

July/August 2006

VOLUME 22

NUMBER 4

# Facilities Manager

THE OFFICIAL PUBLICATION OF APFA

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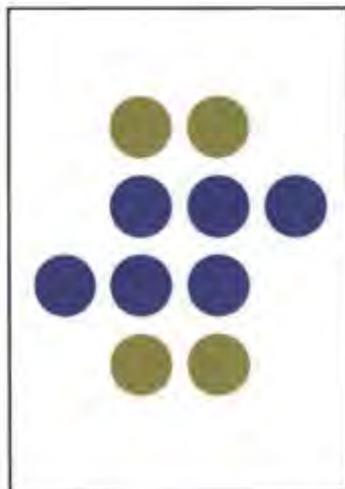
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# Facilities Manager

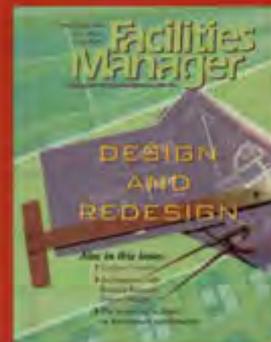
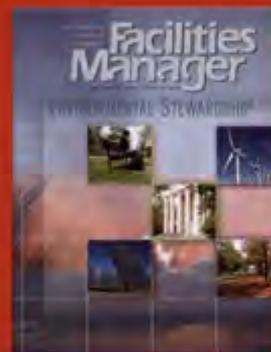
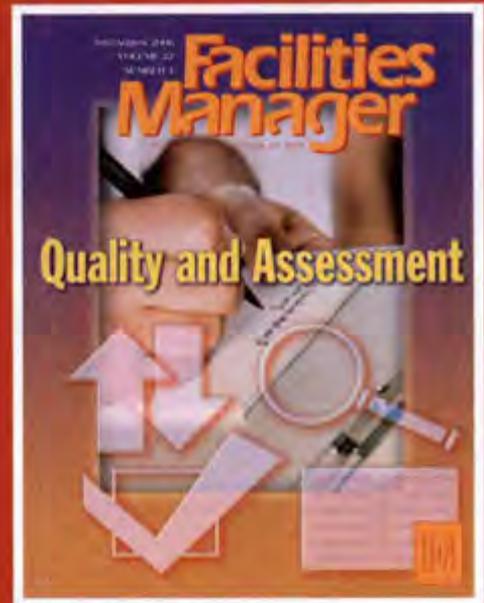
THE OFFICIAL PUBLICATION OF APPA

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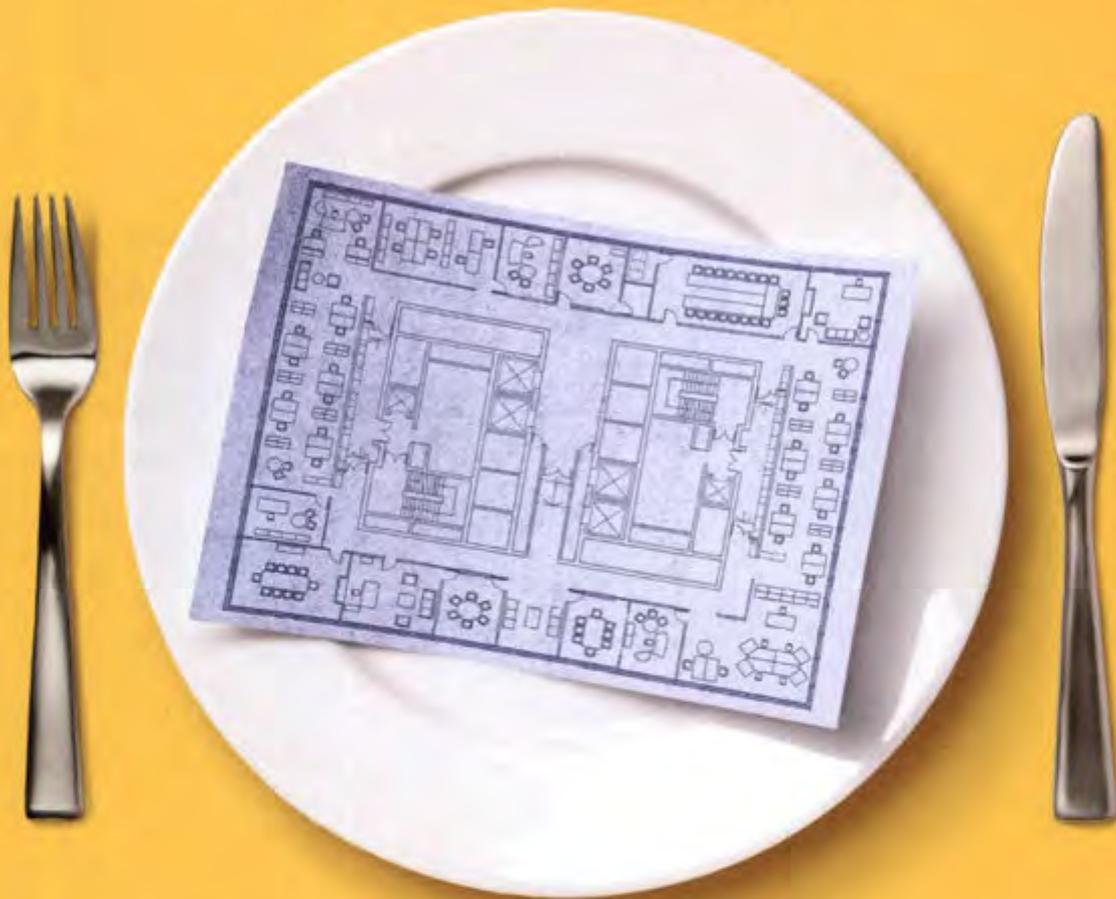
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## From the Editor

by Steve Glazner

### Roger Rowe Receives 2006 Rex Dillow Award

We are pleased to announce that the 2006 recipient for APPA's Rex Dillow Award for Outstanding Article in *Facilities Manager* is Roger Rowe, recently retired from the University of West Florida.

Roger served as special projects manager for architectural and engineering services for UWF during his first "retirement" after years of service as the assistant vice president for facilities at Miami University in Ohio. At MU, Roger developed a dynamic staff and introduced many innovative processes devoted to improving customer service and providing a quality work environment.

His award-winning article, "After-Action Reviews: A Process for Continuous Improvement," was published in the January/February 2006 issue of *Facilities Manager*. According to the article, an after-action review is a structured review process that allows participants in a project, event, or incident to discover for themselves any lessons that could be learned from what happened, why it happened, and how it can be improved in a positive, action-oriented manner.

