

November/December 2000

VOLUME 16

NUMBER 6

# Facilities Manager

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



# DISASTER

## PLANNING & EMERGENCY PREPAREDNESS

Nonprofit  
Organization  
U.S. Postage  
PAID  
Alexandria, VA  
Permit No. 653





**Announcing an EAM solution that supports change**

**without changing support.**

© 2000 eXegeSys Inc. eXegeSys is a registered trademark and eAM and Customizer are trademarks of eXegeSys in the U.S. and other countries.

## **THE POSSIBILITIES ARE ENDLESS, BUT THE SOURCE REMAINS THE SAME.**



There's only one EAM solution that lets you customize your system at the program level, without affecting your source code. With its simple and easy Customizer™ technology, eXegetic Asset Management (eAM™) by eXegeSys gives you a truly fitted application for your unique business processes. And when it's time to update to a new version, your customized enhancements stay in place without a burdensome reprogramming process. So while it protects your software investment, eAM supports your business operations today.

Plus, eAM is backed by our extensive experience and our comprehensive support services, training, consulting and implementation capabilities. The Customizer in eAM by eXegeSys puts you in charge of change. So take control. Call 1-877-393-4379 for more information. Or visit [www.exegesys.com](http://www.exegesys.com).



## FEATURES

### 14 Teamwork: Emergency Response

by FM Global

### 19 Disaster Response Relies on Good Planning

by Ruth E. Thaler-Carter

### 23 What We Learned from Hurricane Floyd

by George W. Harrell, Ph.D.

### 28 The Fires of 2000

by Hugh Jesse

### 31 Earthquake!

by Hildo Hernandez

### 35 Activist Activities and Our Response

by Detective Kristine Kirby

## Disaster Planning and Emergency Preparedness

## Departments

**From the Editor** ..... 2

**APPA News** ..... 3

**Executive Summary** ..... 8

The Future of the Facility Professional: A Call to Action  
by E. Lander Medlin

**Membership Matters** ..... 41

The Key to Success  
by Dina Murray

**New Products** ..... 44

**Facility Asset Management** ..... 46

Statewide Facility Databases  
by Matt Adams, P.E.

**The Bookshelf** ..... 49

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

Reviewed in this issue:

- *Indoor Air Quality Case Studies Reference Guide*
- *Exploring Energy and Facilities Management in a Changing Marketplace*
- *Electrical Retail Wheeling Handbook (2nd Ed.)*

**Coming Events** ..... 52

**Index of Advertisers** ..... 52



# Facilities Manager

**PRESIDENT:** John P. Harrod Jr.,  
University of Wisconsin/Madison

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

**EDITOR:** Steve Glazner

**ASSOCIATE EDITOR:** Medea Ranck

**ASSISTANT EDITOR:** Jennifer Graham

**SUBSCRIPTIONS:** Cotrenia Aytch

**CREATIVE DIRECTION:**

Corporate Design

**PRINTING:** Corporate Press, Inc.

**EDITORIAL OFFICE:**

703-684-1446 ext. 236

**FAX:** 703-549-2772

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

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

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

**Facilities Manager** (ISSN 0882-7249) is published six times a year (January, March, May, July, September, and November). Editorial contributions are welcome and should be sent to the address below.

Of APPA's annual membership dues, \$40 pays for the subscription to **Facilities Manager**. Additional annual subscriptions cost \$66 for APPA members, \$120 for non-members. For information on rates and deadlines for display advertising, telephone 847-562-8633 or 703-684-1446 ext. 238.

Copyright ©2000 by APPA: The Association of Higher Education Facilities Officers. Contents may not be reprinted or reproduced in any form without written permission. The opinions expressed are those of the authors and do not necessarily reflect the views of APPA. Editorial mention of companies or products is for informational purposes only and should not be construed as an endorsement, actual or implied, by the Association.

**POSTMASTER:** Send address changes to **Facilities Manager**, 1643 Prince Street, Alexandria, VA 22314-2818.

**Published by APPA:**  
The Association of Higher  
Education Facilities Officers  
1643 Prince Street  
Alexandria, VA 22314-2818

Global Partner in Learning

## From the Editor

by Steve Glazner

**When I first** scheduled this theme issue on disaster planning and emergency preparedness, I was fully expecting to include several articles on the Y2K recovery efforts taken in the first four to six months of 2000. Computer crashes, stuck elevators, communication glitches, heating systems brought to a standstill—all were on my “what if” radar back in mid-1999. Happily, through the tremendous planning and testing efforts of all of our facilities professionals (and with more than a few dollars spent in the process), January 1, 2000 arrived with very few problems for most institutions and organizations.

But the year 2000 was certainly not disaster-free. The wildfires in the western United States were probably the biggest natural disaster news of the year, and there were other events over the past few years that have had an impact on the operations and care of our colleges, universities, and schools.

In this issue our authors share their experiences and lessons learned from recent disasters that have affected their campuses. George Harrell writes of the debilitating flood that nearly smothered East Carolina University following Hurricane Floyd in 1999. Hugh Jesse tells us about the close proximity of the wildfires last summer to the University of Montana. And Hildo Hernandez describes the devastation to the California State University/Northridge and the painstaking recovery that has occurred following the 1994 earthquake.

But not all of our emergencies are natural ones. Detective Kris Kirby of Michigan State University writes of several activist events that hit her campus, the likes of which certainly have taken place at other campuses conducting what some view as contro-

versial research. And Ruth Thaler-Carter gives us several examples of how facilities professionals are involved when different types of “disasters” or situations occur on campus.

What are the themes heard over again throughout these articles? That planning, preparation, and communication are absolutely critical to a successful response.

\*\*\*

This has been a year of change, but what year hasn't been over the past decade? At *Facilities Manager* it is no different. Earlier this year Val Peterson retired from his post as our Focus on Management columnist. With this issue, we say goodbye to John Casey of the University of Georgia, who has decided to retire as book review editor for The Bookshelf.

John has been reviewing books for *APPA Newsletter* and its successor, *Facilities Manager*, for nearly 20 years. In that time he has written dozens of reviews on books covering all aspects of facilities management, human resource issues, leadership, planning, and energy and utilities, on all of which he has expertise, or at least an opinion! And he has written from a scholarly stance that never forgets the practical application to the daily life of the facilities professional.

Back in 1994, John Casey was bestowed a doctorate from the University of Georgia. His dissertation title? *The Association of Higher Education Facilities Officers: An Historical Evaluation of Its Contributions to the Academy 1914 to 1990*. We have greatly appreciated John's loyalty to and support of APPA, and I still expect to see the occasional book review from him in the future.

John, thanks for all your service to APPA and *Facilities Manager*. 🙏



## In Memoriam

We recognize and honor the following APPA member who recently passed away.

- **Anthony W. Blass**  
member emeritus, formerly with Southern Illinois University at Carbondale and the University of Central Florida.

\*\*\*

## CCAS Surveys Due!

Your surveys for the 1999-00 Comparative Costs and Staffing report are due **December 15!**

**T**he January Institute for Facilities Management is just around the corner. The Institute, which will be held January 28-February 1, 2001, in Newport Beach, California, offers a variety of up-to-date classes in the following core areas: General Administration & Management, Maintenance & Operations, Energy & Utilities, and Planning, Design & Construction.

APPA designed the Institute to provide facilities professionals with the educational tools they need in order to succeed. Upon completion of the Institute, students will receive a certificate of completion, as well as three continuing education credits (CEUs).

The following Institute will be held September 16-20, 2001 in Scottsdale, Arizona. For more information, visit [www.appa.org/education](http://www.appa.org/education).

**The deadline for applying** for the 2001 Award for Excellence is quickly approaching. APPA will be accepting applications until **January 15, 2001**. The application process is a rigorous one. Any APPA member institution interested in applying should do so now. There have also been significant changes to this year's criteria that each applying institution should pay close attention to.

Apply for the 2001 APPA Award for Excellence on-line at [www.appa.org](http://www.appa.org) or call us at 703-684-1446 for an application brochure.



## Gilsulate® 500<sup>XR</sup>

**Thermal Insulation and Protection System for Underground Pipes Operating at 35° F to 800° F**

- District Heating & Cooling
- Cogeneration
- Retrofit
- Hydrophobic
- Load Bearing
- Computerized Heat Transfer Calculations and Design Reviews
- Engineered Drawings

For complete material and design assistance contact:

**American Thermal Products, Inc.**  
3371 Bonita Beach Road  
Bonita Springs, FL 34134  
800-833-3881



## Directory Updates

Please note the following additions and changes to the new 2000-2001 Membership Directory and Resource Guide:

### Emeritus & Honorary Members

- Allan D Guggolz  
9621 Magenta Street  
Manassas, VA 20110-7981  
703-530-7942  
alguggolz@msn.com

- L Thomas Hussey  
89 Great Wood Circle  
Fairport, NY 14450  
716-425-8665  
lthussey@msn.com

### Business Partner Members

- **Evolv** has changed its name to **Bricsnet**.

- **Moriyama and Teshima**  
www.mtarch.com

- **Solar Outdoor Lighting Inc.**  
800-959-1329 ext. 29  
World leader in solar lighting.  
Manufacturer of industrial grade solar lighting. Campus safety products including street lights, parking lot lights, sign lights, bus stop lighting. UL listed. Maintenance-free. Designed to install easily with no trenching or wiring. Quality you can rely on and a warranty to back it up.

- The membership directory listed two different dates for the 2001 **Annual Meeting** in Montreal, Quebec, Canada. **The correct dates are July 22-24, 2001.**

**Don't forget an important item** on the agenda for the February Board meeting: officer nominations. There are three offices open: President-Elect, Secretary-Treasurer, and Vice Presi-

dent for Professional Affairs. Do you know anyone who would make a great APPA officer? Then send your nominations to a senior regional representative by January 5th.

For the Eastern region, contact Earl Smith at [esmith@conrad.oit.umass.edu](mailto:esmith@conrad.oit.umass.edu); for the Southeastern region, contact David Girardot at [girardotd@uncwil.edu](mailto:girardotd@uncwil.edu); for the Midwest region, contact Joseph Kish at [j-kish@neiu.edu](mailto:j-kish@neiu.edu); for the Central region, contact Edward Rice at [erice@ksu.edu](mailto:erice@ksu.edu); for the Rocky Mountain region, contact Harvey Chace at [hchace@unm.edu](mailto:hchace@unm.edu); for the Pacific Coast region, contact Johnny Torrez at [torrez@dofm.berkeley.edu](mailto:torrez@dofm.berkeley.edu); and for Australasia, contact Maurice Matthewson at [m.matthewson@auckland.ac.nz](mailto:m.matthewson@auckland.ac.nz).

## An Emerging Idea

The first of its kind, the Emergent Building Technologies Conference (EBTC) is an educational conference that will integrate all aspects of facilities management with cutting-edge technology. As we move into a digital age, this conference should prove to be an invaluable experience for facilities professionals. EBTC is sponsored by APPA, the Construction Specifications Institute, and the National Systems Contractors Association, with McGraw-Hill Construction Information Group as the exclusive corporate sponsor. The varied sponsorship of the conference will create a dynamic and diverse group of professionals from all areas of facilities-related professions, including architects, mechanical and electrical engineers, interior designers, and many others.

The conference emphasizes that same diversity in its choice of class topics and learning modes; what EBTC designers refer to as the conference's "fluid" style. The style combines a wide array of topics, as well as, integrates theory and practice when teaching and learning. For example, the proposed program topics

range from 'Glazing, Anti-Terrorist, Productivity' to 'Ergonomic W/P Design, Elderly' to 'Environmentally Sound Design.' In order to immerse participants in these topics, and the new technology that surrounds them, there are high-touch/high-tech learning centers and traditional classroom sessions. In addition, Siemens will partner with APPA on a special learning lab at the conference. All scheduling will be unified, allowing attendees to choose how they will acquire information, at their own pace. The concept is to allow for comprehensive learning by teaching to all different learning styles.

For more information call 800-689-2900, or register on-line at [www.emergentbuildingtech.com](http://www.emergentbuildingtech.com).

## EPA News

In June the Environmental Protection Agency (EPA), Region III, announced they would conduct a survey of colleges and universities to determine whether their outreach efforts were successful.

Their efforts began in May 1999, in the mid-Atlantic region, promoting standards and making schools aware of specific compliance issues by doing site visits and educational workshops. The follow-up survey was conducted in order to measure the results of those efforts and whether schools made the necessary changes to comply with EPA standards.

The survey has been completed and the results are in. While the schools' awareness of the EPA's initiative reached 95 percent, their behavior changed by only 50 percent. However, the environmental changes due to the EPA's efforts are encouraging. Nearly 40 percent of schools responded that they have seen reductions in hazardous waste production, a 34.8 percent decrease in toxic materials, and a 31.9 percent overall decrease in energy usage.

While some of you may have been involved in this effort, those who were

*Continued on page 6*



# If You're Not on the Technology Forefront, You're Left Behind

The Emergent Building Technologies Conference is proud to recognize the following sponsors:

#### *Exclusive Corporate Sponsors*

- McGraw-Hill Construction Information Group
- Engineering News-Record (ENR)

#### *Sponsoring Organizations*

- The Construction Specifications Institute (CSI)
- The Association of Higher Education Facilities Officers (APPA)
- National Systems Contractors Association (NSCA)

#### *Endorsing Societies*

- American Consulting Engineers Council (ACEC)
- EDUCAUSE
- National Glass Association (NGA)
- National Institute of Building Sciences (NIBS)
- Society for Marketing Professional Services (SMPS)
- Society for College and University Planning (SCUP)
- Door and Hardware Institutemmm
- Architectural Woodwork Institutemmm
- American Institute of Architects

**February 12-13, 2001 • Bally's Las Vegas Hotel • Las Vegas, Nevada**

### **Experience the Future . . . Now!**

Learn about the cutting-edge solutions in:

- Security
- Air quality
- Transport
- Lighting
- Glazing
- Anti-terrorism
- Egress
- Productivity

This is not your ordinary conference. It's an event with innovative **Learning Labs**. You will experience hands-on dynamic future technology and how it's incorporated into real-life building applications without regard to specific manufacturers and suppliers. **Leading-edge Education Programs** based on Process Documentation, Future of Design, and Integration of People and New Technology.

#### **Learning Labs**

Combining classroom and laboratory, this unique learning atmosphere enables you to experience the latest in network technology, integrating security, video, audio, telephony, and more. You'll see how actual situations can arise and how they are best resolved through hands-on demonstrations and reality simulations. You choose in what order and how long you stay at the Labs.

Learning Labs sponsored by:

- McGraw-Hill Construction Information Group
- National Systems Contractors Association (NSCA)
- APPA: The Association of Higher Education Facilities Officers
- The Construction Specifications Institute (CSI)

#### **Education Programs**

This three-track program consists of 24 sessions based on process documentation, the future of design, and integration of people and new technology. Schedule yourself to attend as many sessions as possible.

#### **Provocateurs - "Feature Presentations"**

Hear what noted authorities in change management have to say about the future.

- Michael Joroff, senior lecturer, Urban Studies and Planning, Department of Architecture, Massachusetts Institute of Technology (MIT), Boston, MA
- Elliott Masie, president, Masie Center - The Technology & Learning Think Tank, Saratoga Springs, NY

For more information, call  
CSI Member/Customer Service at

**(800) 689-2900**

**Register Online at**  
**[www.emergentbuildingtech.com](http://www.emergentbuildingtech.com)**

**The  
Emergent Building  
Technologies  
Conference**

*Integrating People, Technology & Design*





# Built to Last.

## Lightweight Multi-Purpose Tables



## Plywood Banquet Folding Tables



## Activity Tables



**•PALMER SNYDER•**

The Durable Table Company®

**1-800-762-0415**

[www.palmersnyder.com](http://www.palmersnyder.com)

email [contactus@palmersnyder.com](mailto:contactus@palmersnyder.com)  
262-780-8780 • Fax 262-780-8790

*Continued from page 4*

not will be relieved to know that other positive changes may result from the survey. For example, half of the survey participants made it clear that the EPA should create an inspector checklist that is specifically tailored to colleges and universities. Those surveyed also suggested specific checklists for different areas, such as hazardous waste disposal and laboratory practices.

For a complete copy of the report, or to research general information about the EPA, visit their website at [www.epa.gov/reg3ecej/compliance\\_assistance/colleges.htm](http://www.epa.gov/reg3ecej/compliance_assistance/colleges.htm). For a hard copy of the survey report, e-mail Janet Viniski at [viniski.janet@epa.gov](mailto:viniski.janet@epa.gov) or send a letter to her at EPA (3EC00), 1650 Arch Street, Philadelphia, PA 19103.

**D**id you know that an estimated 550 million fluorescent lamps are disposed of annually? And that that number of lamps is equal to 30 tons of mercury?

Those numbers may seem high, but considering the fact that fluorescent lights are the primary source of lighting for commercial, industrial, and academic facilities, it is not so shocking. But it is still dangerous. In 1999, the EPA adopted a universal standard for managing fluorescent lamp disposal and to encourage recycling.

If you are unsure as to your school's practices regarding disposal and recycling of fluorescent lighting, you can request a free copy of *Fluorescent Lamp Disposal-Shedding Light on the Environmental and Liability Issues*, by writing to: Judy Little, Harley Ellis, Northwestern Hwy., Ste. 200, Southfield, Michigan 48034. Please include a stamped, self-addressed envelope.

