks that can easily be installed in minutes. The patented design makes it easy to view and remove clogged material or debris, eliminating the use of caustic liquid drain cleaners or plumbers' tools. A transparent, plastic cup with a screw thread makes small items that may have fallen down the drain easy to see. Simply twist to remove the clear trap cup, rinse, and twist back into place. U-Watch can prolong the life of drainage systems by keeping dirt, hair, and other waste materials from accumulating inside the walls of drainpipes. Using a "snake" is easy with U-Watch because pipes no longer need to be removed. For greater details, call Intromark Incorporated at 800-851-6030.



**Foster Products** introduces Foster 40-50 Mold-Resistant Coating for cost-effective, long-term protection against mold and mildew growth on any surface. Foster 40-50 uses the same patented formulation of fungistatic agents found in complementary Foster mold-resistant coatings, which have delivered years of proven protection. Foster 40-50 exhibits zero mold growth when tested under the most stringent test method known to be available: "ASTM D5590-00 standard test method for determining the resistance of paint films and related coatings for fungal defacement by accelerated four-week Agar Plate assay." For full details, call Foster Products at 847-776-4351.





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# Coming Events

## Coming Events

For more information on APPA seminars and programs, visit our website's interactive calendar of events at [www.appa.org](http://www.appa.org).

### APPA Events - 2005

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

**Jan 16-20—Leadership Academy, Track 1.** San Jose, CA.

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

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

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

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

### APPA Regional Meetings - 2005

**Sep 11-14—RMA Regional Meeting.** Vail, CO. Contact Tommy Moss, 970-491-1060; e-mail [tmoss@users.fm.colostate.edu](mailto:tmoss@users.fm.colostate.edu).

**Sep 16-21—CAPP Regional Meeting.** Little Rock, AR. Contact David Millay, 501-569-8897; e-mail [dllmillay@ualr.edu](mailto:dllmillay@ualr.edu).

**Oct 1-5—PCAPPA Regional Meeting.** Tacoma, WA. Contact Craig Benjamin, 253-879-2820; e-mail [cbenjamin@ups.edu](mailto:cbenjamin@ups.edu).

**Oct 2-5—ERAPPA Regional Meeting.** Atlantic City, NJ. Contact Kevin Herron, 201-569-9500; e-mail [herronk@d-e.org](mailto:herronk@d-e.org).

**Oct 8-11—SRAPPA Regional Meeting.** Memphis, TN. Contact Jim Hellums, 901-678-2077; e-mail [jhellums@memphis.edu](mailto:jhellums@memphis.edu).

**Oct 9-12—MAPPA Regional Meeting.** St. Paul, MN. Contact Tom Dale, 651-962-6530; e-mail [tlldale@stthomas.edu](mailto:tlldale@stthomas.edu).

### Other Events-2004-05

**Nov 15-17, 2004—Fundamentals of Lighting.** Somerset, NJ. Contact Philips Lighting Company at 732-562-3600, [www.lighting.philips.com/nam/ltc](http://www.lighting.philips.com/nam/ltc).

**Feb 4, 2005—Deadline for application for the 2005 Latrobe Fellowship.**

Contact Pauline J. Porter, 202-626-7521, [pporter@aia.org](mailto:pporter@aia.org).

**Mar 15-17, 2005—Maintenance Solutions Expo.** Baltimore, MD. Contact Tim Rowe, 414-228-7701, [tim.rowe@tradeexpress.com](mailto:tim.rowe@tradeexpress.com). Event website [www.nfmt.com](http://www.nfmt.com).

**Mar 15-17, 2005—National Facilities Management and Technology Conference Exposition.** Baltimore, MD. Contact Tim Rowe, 414-228-7701, [tim.rowe@tradeexpress.com](mailto:tim.rowe@tradeexpress.com). Event website [www.nfmt.com](http://www.nfmt.com).

**Apr 24-27, 2005—ESS Expo. 05.** Phoenix, AZ. Contact Robin Thompson, 800-289-6116, ext. 5514, [robin\\_thompson@environ.com](mailto:robin_thompson@environ.com). Event website <http://www.essexpo.com>.

**Jun 1-3, 2005—Child Welfare League of America: Juvenile Justice Symposium 2005.** Miami, FL. Contact Christy Sharp, 202-942-0329, [csharp@cwla.org](mailto:csharp@cwla.org). Event website [www.cwla.org](http://www.cwla.org).

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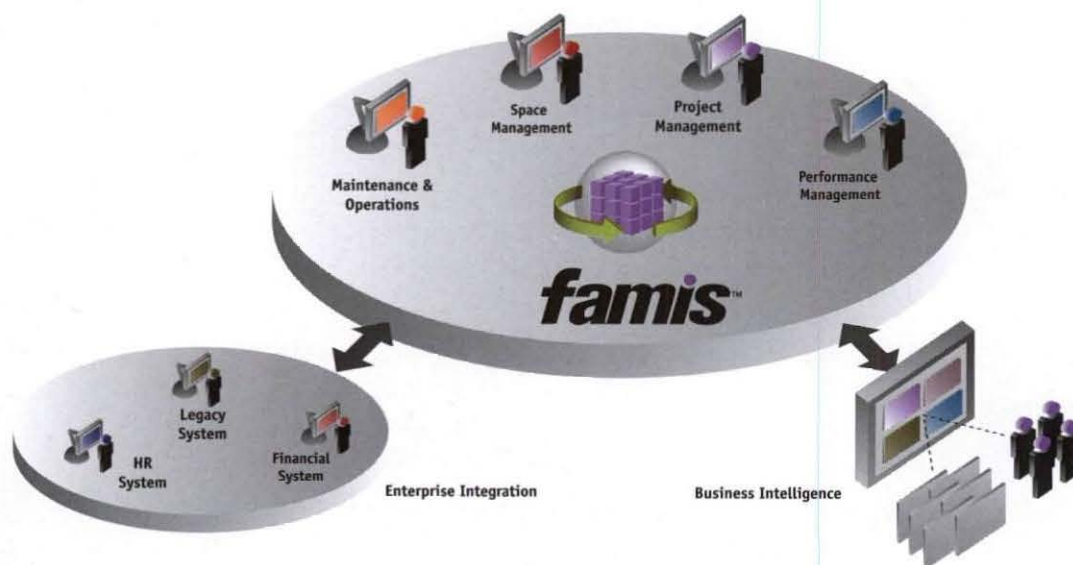
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