Since 1987, APPA has presented the annual Rex Dillow Award to articles of the highest quality of those published in the magazine each year. The difficult selection process is managed by APPA's Information and Research Committee, led by Michael J. Sofield of the Smithsonian Institution.

The award is named for APPA member emeritus Rex O. Dillow, formerly of the University of Missouri-Columbia, who contributed much to the development and improvement of APPA's publication and education pro-

grams during his active membership in the association. Congratulations again to Roger Rowe for his award and his contribution to the body of knowledge. 🏆

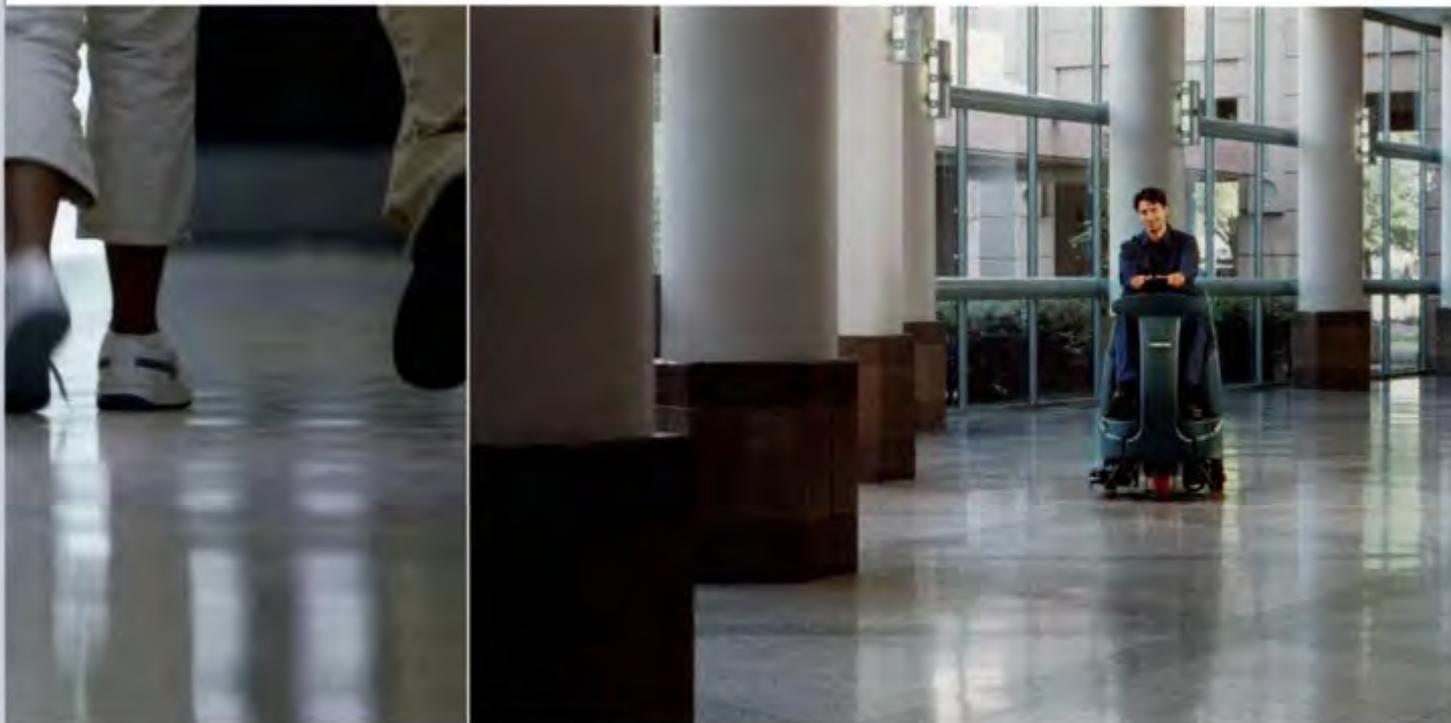


### 2004-05 Facilities Performance Indicators Now Available

The Facilities Performance Indicators report of 2004-05 data is now available on the APPA website at [www.appa.org/research/fcds.cfm](http://www.appa.org/research/fcds.cfm). The reports are now Web-based only and are not being produced in book or CD formats. Your price for access to the reports will depend upon your participation in the Facilities Core Data Survey and whether you are from an APPA-member institution or not. More information can be found at the website.

We're also announcing that the Facilities Core Data Survey for fiscal year 2005-06 will open by the end of August 2006 and will collect your data through October. The resulting Facilities Performance Indicators reports will be posted by the end of January 2007 following our data scrubbing and analysis process.

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## President's Report

by Jack K. Colby

When I took office as APPA's President this past August in Orlando, I related to the banquet attendees that it was an exciting time to be APPA President. Little did I realize just that these last 11 months would be so exciting. Since that night, we have begun a journey for APPA that will set the stage for the success of our association for many years to come.



### *The Strategic Plan*

In Orlando, the Executive Committee determined that in order to address a number of trends, it was time for the APPA leadership to re-examine our current strategic plan and to set a new direction for the association. Over the course of the next months, a survey of over 1000 members was conducted to determine the perceptions of APPA and the services that it provides to our membership.

This information, along with the input from APPA committees, business partners, and Board of Directors was utilized by the Executive Committee to evaluate our current position and then develop 7 Key Strategies that will prepare APPA to not only improve its services to current members, but to create the "Association of Choice" for young professionals who will be the future leaders of APPA.

Our primary goals will be to re-engage the Senior Facilities Officer at our member institutions, provide an enhanced website to be the "go-to" information source for our members, to expand collaborative relationships and research efforts, to develop a clear

"brand" for APPA, to provide cutting-edge educational programs, and to engage young professionals through professional certification. We are actively implementing the new strategies and will keep all the membership apprised of our progress.

### *Regional Meetings*

It was a great pleasure to have the opportunity to visit four of our six regions this past fall at their annual meetings. At RMA in Vail, Brenda and I sampled true western hospitality in a beautiful setting with some German food and mountain horn playing thrown in for good measure. Many thanks to Mark Shively and Tommy Moss for their great leadership. Next came CAPPA in Little Rock where we sampled the local catfish and enjoyed the scenery of central Arkansas. It was great to see many old friends and to meet with the CAPPA Board under the leadership of Presidents Darrel Meyer and Dave Millay.

The beautiful Pacific Northwest was our next stop as PCAPPA came to Tacoma. Many thanks to Towner Angell and Scott Burns for their wonderful hospitality and a great night on the water of Puget Sound. St. Paul was the site of this year's MAPPAs meeting where we enjoyed dinner with the dinosaurs and a comedy skit with Becky Hines and Jerry Carlson.

My lasting impression of all these wonderful meetings was the dedication and enthusiasm of our membership and the tremendous programs that we are delivering to prepare the facility managers of the future. "Atta job!" to all of APPA's regions and their Boards for a job well done.