### Comings and Goings

**T**he Professional Grounds Management Society (PGMS), an APPA strategic partner, has appointed Thomas C. Shaner as their

new Executive Director. Shaner is also the president of Joseph E. Shaner Co., an association management company, which will be providing those services to PGMS as well. PGMS has relocated from Hunt Valley, Maryland to 720 Light Street, Baltimore, Maryland 21230. You can also reach PGMS on the Web at [www.PGMS.org](http://www.PGMS.org).

**Stanley O. Ikenberry**, president of the American Council on Education (ACE), announced in September that he will leave the organization on June 30, 2001. He will be returning to a faculty position at the University of Illinois at Champaign-Urbana. ACE's board chair, Michael E. Adams, said about Ikenberry's decision, "In every way, ACE's impact on higher education is stronger because of Stan Ikenberry's leadership." For more information, contact Tim McDonough at 202-939-9365.

### Space Invaders

**I**n August, Cornell University's International Workplace Studies Program (IWSP) released a new study entitled, "Managing Uncertainty: Integrated Portfolio Strategies for Dynamic Organizations." The study examines the new and diverse ways that companies are creating office space to fit the changing marketplace. For example, when Monsanto needed space for 40 researchers it built a tent-like building that took only 28 days to erect.

Eighty-nine percent of employees working in the new structure said it "was just as attractive or better than a conventional building," and 92 percent said, "the interior was just as good or better." And, as these buildings are completed in such a short time, at a fraction of the cost, they can help an organization to respond to internal and external changes.

To download a free copy of the study, visit <http://iwsp.human.cornell.edu/publications.html>. 📎





- 1 Illuminated Logo/Letters
- 2 Fire Evacuation
- 3 Room Identification
- 4 Secondary Directories
- 5 Restroom Signage
- 6 Directional
- 7 Main Identification
- 8 Touch Screen Directories
- 9 Logos
- 10 Dimensional Letters
- 11 Traffic Control
- 12 Parking Structure
- 13 Floor Level Identification
- 14 Safety & Maintenance

## Does your campus pass the test?

We have over 29 years experience making sure that signage systems make the grade. We have the expertise to take care of all your way-finding needs, from interior to exterior...from interactive touch screen kiosks to basic safety signage. And we offer a collaborative, comprehensive, planned approach that's made a difference for universities coast to coast.

Getting through college is hard enough.  
Getting around it shouldn't be.

For a brochure or video, call 1-800-777-8283.  
We'll educate you for free.

The Company That Does  
Things Right



Innerface Sign Systems, Inc.  
5320 Webb Parkway  
Lilburn, Georgia 30047-5943  
1-800-777-8283  
[www.innerfacesign.com](http://www.innerfacesign.com)

ADA Logos    Interior Signage Sign Planning    Exterior Signage Touch Screen Directories    Safety Signs Installation



## The Future of the Facility Professional: A Call to Action

by E. Lander Medlin

**A**t the ERAPPA regional meeting, I was delighted to give the opening "call to action" which framed and set the tone for their overriding educational theme "The Future of the Facility Professional." What follows are my remarks.

Just imagine what it would feel like if your job was being totally reshaped right before your eyes; it is. That's right, it is, because the world as many of us once knew it no longer exists. No less alarming than for the Russian cosmonaut Krikalev who left Leningrad in 1991 for a 313-day jour-

ney into space. He returned to a city no longer on the map, to a country no longer in existence.

We are definitely in the midst of a new paradigm shift (each shift occurring more rapidly than the previous one). We have moved from hunters & foragers to an agrarian society; through an Industrial Revolution; and into a knowledge explosion. This transition has been characterized as the Age of Technology, the Age of Information, the Age of Communication, the Age of Connectivity, hence, the Age of Knowledge.

Just look at a few interesting statistics that you may find either enlightening or disheartening, depending upon your attitude and perspective. Did you know that:

- One weekday edition of the *New York Times* contains more information than the average person would have encountered in their entire lifetime in the 17th century.

- More information has been produced in the last 30 years than the previous 5,000.

- The information supply available to us today doubles every four years.

- We wear more computing power on our wrists than what existed prior to 1961.

- There is more computing capability in a little Furby doll than what existed aboard the original Lunar Lander Module.

A CEO aptly described to me the impact of information technology on our daily lives saying, "Those not proficient with information technology stand the chance of being 'road kill' on the side of the information super-highway." Put another way, what the interstate highway transportation system did for transportation and travel in the 1950s and '60s, the Internet is doing for the transmission of information, messages, and education now and hereafter. So Bette Davis was right when she said in *All About Eve*, "Buckle up, it's going to be a bumpy night!"

The fact is the world is changing dramatically and at a phenomenally rapid pace. Think for a moment about this illustration: Drop a physician of today into the 5th century and he could not practice medicine. Drop a professor of today into the 5th century and he could/ he would fit right into the classroom.

That is no longer acceptable given the tidal waves of this paradigm shift and the resultant sea changes occurring in the higher education industry (let alone those of the entire educational system).

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

TM

## Maxiforce 1 Ridgid and Collapsible Bollards

**"Give your budget a Break!  
You have tried the Rest, Now try the Best..."**

### *The Maxiforce 1 Bollard Features:*

- Can be lowered in either direction...
- Helps control through traffic... (wrench operated)
- A complete easily serviceable bollard... (eliminates any down time)
- Allows for the replacement of existing units with our unique adapter plates... (no digging up of most in ground bases)
- Partial units can be purchased...
- Stock parts are readily available, but rarely a necessity...
- No more expensive replacements...



Visit us at!

<http://maxiforcebollard.com>

### *Let Us, Help You!*

G. Reale Enterprises, Inc.  
3444 Marshall Road, Suite 101  
Drexel Hill, PA 19026

Tel: (610) 623-2611

Fax: (610) 623-6384



The focus is shifting from: teaching to learning; faculty to student; one-way to two-way; passive to interactive, an environment no longer bound by time and place; producer to consumer; and monopoly to competition.

We are a market-driven, growth industry. We are a business—make no mistake about it—with all the trap-pings, trials, and tribulations of managing both expenses and revenues. And do not mistake this as a pendulum shift but a fundamental paradigm shift in our operating environment. As I said in the beginning, the very fabric of the higher education enterprise (and the facilities profession) is being re woven right before our very eyes. So, why should you care? Why do you have to care? This quote from EDUCAUSE magazine in Barry Munitz' article "Changing Landscape: From Cottage Monopoly to Competitive Industry" captures the heart and core of the changes before us: "Boundaries and the physical artifacts we associated with them are dissolving. Infrastructure will be defined more in terms of fiber and electronics than land and buildings; institutions are being transformed into 'learning environments' that are independent of both time and place."

And, if that is not already too much to bear, higher education objectives too are changing more dramatically than you might think: from, socialization to maturation; training to learning; credentials to competencies; research to discovery; public service to engagement; recognition to credibility. The essence of this change in higher education's objectives was embraced most recently by the Kellogg Foundation in their monograph series prepared by representative presidents of NASULGC (National Association of State Universities Land and Grants Colleges). In this monograph they spoke of the key purpose of higher education as it has been over the last 100 years. We could all recite it for it exists in most of our mission state-

ments: "Education, Research, & Public Service." From my perspective, this has been our mantra. In the new pact they were describing they need to make with the general public, they transformed this purpose to that of "Learning, Discovery, & Engagement!" Catch the language?! Is it just semantics or do you catch the shift from passive to active, from one-way to two-way, from isolation to involvement and integration within the entire community. It is all changing! But, WOW! What a great place to be, this education industry! Maybe, maybe not!

You will have to decide and ultimately make that choice. Because, as higher education is not immune to these sea changes; neither are we. So should we view these sea changes as a challenge or a curse, an opportunity or an obstacle? This is worth pondering and a little reflection. As you do so, consider this story about Thomas Edison:

In December 1914 a great sweeping fire destroyed his research laboratory in West Orange, New Jersey wiping out \$2 million worth of equipment and the record of much of his life's work. Edison's son, Charles, frantically looked for his father and finally saw him standing near the fire, his face ruddy in the glow and his white hair being blown by the winter winds. He said, "My heart ached for him." He was no longer young and everything was being destroyed. Edison spotted Charles and shouted, "Where's your mother? Find her. Bring her here. She'll never see anything like this again as long as she lives." Next morning walking among the charred embers he said, "There is great value in disaster. All our mistakes are burned up! Thank God, we can start anew."

It is difficult not to feel that our life's work is being burned up amidst this great sweeping fire of change.

*Continued on page 11*

## **WATER ALERT<sup>®</sup>**

**SURFACE WATER SENSING ALARMS**



6 Models Available

**AVOID DOWNTIME  
AND DAMAGE DUE TO  
WATER LEAKS AND SPILLS!**

...used in computer room / clean room sub-floors, equipment rooms, and unattended or difficult access areas; anywhere undetected leakage can cause damage, operations shutdown, or time consuming clean-up.

**FOR FREE CATALOG AND  
PRICING CALL 1-800-533-6392 TODAY!**

**[WWW.WATERALERT.COM](http://WWW.WATERALERT.COM)**

### **Dorlen Products**

6615 W. Layton Ave. Milwaukee, WI. 53220

**WATER ALERT<sup>®</sup>** detection systems are installed  
in over 17,000 sites in the U.S.



# ***Mailboxes***

## ***and Postal Specialties***



*The Industry Leader in the Educational Marketplace*

**Products Include:**

***Brass Mailboxes  
Brass Door Spare Parts  
Aluminum Mailboxes  
Apartment Mailboxes  
Commercial Mailboxes  
Pedestal Mailboxes  
Free-Standing Mail Centers***

***Residential Mailboxes  
Parcel Lockers  
Name Directories  
Key Cabinets  
Free-Standing Drop Boxes  
Wall Mounting Mail Drops  
Specialty Boxes***

**CONTACT US FOR A  
FREE CATALOG!**

**1-800-SALSBURY  
[www.salsbury.com](http://www.salsbury.com)**



People Committed to Quality Since 1936

1010 East 62nd Street, Los Angeles, CA 90001-1596



But as Edison's attitude teaches us, we can start anew." And we must!

As higher education's objectives are changing, so too must the objectives of the facilities profession. But, how do we fit it? In this instance, a view from the past is instructive. Consider what Gary Reynolds calls "The Cascade of the Facilities Management Profession."

- 1914 - We were considered Buildings & Grounds Superintendents;
- 1950s - We changed to Physical Plant Administrators;
- 1980s - We considered ourselves Facilities Officers;
- 1990s to present - Asset Managers;
- Futures - Stewards of the Institution Mission.

A bit overwhelming? Disconcerting? Whether you agree or not doesn't matter. The process of considering who we are and what we have to offer when it comes to our future role and responsibility is the most important consideration at this point in time. But I do challenge you to consider this shift in thinking and focus sooner rather than later, because we cannot shrink from the task before us. Our industry is at a critical juncture; a crossroads that needs all our best efforts.

As I mentioned in my last article, tomorrow is upon us today! So we must seize the day - "Carpe Diem." It is the power of now. But, maybe more importantly, given the context of change I described earlier, are the words I saw emblazoned on a T-shirt - "Carpe Manana," "Seize Tomorrow." "Seize Tomorrow . . . Before it seizes you!!" Because there is a new look and feel to this new paradigm.

The look is one of competing demands and expectations, increasing accountability, a market-driven network economy, a customer relationship focus (like none other we've seen), a surge of powerful new technologies, globalization, and multiculturalism.

The feel is one of sustained speed, heightened urgency, immediacy, impatience, unpredictability, flexibility, and adaptability. All at a pace that has accelerated to a stunning degree.

We need to claim it, embrace it, create it, and change it all at once. In essence, we must reinvent ourselves, our organizations, and our institutions; we must explore new ways of thinking and new approaches to doing our business; we must be problem-finders and problem-solvers at the same time; and we must be able to shift roles at a moment's notice. Only you can do that. It's your decision. It's your choice!

Yet, I am not of a mind that this is all bad news. There is good news too. I firmly believe that many of you are already on your way, engaging this transformation by asking the right questions and pondering the answers. Your choice to be members of APPA so that you keep up-to-date on the latest information and education resources, thereby taking an active role in your professional development, is an important step.

If you will actively seek and take hold of APPA's programs, products, and services you will be equipped to challenge outmoded approaches to our business; transform the way we think about our business; secure and practice the skills and abilities you need to be successful; utilize newly developed and formulated models for educating senior institutional officers about our business; and learn and use the language of leadership and the language of business.

Frankly, these are all essential ways we must engage to break out of our present "comfort zone." Because just as IT and Finance are strategic for higher education, so is Facilities Management/ Facilities Leadership, if we view ourselves as Asset Managers, and as Stewards of the Institution Mission. But our old ways of thinking, our traditional approaches to problems, our well-honed habits, and our comfort level with all this change, is hard to

break and re-make. I would liken how difficult it is to launch a space craft.

Take Apollo 11 for example. To get the craft to the moon, it has to literally break out of the tremendous gravitational pull of the earth. There is more energy spent during lift-off and the first few miles of travel than over the next several days. Similarly, it takes a tremendous amount of individual effort, will power, discipline, and active engagement to "lift-off" from our present comfort zone or old habits.

But once we break out of our gravitational pull, our new found freedom takes on a whole new dimension and there is no telling how far we can go! It is clear what we must do. Will we choose to do it? As Goethe once said, "Knowing is not enough; we must apply. Willing is not enough; we must do." 📌



## INFORMED<sup>®</sup> CUSTODIAL STAFFING SOFTWARE

\*The Institute for Facilities Operations Research and Management Educational Development

### In a friendly Microsoft Windows atmosphere:

- Benchmark and justify your staffing level against national norms.
- Perform "what if" scenarios with the "click" of a button
- Establish balanced cleaning areas
- Produce instruments to evaluate your cleaning

From Jack C. Dudley, PE, APPA Member Emeritus, Editor and Co-author of the APPA Association of Higher Education Facilities Officers publication *Custodial Staffing Guidelines for Educational Facilities*, first edition, and Co-author of the second edition. Software uses methods developed for the book.

Several models are available starting at:

**\$189**

Visit our web site at  
[www.Informedanalysis.com](http://www.Informedanalysis.com)

5335 South Lakeshore Drive  
Racine, Wisconsin 53403  
(262) 552-8966

E-Mail: [informed@worldnet.att.net](mailto:informed@worldnet.att.net)



## Nomination Form



# Meritorious Service Award & Pacesetter Award

APPA's volunteers shape and strengthen both the association and the profession through their contributions of time, energy, and ideas. Each year, APPA recognizes the contributions and achievements of a few of these talented and hardworking individuals through the APPA awards program. But identifying the most deserving from among a large group of active individuals requires input from those who know best: other APPA members like yourself. Help us ensure that APPA volunteers get the credit and appreciation they deserve: Nominate an outstanding APPA member for the Meritorious Service Award or the Pacesetter Award. Purpose and criteria for each award are described below.

To submit your nomination, complete the following nomination form and fax it to your regional Awards & Recognition committee member. The Committee will review jointly all nominations and select the recipients. Awards will be presented July 24, 2001 at APPA's 88th Annual Meeting in Montreal, Canada.

### *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 each year. To be eligible for the Meritorious Service award, nominees must meet the following criteria:

1. Active member of APPA for a minimum of five years.
2. Attended and participated in meetings and other functions at the international level.
3. Demonstrated continued and distinguished service to the association through one or more of the following:
  - ☐ Service as an officer to the Board
  - ☐ Chair or member of an official APPA education program, special project, or committee
  - ☐ Service to an associated professional organization whose principle purpose is related to the betterment of facilities management.

### *Pacesetter Award*

The Pacesetter Award is the newest addition to APPA's awards profile. 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. To be eligible for the Pacesetter Award, nominees must meet the following criteria:

1. Active member of APPA for a minimum of three years.
2. Service/contributions/accomplishments to the association through one or more of the following:
  - ☐ At the international, regional, or chapter level.
  - ☐ As a member of an official member of an APPA committee, program, task force, etc.
  - ☐ Through participation in an APPA educational program or special APPA project.
  - ☐ Authorship of a publication, article, or chapter for APPA or presentation at an APPA annual meeting or educational program.
3. Other voluntary contributions of time, effort, resources, and leadership abilities to promote and enhance APPA and the educational facilities management profession.



# Nomination Form

Please complete the information below as thoroughly as possible and submit this form to your regional APPA Awards & Recognition Committee representative listed below. Use additional sheets as needed. Attach supporting documentation when available (e.g., letters of commendation, recommendation, newsclips, etc.) All nominations must be received by **March 30, 2001**, in order to be considered for the 2001 awards. This form may be copied for multiple award nominations.

I nominate the individual named below for the following award:

☐ 2001 Meritorious Service Award

☐ 2001 Pacesetter Award

Name of Nominee \_\_\_\_\_ No. of years in APPA: \_\_\_\_\_

Title \_\_\_\_\_

Name of Institution \_\_\_\_\_

List any positions and/or offices the nominee has held at the international, regional, or chapter level of APPA:

Office

Level (Int'l, Regional, Chapter)

_____	_____
_____	_____
_____	_____

List committee, task forces, or other special projects upon which candidate has served at the international, regional, or chapter level of APPA:

_____
_____
_____

List and describe other ways your candidate has served APPA (e.g., presenting at the annual meeting, writing for an APPA publication, teaching at the Institute):

_____
_____
_____

What other facilities-related organizations has candidate served?

_____
_____

Briefly state how this candidate has contributed to the growth and professionalization of the facilities management profession.