### *Reforming the Annual Meeting*

One of the 7 Key Strategies was to completely reform our annual meeting to focus on the interests of the senior facilities officer. I appointed a task force of very talented and dedicated APPA members to provide the ideas and wisdom to create a new and exciting opportunity for all educational facilities managers. The task force reported to the Board in February and with further guidance, moved ahead to develop a new format and content to be delivered in Baltimore next year. Our new name for this event will be **APPA 2007** with a theme of "Back to the Future" to portray our commitment to provide cutting edge educational programs. You won't want to miss this new program designed for the senior facilities officer. See you in Baltimore in 2007!

### *Certification and Credentialing*

The Certification and Credentialing Task Force was created to take an in-depth look at the need for credentialing of our membership and the best means of delivering this member service. Our survey of members and Institute grads said that now was the time to develop the program and make it available to our young professionals. The task force did extensive work to benchmark against other models and to derive all the best practices for our program. The Board gave its approval to the task force recommendations in February and we are moving ahead to deliver the first of a two-step credential in 2007. Full professional certification will be targeted for late 2008. Look for this great opportunity to improve your professional skill and standing.

*Continued on page 8*

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Continued from page 6

### "Thought Leaders" Series

To identify the top issues that will drive the world of higher education facilities, APPA, in partnership with Carter & Burgess, hosted a workshop of top leaders in higher education. The drivers of higher education will indeed impact how facilities can benefit the success of the institution and the fulfillment of its mission. This ongoing series will provide facilities managers with important issues that will prepare them to contribute to the top-level decisions affecting their institutions. Look for the document in September.

### AUDE Strategic Partnership

In March I had the opportunity to represent APPA at the AUDE annual meeting in Glasgow, Scotland. Graham Bell at the University of Glasgow was our host and did a wonderful job to make all of the delegates welcome in their wonderful city. The program was excellent and certainly highlighted the many challenges that our sister institutions face in the U.K. Our relationship with AUDE is strong, and we will be working to share many of our mutual programs in the future. Many thanks to Graham and his staff as well as Suzanne Irwin at AUDE for their gracious hospitality.

When not working on the programs described above, I have had the opportunity to share APPA's programs with delegates to the Council of Higher Education Management Associations meeting and to visit one of our leading state chapters GAPPa for their annual gathering at Jekyll Island. I visited the CAPPa Technology Conference and the Leadership Academy as well. It has truly been an honor to represent all the APPA membership as I have visited with these groups to tell them about all the exciting new directions that our association is taking.

As my term nears its end, it is appropriate to recognize all the wonderful people that make serving our association such a memorable experience. The APPA staff are such wonderfully creative, supportive, and industrious people. We are so fortunate to have such great ambassadors for our association. Likewise, I was very blessed to have the opportunity to work with a great Executive Committee and a very impressive Board of Directors. There are no harder working people than these volunteers, who give of their time and effort to serve all of you as our association members. I am proud to call them friends and colleagues.

I must also extend my utmost gratitude to Kevin MacNaughton and Charles Leffler at NC State University. Without their constant support and encouragement, as well as the support of my own staff in Facilities Operations, my service to APPA would not have been possible. My final thanks go to Lander Medlin, our APPA Executive Vice President, who has been instrumental in making all of the wonderful new directions happen. Her energy, professionalism, friendship, and dedication to APPA are truly priceless. "Make It So Number 1!"

I can honestly tell you that it was, is, and will be an exciting time to be APPA President!

### Immediate Past President's Report

Edward D. Rice

Recently I gave a presentation on APPA at the Big 12 Facilities Conference in Lincoln, Nebraska. The short presentation emphasized what APPA is, where APPA is going, and, more importantly, what APPA means to educational facilities professionals. Afterwards, a friend who is also an APPA member and a chapter president told me he under-

stood what I was saying and was going to work to get their chapter members more involved in APPA. I appreciated that, but on reflecting what was said I felt it is a shame that more educational facilities professionals don't understand the importance of APPA to their career.

Somehow we (APPA) are not getting the message of importance of APPA to one's career out to those educational facilities professionals in the chapters and regions who are not APPA members or are not participating. By not participating they specifically don't vote and they don't attend the annual conference. By the way, of the APPA six regions two have bylaws requiring their members to also be APPA members. Perhaps the other four may wish to rethink their approach to this.

I have worked hard to tell all educational facilities professionals over the past three years to spread the APPA message. It's a message that needs to be constantly put in front of people. To get the message out on a continual basis there are many current and former Board members of chapters, regions, and international APPA who could speak the message at every opportunity. This could be done at informal or formal meetings, large and small meetings, or just during a one-on-one session. There is also an untapped resource of emeritus members who may be interested in putting the message out at every opportunity.

During the past three years I have had a wonderful and exciting time representing the APPA membership because that is what APPA is an association of members that support each other. My wife Janet and I have logged a lot of air miles and road miles travel-



ing to many places. I have also logged many hours of seat time at Board meetings and other programs as APPA's representative, listening to the membership discuss their particular issues and seeing many receive recognition for their volunteer efforts. I hope I have been able to provide help and assistance to the membership. Now it is time for me to get out of the way for fresh blood to take up this challenging and rewarding work. It has been an honor and a privilege.

I would like to thank everyone who made it possible and supported me. First my staff at K-State (Linda, Vickie, Dave, Ed H., John); my boss, Dr. Tom Rawson (he made it possible); our friends in CAPP and all the regions; the members in New Zealand and Australia; the good folks at AUDE; the APPA staff (they are a great bunch); the APPA Board; and my beautiful bride Janet and our children and their families. A good friend asked me, "What is your greatest memory?" Professionally, it's the memory of meeting the many facilities people who treated us with kindness and hospitality, and most importantly is the memory of sharing this adventure with Janet.

And, to all who read this report, I thank you.

### President-Elect's Report

*Christopher K. Ahoy*

**A**s your 2005 APPA President-Elect, I had the opportunity to meet friends, international guests, and members of APPA in Mexico, Singapore, Australia, and New Zealand. The following is a brief report on my activities and comments.



At the XII IDEPAF Conference, San Luis Potosí, Mexico on Saturday, June 11, 2005, I was pleased and honored to present to the ITESM Physical Plant Administrators an "Overview of APPA and Leadership in Facilities Administration." There were 25 Tec Monterrey campuses listed at the conference out of the 30 Tecnológico Monterrey campuses. These campuses comprised the following: Auacliantes, Ciudad de Mexico, Cd. De México, Chiapas, Ciudad Juárez, Estado de México, Guadalajara, Hidalgo, Higo, Iraputa, Mazatlán, Liana, México DF, Monterrey, Morelia, Puebla, Querétaro, Saltillo, San Luis Potosí, Santa Fe, Sinaloa, Silipi, Sonora Norte, Veracruz, Tampico, and Zacatecas. There were 110 campus attendees and approximately 20 to 30 vendors.