_____
_____
_____

**Eastern** ..... Sherrell Vucci, Smithsonian Institution

Fax: 202-786-2938; Ph: 202-357-2703

**Southeastern** ..... Daryl Crider, University of Alabama/

Birmingham

Fax: 205-934-4990 Ph: 205-934-4427

**Midwestern** ..... Alan Biggers, University of Notre Dame

Fax: 219-631-6149 Ph: 219-631-5615

**Rocky Mountain** .. Greg Wiens, University of Alberta

Fax: 780-492-7582 Ph: 780-492-4261

**Central** ..... Leo Yanda, University of Arkansas

Fax: 501-575-7268 Ph: 501-575-6601

**Pacific** ..... Tony Ichsan, CSU/San Bernardino

Fax: 909-880-7049 Ph: 909-880-5179

**Australasian** ..... Maurice B. Matthewson,

University of Auckland,

Fax: 64-09-373-7456

Ph: 64-09-373-7599

**FAX THIS FORM TO YOUR REGIONAL A&R COMMITTEE MEMBER LISTED ABOVE**

\*If all the nominees for an award fail to meet APPA's criteria, the Awards and Recognition Committee reserves the right to recommend that no award be given in that category.



# Teamwork: Emergency Response

By FM Global

**E**mergencies strike without warning. An explosion and severe fire sweeps through an office. An earthquake shakes hundreds of computers from high storage. A sudden power outage shuts down critical equipment or processing lines. A flood submerges perishable products with contaminated floodwater.

When an emergency hits, your response in the next minute could mean the difference between property survival and disastrous loss. And survival depends upon your own readiness.

No matter what your business involves—an office building, a health care facility, a manufacturing plant, a shopping mall, a college or school campus, or a warehouse—you need an emergency response plan, one that assures your organization will survive the worst possible emergency.

## Are You Ready?

If your emergency response plan is effective and current, you're probably in good shape. But it can't be just a policy on paper. And don't assume that insurance covers it. If your customers have to go elsewhere for the products or services they need, no insurance policy will bring them back.

This article will serve as a guide for creating an effective plan or updating an existing one. Once you have built your plan and have trained your emergency organization (EO) to carry out the plan, your answers to the following questions should be yes:

- Does your plan list step-by-step training procedures, response actions, and job assignments for the EO?  
Training is essential. After all, you will expect the EO to

*This article was written by a team of experts from the Factory Mutual Insurance Company, Johnston, Rhode Island ([www.fmglobal.com](http://www.fmglobal.com)). It is © 2000 by the Factory Mutual Insurance Company and is printed here with permission. A version of this article originally appeared in RECORD - The Magazine of Property Conservation.*



safeguard your campus property and environment without putting themselves at risk.

- Is the plan current? Are EO members still on staff? Is their training appropriate for current and future business changes? Do backups exist for vacation and sickness? Are positions covered for all shifts?

## Success is Yours in Five Steps

Planning starts with careful research and forward thinking management. The steps are simple, but it takes time to find out what you could be facing and determine resources you need both inside the institution and beyond.

### Step One—Assess your needs

Certain strengths and weaknesses at your site will either help or hinder your emergency response. It's important to know what they are. Find out:

- What fixed fire protection is provided? Is it in service?



- Do employees know the locations of fire extinguishers and fire hose stations and how to use them?
- What processing or storage hazards exist?
- What type of natural hazard is the site exposed to? (There is probably more than one.)
- What types of materials are stockpiled and ready for use in case a natural hazard strikes?
- Are there staffing or equipment limitations?
- Have you educated and trained key personnel?
- Are drills and periodic staff training provided?

Next, evaluate the impact of the hazards on your property, the general public, the environment, and your ability to resume business after an emergency. Examples of events include fire, floods, hail storms, winter freeze-ups, roof collapse, windstorms, earthquakes, among many others. How could each one affect your day-to-day campus operations?

Carefully research the history of emergencies at your facility. This can be very helpful for developing strategies. In the past, how did the response plan work as a result of incidents such as hazardous materials spills, fire protection impairments, utility interruptions, riots and civil commotion, sabotage, bomb threats, and poor equipment maintenance? Was the cause related to human error? What worked well? What could be improved? What changes would you make if it happens again?

Prioritize all the emergencies your facility has experienced from the most to the least severe. How frequently might they reoccur and how severely?

Develop strategies. Natural hazard emergency response can vary considerably depending upon the type of occurrence. Take a close look at the nature of each one and develop specific actions you will need to minimize the hazards.

Use internal resources. They can be invaluable for this challenging effort. An Emergency Response Planning Committee—not necessarily the people who will respond to the emergency—can bring expertise from these areas:

- operations
- maintenance
- transportation
- engineering
- public relations
- risk management
- environmental health and safety
- human resources
- security
- legal
- labor relations

Others on staff often make good emergency responders and help reduce training time. Some can help train people or serve as leaders. For example, volunteer firefighters, heavy equipment drivers, crane operators, plumbers, and electricians are in-va-

Take a look at anything offsite that could expose your facility to emergencies. These hazards (also called "exposures") can be related to environmental problems, neighboring properties, and limited outside access to your property—like roadway obstructions or dirt roads that easily become impassable during a rainstorm.

Other examples of offsite hazards include poor or interrupted utility supplies, seasonal brush or forest fires, or frequent arson strikes. Security-related problems on and offsite can also affect your facility.

Identify combustible or lightweight construction and other features like the age of your building. Does each building meet existing code requirements? Have they been well maintained? Has there been a history of roof, wall, or floor leaks?

Identify operations from raw materials coming in the door, to transportation and distribution of finished goods like these:

- Hazardous materials used in processing like flammable liquids; toxic, corrosive, or reactive materials; and combustible metals;
- Fixed equipment and storage hazards like hydraulic oil-operated equipment, dust or lint producing equipment, flammable or combustible coolants, vapor or fume producing materials;
- Fuels and other energy sources used onsite like natural gas, propane, electrical, flammable as well as other prepiped and cylinder gases;
- Warehouse storage (products/materials stored) and types of storage like rack, solid, or palletized;
- Critical production equipment that would need special consideration during an emergency; and
- Access to rail, truck, and over-the-road transportation to move products and equipment.

#### **Identify protection including:**

- Fire protection available like public water supplies, fire pumps and tanks, booster pumps, gravity tanks, and nearby, open bodies of water;
- Types of fixed automatic fire protection equipment like sprinklers, gaseous suppression, foam, dry chemical, and water mist;
- Types of manual suppression equipment like fire hose stations and fire extinguishers;
- Levees and flood walls;
- Sump pumps, curbs, and drains; and
- Sand, sandbags, portable barriers, emergency generators, and portable pumps.

#### **Step Two—Create a Written Policy**

This should contain three statements:





### Software for Estimating New Construction & Maintenance

User Friendly & Cost-Effective

◆  
Expedite Estimating & Contract Negotiations

◆  
Quick & Easy Quantifying of Line Items

◆  
Comparison Reports Indicating Quantity  
and Cost Differences between Line Items

PULSAR® is tailored for estimators using the Job Order Contracting (JOC) method of construction procurement. JOC offers facilities managers timely delivery, low overhead costs & a partnering relationship with a contractor based on performance.

## Solutions For Facilities Managers Faced With Time & Budget Sensitive Construction Projects

Please visit our website at [www.estimatedsystems.com](http://www.estimatedsystems.com)  
Or Call Toll-Free 1-800-967-8572

- The Purpose declares the company's intent and objectives. It also specifies planned limitations to responding to certain site-specific incidents.
- The Policy outlines the plan and top management's commitment. Review the plan at least annually to assure that changing conditions are included and kept current, and that personnel are available and qualified to respond.
- Responsibility designates people by name or title that generate and maintain the emergency response plan.

### Step Three—Plan Levels of Response

Set up an onsite emergency organization (EO). Create specific job assignments similar to the ones below and provide training accordingly.

The Emergency Coordinator launches the plan, and organizes training for the EO to respond efficiently during and after an emergency. Major responsibilities are to analyze each department's site-specific hazards, outline all scenarios every emergency could take, strategize protection, and determine responsibilities for each member of the EO. To fulfill these responsibilities, the coordinator also:

- Arranges pre-incident planning with the fire service or other public agencies to set up a plan of action in event of a fire or other emergency;

- Establishes step-by-step response procedures for the EO in handling all emergencies, particularly fire, windstorm, earthquake, snow storms;
- Directs emergency actions during the emergency;
- Makes sure the other EO members are in place and performing their assigned duties; and
- Assures that emergency materials are available (for natural hazards) prior to the specific season. Sandbags, sand, plywood, nails, snow shovels, snow blowers, portable pumps are typical examples, but your list will likely go beyond those.

The **Notifier** calls the fire department—his or her first priority. This person also keeps a current list of EO personnel and alternates, contacts EO personnel for all emergencies and notifies outside personnel like fire, medical, and rescue operations.

The **Sprinkler Control Valve Operator** knows where all valves are located and is responsible for operating them in the event of a fire. As long as it is safe to do so, this person:

- Goes to the valve that controls sprinklers protecting the fire area, makes sure the valve is open by physically testing it and stands by it until the person in charge orders it shut (essential step);
- Examines sprinkler control valves for damage after an earthquake, explosion, or building collapse; and
- Closes only those valves needed to isolate broken piping, after checking with the person in charge and following all proper fire protection impairment procedures.

The **Fire Pump Operator** goes to the pump room when the fire alarm sounds and checks that the pump has started automatically. If not, he or she starts the pump and keeps it operating until instructed to shut it down by the person in charge. It is important for this person to be familiar with the operation and care of the pump, trained in starting pumps manually, and understanding the importance of pumps in relation to fire protection.

The **Pipe Fitter** knows about the piping distribution networks and can shut off supplies of flammable gases, liquids and other hazardous materials in an emergency. Duties:

- Know where primary and secondary shutoffs are located and how they operate.



- Keep drains clear and restore sprinkler protection where necessary.
- Isolate, drain, and repair any piping damaged by previous windstorms, explosions, collapses, or earthquakes.
- Be familiar with equipment controls.

The **Salvage Team** gets the facility back in business as soon as possible after an emergency. Duties:

- Be able and ready to start salvage during and after the emergency. Actions should be immediate. Damage can worsen as time passes.
- Know how to salvage and clean equipment and stock.
- Concentrate on valuable stock and equipment. Mopping up to remove dampness and drying out areas wetted by water are typical tasks.
- Give priority to any major damage to vital equipment or processes.

It is important to contact contractors for repairs and rebuilding. Suppliers of spare parts should be immediately notified.

**Watch Service** personnel are a very important part of the EO, because they are often the only ones around when the facility is closed or when most personnel are offsite. These are the times watch services or security personnel will be required to fill EO positions. They should receive the same training as the EO.

- Know the procedures during and after an emergency and follow them carefully.
- Sound the fire alarm.
- Notify the fire service in event of fire.
- Check sprinkler control valves and fire pumps.
- Direct fire service personnel to the area of fire origin.
- Notify facility officials.

**Firefighting Teams**, typically used in larger organizations, are selected and trained to fight a fire until the fire service arrives or until the fire grows beyond their level of training. Trained personnel must:

- Know where fire extinguishers and hose stations are located and how to operate them.
- Know the types of extinguishers to use on different kinds of fires and how to operate each type of extinguisher. Extinguisher types include carbon dioxide (and other gaseous

suppression agents such as Halon), dry chemical, foam, pump tank, and stored pressure water-filled.

- Receive training on the use of hose lines to handle and operate them quickly, efficiently, and safely.
- Understand the function of fire doors. Periodically make sure all of them operate properly. Make sure they have closed properly during the emergency.

**The Electrician** may be essential to larger companies. The electrician must:

- Know the location of all switches, portable generators, extension cords, and emergency power equipment in the assigned area.
- Be thoroughly trained on the potential electrical hazards during a fire or other emergency.
- Be accountable for shutting down electrical fans or handling ventilating equipment according to a prearranged plan. Shutting off the HVAC is important for eliminating a fresh supply of air to the fire and preventing smoke, soot and heat from spreading throughout the property.

*Continued on page 27*



**Building Blocks**

THE FOUNDATION FOR SOUND FACILITY OPERATIONS

Managing Higher Education Facilities and Fixed Assets Has Never Been Easier!

Building Blocks™ - it's so easy to use, "you can be up and running in a morning!"

Call today for your FREE on-line Demonstration! 1.800.750.4424

Or visit us at [www.hcisystems.com](http://www.hcisystems.com) and download the Building Blocks Interactive Tour.



#### **Asset Management**

Manage buildings, grounds and fixed asset information



#### **Infrastructure Reporting**

Track and maintain asset inventories, infrastructure, work histories and plans



#### **Capital Renewal Planning**

Create accurate plans quickly with real-time information



#### **Work Order Management**

Issue and track work orders and bid request



#### **Preventative Maintenance**

Reduce maintenance costs and lengthen asset life cycles

**HCI Systems**

Total Asset Management Solutions



# CLOUD NINE

just an installation away



## ALL NEW MAINTENANCE APPLICATION SOLUTION WITH A SILVER LINING

Shouldn't you demand a sophisticated maintenance software solution, one that manages your assets with built-in procedures for preventive maintenance. CMMS technology that can be up and running quickly yet customizable to your organizational structure. Has enhanced usability through stunning 3D graphs, Gantt charts, drag and drop scheduling as well as 300 HTML reports. Web enabled for remote access. Supports Windows, Macintosh and Linux with Oracle and MS\*SQL.

And leaves you paperless.

If you ask us, we think you should.

To learn more, take a minute to call  
us toll-free or visit our website.

*(Warning: Your feet may leave the ground.)*

**TMA**  
Systems

800.862.1130

[www.tmasystems.com](http://www.tmasystems.com)

PalmPilot technology

Robust Gantt charting

Impressive HTML reports

E-mail interface



# Good Planning

By Ruth E. Thaler-Carter

The emergencies and disasters that campuses face today can sometimes make traditional crises such as blizzards and floods look easy. Today's new world of the Internet, media hunger for sensational stories, and other social trends means that facilities professionals must occasionally face not only traditional disasters and emergencies, but a whole new range of crises as well—computer hacking, immediate public knowledge of private matters, stalkers, ecological problems, hazardous waste spills, and more.

Although not every crisis can be anticipated, facilities professionals can be prepared for almost any eventuality with a little foresight and observation. In this special issue, *Facilities Manager* looks at how higher education officials respond to both new and old challenges. This article provides an overview of recent emergencies faced by APPA members, and how they coped.

## First Things First

The first caveat for any facilities professional facing an emergency, whether it's a traditional one such as a blizzard or a new challenge such as an incident of violence on campus, is to follow existing guidelines about dealing with the outside world. Most universities have internal public relations, media, or communications departments that have developed strict policies about crisis communication. Before speaking to anyone in the press, clear it with or hand the call off to that depart-

---

*Ruth E. Thaler-Carter is a freelance writer/editor, based in Baltimore, Maryland, who writes frequently for *Facilities Manager*. She has covered emergency planning issues and profiled APPA Presidents for the magazine. She can be reached at [rthaler@aol.com](mailto:rthaler@aol.com).*



ment. If nothing else, that will be one less headache for facilities to handle.

## Damage and Danger

Student demonstrations may be more rare than in the politically charged 1960s and early 1970s, but they are still likely to crop up over unexpected, one-time issues nowadays. Recent examples include riots over sports wins or losses, invasions by animal-rights activists, and disgruntled and even violent students, faculty, or administrators.

The Indiana University-Bloomington's physical plant department found that out when students started demonstrating over the recent dismissal of popular basketball coach Bobby Knight, creating damages—and some danger—on campus.

"Facilities did have a role in responding," said Hank Hewetson, associate director of physical plant. "We called out some craftspersons—carpenters, electricians, etc.—because we needed to respond to damages, such as broken windows and outside light posts. Several management team

members also were called in to monitor the situation from a facility standpoint."

At IU-Bloomington, the emergency plan "basically is the responsibility of our police department," said Hewetson. "They handled the actual situation and coordinated with us and other units, such as the city police and state police." The role of facilities management is more practical: "Our mission is to stay out of the way of trouble and respond, when possible, to damage that could pose a hazard," Hewetson said. "Obviously, broken windows can be hazardous as well as a security issue, so we temporarily boarded up broken windows for these reasons. The same issue with the lighting poles; we deactivated circuits for safety. We will not get directly involved with the students, but rather wait until they have



For pollution abatement  
and odor control  
(quietly)...

## Tri-Stack ROOF EXHAUST SYSTEMS



Tall stacks are good, but  
Tri-Stacks™ are best!



Low profile, quiet solutions  
for roof exhaust problems  
for laboratory workstations  
and industrial processing

- Prevent re-entrainment
- Eliminate odor
- Reduce noise at the property line
- Comply with architectural/aesthetic ordinances
- Lower energy costs



First we invented the technology.  
Then we perfected it.

**Strobic Air  
Corporation**

Tri-Stack systems are ideal for new construction and direct replacement of conventional centrifugal exhaust fans. Tri-Stack systems feature unique design, high efficiency operation for lower system static pressure, reduced energy costs and provide two-year payback in most installations. Tri-Stacks are also virtually maintenance free, operating continuously — without periodic maintenance — for years under normal conditions. Contact us today for full technical details or to discuss your application.

160 Cassell Road  
P.O. Box 144  
Harleysville, PA 19438  
Tel: 1-215-723-4700  
Tel: 1-800-SAC-FAWS  
Fax: 1-215-723-7401



For design/applications tips, visit our web site: [www.strobicair.com](http://www.strobicair.com)  
[www.met-pro.com/strobic.html](http://www.met-pro.com/strobic.html) • E-mail: [tristack@strobicair.com](mailto:tristack@strobicair.com)

moved on. There is plenty of time to make permanent repairs once things have settled down."

### On-Campus Crime

Crime affects even the ivory towers of higher education. A student was killed at Gallaudet University (DC) only recently, and similar incidents have happened at other institutions around the country. Issues of crime on campus usually involve the institution's in-house police department, interacting with local police officials, but campus police or security services may be part of facilities management at some institutions. Even if facilities professionals are involved only indirectly in criminal incidents, perhaps simply as members of the campus emergency planning process, having an emergency response plan in hand is still important.

For Ron Edwards, associate director (operations) for the University of Arkansas physical plant, dealing with a tragic incident did affect his department, although not directly. A highly publicized murder-suicide shooting incident at the university resulted in rethinking university emergency response plans. Edwards was involved because he is a member of the Emergency Operations Center (EOC), which responds to any and all campus crises.

"As facility management per se, we did not have a direct role in this particular event," Edwards recalled. "EOC was called just minutes after the first gun shots were heard, and EOC members worked together to address the situation and campus needs. The situation was handled and contained at both the law enforcement level, and, of course, at the highest level of university leadership, including the chancellor and his executive committee, which includes the vice chancellor for administration and finance, the person to whom the physical plant department reports. Had there been a need for facility managers to be involved, that would have been communicated to us by the vice chancellor."

It is reassuring to know that a plan is in place. "The university does have a comprehensive plan for handling catastrophic events on campus," Edwards said. "This group is headed by the vice chancellor for finance and administration, and can be 'bumped' to the chancellor's level if needed. The EOC meets on occasion to discuss and train for emergency situations on our campus, and holds tabletop and field exercises at scheduled intervals."

The plan has been in existence for some time, Edwards said. "We have met since that tragic event, to review any needed finetuning of that plan."

### Hacking Hassles

New technologies mean new advances, but also new crises. Most facilities managers do not get involved in computer issues above and beyond installing wiring and equipment, but the possibility does exist of having to respond to a hacking incident on campus. As with criminal incidents, facilities may be part of the committee or group that manages a response even if it does not handle the issue directly.



## EMERGENCY PLANNING AND RESPONSE RESOURCES

**Federal Emergency Management Agency (FEMA)** - state offices provide support and training to emergency-preparedness officials; federal office provides supplemental assistance for individual and public facilities if the President of the United States declares an official disaster; website provides vast range of information about preparedness, training and exercises, insurance aspects, fire prevention, and much more. (FEMA, 500 C Street, S.W., Washington, D.C. 20472; 202-646-4600; website: [www.fema.gov](http://www.fema.gov))

**American Red Cross** - local and country chapters provide hands-on local relief services, from blood-donation drives to shelters, supplies and medical help, volunteers who go on-site to emergency locations, language translation services, a "masters of disaster" curriculum for grade schools, planning and preparedness materials, etc. ([www.redcross.org](http://www.redcross.org), 800-GIVE-LIFE)

**National Guard and Armed Services** - if called out by governor or President, local units develop and initiate disaster plan operations to supplement university or community efforts. ([www.ngb.dtic.mil](http://www.ngb.dtic.mil))

### Local Fire and Police Departments.

#### Association of College and University Housing Officers-International

Riverwatch Tower  
324 West Lane Avenue, Suite C  
Columbus, OH 43201-1062  
Phone: 614-292-0099  
Web: [www.acuho.ohio-state.edu](http://www.acuho.ohio-state.edu)

#### Association of College Unions International

One City Centre, Suite 200  
Bloomington, IN 47404-3925  
Phone: 812-855-8550  
Web: [www.indiana.edu/~acui](http://www.indiana.edu/~acui)

#### EDUCAUSE (campus information technology professionals)

4772 Walnut Street, Suite 206  
Boulder, CO 80301-2538  
Phone: 303-449-4430  
Web: [www.educause.edu](http://www.educause.edu)

#### International Association of Campus Law Enforcement Administrators

342 North Main Street  
West Hartford, CT 06117-2500  
Phone: 860-586-7517  
Web: [www.iaclea.org](http://www.iaclea.org)

#### National Association of College Auxiliary Services

7 Boar's Head Lane  
Charlottesville, VA 22903-4610  
Phone: 804-245-8425  
Web: [www.nacas.org](http://www.nacas.org)

When computer crises arise, it helps to have a good relationship with the institution's information technology or computer department, which usually has the responsibility for handling such invasions of college or university computer systems. It is also possible to take preventive, protective action to make sure the departments own systems are as secure as possible.

At the University of California-Berkeley, "We have our own departmental CMMS system that is managed by our own information services staff," said facilities management's Johnny Torrez. "They have taken every step possible to protect it with firewalls, etc."

"We in facilities do not respond to computer hacking incidents, only physical ones," said Vickie Sirianni, director of physical plant at the Massachusetts Institute of Technology (MIT). According to James D. Bruce, professor of electrical engineering and vice president for information systems facilities at MIT, "Facilities does not have a role in responding to computer hacking incidents. Within Information Systems, the primary response is provided by the Network Operations Team and the Computer Security Team. Our standard process is to understand the hack—what is it, how many machines are involved, is it continuing, etc.—and to address remediation. While there is no written plan in place, the overall approach is well-known to the staff who are involved."

### Let it Snow, Let it Snow

It's never too early for some education facilities professionals to worry about clearing the campus of snow. "Plowable" levels of snow fell in September at the University of Utah this year, according to Pete van der Have, director of plant operations.

Luckily, the school has an emergency plan in place that makes it easier to cope. "In participative planning with constituents and stakeholders, we identify priorities, response times, etc., for different parts of the campus," said van der Have. "Health Sciences, with its hospitals, receives top priority, while staff parking lots are toward the tail end."

Van der Have's department does the work of handling a snow emergency with inhouse staff and equipment, but uses outside contractors in extremely heavy situations, "especially when the windrows don't melt off and we have to truck the snow off campus," he said. There is also a campus policy, established by the administration, for announcing campus closures and conveying any related actions that the campus community needs to know.

The process at the State University of New York-Buffalo, where snow is a matter of course for several months at a time, is similar. "We plot a storm on the computer and call our guys in accordingly," said Bill Marshall, head grounds supervisor at SUNY-Buffalo.

Somewhat surprisingly, the department does not purchase the front-end loaders that usually are needed for snow removal. "They aren't used as often as you'd think," Marshall said. "Historically, we had five on campus and now are down

*Continued on page 39*



They've been making us  
stay after school for  
over 90 years now.

We must be doing  
something  
right.



## ABM: high quality, affordable contract maintenance since 1909.

For 90 years, American Building Maintenance Company has been doing something right—high-quality contract maintenance services—without the high cost or liability you would have if workers were employed by the campus.

We've learned our clients' real needs. Studied dozens of ways to save them money. Analyzed costs, productivity and quality levels so well that our clients can save as much as 15% over in-house programs. Without sacrificing quality.

You'll find that our proposals are detailed, accurate, and meet the unique demands of your campus. Building maintenance is all we do—and we've learned to do it very well indeed. More and more institutions are finding that an "operating partnership" with ABM Janitorial Services

for contract custodial, engineering services and grounds care are exactly right for today's tight maintenance budgets.

Call today: 415-733-4000, Extension 4048.

Or write: Robert Ramirez, Vice President,  
ABM College and University Program.  
It's the right thing to do.

Robert Ramirez, Vice President  
College & University Program  
American Building Maintenance Co.  
160 Pacific Avenue, Suite 222  
San Francisco, CA 94111  
Fax 415-733-5126 • e-mail: rramirez@abm.com  
www.abm.com



a subsidiary of **ABM** Industries Incorporated





# What We Learned from H U R R I C A N E F L O Y D

By George W. Harrell, Ph.D.

**O**n Thursday, September 16, 1999, Hurricane Floyd came ashore and dropped more than 20 inches of rain. The flooding that resulted was far worse than would be expected from that amount of rain. The "Flood of the Century" (actually a 500-year flood event) was the result of the double hit by Hurricane Dennis two weeks earlier, that soaked the area with 12" of rainfall, and Hurricane Floyd. The combined effect was 32 inches of rainfall in a two-week period, half our expected annual rainfall.

East Carolina University's main campus has 3 million square feet of buildings located on 400 acres near the center of Greenville, North Carolina. We were a few weeks into the fall semester, the busiest time of the year, with a record enrollment, when Hurricane Floyd struck. It was the middle of the week and there were over 4,000 students on campus in residence halls.

A few weeks earlier, Hurricanes Dennis "One" and Dennis "Two" had not been much more than an annoying amount of

rain; no one at the time could imagine how this would affect future events. When Hurricane Floyd hit, the initial flash flood produced most of the physical damage to the campus. We experienced almost none of the typical wind damage usually associated with a hurricane. In fact, not a single window was broken, and only one roof structure was breached.

We did lose several very large trees because the super saturated soil, combined with Floyd's winds, resulted in entire root bundles (some 20 feet in diameter) being pulled out of the ground. Normally, a knee-deep stream called Green Mill Run meanders through the campus. It carries storm water run-off from the campus and the City of Greenville. That small stream turned into a river 300 yards wide flowing at 6-8 knots.

The flash flood that occurred within a two-hour period inundated two of the largest and most critical classroom buildings on campus with 54 inches of water. The damage was over \$1.5 million. The lower levels of the two buildings house the mechanical rooms that have chillers, air handlers, transformers, electrical switch gear, fire safety panels, and fiber optic nodes. In other words, all the expensive systems in the building. One of the buildings had the primary steam distribution and condensation collection center for most of

*George Harrell is associate vice chancellor for administration and finance - facilities at East Carolina University, Greenville, North Carolina. ECU was a 1999 recipient of the Award for Excellence in Facilities Management, APPA's highest institutional honor. He can be reached at [harrellge@mail.ecu.edu](mailto:harrellge@mail.ecu.edu).*



the campus and a major fiber optic network node controller valued at approximately \$100,000.

The flooded buildings and high voltage electrical distribution system damage was obvious. What initially escaped our attention was the underground steam distribution system. The water flooded the system and soaked the insulation, the water turned to steam and literally blew everything apart except the actual steam pipe. This resulted in \$2.1 million of damage and has required total replacement of the primary steam feed for the campus.

We assessed our damage and started to develop a plan of action that would ensure the safety and well being of students, get rid of the water, sanitize and initiate emergency repairs, reopen two academically critical campus buildings, and repair the utility infrastructure. All of this needed to be accomplished within a two-week period or we faced the possibility of losing the entire semester.

This doesn't sound too bad until you look at the complications caused by the widespread devastation to the region. The flooding had washed out literally hundreds of roadways. For several days, ECU and the City of Greenville had no passable roadways in or out of the city. It was almost impossible to get materials, supplies, or services. Most businesses in the region were closed, including the contractor support that we needed to assist in our recovery efforts.

Many of our dedicated employees were either flooded out, unable to find a passable route into the city, or marooned north of the Tar River that now cut Greenville in half. We found ourselves with about half of our normal trades workforce and one-fourth of our housekeepers. We later determined that nearly 25 percent of our facilities workforce had lost everything—homes, cars, and personal possessions.

In addition, several of our senior managers and key members of our "engineering brain trust" were stranded at the APPA Institute for Facilities Management in Montreal, Canada. They couldn't fly back to Greenville because the airport was under water, and if they flew elsewhere, there was no ground route into Greenville. Campus food supplies were sufficient for only a few days due to closed roads. We were feeding 4,000 students, our own critical personnel, and many other emergency personnel in town. We had the only dining facilities in operation in the city.

We had a reduced workforce, full residence halls, overtaxed dining facilities, food supplies running short, and an extraordinary amount of repairs to accomplish in a relatively

short period. We also had a nationally televised football game with the University of Miami Hurricanes scheduled for Saturday. A home football game would add to the strain on the campus workforce and resources.

Our primary responsibilities were the safety and well being of our students and reopening the university. Continuing to house and feed students and staging a football game would consume resources that needed to be redirected to reopening the campus for business. If we could not reopen the two large academic buildings (one a major laboratory building and the other the largest classroom building on campus) within two weeks, we were faced with canceling the entire semester with tremendous short-term and long-term implications. We had to concentrate on our primary objective and direct all our limited resources to reopening.

During natural disasters and other emergencies, the campus is managed via the Campus Emergency Response Team. This is a relatively small group that cuts across the bureaucratic structure of the campus. This group is convened before an event with a preparation objective, and then during and after an event with a recovery objective. While our preparation for Hurricane Floyd was fairly routine, how we dealt with the aftermath of the event was anything but routine.

**T**he Emergency Response Team was faced with having to make several major decisions very quickly; these included:

- cancel classes at least through the following Monday
- approve a route by which the students could leave the area
- close all but one residence hall and send the students home (most went to their home if it still existed, some evacuated to the homes of friends, and some went to a sister university that opened dorm space to them on a temporary basis)
- move the football game to NCSU's stadium in Raleigh
- close the university to all but essential university personnel so repairs could proceed and utilities could be energized without fear of harming anyone.

It was most fortunate that we made these decisions, because things only became worse. The flash flood was followed by the "Flood of the Century." Roads flooded (1,200 or more were breached) as the Tar River crested at an all-time high. Luckily, the campus is high enough not to reflood the buildings; however, it completely cut off everyone, including our workforce, living north of the Tar River.

Add to this, the only electrical substation feeding the entire city was located in the flood plain, and two of the primary transformers had already been shut down as the water level increased. The third and final transformer had to be temporarily deenergized to bypass safety switch gear that was going under water. At that point, we lost our primary electrical feed. Once that happened, we only had 2.4 megawatts of peaking generator in addition to our smaller building sized







emergency generators. This required managing our load, which is normally 8 megawatts, down to 2.4 megawatts.

The peaking generators did not have transfer switching and the local utility company had to manually switch us off their substation in order to not back feed their lines. When the utility company was able to reestablish their primary feed the entire process had to be reversed. This happened several times. The peaking generators consumed tremendous amounts of fuel, and all of the oil companies and delivery trucks were cut off from us north of the Tar River.

We had a million gallons in our tanks, less than a hundred yards away, but no way to transport fuel except by stringing a hose across railroad tracks (luckily the trains were unable to run). Our primary steam plant emergency generator had a 10,000-gallon "day" tank, but we did not have a good method of automatically transferring fuel to it from the bulk storage tanks.

**What we were learning was that we had good short-to medium-term emergency capabilities, but lacked the ability to sustain emergency operation of our backup systems for an extended period.**

We also found our load management plan to be out of sync with the needs of our phone and computer networks. Our plan had been to bypass all unoccupied and non-essential buildings. While we had emergency generators on our main telephone switch, the fiber networks were a distributed node system that required a small amount of electrical power in a large number of places on campus. This was not obvious at first because the battery backups for the nodes kept everything going for quite a while.

Once we figured out why the systems started to fail, we had to develop a load management plan that energized almost the entire campus electrical system, but shed all unnecessary load in each building. We assigned it to one of our engineers and told him when we needed a solution. He was the vice president of load management and responsible for all decisions, priorities, and tradeoffs.

We found we had to modify our normal management approach. We found the sheer magnitude and number of real-time problems facing us too great to handle using our normal approach, we had to distribute our problem solving horizontally. We found that someone needed to focus on keeping the operation going while most were trying to solve the remaining problems. There are normally discussions, approvals, etc. in our operation when we make critical decisions, but there simply wasn't enough time for this luxury.

The next thing to go was the potable water supply as the city's water treatment plant was slowly overcome by the rising floodwaters. That caused us to switch to bottled water and the dining facilities had to modify their food handling practices—the steam plant that supplied them with hot water became ever more critical.

**We found that priorities changed hourly as we felt the impact of external forces. We started speaking of the "plan of the hour," not the plan of the day.**

As time moved on, the Campus Emergency Response Team grew in number as the membership proliferated. We basically outgrew our meeting room twice. We found ourselves doing a lot of on-the-spot problem solving. As one would guess, less and less of the output of the group was applicable to facilities from an operations standpoint. This was not at all inappropriate, because other issues gained priority as we solved the facility problems and the outlook of reopening as scheduled looked brighter.

This did result in "the meeting after the meeting" to develop an operating plan for the next 12 to 24 hours based on decisions made in the large meeting. This group consisted of the executive director of facilities, director of housing, director of dining services, director of environmental health and safety, the assistant chief of university police, and me. The group met after the large meeting and developed an operating plan. The first of these plans was literally written on the back of a dining table information folder.

The plagues didn't seem to stop. The water that was no longer potable ceased to flow at all. Probably one of the smartest decisions made early in the week was to order and stage 60 portable toilets. By the time we needed them, they would have been impossible to get.

One of the final plagues was the failure of the local utility's sewage lift station, near the university. At the crest stage of the Tar River flooding, it was literally trying to pump the river. This resulted in one of the worst cleanup sites on campus.

There were many heroes throughout the university, some of whom were dealing with the 2,000 students that no longer had a habitable apartment, or books, or computers. Yes, Hurricane Floyd did "eat their homework." Some were dealing with relief efforts for staff (the hundreds of university employees who lost everything). At one point in all this, the



Methodist Retirement Village, near the university, was overtaken by the flood waters; university buses transported the elderly residents over a hundred miles to another center. We had employees come to work from emergency shelters, the only spare clothes they had were our uniforms. One employee, after rescuing his dog from his flooded apartment, kept Zantar at the shop and slept in his truck so he could keep working.

What else did we learn?

#### Have a Plan

I know that sounds obvious, but I say this after already telling you, we did not have a specific plan for such an unprecedented event. We did have a Hurricane Plan, Winter Storm Plan, and a Y2K Disaster Recover Plan. It turned out that our Y2K "Doomsday Plan" readiness exercises and "what if" scenarios provided some of our best guidance. The Y2K Plan dealt with the effects of wide area disruption of utilities, supply lines, and communications. But be sure to look at how long you can sustain your plan.