I was armed with good wishes and greetings for our friends south of the border from the following: Lander Medlin, APPA's executive vice president; Townsend Angell, current president of PCAPP; and Johnny Torrez and Gary Reynolds who represented APPA a year ago at Cordoba, Mexico. Gina Martinez Medina, host and director of Planta Fisica, San Luis Potosí, and the attendees received the following PowerPoint presentation:

1. Brief information on Iowa State University
2. APPA's Vision
3. What is APPA?
4. APPA's Purpose
5. APPA's Value Propositions
6. How Can APPA Help the ITESM Physical Plant Directors?
7. Leadership in Facilities Administration

The Mexican hospitality and friendly enthusiasm is very infectious. The APPA organization has a lot to offer to international colleagues in facilities planning and management. We should capitalize on the Mexican

new-found enthusiasm with APPA contributions in Mexico and work to coalesce their inherent passion with an appropriate APPA response for international connection. We need to assist our colleagues in Mexico achieve institutional and associate membership and help them create a robust structure so that they may partake in what APPA has to offer in education programs, research and information, and recognition.

Our APPA outreach program will help to recruit the Tec Monterrey Director of Planta Fisica and the Director de Administrativo y de Servicios (both positions appear to play key roles in the facilities arena on Mexican campuses) as international institutional and associate members.

Since the ATEM conference was located in Perth, Western Australia last year, my wife Ruth and I had a unique opportunity to travel in the easterly direction to Perth. On September 26, 2005, we left for Perth, via Zurich and Singapore to attend the Tertiary Education Facilities Management Association (TEFMA) conference in concert with Association Tertiary Educational Management (ATEM). I made several contacts in Zurich and Singapore and visited Australian and New Zealand universities which had APPA members setting up speaking engagements to showcase APPA and Iowa State University. Generally, at most stops I spoke briefly about ISU and informed folks regarding APPA's value propositions and the benefits of membership. Process improvement and continuous quality improvement are topics that I am passionate about they seem to resonate with our international friends. I presented information to those who are seeking world-class stature. I was able to share the "what" the "why" and the "how" through connecting the Baldrige seven criteria of management system with metrics using the

Balanced Scorecard Plus six criteria and LeanSigma Way of process improvement to achieve world-class stature.

On September 23, 2005, the trip to Singapore was most memorable. The National University of Singapore (NUS) hosted the venue and invited

guests from industries and higher education institutions in Singapore. NUS's standing is in the top quartile of the world's 100 best universities, as noted in this year's *Times Higher Education Supplement World University Rankings*. It is a global-oriented university with a hospital and an academic campus,

building synergy between research and entrepreneurship towards a global knowledge enterprise. The Knowledge Sharing Seminar scheduled for me was "Best Practices in Facilities Management." Michael Ng, NUS OED Director and his management Support officer, Jasmin Tay, were instrumental in arranging the venue and in inviting approximately 140 attendees. The session was certainly efficient and productive. As a success story, David is working with all those who attended the seminar by continuing discussions on process improvement tools and for them to become APPA chapter members in Singapore as well as international institutional and affiliate members.

On Tuesday September 26, 2005, I was invited to attend the TEFMA board meeting, along with one other international guest, Simon Britton, director of estates, University of Leicester from AUDE. I presented a brief overview of APPA and some information on ISU followed by what's new in my business. Alan Egan, president of TEFMA had asked that I specifically focus on this. During the presentation I mentioned the possibility of a joint task force on strategic alliance in developing and furthering more work on core data that would cross function internationally with respect to usage. I suggested that other than leadership visiting each other at their respective conferences that we consider having a work group from two organizations meets at the annual executive or task force work sessions. Since Alan Egan is leaving the leadership and Robert Kelly is the incoming president, this task will have to fall on Robert Kelly and me to launch this initiative.

The hospitality extended to me by the representatives of the Australian facilities management operations at the various visits to higher education campuses was most gracious and

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friendly. I visited and spoke at Crawley campus of the Western University of Australia (UWA) in Perth. In Adelaide, I visited the Mawson Centre Lake campus and downtown City Campus and University of South Australia close to University of Adelaide. In Melbourne, the La Trobe University Bundoora Campus, Bendigo Campus, Bendigo Campus, Beechworth Campus and Albury Wodonga Campus, then on to RMIT one of Australia's leading educational institutions with a commitment to applied education, training, and research in the center of the city.

In Sydney, we drove to several university of Western Sydney (UWS) campuses located in Greater Western Sydney. The University of Western Sydney has several campuses (Bankstown, Blacktown, Campelltown, Hawkesbury, Paramatta, Perinth, and Sydney CBD Precinct). I visited The Parematta, Blacktown Campus and the main Campus at Perinth. Following this the next day I saw the University of New South Wales (UNSW) campus. University of New South Wales is one of Australia's leading research and teaching universities. That afternoon I hopped over to the University of Sydney, founded in 1850, which is Australia's first university. Over the past 150 years, the university has built an international reputation as a centre of research excellence and for its outstanding teaching.

Our next stop before heading home was Auckland, New Zealand. October 11-12, 2005, Roy Dicker, director of the Manukau Institute of Technology (MIT), his administrative assistant, Grace, and some of the facilities employees gave us a big Maori welcome with a Powhiri ceremony. The Maori welcome ceremony took place in the Maori sanctuary, built on campus to teach Maori tradition and legacies to the descendants of those early occu-

pants of the New Zealand islands. Recitations of traditional Maori and songs sung in the Maori language filled the hallowed occasion led by two elder "Khutamaous" who gave prayers, blessings, explained the meaning of various carvings, parted words of wisdom ("it takes a team to weave a basket") and bade us safe journey in our trip in NZ. Ruth and I will forever remember the warm friendship in NZ and the warm Maori welcome for the rest of our lives. Thanks to Roy and his staff for their wonderful effort and friendship towards APPA.

The University of Auckland was my next stop, which is New Zealand's pre-eminent research-led university. Established in 1883, it has grown into an international center of learning and academic excellence. We drove down the north island toward Wellington and stopped at Palmerston to visit Joe Hollander, who was instrumental in guiding me with Pam Esdaille in generating the trip schedule and calendar to Australia and New Zealand. Massey University is one of New Zealand's leading educational institutions. A state-funded university with a proud 70-year tradition of academic excellence and a strong national and international reputation, Massey University is an important part of New Zealand's post high school state education system. We drove to Wellington and visited Victoria University and Massey University located in the heart of the city and well established. Wellington reminded me of a mini San Francisco, California city.