#### Don't Fall in Love With Your Plan

Use your plans as a guide—modify your plan to fit the circumstances and remain flexible. We found that often the "Plan for the Day" changed hourly as external forces and events came into play. There is no substitute for a focused,

highly motivated management team when it comes to real-time problem solving.

#### Communicate the Plan

Make sure the whole team is running the same play from the same playbook, as they say in football.



#### Radios

Our VHF radios are our primary communications link for operations. Make sure repeaters are on emergency power along with chargers for batteries. Have lots of spare batteries.

#### Phones

Keep the phone system up. While it's not as important to facilities, it is for almost everyone else.

#### Network

The power of the Internet and web-based information really came into its own during this event; it was the primary medium for announcements and information for students, staff, and especially parents.

#### Cell Phones

Cell phones were the secondary source of internal facilities communications, but a primary source of external facilities communications.

#### Don't Change Anything that Doesn't Need to be Changed

This may sound like a contradiction to my earlier statement of "Don't Fall in Love with the Plan," but it isn't. Use as many normal, pre-established systems as possible. We use our normal protocol unless we lose our repeater, then we have a pre-established plan to go to a simplex approach. We continue to operate our Facilities Service Center and answer our phones. However, our published instructions to the campus indicate that we should only be called for emergency items.

## ENGINEERING SERVICES TO FIT YOUR DEGREES

Mechanical/Electrical  
Central Heating/Cooling  
Steam/Chilled Water  
Cogeneration  
Power Plants  
Power Distribution  
Power Transmission  
Master Planning  
Communications Systems  
Water/Wastewater



**Stanley Consultants INC.**

A Stanley Group Company  
Engineering, Environmental, and Construction Services—Worldwide

Austin, TX - 512.231.1449 • Chicago, IL - 773.693.9634 • Denver, CO - 303.799.6896 • Des Moines, IA - 515.246.8585  
Iowa City, IA - 319.625.2990 • Jacksonville, FL - 904.737.7225 • Las Vegas, NV - 702.369.9396 • Minneapolis, MN - 612.546.3669  
Muscatine, IA - 319.264.6600 • Phoenix, AZ - 602.913.6200 • Salt Lake City, UT - 801.293.8880 • West Palm Beach, FL - 561.698.7444

[www.stanleygroup.com](http://www.stanleygroup.com)



### **Lists: Make Them, Update Them, Keep Them Handy**

There is a reluctance to make lists that seem to be obvious. Our emergency plans include lists of generators, what is supported by the generators, fuel capacity, and run time between fueling. While this is an obvious list, others were not, and some had to be developed. We found we needed a list of the air conditioning systems that would work without domestic water being available. We didn't have such a list; we do now.

Yes, we have people who know all those things in their head, but remember that a great many key members of your corporate memory may be missing. Things that are easy to remember during normal times may not be that easy when your people have been working 16 to 18 hours per day at 150 percent effort, for several days.

### **FEMA & Insurance**

This is one area we had just developed procedures for handling. That turned out to be invaluable. Everyone needs to understand the data collections and forms before the emergency begins. There isn't time to learn on the job! You have to start collecting information and documenting as things occur or it is too late. You have to have someone on your staff that is a "FEMA expert."

There are so many people to thank for making our recovery possible. Our business partners were unbelievably generous.

Sodexo Marriott Services sent people, money for food, and relief supplies for our employees. Johnson Controls sent a technician and a truck full of parts for two weeks. Aramark kept our workforce well fed, and I don't just mean peanut butter sandwiches. Many other vendors donated equipment and workers. Other universities called and offered to help with anything we needed. If they had it, it would be on the way. North Carolina State University, UNC/Chapel Hill, UNC/Greensboro, and others were all a part of our speedy recovery.

Without a doubt, Hurricane Floyd took a toll on our organization. We operated in what felt like a war zone, for 20 hours a day, on adrenaline. We started to transition back to regular operation while continuing certain emergency mode activities. What was really hard was redefining and reinforcing—both for our management team and our workforce—what was important: that mowing grass was again important, that cleaning mirrors was important.

Getting back to normal took much longer and required much more effort than I expected. About six months after the event operations seemed to have returned almost to normal, but perhaps things will never be the way they were before Floyd. 🏠

---

## **Teamwork: Emergency Response** *Continued from page 17*

- Be able to set up temporary power or lighting if utility power is lost.
- Be able to cut off power, in event of a flood to basements, ground floors or below grade areas.

### **Prefire Planning**

One of the most important parts of developing a response plan is your prefire plan with the public fire service. Good prefire planning involves conducting a site visit with the fire service on your campus so that if an emergency strikes, your personnel and firefighters will act as a team. Firefighters need to be familiar with the layout and hazards of your facilities. It's important for everyone involved to know exactly who does what, where, and when.

Throughout the site visit, you will need a site plan showing the layout of the property and a checklist of items involving the level of response both your staff and firefighters will need. A certain amount of coordinated training might be involved.

### **Step Four—Train Your Personnel**

Educate your staff for each level of response you need for the firefighting team. It is important to establish drills with the onsite team and coordinate them with the public fire service and other outside agencies. The EO should also be trained to respond to natural hazards before and after they strike.

### **Step Five—Do the Audits**

Changes will occur and, as they do, they need to be well managed. Audits of your equipment, storage, and property help determine past and evolving changes and future plans. It's important to do at least two things:

1. Plan audit intervals. They should be done at least once a year.
2. Develop a process to assure that changes in construction, occupancy, protection, and exposures will be accounted for. Make sure they are communicated to the person in charge of the Emergency Response team.

### **Final Word**

Controlling a loss by preventing or minimizing damage is the major goal of your emergency response plan. Doing it right depends upon taking two assumptions seriously:

1. An emergency will occur at some point in the history of your institution. Never assume it only happens to someone else.
2. Readiness isn't possible without management commitment. Management's dedication to conserving campus property is essential if management expects emergency responders at the site to be committed to their jobs.

A well-protected property equals a safe business and educational environment for everyone! 🏠





*Hugh Jesse is director of facilities services at the University of Montana, Missoula. He can be reached at [hjesse@selway.umt.edu](mailto:hjesse@selway.umt.edu).*

# the fires of 2000

*By Hugh Jesse*

Natural disasters come in a variety of forms—earthquakes, floods, hurricanes, tornados, forest fires, and other geologic and cosmic events we would like not to think about. In the year 2000, the American West experienced a major fire season that rivaled the 1910 season. Those of you who are not in the West experienced the season through press coverage on the various wild fires. The current total burnt area for the West is in excess of 7 million acres, with Montana's total exceeding 900,000 acres.

Just 40 miles south of the University of Montana's Missoula campus, the Bitterroot Complex consumed over 350,000 acres. The photograph on page 29 is a hillside on fire next to the Bitterroot River south of Hamilton, Montana, which was taken in the Bitterroot Complex Fire on August 6. This day saw several forest fires converge near Sula into a firestorm that overran 100,000 acres and destroyed ten homes. This photo was taken by John McColgan, a fire behavior analyst with the Alaskan Type I Incident Management Team. The photo captures the extent and result of the fires in parts of Montana and the West. The two cow elk are seeking refuge in the river and epitomize feelings here during the summer. John said, "I just happened to be in the right place at the right time. I have been doing this for 20 years, and this fire ranks in the top three days of fire behavior I have seen."

The main campus in Missoula was not directly affected by fire. However, there was a 70-acre grass fire on Mount Jumbo only three miles from campus. We also experienced a 900-acre fire called the Schley Fire near Point Six 15 miles from town, which for a while threatened the power lines coming into Missoula. The University of Montana's experimental forest, Lubrecht Forest, experienced three fires started by lightning strikes that were put out before they consumed any significant acreage.

In the Missoula area our fire conditions were extreme as a result of essentially no moisture received in July and August and higher than normal temperatures. Dry summers are not unusual in Montana, but this summer was extreme. We have always had to closely watch the fire danger, as reported by the State's Department of Natural Resources and Conservation, and periodically we have to shut down Mount Sentinel,





The Bitterroot River in the Bitterroot Fire Complex, August 6, 2000. Taken by John McColgan, US Forest Service

which is adjacent to campus and is a popular hiking attraction. This year, however, it was shut down in the first week of July, almost a month ahead of when the governor of the state shut down state forest lands. This is necessary because if you were hiking on the mountain and a grass fire started below you, there would be no way to outrun it.

The university's preparation for the fire season and response to it can be summarized as monitoring the fire conditions, increasing public awareness, restricting access to hazardous fire zones as necessary, reducing ignition fuel sources, preparing emergency systems, increasing surveillance, and prompt reporting.

This summer, the University of Montana not only shut down Mount Sentinel early on, but later in July we had to shut down Lubrecht Forest, and cancel summer classes held there. Public Safety and the School of Forestry closely followed the Department of Natural Resource and Conservation's fire assessments and made recommendations to the President. Public awareness came from multiple directions, such as extensive signage around the state on fire conditions, elevated news reports, and campus communications. This summer, Facilities Services paid special attention to reducing ignition fuel sources (brush and high grass) around the perimeter of campus and the annually maintained areas. This summer's heat and lack of moisture required us to increase irrigation to keep the lawns green and reduce tree stress.

The campus' emergency systems, primarily our fire protection and sprinkling systems, are backed up in the event of power outages. This is a serious problem in the forested areas because about the time you need the ability to pump water is when those power systems will fail. Emergency systems also include emergency response communications. This spring, not because of a pending fire season, but because of our concern for proper responses and command and control of emergency situations, our campus-service organizations and community-emergency services organizations got together and participated in a couple of table-top exercises. These sessions have been most useful to campus and community services in identifying shortcomings.

In another aspect of preparedness, Campus Public Safety, in conjunction with the city, county, and Department of Natural

Resources, spent more time patrolling outlying areas and areas at risk. This increased surveillance and early warning effort obviously helped. However, it did put a strain on other campus-security commitments.

There are a few other interesting aspects of this fire season. This summer the Red Cross contacted the university, and we participated in identifying and reserving space for evacuation shelters on campus. Also, the smoke from the major fires affected the air quality and visibility in the Missoula area numerous days in July and August. Several days we had Stage 2 air alerts in which the smoke density looked like a heavy fog but smelt like burning timber and one day the street lights came on in the early afternoon. This resulted in elevated concerns of employees for their respiratory health, which required us to institute educational sessions with employees on when certain types of strenuous work could be done during these periods. There was also concern with the athletic department on rescheduling women's soccer practices outside of the Missoula area.

One other interesting aspect of this year's fire season was the decisions individuals from campus and the community, who had homes in the outlying areas, made relative to eliminating shrubbery around their homes, severely trim trees and in some instances remove trees from around their homes to increase the survivability of their property in the event of a wildfire.

The Forest Service reported multiple times that only Mother Nature was going to be able to stop these fires. On September 1, a significant weather system moved into the Pacific Northwest and dumped enough rain to increase moisture levels to the point where fires abated. In the last week Montana has started to receive snow, and last weekend, there was significant snowfall in the eastern part of Montana and at the higher elevations.

In closing, this was a very unusual summer with a lot of press coverage on the fires. I am tempted to include a lot of other photos and graphics. However, for those interested, the University of Montana's EOS Education Project's website at <http://www.eoscenter.com> has a host of photos, graphics, maps, and satellite images of the fire season. 🌲







# INSTITUTE FOR FACILITIES MANAGEMENT

## CLASS OF SEPTEMBER 2000

**APPA's Institute For Facilities Management congratulates the following individuals, who successfully completed the Institute in Pittsburgh, Pennsylvania.**

### PARTICIPANT

John Albright  
 Agatha Armstrong  
 Rick Bagwell  
 Katie Baumgard  
 Alan S. Bigger  
 Kenny Blackwell  
 William Butler  
 Julio Canseco  
 Que Collard  
 Maurice M. Coman  
 Terry W. Conry, PhD  
 Cornelius Edwards  
 Greg Esman  
 Chuck Forman  
 Daniel J. Fuchs  
 Mario Geracitano  
 Kim Graves  
 Steven Grube  
 Milton "Pat" Howell  
 Evelyn R. Evans-Johnson  
 Prasanna Kumar  
 John Langsdorf  
 Lester Lawson  
 Blaine Lewis  
 Michael S. Miller  
 Sherry L. Moore  
 Kenneth J. Mott  
 JoAnn Navarro  
 James Oliver  
 Steven W. Pelkey  
 Gregory Pierce  
 Michael Proctor  
 Bruce Shapiro  
 Don Slocum  
 David Smith  
 Joel A. Stragquadine  
 Dennis Sult  
 Susan Thews  
 Mark Webb  
 J. T. Wells  
 Leo Yanda

### INSTITUTION

Boulder Valley School District  
 Texas A&M Univ/Corpus Christi  
 Eastern Illinois University  
 Iowa State University  
 University of Notre Dame  
 Stephen F. Austin State University  
 El Centro Community College  
 University of Georgia  
 University of Utah  
 University of North Florida  
 Ohio University  
 University of California/San Diego  
 McMurry University  
 Western Michigan University  
 Middlesex County College  
 University of California/Irvine  
 Southwest Texas State University  
 Southern Polytechnic State University  
 University of North Texas/Health Science Center  
 University of California/San Diego  
 University of Iowa  
 Guilford County Schools  
 Iowa State University  
 Mount Union College  
 Butte-Glenn Community College District  
 Stephen F. Austin State University  
 City of Arlington, Texas  
 Binghamton University  
 Albany State University  
 University of Oregon  
 University of California/Irvine  
 Midlands Technical College  
 University of California/Irvine  
 Western Michigan University  
 St. Louis Community College  
 University of New Mexico  
 San Jose State University  
 Culver Education Foundation  
 University of Virginia  
 Stephen F. Austin State University  
 University of Arkansas





# EARTHQUAKE!

*By Hildo Hernandez*

Soon after the dust settled on Monday morning, January 17, 1994 at 5:00 a.m., the earthquake is old news for most of the world. But for those charged with recovery and rebuilding efforts, this earthquake was a command to stand up and be counted. For some it was headline news, but for California State University, Northridge, it was the beginning of a "Time to Shine" performance.

Contrary to common perception, earthquakes exhibit different natures. Some earthquakes create a rolling motion, similar to shaking jelly, which span an elongated area depending on the subsoils and rock formations beneath the earth. The Northridge earthquake did not exhibit that nature. The Northridge quake had an up-and-down motion, concentrated largely in one area, and reacted similar to a power-operated hammer with a driving motion of successive similar aftershocks. This created a gravity factor called "G" forces, causing many structural support columns to mushroom at their bases and bolts to shear off. Buildings with different outer shells reacted uncommonly as originally perceived in a rolling motion type earthquake. There were similarities that caused damage in all affected buildings. For example, shelves

were emptied. This type of damage occurred in stucco, brick, block, concrete, and steel buildings. The most damaged building at CSU Northridge was the parking structure that pancaked inward. Other buildings, such as the science complex, built of concrete, exhibited massive spalling, cracked columns, and extensive interior space damage. Fires resulted from gas and electrical lines being ruptured or broken by the hammer "G" force action of the quake.

When operating a command center, the damage to facilities is just one aspect of an earthquake damage control scenario to be considered by officials and facility managers. What is a command center? In both of the most recent major California quakes, the Loma Prieta in October 1989, and the Northridge in January 1994, specific sites were designated to house officials where decisions were made. Loma Prieta, in the San Francisco/Oakland area, and Northridge, in the Los



---

*Hildo Hernandez is director, physical plant management, at California State University, Northridge. He can be reached at [hildo.hernandez@csun.edu](mailto:hildo.hernandez@csun.edu).*



Angeles area, each had centers fully operational and staffed around the clock within a few hours after the earthquake.

From the central location, all first responders and key personnel were able to collect information and direct search and rescue operations. As the situation stabilized, the need for the command center was phased out. At CSU Northridge, it was quickly learned that two centers were needed, one for operational services (logistics) and the other for administrative decisions and control. One of the most critical and decisive decisions made in the command center was not to close the CSU Northridge campus. This decision was made by President, Blenda Wilson.

Search and rescue for anyone in quake areas is the first and most important consideration to be addressed. There needs to be procedures in place and field decisions need to be made to command parameters and requirements that will be acceptable to meet Federal Emergency Management Agency (FEMA) regulations. Damage assessment should start as soon after as feasible.

Forms should be used in all instances to document information, assessment, value, estimated cost, inventory, corrective action, staff direct time, and overhead time spent on all earthquake work activities. This is a cardinal rule that must be followed to receive the correct reimbursement from FEMA at a later date.

To expedite procurement and human resource processes, CSU Northridge centralized the procurement, hiring of personnel, transportation information, and documentation in the operational command center called Operation Center. For example, letters of approval directing flexibility in these usually highly scrutinized functions, opened doors to purchase services and hire staff that allowed for immediate action.

Keeping a list of vendors outside of your geographical area is highly recommended. This type of planning gives you a shortcut to receiving needed goods and services that are necessary during the immediate emergency. Inventory quickly runs out when disaster hits, so it's good to keep a reference list of vendors and professional firms. For example, fencing materials are needed to secure areas and emergency equipment such as generators, barricades, lights, gasoline, water, and food are all essential during the first few days after an earthquake.

I know that \$2 million was spent by Los Angeles County in the first week for temporary toilets alone. Fencing was so scarce that it was not an option, so guard services were contracted to secure the campus. Looting and vandalism is something that needs to be addressed. Campus buildings were secured by disabling the locks. Staff and faculty wanted to enter their building space and this required controlled access procedures. There were hazards and unknown circumstances that required us to control the access.