From Wellington we flew to Christchurch the last stopping point before going on an Antarctica expedition. The University of Canterbury is located in Christchurch, the largest city in New Zealand's South Island. Our last university stop was in Dunedin in the south island. The University of Otago, founded in 1869 by

an ordinance of the Otago Provincial Council, is New Zealand's oldest university. The new university was given 100,000 acres of pastoral land as an endowment and authorized to grant degrees in Arts, Medicine, Law, and Music.

The journey as APPA's President-Elect is coming to an end for me, I appreciate the opportunity to represent our membership around the nation and the world to carry the APPA vision of "Becoming Your Global Partner in Learning." Our President, Jack Colby, has an ambitious agenda already in the works with the seven strategies. I look forward to all your continuing support and assistance in making APPA the association of choice. I will continue on the good work already begun for the coming 2006-07 year.

The Seven Key Strategies continue for 2006-07:

1. Branding (marketing APPA to new members and others)
2. Enhanced Website (knowledge capture and transfer)
3. Expanded Research (global thinking with local solutions)
4. Collaborative Relationships (global thinking with local solutions)
5. Engage Young Professionals (recruitment and retention goals)
6. Cutting-Edge Education Programs (provide target programs, knowledge capture, and transfer)
7. Certification and Credentialing (create the future)

It will be my distinct honor and privilege to lead the APPA organization to continue the work already begun in July 2006.

## Secretary-Treasurer's Report

Robert J. Carter



The past year has been pivotal for APPA.

The Board has embarked on a plan referred to as the 7 Key Strategies, to position APPA as the association of choice for educational facilities professionals. In order to provide the resources to implement the necessary actions, APPA will have to depart somewhat from its usual budget strategy. In the fiscal year ended March 31, 2006 we have, through diligent expense control and maximization of revenues by APPA staff, finished the year with a surplus even though there were some significant extraordinary expenses.

In the membership area, through the efforts of the Membership Committee and the membership and outreach staff we have developed several additional grass roots recruitment and retention tools that will assist APPA, regions and chapters in their recruitment efforts, including guidelines for targeting and inviting potential members to regional and chapter functions and holding first-timer/new member orientation sessions at these functions. In addition, the committee has outlined its vision for a high quality video and/or slide presentation that will clearly and professionally outline APPA's brand and the value to our members.

### Financial

We ended the 05/06 fiscal year with a surplus of \$75,925, which was marginally less than the targeted surplus in the 05/06 budget of \$101,320. Of the surplus, \$25,000 was contributed to the reserves for capital and operating expenses with the remainder being held in current operating funds.

These reserves now stand at \$923,000 (excluding the equity gains in long term investments) or 74 percent of the \$1,100,000 goal that represents 25 percent of the operating budget and 5 percent of the estimated replacement value of our physical assets. The APPA headquarter building was assessed for approximately \$2 million in February 2006 by the city of Alexandria, and the building is fully paid.

Graph 1 on page 13 shows the six-year history of revenues and expenses for APPA. The revenues for the year by category are shown on the second graph on page 13. Graph 3 on page 14 indicates how APPA expends funds to achieve our mission of supporting educational excellence with quality leadership and professional management through education, research, and recognition.

The single largest extraordinary expense was related to the discontinuance of our relationship with our IT service provider. This necessitated writing off the cost of the development of the content management system for our website and the internal integration of our association's databases and applications, which was previously capitalized (\$140,000). Given the importance of an enhanced website and integrated databases and applications a new service provider was deemed necessary, and we are confident that our new provider will perform up to expectations. The good news is that we were able to generate substantial revenues in publication sales, magazine and job advertising, and membership to help offset this one-time expense and still achieve a surplus balance.

There is continued good news with respect to APPA's equity investments. They ended the year with a positive overall return as a result of strong market conditions. The investment objective for this portion of the reserve is long-term capital appreciation and

fluctuations in the magnitude of returns from year to year will occur.

I want to stress to the APPA membership that an excellent job was done again this year by the APPA staff in controlling expenses and managing the entire budget. On behalf of the membership I would like to offer my sincere appreciation.