For example, we learned that loose asbestos posed a major health concern so that even buildings not "red tagged" were

off limits until assessments came back as being clear of loosened asbestos. We encountered significant loosened asbestos that required a contractor to come in with trained personnel to deal with the problem. In California asbestos handlers must be certified in a 24-hour training course and fitted for facemasks, just to work with 100 square feet of area without additional training. There was no question that the asbestos clean up slowed recovery operations, and also added hefty costs to other already staggering bills.

## Asbestos Handling

**Characteristics:** Requires expensive training, regulation, and record keeping. Difficult, time consuming, and labor intensive.

### Direct Costs:

- Area preparation (moving or covering equipment and physical barricading to isolate the area).
- Removal and disposal of the removed asbestos.
- Re-insulation and/or replacement with non-asbestos substitute.

**Indirect Costs:** (usually equals or exceeds direct costs)

- Operating downtime.
- Temporary measures during the removal operation (power, heating and air conditioning, overtime costs).
- Owner coordination and supervision.
- Contractor selection and/or evaluation.
- Legal review, processing orders, contracts, tallies, etc.

**Caveat:** Estimates for removal can range from \$3 to \$40 per foot, with figures often covering only actual and not all incidental costs.

When dealing with FEMA, you must document, document, document! If any lesson was learned through these two major earthquakes, it was to know what condition facilities are in before an emergency arises, record it all, and keep every record. Disaster Survey Reports (DSRs) are not enough.

Keep all your backup papers and do not delay, or you will not receive the reimbursement you are entitled to. FEMA and state assistance programs are good and welcomed relief, however, they will not cover all of your costs.

Beyond recovery is the aftermath of new regulations that require more resources than what was required before the earthquake.

My advice is to be a good scout. Be prepared, and do your best at all times. 🏠





# 6 *hot issues of* **Facilities Manager**

**Lots of magazines** can give you facilities management information, but only *Facilities Manager* addresses your needs from the educational facilities perspective. Articles address the constraints of educational institutions when it comes to funding, budgeting, capital renewal, deferred maintenance, and more!

## Quality! Focus! Value!

*Facilities Manager* is the official publication of APPA: The Association of Higher Education Facilities Officers. Founded in 1914, APPA promotes excellence in higher education facilities.



Why wait another day for your copy?



*Subscribe Today!*

**Yes!** Please start my annual, six-issue subscription to *Facilities Manager*. Every other month I'll receive an issue packed with ideas, services, and solutions for the facilities professional—for only \$120 per year.\*

☐ Payment Enclosed ☐ Please bill me

Name: \_\_\_\_\_  
 Title: \_\_\_\_\_  
 Institution: \_\_\_\_\_  
 Street: \_\_\_\_\_  
 City/State/Zip: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Email: \_\_\_\_\_

**Facilities Manager**

\*\$120 rate is for nonmembers of APPA; member rate is \$66, payable in U.S. funds by check or credit card. Please mail to: APPA, 1643 Prince St., Alexandria, VA 22314.



Don't let your budget force you to choose between a cheap folding table and a durable table. Buy direct from McCourt and save! Own one of the strongest, lightest, most attractive indoor / outdoor ABS folding tables on the market today.

Call for details.

# Why choose between Cost & Quality?



*The patented design allows for the table's light weight and strength.*

*Folding Chairs available, too!*



1-800-333-2687

 **MCCOURT**  
Manufacturing

*"Makers of Quality Folding Tables & Chairs."*

1001 NORTH 3RD STREET • FORT SMITH, ARKANSAS 72901 • 501-783-2593 • FAX 501-783-7608  
Email: [info@mccourtmg.com](mailto:info@mccourtmg.com) • Visit our Web Site at <http://www.mccourtmg.com>





# ACTIVIST ACTIVITIES AND OUR **RESPONSE**

*By Detective Kristine Kirby*

**M**ichigan State University has a strong reputation for pioneering in many research areas. With that in mind, it only makes sense that we continue to venture into new realms in search of better ways to cure, create, and feed. However, with research comes the risk of upsetting those who misinterpret or disagree with the research projects and/or the methods used to create improvement. Our campus has experienced two such incidents, which have resulted in new means of communication and interaction between campus police and researchers.

Our first campus incident happened on February 28, 1992, when a raid was conducted on our mink research facility. A fire was set in the Anthony Hall offices of Dr. Richard Aulerich. Acid was poured over machinery at the mink research farm, and graffiti covered the walls.

The intruders also attempted to free the mink involved in the research. Most of the animals stayed in their cages once

the doors were opened; some that did escape lost their lives by vehicles, predators, or the weather. The Animal Liberation Front (ALF) claimed responsibility for both actions, and an extensive investigation concluded with the successful apprehension and prosecution of Rodney Coronado. This incident destroyed decades of research and caused more than \$125,000 in damage.

One way our MSU Police department responded to this activity was to cross train our crime scene investigators in HAZMAT (hazardous material) handling. This now allows us to work in a scene with the knowledge of what dangers may be present and how to safely handle them. There were no sweeping university-wide changes in practice as a result of this incident, other than a heightened sense of awareness that the potential for such actions "at home" exists.

On December 31, 1999, activists struck again. This time the offices of the Institute of International Agriculture in Agriculture Hall were the target. ELF (the Earth Liberation Front) claimed responsibility, citing the organization's support of genetic research aimed at crops in developing countries. Damage has been estimated in excess of \$400,000. A criminal investigation is still being conducted

---

*Kris Kirby is a detective with the Michigan State University Police Department, East Lansing, Michigan. She can be reached at [kirby@dpps.msu.edu](mailto:kirby@dpps.msu.edu). Lt. William Wardwell and Lt. John McCandless provided assistance on this article.*



jointly with our department, the Bureau of Alcohol, Tobacco and Firearms, as well as the Federal Bureau of Investigation.

This incident prompted a larger scale reaction. Researchers have revamped their personal websites, removing detailed information about the projects they're working on, as well as location information of their laboratories. Others have increased their awareness of the unusual questions or strange e-mail received, and they share that information with us. Our department has created a community police officer position, which focuses on the biotechnical research areas.

There are indications that within the next few years, biotechnology will become an increasingly important field of research conducted by Michigan State. With that in mind, we are working to make our research areas as secure as possible with target hardening analysis of our current locations, as well as planning new security improvements which could be implemented in future sites. The initial task was to create a response manual for our officers and supervisors as to where "activist attractive" research is being conducted, and what type of activity that area might attract (vandalism, nighttime gardening, etc.). The manual will also contain after-hours and on-call contact information, as well as other pertinent information.

We are also planning department-wide training to educate officers about what the biotechnical issues and risks are, and what they should look for that would be out of the ordinary. We also plan to conduct security surveys of labs and research areas to check their current practices and learn what may be improved upon. Interacting with researchers in various capacities has also been discussed as a future possibility. That could include offering lunchtime seminars on how to be more secure in storing data, minimizing their potential for attracting activist activities, how to field unusual questions or visitors, etc.

We are also working on creating a communication chain among Big Ten colleges to share information on activist activities we encounter. This initiative has been met with a lot of positive feedback. Researchers are thrilled to have a central person to communicate with and refer others to, as opposed to the previous practice of filing reports with whichever officer was sent on the call. It will also give our department a better idea of the totality of incidents occurring, and as a result allow us to identify potential patterns at a quicker pace, and to hopefully avoid another major incident similar to those we've already experienced.

We realize nothing will ever guarantee immunity from activists, but we're hoping improved communication among departments and other universities, which may encounter similar challenges, will help at least reduce the risk of future events. 📌

# We listen...



## then we work.

*Improving your estimating process...  
building solid project budgets...  
benchmarking performance... developing  
new costing solutions... analyzing building  
products' installed costs.*

To get a new perspective on your unique construction and facilities challenges or to request our brochure, call:

**1-800-448-8182**

[www.rsmeans.com](http://www.rsmeans.com)

**RSMeans**  
CMDGROUP



### Consulting Services

*"Construction Cost Estimating  
Know-How for North America"*



**FACILITY CONDITION ANALYSIS**

• elevator engineering • infrastructure: utility analysis • energy systems: evaluation and design • power plant: cogeneration analysis • operations and maintenance analysis • construction management • deferred maintenance / capital renewal management • security analysis • facility condition analysis • elevator engineering • infrastructure: utility analysis • energy systems: evaluation and design • power plant: cogeneration analysis • operations and maintenance analysis • construction management • deferred maintenance / capital renewal management • security analysis • facility condition analysis •

**ELEVATOR ENGINEERING**

• operations and maintenance analysis • elevator engineering and maintenance analysis • elevator engineering •

**INFRASTRUCTURE: UTILITY ANALYSIS**

• operations and maintenance analysis • elevator engineering and maintenance analysis • elevator engineering • infrastructure: utility analysis • construction management • infrastructure: utility analysis • operations and maintenance analysis • construction management • infrastructure: utility analysis •

**ENERGY SYSTEMS: EVALUATION AND DESIGN**

• construction management • utility analysis • energy systems: evaluation and design • deferred maintenance / capital renewal management • energy systems: evaluation and design • energy systems: evaluation and design •

**DEFERRED MAINTENANCE / CAPITAL RENEWAL MANAGEMENT**

• infrastructure: utility analysis • construction management • deferred maintenance / capital renewal management • infrastructure: utility analysis •

**SPACE UTILIZATION, MASTER PLANNING**

• power plant: cogeneration analysis • facility condition analysis •

**POWER PLANT: COGENERATION ANALYSIS**

• operations and maintenance analysis • facility condition analysis • power plant: cogeneration analysis • facility condition analysis • operations and maintenance analysis • elevator engineering •

**OPERATIONS AND MAINTENANCE ANALYSIS**

• operations and maintenance analysis • elevator engineering and maintenance analysis • elevator engineering • space analysis • construction management • infrastructure: utility analysis • operations and maintenance analysis • engineering • infrastructure: utility analysis • construction management • infrastructure: utility analysis •

**CONSTRUCTION MANAGEMENT**

• construction management • infrastructure: utility analysis • construction management • infrastructure: utility analysis • elevator engineering • space analysis • construction management • elevator engineering • space analysis • construction management •

**SECURITY ANALYSIS**

• management • deferred maintenance / capital renewal management • security analysis • facility condition analysis • elevator engineering • infrastructure: utility analysis • energy systems: evaluation and design • power plant: cogeneration analysis • operations and maintenance analysis • construction management •

# YOU AND ISES ... PARTNERING FOR A HIGHER STANDARD.

**ISES CORPORATION**

2165 West Park Court / Suite N / Stone Mountain, GA 30087 / Telephone: (770) 879-7376 / Fax: (770) 879-7825 / <http://www.isescorp.com>





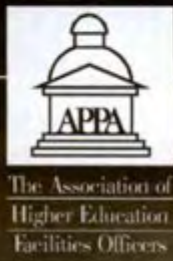
# The APPA Award for Excellence in Facilities Management

Since 1988, The Award for Excellence has represented the pinnacle of achievement for higher education facilities management organizations. Now APPA has totally revised the criteria for the next century, ensuring that this award continues to represent exceptional performance within higher education.

Highlights of the changes made include:

- Criteria that reflect a broader focus on the role of the facilities organization within the institution.
- A points-based scoring system that will provide clearer feedback to all entrants, identifying strengths and areas for improvement.
- Closer alignment with the Baldrige Award criteria to embrace widely recognized, multi-industry benchmarks of excellence.
- Simplified submission process and greater clarification of materials required for submission.
- The implementation of an annual cycle, with a deadline of January 15, to ensure greater recognition. Awards will be presented each year at APPA's Educational Conference and Annual Meeting.

For more information visit [www.appa.org/membership/awards/excellence.html](http://www.appa.org/membership/awards/excellence.html) or call APPA at 703-684-1446 to request a brochure.





## Disaster Response Relies on Good Planning

*Continued from page 21*

to three, but I think we could get by with two." To be prepared for a heavy winter season, "we lease six front-end loaders from November through March; we get a good price [as regular customers]."

Facilities management has a key role in the SUNY-Buffalo campus snow-emergency plan. "The plan lets others know what the priorities are, such as sidewalks that intersect parking lots, and which equipment is where." Notification of an emergency goes through a "cascading" system. "Early in the morning, if I think an emergency is coming, I call my boss, who calls his boss, on up to the campus president, who makes the decision," said Marshall. "If the campus is to be closed, the announcement is over the media by 6 a.m." Buffaloians are tough, though: "In the past ten years, we've only had to close down once."

When snow starts coming down, Marshall and his crew can expect to work through the night. "We start plowing and moving snow at 11:00 at night," he said. "We don't really have to hire extra people for that, though. We have 36 people in the grounds department, and we can call in a lot of our former people; we're somewhat of a stepping stone to the more skilled jobs in the trades here. If special needs come up, we go to them because they're familiar with our equipment."

The SUNY-Buffalo facilities department also has a role in handling emergencies such as power outages or water main breaks. "It isn't simple," Marshall noted. "We have to get people in, and then figure out where the outage or break occurred and which buildings are affected." These crises are covered by a standing plan that includes roving engineers on campus from 4:30 p.m. through 8:00 a.m., based at the campus chilled-water plant, to look for and respond to problems. "If there's a problem, campus police calls the plant," Marshall said. "We have a call-in list indicating whom to call in what situation."

### The Bottom Line: Plan and Prepare

No matter what the crisis, there is one common key to handling it: Be prepared. If there is a campus emergency response plan in place, make sure that someone in the facilities management department is a member of the response team or planning committee. If the campus has no such plan, be the catalyst in creating one.

It also helps to stay plugged into the world as a whole, since a disaster at one campus easily could be repeated at others. Keep an eye on the national news to predict what might happen and have a viable response in mind, if not on hand.

For planning resources, see the box on p. 21. And as the Scouts would say, "Be prepared!" ▲

## Looking For A High Quality, Lower Cost Alternative To Upgrade Your Outdated Computerized Maintenance Management System?

If you find yourself ready to upgrade your aging Computerized Maintenance Management System (CMMS), but frustrated by astronomical implementation costs, there is a solution.

At Signum Group, we specialize in providing full implementation support. From Business Process Analysis and Project Management to Data Migration, Database Administration, and building interfaces to financial systems, we provide the services that will make your implementation go smoothly.

We are a small team of professionals who get the job done right, on time and on budget. Our team includes highly skilled data migration specialists and application developers to ensure that your precious data and histories are preserved during the upgrade. Our maintenance engineers know your business and will ensure the optimal configuration of your new CMMS.

We specialize in implementing the Indus EMPAC and PSDI MAXIMO products, and provide integration solutions to Oracle Financials and PeopleSoft.

#### Contact

Signum Group, L.L.C.  
Attn: Susan Hrib  
2064 Melissa Court  
Marietta, GA 30062  
Phone - 770.331.0220  
E-Mail - [signum@mindspring.com](mailto:signum@mindspring.com)



*Quality People Providing Quality Solutions*  
[www.signumgroup.com](http://www.signumgroup.com)

#### Contact

Signum Group, L.L.C.  
Attn: Gabriel Hrib  
2064 Melissa Court  
Marietta, GA 30062  
Phone - 678.429.3623  
E-mail - [ghrib@signumgroup.com](mailto:ghrib@signumgroup.com)  
E-Mail - [signum@avana.net](mailto:signum@avana.net)

All other product and company names listed in this advertisement are copyrights, trademarks, or registered trademarks of their respective holders.





## SHOWING UP WITH A DEHUMIDIFIER DOESN'T MAKE THEM WATER-DAMAGE EXPERTS.

Today, many companies would like you to think that they can handle water-damage drying. But drying after water-damage is very different than drying after shampooing a carpet. That's because moisture goes so deep into walls, concrete, wood floors, masonry and building structure, that an ordinary dehumidifier can't begin to remove it.

When you face water-damage, you need the drying power only Munters can offer. Munters has the world's largest

fleet of high-tech equipment. We have the experience of completing more than 25,000 water-damage jobs. We have 30 offices throughout North America ... and we're the experts.

 **Munters**

**CALL THE EXPERTS!  
1-800-I-CAN-DRY**

(1-800-422-6379)

We're Available 24 Hours/7 Days  
[www.muntersamerica.com](http://www.muntersamerica.com)



## DIRECTOR RESEARCH/EDUCATION FACILITIES

Even though The University of Texas M.D. Anderson Cancer Center is recognized worldwide as the #1 cancer center in the country, unless our buildings are safe and well maintained, we've got little to brag about. That's why we now seek a dedicated, knowledgeable, and experienced individual to ensure that our facility is kept in the very best condition.

This key role will oversee the entire maintenance operations, alteration, housekeeping, and repair of our buildings. We'll also rely on you to coordinate the provision of all facility services, including planning, project management, and facilities operations. Duties include arranging for contractual repair/remodeling services; resolving problems, making recommendations for capital construction, coordinating budgets, establishing priorities for building improvements/repairs, and ensuring compliance with all safety standards. You'll also review construction plans/specs, establish procedures, direct tradespersons and housekeeping workers, hire a supervisory staff, serve on various committees, and make periodic building/equipment inspections.

To qualify, we require 10 years' related experience in property management and related services. You must also possess a bachelor's degree in a technical field such as mechanical or electrical engineering. Good PC skills plus the ability to work irregular hours are also essential.

A salary/benefits package reflecting your solid credentials and key contributions accompanies this great opportunity. Interested candidates should forward their resume, in confidence, to: **David Seeley at The Edge Group, 17202 Nevelson, Spring, TX 77379; Phone: (281) 376-5240; Fax: (281) 376-5292; or E-mail: [dseeley@swbell.net](mailto:dseeley@swbell.net).** EEOE, Smoke-free environment.