### Membership

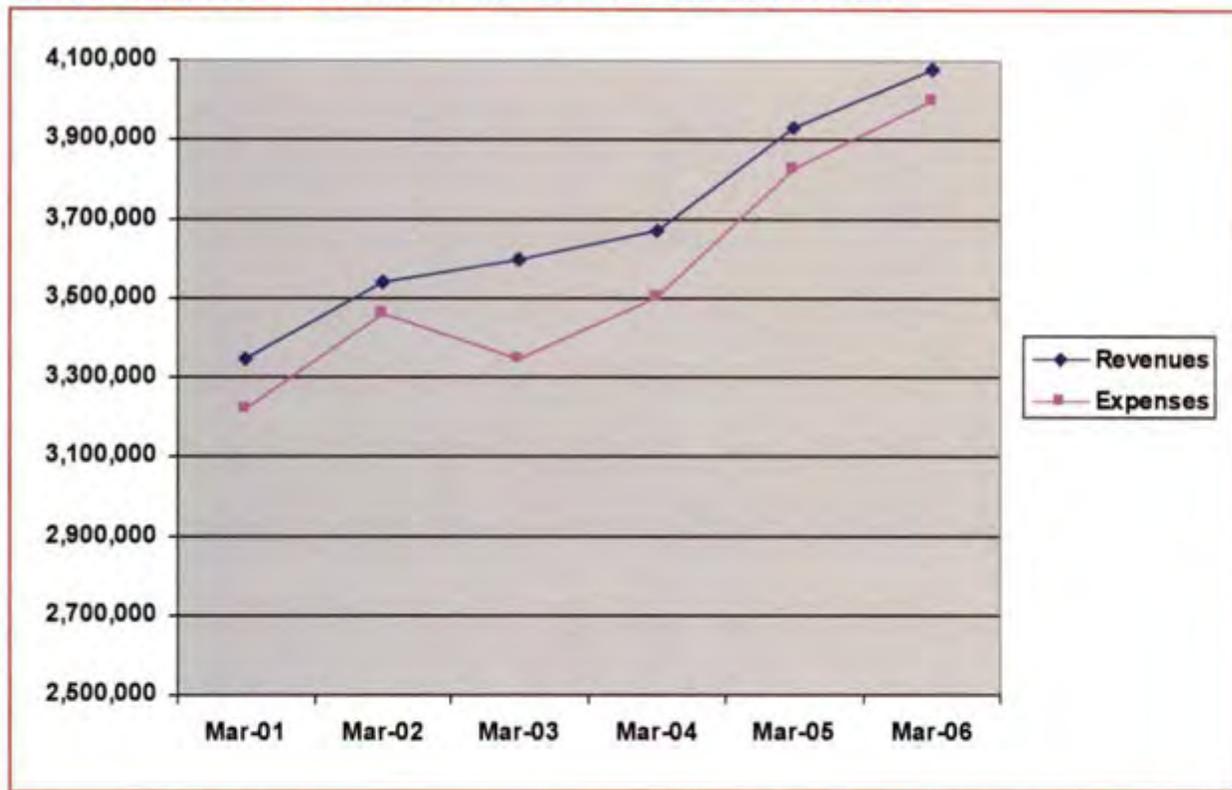
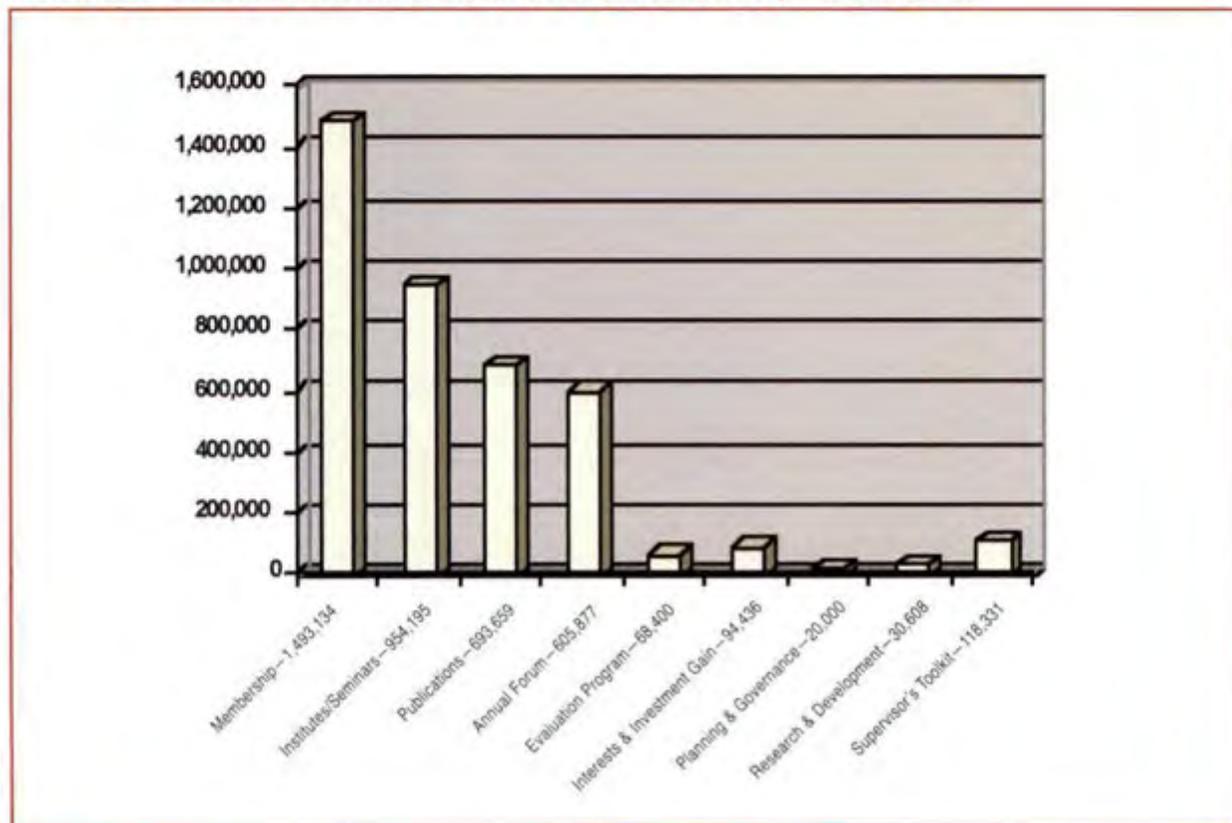
Some of the notable activities over the past year include the following:

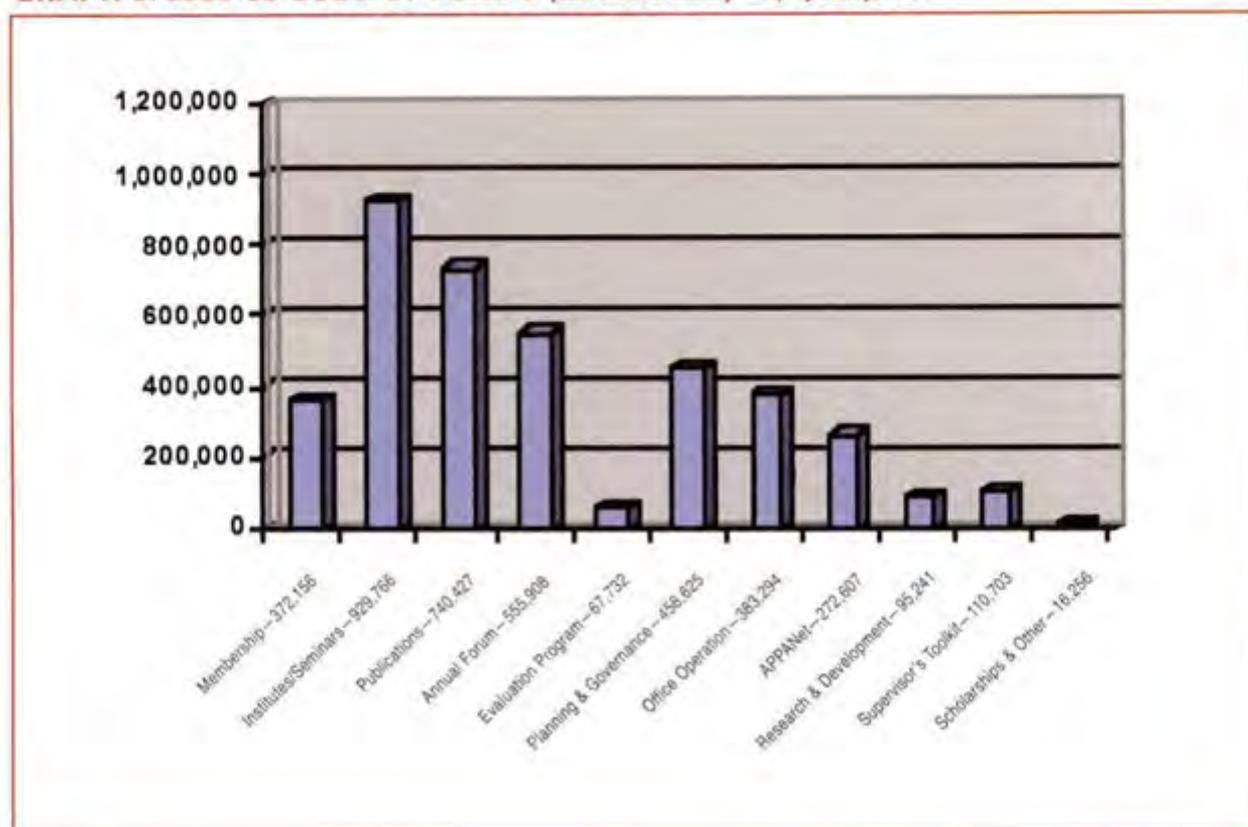
#### Recruitment and Retention

The Membership Committee developed a tactical plan that included a process for inviting potential members to regional/chapter/international meetings. The invitations could be based on strategic recruitment goals, such as diversity, engaging younger professionals, targeting specific institutions, or any other strategic objectives that regions or chapters may feel are important. In addition, a proposed structure for a first timer/new member orientation session at these meetings was developed that would include several key messages regarding the benefits of APPA membership, testimonials, and a general welcoming atmosphere.

#### Diversity

The Membership Committee identified the importance of highlighting and encouraging diversity within all levels of APPA. A document outlining opportunities where diversity could be considered was developed and forwarded to regions asking that it be distributed annually to their respective boards and chapter presidents and included in their Board orientation and any handbooks or training manuals. The committee felt that implementing the suggestions in this document should help us to be a more inclusive and vibrant organization.

**GRAPH 1. APPA'S HISTORY OF REVENUES AND EXPENSES****GRAPH 2. 2005-06 SOURCES OF FUNDS (REVENUES)—\$4,078,640**

**GRAPH 3. 2005-06 USES OF FUNDS (EXPENSES)—\$4,002,715**

### Engaging Young Professionals

This is one of the 7 Key Strategies and is extremely important for the long-term health of our organization. Arrangements are being made for representatives to attend student chapter meetings to reinforce the APPA message and a marketing brochure was developed specifically with this group in mind that outlines the benefits of APPA membership. Other strategies under consideration are encouraging regions and chapters to invite young professionals to their meetings and possibly develop a mentoring program for them. It should be noted that the Credentialing Strategy is a key action in terms of attracting young professionals to our organization.

### Looking Forward

Our future ability to provide leading edge service to our members is

dependent, to a large degree, on having a solid institutional membership base. Throughout this current year, we will be developing a program to encourage the regions, chapters and individuals within them to embrace the grassroots concept for recruitment, retention, and diversity using the tools that have been mentioned above and continue to identify opportunities to deliver the APPA message. As well, the Membership Committee will assist in the redesign of APPA's website and in the development of the credentialing program by providing advice regarding meeting both the present and future needs of our members.

The Board of Directors meeting minutes provide further information on APPA activities during the past fiscal year and can be found at [www.appa.org](http://www.appa.org).

### Vice President for Educational Programs

Sam L. Polk Sr.

As I submit this report I am coming to a close of my term as Vice President for Educational Programs. In my two years as vice president we have seen great movement toward change and tremendous hard work by our volunteers of the association to strive to offer outstanding professional development to our membership. I am truly grateful to have been a part



Continued on page 16

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*Continued from page 14*

of this outstanding process along with my committee members.

### **2006 Campus of the Future**

The Campus of the Future event is just on our heels and the excitement continues to grow. I am most pleased to announce that APPA is well represented not only in joint programmatic offerings, but within the Expo Hall and among the general attendees. APPA is represented by 18 percent of the total current register attendees, which at last check meant 515 of our members and colleagues will be with us this July. When we began this process many moons ago we were not certain that we would be this well represented among our colleagues of NACUBO & SCUP. On behalf of the Educational Programs Committee, I

thank those who work very hard to encourage and support your regional colleagues to attend. Additionally, the marketing efforts both from an international level as well as regional level have benefited us greatly.

We will be offering an outstanding program that has been created with all educational facilities professionals in mind. The theme of meeting of the minds is being represented from the general speakers throughout the concurrent session offerings as well as those business partners who are supporting us in the Expo Hall. A historical event by far and which none of us will soon forget.

### **Facilities Management Institute**

As APPA's premier educational offering, the Institute continues to provide a solid professional development tool

to the membership. Our most recent program was held in Ft. Worth, Texas in January was marked by solid attendance and a graduating class of 57.

As we prepare to open registration this June for the September offering in California, I would like to thank Jay Klingel, Mary Vosevich, Cheryl Gomez, and Don Guckert as they continue to provide the material that provides the APPA membership with the professional development tools they need. Additionally, they are responsible for continued highest caliber of faculty. For this I am personally grateful.

### **Supervisor's Toolkit: Nuts and Bolts of Facilities Supervision**

Many thanks to those regions who have truly taken this program and run with it. As I am updated by the staff I am so pleased to hear of the many schools and regions taking advantage of this outstanding program.

I would also like to thank the group of dedicated individuals who never cease to amaze me on how they are constantly checking and rechecking the material of the program to make sure it is all it needs to be. To Wally Glasscock, Nancy Yeroshevsky, Carole Trexler, and Michelle Estep-Frederick, thank you for bringing a much needed offering to our front-line supervisors within APPA.

### **Leadership Academy**

Moving forward with the ever-evolving cycle of professional development offerings, our Leadership Academy continues to tap into those individuals who are climbing the career ladder within facilities.

I would like to once again thank the members of the Academy development group, Doug Christensen, Bill Daigneau, Ann Jenkins, James Cole, David Judge, Gary Reynolds, and Jack Hug.

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### Future of Professional Development at APPA

For APPA, 2005 will be best known as the year of self renewal from a programming stance. Many of us have spent much work within subcommittees to really determine the next step needs for the APPA members. We are on the horizon of great change and exciting new offerings from the annual event now to be known as **APPA 2007—Back to the Future**, an offering geared toward the senior facilities professional to be known as the Senior Facilities Officer (SFO) Summit, and just around the corner is certification and credentialing. I encourage all to continue to come to your association of choice, APPA, for the best in facilities professional development.

### Closing

The past two years have been among the most rewarding of my career in APPA and higher education. When we took the range, we were buoyed at the start by your expression of support and trust. Your enthusiastic commitment to APPA has continually stimulated me to extend my expectations of ourselves and of APPA.

As we prepare to relinquish our role as of July 2006, we are doing everything to complete unfinished business and assure the smoothest possible entry for the next Vice President, Polly Pinney. I have no doubt that she will do an exceptional job.

Please accept my deepest appreciation for your trusting me and sharing our aspirations for APPA's remarkable educational programs. My life will forever be enriched because of the opportunities to work with the Educational Programs Committee and the APPA membership on shared goals.