**THE UNIVERSITY OF TEXAS  
MD ANDERSON  
CANCER CENTER**  
*Making Cancer History®*



# Membership Matters

## The Key to Success

by Dina Murray

**A**re you the best educational facilities professional you can be? How do you measure your personal success?

Association Management magazine, published by the American Society of Association Executives, prints a column each month entitled "Keeping Your Edge." Executives from a myriad of associations, both small and large and from all over the country, use this column to discuss something they have a passion for and that keeps them fresh, motivated, and inspired. Past columns have been written by executives who are also Scout leaders, bicyclists, and amateur hockey players, among others.

Like association executives, facilities professionals are well-rounded individuals, with varied interests to share with their colleagues. Those interests might include golfing, boating, fishing, hiking, and travelling, just to mention a few. You may have noticed the pin exchange booth in the Hall of Resources at this year's annual conference in Fort Worth, Texas, where John Kinnaman, husband of Immediate Past President Maggie Kinnaman, and Mike Besspiata, from the Southeastern region, introduced attendees to the hobby of pin collecting. Both John and Mike have been avid pin collectors for years, and, for the first time, joined forces to share their hobby with other APPA members at the conference.

The pin exchange was a great way to meet new members, develop a new interest, and bring traffic into the Hall of Resources. Attendees received information on the pin exchange in the

ISES bags that were given out with registration information. Since then, many members have expressed that they would like to continue the pin exchange, and it will be offered for the second time at the 2001 annual conference in Montreal. Pin exchange information for the 2001 conference will be available early in the new year, so plan now to bring your favorite pins with you.

APPA members also share a deep interest in giving back to the community through volunteering and mentoring. For example, prior to the conference in Fort Worth, CAPPAs spouses decided to organize a raffle to benefit their local chapter of Habitat for Humanity. The raffle included handmade crafts and other merchan-

dise, as well as two footballs autographed by Roger Staubach, former Dallas Cowboys quarterback and member of the Football Hall of Fame. Raffle tickets were sold throughout the conference, and it was announced at the banquet that \$3,000 was raised. Roger Staubach, who is also Chairman of the Board and Chief Executive Officer of The Staubach Company, generously made the commitment to match the donated amount.

Sharing a hobby, interest, or doing community service is a great way to build relationships, practice your communication skills, and maintain interests outside of your career. However, spending quality time with family and friends should also rate high as a source of enjoyment and

## ADAMS CONSULTING GROUP

COMPREHENSIVE  
FACILITIES EXPERTS

Adams Consulting Group  
4060 Peachtree Road  
Suite D201  
Atlanta, GA 30319  
888-887-9995  
[www.adams-grp.com](http://www.adams-grp.com)

*Dina Murray is APPA's director of member services. She can be reached at [dina@appa.org](mailto:dina@appa.org).*



fun. Parents and grandparents alike can relate to the feeling of sharing the love of reading with their children. Instilling that passion into a child is a lasting accomplishment that remains for a lifetime. Families may enjoy attending sporting or cultural events together. The soccer mom or dad, for example, will be proud seeing a son or daughter excelling in a sport and learning to be a team player.

Lastly, as APPA members, you have the opportunity to share your interests in educational facilities management with fellow members locally, regionally, and internationally. APPA recognizes your contributions are voluntary and that your time and energy are valuable. Therefore, we provide many different opportunities for you to share your talents and passions with other members. You could use your expertise to write an article for *Facilities Manager* magazine or a regional newsletter, or submit a paper for presentation at APPA's annual conference. Opportunities abound to use

your leadership skills on a committee or task force. The APPAinfo listserv allows members to share their experiences so that others may benefit from their knowledge and expertise. If you have any ideas, don't keep them a secret any longer, let APPA know so that we may highlight and utilize your abilities.

At the end of the day, there are many obstacles to overcome when trying to balance career, family, and personal fulfillment. One of the main obstacles is a lack of free time. While a time management system or a planner is a great operational tool to help one manage their time, an alarm won't go off when it's time to enjoy yourself. Moreover, it cannot organize the sense of pride or a renewed spirit that comes from doing something you feel passionately about. Stephen Covey, in his book *The 7 Habits of Highly Effective People*, recommends developing a mission statement so that one can stay focused on professional as well as personal goals. His definition of a

mission statement is "a powerful document that expresses your personal sense of purpose and meaning in life. It acts as a governing constitution by which you evaluate decisions and choose behaviors."

Being a successful facilities professional does mean keeping current on the latest research and technology, utilizing all the talented people in your department, and making the most of your budgeting and finance skills, among other job duties. But it also means making the most of whatever passion or edge you have outside of your campus or office, and creating a healthy balance between your career and personal life. Your coworkers and peers might not recognize, appreciate, or encourage whatever passion or hobby you have chosen to pursue, but it's a guarantee that going back into the office, you will feel a sense of fulfillment that is priceless. 🙏

## Your Worst Headaches Aren't Academic!



Budget cuts are looming! Utility costs are soaring! Managing maintenance is time consuming! Don't you wish you could simply concentrate on **EDUCATING?**

You can – by simply letting **LB&B** handle your facilities management. From single buildings to entire campuses, **LB&B** – a recognized national leader in cost-effective Facilities Management excellence – offers you award-winning support including:

- **Utility and HVAC Operation, Maintenance, and Repair**
- **Warehousing and Minor Construction**
- **Grounds and Landscaping Maintenance**
- **Janitorial Services and Pest Control**
- **Conference and Audio/Visual Set-up**
- **Administrative Support**

Focus on academic excellence by letting **LB&B** provide you the highest level of quality service! For more details contact Rick Franz at:

**LB&B**  
**ASSOCIATES INC.**

9891 Broken Land Parkway  
Suite 400  
Columbia, MD 21046  
(301) 596-2440  
rfranz@lbbassociates.com

©2000 LB&B ASSOCIATES INC.



# JUST HOW SERIOUS HAS THE STUDENT TRANSFER SITUATION GOTTEN ON YOUR CAMPUS?



**W**hile you're busy trying to control your transfers, maybe you should consider this fact: When asked, students said a university's physical environment was the main factor in deciding which college to attend. When you also consider that facility budgets are being squeezed more every day, it should come as no surprise that you need innovative ways to make the most of your capital and operating budgets. Enter Johnson Controls. We can help you lasso your dollars to fund facility upgrades, renovation and even new construction – just what you need to attract and retain students. One method is performance contracting, which allows for facility improvements to be paid for by the savings they create. Another is called Results Oriented Service™, a program in which we tailor a comprehensive service plan based on your priorities and needs that allows you to maximize your assets while reducing long-term costs. For more information, call Johnson Controls at 1-888-214-0916 or visit us at [www.johnsoncontrols.com](http://www.johnsoncontrols.com).



**JOHNSON  
CONTROLS**



# New Products

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

**Lyon Metal Products** delivers the new Lyon Locker Selection Guide. The guide offers scholastic and athletic lockers with premier color selections, clear coat finishes, high gloss finishes, and/or computerized matched finishes for your custom color requirements. Virtually an endless combination of choices. Included in the new Selection Guide are ADA (American with Disabilities Act) lockers for schools and universities. For more information call Lyon Metal Products at 800-323-0096.



**USFilter's Stranco Products** group now offers the Heat Saver Insulated Pool Blanket and Storage Reel Systems. These custom made pool and spa blankets are specially designed to prevent heat from escaping heated pools, greatly conserving energy usage and reducing operating expenses. The modular design of the Storage Reel provides safety, strength, durability, and easy operation in two configurations: on-deck portable and space saver wall-mount. For additional information call USFilter Stranco Products at 815-929-4112.



**Rubber Polymer Corp.** introduces KL-17, a unique new water repellent specifically formulated for use on brick, block, masonry walls, and stucco surfaces. KL-17 is designed to prevent moisture penetration, migration and intrusion in a wide variety of applications, including chimney caps, concrete slabs, poured and block foundations, brick, brick facing, driveways, steps, patios, and sidewalks. To find out more about KL-17 call Rubber Polymer Corp at 800-860-7721.



**Snow Wolf** announces the Snow Wolf Ultra Series, a snow plow specifically for skid steer, with blade features and frame construction built to match the skid steer's ability to move heavy snow loads. It's available in seven widths from 6' to 9'. The Snow



Wolf blade is angled to scoop snow rather than push it, then sends the snow rolling, moving it off the blade quickly to keep the skid steer in control of heavy snow loads. Contact Snow Wolf at 800-905-2265.

**Hawk Enterprises** introduces the Centerfold 2000. A 17" high speed burnisher. The Centerfold 2000, folds compactly to only 13.5 inches deep by 17.75 inches wide for easy storage in closets or vehicles. Ideal for tight and congested areas, this space-maximizing burnisher operates at 2000 RPM and is available with or without dust control. A 1.5 HP DC rectified motor and 50-foot cord, non-marking wheels, and 10-groove Multi-V transmission weigh in at only 85 pounds, making it easy to use. For information on the Centerfold 2000 and other floor maintenance equipment call Hawk Enterprises, 888-BUY-HAWK (289-4295).



**Mity-Lite, Inc.** is proud to introduce the Summit Lectern Series. Designed to be lightweight and mobile, the Summit lecterns meet OSHA standards and require only one person for setup since the basic lectern weighs only 48 pounds. The tilt wheels and rounded corners allow the lecterns to be mobile while minimizing injuries and damage to doors and walls. The one-piece construction makes the lecterns durable, waterproof, and built to last. Contact Mity-Lite for more information at 800-327-1692.



**Phonetics, Inc.** announces the Sensaphone SCADA 3000. It is a fully integrated, comprehensive control system that is ideal for waste/wastewater applications. This product monitors pressure transducers, flow meters, water levels, temperature, power failure, and alarms at water and wastewater treatment and management pumping stations, operating equipment, labs, and office facilities. Also, allows for monitoring in real-time graphical forms. For more information, call 610-558-2700 or visit [www.sensaphone.com](http://www.sensaphone.com).





# Benchmarking and Organizational Change

*"There are roughly 3,700 institutions of higher education in the United States, serving close to 15 million students. . . Today, however, higher education is faced with profound challenges that will unavoidably transform many of its entrenched beliefs. . ."*

*"The common elements of the various definitions of benchmarking are continuous improvement, measuring and analyzing, comparing, and adoption of superior practices. . ."*

*"A number of critical factors play a pivotal role in the success of a benchmarking project. . ."*

*"A benchmarking project should contribute to the strategic direction of an organization and should be part of changes devised to improve the organization's competitive position. . ."*

*"In today's dynamic environment, change is a constant phenomenon. So organizations must have the capacity to embrace perpetual change and practice the principles of a learning organization. . ."*

*"Benchmarking has the potential to destroy rigid beliefs that fossilize an organization. In other words, learning requires not only acquiring new knowledge, but also forgetting the old and irrelevant information. . ."*



## Benchmarking and Organizational Change

(Paper, 83 pp., ISBN: 1-890956-14-7)

Member Price: \$45.00 Nonmember Price: \$65.00

Quantity \_\_\_\_\_ x \$ \_\_\_\_\_ = Sub total: \$ \_\_\_\_\_  
Delivery: \$ \_\_\_\_\_  
Total: \$ \_\_\_\_\_

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Institution: \_\_\_\_\_  
Street Address: \_\_\_\_\_  
City, State, Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
E-mail: \_\_\_\_\_

To order, complete this form and include payment in U.S. funds by check or credit card. Orders are shipped via UPS; please allow 3-4 weeks for delivery. Return this form to: APPA Publications, Depr. M3, P.O. Box 1201, Alexandria, VA 22313-1201. Credit card orders may be faxed to 703-549-2772.

**Delivery Charges: Add 10% of total purchase price. Overseas delivery, add 20%.**

Order Type:

☐ Check ☐ Credit Card

☐ Inst. P.O. \_\_\_\_\_

For Credit Card Orders:

Credit Card Type: ☐ MC ☐ Visa ☐ AmEx

Credit Card #: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

Name: \_\_\_\_\_

Signature: \_\_\_\_\_



## Statewide Facility Databases

by Matt Adams, P.E.

Departments of Facilities Administration at the state level are joining in on the use of technology to execute capital renewal budgeting. The use of modern software tools and the Internet is making these initiatives easier and more effective as well. In the past, the process of submitting major repair and renewal requests was arcane, at best. Typically, one senior administrator collected hundreds and even thousands of requests. These were sorted and prioritized. If you submitted a list of 20 deferred maintenance projects, you usually were awarded three or four from the top of the list. Each year, your projects percolated up the list and eventually got funded.

In other states, the process was even more informal. A single state official controlled the state legislative allotment for renewal projects. That person traveled from site to site and doled out capital projects like favors. Now state officials are recognizing the need to accurately allocate limited funds, but there will never be enough money for all of the capital renewal or deferred maintenance. However, objectively prioritizing renewal requests does provide accountability.

Like many of us, state administrators are already overloaded with

paperwork and reporting requirements. It is unlikely that any new software system or reporting requirement will be eagerly received. Any new central database will create more work. It may have obvious long-term benefits, but in the short run, it means more work for someone or a particular department. The only way to get these projects off the ground is to find an interested administrator who will take ownership of the project. Naturally, this will require resources for planning, designing, and implementing.

Then there are the long-term operational costs as well. In the big scheme of things, the costs are marginal. If the state spends 50, 75, 200 million dollars each year on major maintenance projects, then less than one percent for better organization is quite practical. Nevertheless, most states don't have any extra funds initially, and they must be secured to "get-to-go."

Several states are undertaking these projects right now, including Massachusetts, Michigan, North Carolina, Colorado, Utah, and Ohio. Their different approaches and scopes vary considerably. At one extreme is the web-based central facilities database, that provides one-stop total information services; on the other, there are basic spreadsheet templates. The decision not to use sophisticated web-based systems is often based on experiences with old (meaning three or four years ago now) software projects that were expensive and complicated. In reality, the application service provider or ASP model now changes all of that and makes this a very practical solution.

Despite the power of web-based software, there is an operational reali-

ty of statewide systems. Not everyone has access to a computer or the web. It's hard to believe but true. In these state-wide circles, the university systems are typically the most sophisticated. All employees have access to computers and the internet. Correctional systems are quite modern in facility management practices and technology utilization as well. It is the other two thirds of the state's agencies that are technologically challenged. University facilities administrators must find a lowest-common-denominator approach that meets their reporting needs, while not excluding the other non-technical agencies.

The State of Colorado uses the APPA workbook *The Facilities Audit*. Every agency must complete the assessment process and submit the summarized results in Excel file format. The university's facilities departments, most of whom are active APPA members, have little difficulty in supplying the data. Most have facility audit cycles at each site. However, there remains the question of the other agencies. In Colorado, the difficulty lies with small schools and DOT locations. Even with the simple workbook and associated Excel template format, they don't have the capabilities to complete the process themselves. In Colorado, the other more sophisticated agencies or the State Office of Facilities Management performs the data collection for them.

Other states simply have the small participants fax in hardcopies of the templates and data entry staff enter them into the central database. As it turns out, the best way to reach out to every agency is to be flexible. Many can use the quickness and ease of the

**Matt Adams is president of The Adams Consulting Group, a management/engineering consulting firm located in Atlanta, Georgia, specializing in facility maintenance and management for higher education, school districts, and other institutions. He is co-chair of APPA's Trades Staffing Guidelines Task force. He can be reached at [matt@adams-grp.com](mailto:matt@adams-grp.com).**



web, while others still need to fill in the forms manually. The state and its university resources can expect to facilitate the collection process of not just themselves, but for the smaller agencies too, in order for the system to be complete.

The practical and flexible approach to data collection is relatively straightforward. The data elements are more difficult. The states want to quantify and qualify the capital renewal requests. More than just a list of deficiencies, the decision process requires supporting data. Supporting data comes in the form of any one or more of the following: facility conditions index, building component scoring, functionality of a building to support its designed use, improvement of the functionality as a result of renewal spending, date since renovation or construction, and use of each building in the context of future master plans. State officials want to achieve two goals with this data. In Colorado, Rodney Vanderwall stated the mission of this effort as: "Force objective look at capital needs, sans the politics, and create ongoing historical building records."

With basic supporting data and facilities deficiencies in a standardized format, state and college umbrella agencies should be able to make better choices in capital prioritization. The next goal for these initiatives is holistic. Once a basic database is designed and implemented with its various forms of collection, other data can be easily added. For example, basic web-based databases can store reference information for buildings, and any reports and studies performed on a building can be cross-referenced in these systems. When state or private designers are researching a building for renovations, a centralized data source makes sense. In addition, various specialized initiatives can use this vehicle. Why not collect and display lead paint, asbestos, and even risk management data within this database? Lastly, using the web to cross reference and

connect websites allows all state and university databases to be quickly accessed from one place.

The university facility administrator should be very active in this process. Central systems won't provide all of the data used by most physical plants. However, data collected using local processes or software packages should be compatible with the state data design. In some states, facilities departments have the capacity to take the lead on state initiatives. This is an appropriate role. Most other state agencies are

just now acting upon the awareness of capital renewal and deferred maintenance, unlike their college counterparts who began ten years ago. If college physical plants must shoulder a disproportionate load in these initiatives, the outcome is worth it.

As the sophistication of all agencies rises within the state, so does that of the universities. Improved capital allocation priorities that are based on real data can only help our aging and growing campus physical plants. ■

## Don't Do It!



Before Natatec™



After Natatec™

**Don't paint, plaster, fiberglass, or caulk!** Natare's Natatec™ PVC membranes create a watertight liner that eliminates costly annual surface maintenance and repair. Cost effective for renovation or new construction. Contact Natare and find out how low maintenance a pool can be.



NATARE®

**Natare Corporation**  
5350 West 84th Street  
Indianapolis, Indiana 46268  
1-800-336-8828  
e-mail: [natare@natare.com](mailto:natare@natare.com)  
[www.natare.com](http://www.natare.com)





# How does your school measure up?



— Productivity

— Total Costs

— Appearance

— Environmental Health

**Measuring up to school facility cleaning and maintenance standards is not child's play.**

With challenges today such as increased enrollments, aging buildings and budget constraints, we at Butcher's understand that the cleaning and maintenance of schools is now more difficult than ever. Based on an active collaboration with Schools and Universities, Butcher's has developed **The Graduate Program™**,



a comprehensive training program targeted to clean for health, safety and appearance. By providing professional training and support tools, The Graduate Program supplies real-world solutions to your toughest maintenance challenges. For more information on how Butcher's training and quality products can help your school "measure up," call us at **1-800-225-9475**.

**The Butcher Company**  
Marlborough, MA 01752 USA  
1-800-225-9475 • [www.butchers.com](http://www.butchers.com)

**BUTCHERS** 



# The Bookshelf

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

**O**ur journal *Facilities Manager* started publication in 1985, and book reviews in The Bookshelf have covered many topics of interest to members of the facilities management profession. In my mind, three broad facilities-related categories have emerged in these reviews: management principles, technical expertise, and, to a lesser extent, our role in higher education. While a few publications, such as APPA's *Facilities Management: A Manual for Plant Administration*, cover all three areas, most of the books which have been reviewed here were monographs that addressed specific concepts in each of these interest groups.

The books reviewed in this last edition of the year 2000 cover topics that are rooted in technical principles. I selected these books with a purpose: not to separate technical expertise from management or higher education concepts, but to emphasize that facilities management in today's environment involves much more than "just" an understanding of manage-



*John Casey is manager of the engineering department of the physical plant division at the University of Georgia, Athens, Georgia. If you are interested in reviewing a book for The Bookshelf, contact our new editor, Ted Weidner at [tweidner@admin.umass.edu](mailto:tweidner@admin.umass.edu).*

ment principles and a sense of identity in the academy. However, I suspect we all need a good dose of understanding in all three categories to stay afloat in today's environment.

At the risk of offending management gurus, I wonder if management literature hasn't received too much emphasis in facilities management lately. Consider that the Call for Presentations for the 2001 APPA meeting in Montreal indicates that "highly technical papers will be eliminated in favor of those with management level perspective." I admit that managing human activity has always been difficult, but basic common-sense principles have been known for years, and classic works in organization and management theory are always there to remind us of this.

For instance, in Herbert Simon's 1946 paper, "The Proverbs of Administration," he proved that for every "principle of administration" one can find "an equally plausible and contradictory principle." James Buchanan and Gordon Tullock, two political scientists, explained in *The Calculus of Consent* that human activity is organized; such activities, especially in a democracy, are not always predictable or equitable. Mancur Olson wrote in *The Logic of Collective Action* that "rational and self-interested members of a large group...will not voluntarily act to achieve a common group interest," and explained that additional incentives are required to further group objectives.

This leads to three basic management principles, which should direct all our professional activities: 1) things do not always turn out as you intended, 2) work is not always a positive sum game for all members of an organization, and 3) people need lead-

ership to get them to do the right things. I worry that today's managers may put too much emphasis on condensed "pep talk" management books—even though I admit to enjoying these myself—and may not spend enough time staying current with the technical aspects of our profession. In case no one has said this before, I will say it now: you cannot manage what you do not understand.

The topics in the following reviews cover indoor air quality, energy management, and electrical deregulation. An understanding of these topics will assist all facilities professionals to become better managers and help us not only to do things right, but also allow us to exercise leadership by doing the right things.

Finally, and not soon enough for many, this is my last column as editor of The Bookshelf. While I cannot say that I experienced unalloyed delight for every minute spent in this effort, I learned a tremendous amount about our profession, and I consider it a great honor to have been allowed to edit and contribute to this column. I wish to thank those who took time from their busy lives to write reviews for The Bookshelf, and each member of this select "ReviewCrew" deserves a vote of thanks from all APPA members. I also wish Dr. Ted Weidner, from the University of Massachusetts at Amherst, the best of luck as he begins his stint as The Bookshelf editor for next year.

—JMC

**Indoor Air Quality Case Studies Reference Guide**, by Georgia Benda (ed.). Lilburn, Georgia: Fairmont Press, 1998. 216 pp., hardcover.

Along with death and taxes, indoor air quality problems are inevitable.



No college, university, or school campus can escape from being bitten by the IAQ bug (pun intended) for very long. In fact, some of us keep busy tracking down the funny odor in the chemistry building, the strange black particles coming from the diffuser, the clammy feeling in the basement of Old Main, etc.

Luckily, technical information regarding identifying and solving IAQ problems has been published to help facilities managers bring this situation under control. *The Indoor Air Quality Case Studies Reference Guide* by George Benda is one such publication. The author has compiled and edited case studies involving indoor air quality problems in many types of buildings, and uses these to teach readers how to avoid such pitfalls in the future.

This is a very practical book, offering real-life solutions to real-life situations, and it will undoubtedly remind many facilities managers about past or potential situations on their campuses. Each of the 15 chapters of the book covers subtopics, from volatile organic compounds to multiple chemical sensitivity to microbial containments, with side trips to bioaerosols and filtration. The case study format of the book is ideally suited for developing conclusions based on field experiences, and should be easy to digest by facilities professionals who deal with experiential learning processes on a daily basis.

*Case Studies* is an excellent resource for all APPA readers, and I highly recommend it for everyone involved in facilities management. Acceptable indoor air quality starts with the way the building is designed, and then requires appropriate occupancy, operation, and maintenance procedures to assure the continuation of that level of acceptability. IAQ, to borrow a slogan from Ford Motor Company, better be "Job One" on every campus, or the next voice you

hear may say, "See you in court about that indoor air quality problem affecting my client in one of your buildings."

\*\*\*

**Exploring Energy and Facilities Management in a Changing Marketplace**, by Jana Ricketts. Lilburn, Georgia: Fairmont Press, 1999. 509 pages, softcover.

*Exploring Energy and Facilities Management in a Changing Marketplace* is a compilation of presentations made at the recent 21st World Energy Engineering Congress. This meeting was sponsored by many federal departments and national associations, and the papers represent the authors' solutions to the major shifts in technologies and business strategies caused by utility deregulation.

The book is divided into nine sections, covering energy management, international energy projects, federal energy management, steam system optimization, deregulation and energy services, HVAC, environmental management, OSHA compliance, and facilities management. Each section contains several chapters, and the mix of academic and commercial perspectives gives a reasonable balance to the book's impact on its readers.

If your campus is attempting to save energy, especially if you hope to convert the savings to energy conservation projects, this book has much to offer. While you may not have the stamina to wade through all 65 chapters, even a cursory review of the contents will direct you to valuable information. For example, there is a chapter covering the U.S. Department of Defense program on process optimization: "potential energy use optimization and water conservation opportunities," which is a mother-of-all checklists for facilities managers. Another excellent paper, by Dr. Shirley Hansen, states that traditional energy audits are "just not good enough for today's energy projects," and suggests a more complete "investment grade" audit.

The book has a few problems which can be overlooked, including several chapters that are a series of PowerPoint screens from the paper presentations, and the lack of an index. In spite of this, the book has merit and should be considered for inclusion in each facility manager's library.

\*\*\*

**Electricity Retail Wheeling Handbook (second edition)**, by John M. Studebaker. Lilburn, Georgia: Fairmont Press, 2001 (forthcoming), 286 pp., hardcover.

Dr. John Studebaker, P.E., has written *Electricity Retail Wheeling Handbook* to summarize all the aspects of electricity wheeling from a purchaser's viewpoint. From all appearances, he has been successful in preparing a power purchasing primer for use by facilities managers.

The author, who is a utility consultant, has excellent credentials in this area and has taught utility fundamentals at 21 higher education institutions. It is no surprise, then, that the book is well written, logically presented, and complete with a glossary of terms and an index. The three main sections of the book cover the basics of the electrical utility business, the process of electricity retail wheeling, and the need for a game plan for successful strategies for the future. A highlight of the book is a discussion of Requests for Proposals (RFPs) for electrical service, including one for combined electricity, natural gas, and energy services.

In this handbook, Studebaker has compiled a wealth of information on a topic which is crucial to the financial health of every college and university. If you do not feel completely informed about electricity retail wheeling, buy this handbook and use it in conjunction with the other publications recommended by the author. ▲



# NDC RETROFIT PIVOTS

## The "No-Remove Method" for Door Closer Retrofits

Bypasses: RIXSON • DORMA • DOROMATIC • PITTCO • MAB  
KAWNEER • JACKSON • R&K CONCEALED CLOSERS

## Works with Automatic or Surface-Mount Closers

### NDC RETROFIT PIVOT 100 - TO BYPASS CENTER-HUNG FLOOR CHECKS



Replace old closer arm with pivot plate.



Slide cap over old closer spindle.



Rehang the door.



Install surface mount closer.

### NDC RETROFIT PIVOT 101 - TO BYPASS OFF-SET FLOOR CHECKS



Replace old closer arm with pivot arm.



Slide cap over old closer spindle.



Rehang the door.



Install surface mount closer.

### NDC RETROFIT PIVOT 102 - TO BYPASS OVERHEAD CONCEALED CLOSERS



Replace old closer arm with pivot arm.



Slide bearing assembly onto closer spindle.



Rehang door and attach endload block.



Install surface mount closer.

### NATIONAL DOOR CONTROLS

P.O. Box 2502  
Durham, NC 27715  
[www.replacedoorcloser.com](http://www.replacedoorcloser.com)

Order (800) 231-0402

Fax (919) 220-6084

Same Day Shipping Via UPS



# Coming Events

## APPA 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).

**Jan 28-Feb 1, 2001—Institute for Facilities Management.** Newport Beach, CA.

**Feb 12-13—The Emergent Building Technologies Conference: Integrating People, Technology & Design.** Las Vegas, NV. Sponsored by APPA, CSI, and NSCA. Contact: Construction Specifications Institute at 800-689-2900, or visit [www.emergentbuildingtech.com](http://www.emergentbuildingtech.com).

**Jun 17-22—Leadership Academy.** Fort Lauderdale, FL.

**Jul 22-24—Moving Beyond Boundaries: APPA 2001 Educational Conference & 88th Annual Meeting.** Montreal, Quebec, Canada.

**Sep 16-20—Institute for Facilities Management.** Scottsdale, AZ.

**Jan 13-19, 2002—Institute for Facilities Management.** Tampa, FL.

**Jun—Leadership Academy.** Date and location to be determined.

**Jul—APPA 2002 Educational Conference & 89th Annual Meeting.** Phoenix, AZ.

**Sep 8-12—Institute for Facilities Management.** Norfolk, VA.

## Other Events

**Dec 15-17—Improving America's Schools.** Chicago, IL. Contact: U.S. Department of Education at 800-203-5494 or [www.ncbe.gwu.edu/iasconferences](http://www.ncbe.gwu.edu/iasconferences).

**Jan 28-29, 2001—CEFPI's 8th Annual Technology Conference.** Scottsdale, AZ. Contact: Council of Educational Facility Planners at 480-391-0840 or [www.cefpi.org](http://www.cefpi.org).

**Dec 2000-June 2001—FMI Seminars and Workshops**

Nationwide. Contact: April at 800-877-1364 or [www.fminet.com](http://www.fminet.com).

## APPA Regional Meetings

**September 13-15, 2001—RMA Regional Meeting.** Tucson, AZ.

**September 29-October 3—ERAPPA Regional Meeting.** Hershey, PA.

**September 30-October 3—PCAPPA Regional Meeting.** Vancouver, BC, Canada.

**October 10-14—CAPPA Regional Meeting.** Cape Girardeau, MO.

**October 27-30—SRAPPA Regional Meeting.** Roanoke, VA.

**October 28-31—MAPPA Regional Meeting.** Madison, WI.

## Index of Advertisers

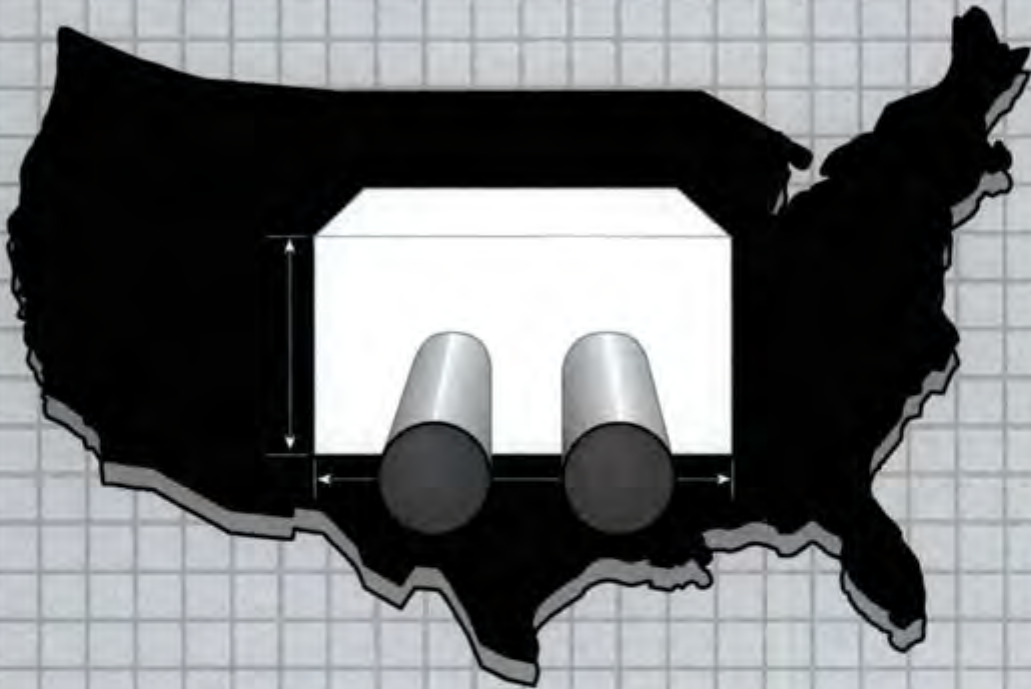
ABM Industries	22	Johnson Controls, Inc.	43
Adams Consulting Group	41	LB&B Associates	42
American Thermal Products	3	McCourt Manufacturing	34
APPA Publications	33, 46	Meritorious Service Award	12-13
Award for Excellence	38	Munters Corporation	40
The Butcher Company	48	Natare Corporation	47
Dorlen Products	9	National Door Controls	51
DriTherm	Cover 3	Palmer Snyder	6
Emergent Buildings Conference	5	Prism Computer Corporation	Cover 4
Estimating Systems	16	R.S. Means Company Inc.	36
eXeSys	Cover 2	Salsbury Industries	10
G. Reale Enterprises Inc.	8	Signum Group LLC	39
HCI Systems	17	Stanley Consultants Inc.	26
Informed Software	11	Strobic Air Corp.	20
Interface Sign Systems, Inc.	7	TMA Systems, Inc.	18
ISES Corp.	37	University of Texas	40





**Dritherm®**

## Underground Pipe Insulation / Corrosion Protection



### PROTECTING AMERICA'S PIPES

YESTERDAY

TODAY

TOMORROW

- Continuously Manufactured Using Same Formula Since 1967
- Closed Cell - 100% Hydrophobic Design
- Temperature Range: -273°F (Cryogenic) to +480°F (250°C)
- Ideal for New Piping Systems / Repairs / Tanks
- Approved by Department of Defense for New Construction

**DRITHERM INCORPORATED**

P.O. Box 5296

Parsippany, New Jersey 07054

(800)343-4188

FAX (973) 428-3391



THE FAMIS ASSET  
ENTERPRISE



Maintenance Management

Space Management

Calibration Management

Inventory Control

Tool Control

Key Control

Event Management

AutoCAD Interface

Web Site



TRADEMARKS:  
ORACLE of Oracle Corporation.  
FAMIS of Prism Computer Corporation  
BANNER is a registered trademark of  
System & Computer Technology  
Corporation.

# What Do You Want In A Facility Management System?

How about everything?

You could buy a maintenance management system from vendor X and a space management system from vendor Y and try to force the two to talk to each other. Or you can take a look at Prism Computer Corporation.

Prism's FAMIS Asset Enterprise is a suite of integrated software modules for managing facilities. Since each module is designed to work together, you can easily create the ideal facility management solution for your organization.

And with our advanced technology, you can also easily expand the FAMIS Asset Enterprise to people outside of your organization to create a true enterprise-wide system. For example, you can electronically communicate with your customers using the World Wide Web. You can also integrate it with Oracle Financials, SCT BANNER and just about any other financial system using our FAMIS Open Financial Interface.

The FAMIS Asset Enterprise is based on pure Oracle technology and supports Windows, Windows95/NT, Macintosh and Power Macintosh.

To find out a better way to manage your facilities, call us today at 800-774-7622 or visit our web site at [www.prismcc.com](http://www.prismcc.com).

PRISM



PRISM COMPUTER CORPORATION

TELEPHONE 800-774-7622 / FAX 949-553-6559

E-MAIL: [famis@prismcc.com](mailto:famis@prismcc.com)

<http://www.prismcc.com>