### Vice President for Information and Research

Michael J. Sofield

2005-06 has been another very busy year for the Information and Research Committee. From last August's annual meeting through the end of December, the committee worked off line and collectively via monthly conference calls to finish refining and testing the Facilities Core Data Survey (FCDS). This year's data collection opened in November '05 and closed in mid-February '06. The survey instrument was refined in response to the many com-



ments received in the first survey, completed last year. Planning is underway to open the 3rd cycle in the late summer of '06 and produce the FPI reports by early spring '07. That will become the normal cycle and will allow for data entry in the late summer after fiscal reports have been completed on campus, and the resultant FPI reports would then be available during budget development time in the early spring. Work is underway to prepare for a workshop presentation scheduled during the 2006 Campus of the Future meeting in Hawai'i.

The 2006 Facilities Performance Indicators report will be available for the COTF meeting and an executive summary will be published and distributed to all members. Some 210 member institutions completed some

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or all of this year's survey with a significant increase in participation from colleges and universities which offset a drop in the response from our K-12 members. This year we will launch a new Web-based report version of the FPI that will be produced in lieu of the former book and CD publications. Finally, the continuous process

improvement process is underway under the watchful eye of APPA's Past President and At-Large Member of the committee, Maggie Kinnaman. This group is mining the data, and responses to this year's survey remains, in effect, our customer survey instrument. The results of all this work will allow APPA to improve the

survey instrument, add and delete questions as needed, and continue to make this a relevant part of your business plans.

Watch for the annual survey to open late this summer. And, if you completed the current survey, your data will pre-populate the screens and you need only update those areas that changed during the year. What a benefit to not have to start from scratch each year.

The newest development from Information and Research is a work in progress to create a graphic "dashboard" that displays key indices from the FPI report. This will allow members to customize the display of data by plotting a goal value to display along with their relative position on each "dial." Watch for preview opportunities during the Campus of the Future meeting.

**Publications**

APPA continues to pursue an aggressive publications agenda. *Facilities Manager* magazine, published six times per year, remains a leader in our industry and has attracted a vibrant advertising base along with a wide variety of feature articles.

The I/R Committee reviewed and rated the eight eligible articles to determine this year's Rex Dillow Award winner. The award will be presented to Roger Rowe at the Annual Awards Reception in Hawai'i.

The magazine is supplemented with a monthly electronic newsletter—*Inside APPA*. This e-newsletter contains breaking news and information to keep the membership current on changes in our profession as well as providing a regular channel for news and other information.

- Publications released during the past year include:
  - *Creating a Service Culture: Making the Customer Connection*, January 2005

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- *Facilities Performance Indicators*, Book and CD, August 2005
- *The Business Case for Renewable Energy: A Guide for Colleges and Universities*, Andrea Putman & Michael Philips, co-publication of NACUBO, APPA, and SCUP, May 2006
- *Stewardship & Accountability in Campus Planning, Design, & Construction*, ed. Don Guckert

Publications currently in development for future release include:

- *Buildings... The Gifts That Keep on Taking: A Framework for Integrated Decision-Making*, Major APPA-sponsored CFaR project by Doug Christensen, Rod Rose, & Terry Ruprecht. Final draft in review; publication planned for fall 2006; audience is top-level administrators and trustees. To be followed up in 2007 by detailed workbook for facilities professionals.
- *The Impact of Facilities on Retention and Recruitment of Students*, CFaR project by David Cain and Gary Reynolds; executive summary has appeared in March/April and May/June issues of *Facilities Manager*. Writing in process on final report; publication planned for fall 2006.
- *Space Planning & Utilization*, Ira Fink, co-publication of APPA and SCUP. Draft manuscript near production; final book published in late 2006.
- *Facilities Reinvestment*, Harvey Kaiser, manuscript in review; possible publication fall 2006.
- *Facilities Management* manual revision (fourth edition), key players to be identified; project will proceed with all four sections being updated in parallel, coordination between Institute dean & faculty with authors and others.
- *Leadership in Educational Facilities*, Chris Ahoy,—possible publication 2007.
- *Shared Services/Outsourcing*, draft in review by APPA; additional writing

and editing to be done; publication planned for 2007.

### **APPA Website**

APPA has completed a switch in service providers. The move was completed in late February and is considered to have been successful. There is a long list of tasks that has been prioritized by APPA staff. Initial focus is on the membership database and billing applications. Heather Lukes from DigitalWise built the original e-commerce and Educational Programs registration systems, so they were not impacted by the switchover. A content management system has been installed that will allow APPA staff to make updates to the website as needed.

### **Center for Facilities Research (CFaR)**

CFaR has made great strides in the past year and is beginning to produce outstanding studies and reference material for your use. At the Campus of the Future meeting, CFaR will formally release two significant original research studies, "Buildings... The Gifts that Keep on Taking" and "Facilities Impact on Student Recruitment and Retention." Both of these studies will be featured presentations during the COTF sessions, and will be subjects for a press conference. They will also be published in APPA's *Facilities Manager* magazine.

This year we'll again recognize the student research projects conducted at Brigham Young University. A student research competition process has been developed within the CFaR framework and will lead to expanded opportunities in the years to come.

### **Final Notes**

Two years ago I was the newly elected Vice President for Information and Research and found a vibrant, hard-working committee that was focused on getting the new Facilities Core Data Survey on the street and

into the members' hands. Congratulations and thanks to this hard-working group. They did it and then did some more! Please take a moment when you see them and add your thanks to mine, for they exemplify the best of APPA. With my sincere thanks and gratitude to: John Jensen, ERAPPA; Randolph Hare, SRAPPA; Fred Plant, MAPPA; Terry Major, CAPP; Lorenzo Cotton, RMA; Debbie Aguilar, PCAPPA; and Maggie Kinnaman, At-Large; Steve Glazner, APPA's director of knowledge and staff liaison to the Information and Research Committee.

A special note of thanks to Laura Long, LTL Collaborative, for her support in launching and refining both the core data survey and the Facilities Performance Indicators.

### **Vice President for Professional Affairs**

*Alan S. Bigger*

It seems that the years fly by, and before one knows it, an annual report is due. This will be my third annual report on behalf of Professional Affairs and Awards and Recognition Committees and it has been a humbling experience to serve the membership during the last three years. It has also been a growing and invigorating experience



thanks to the wonderful members who represent your regions on these committees and the expertise of the members-at-large. Without their extraordinary help, dedication, and commitment, PAC and A&R would not be able to function. The superb support of the administrative staff at APPA has enabled the committee to function well and to document the

actions of the committee. One of the greatest blessings to PAC has been the addition of Jill Amstutz, director of communications and marketing, who acts as the APPA liaison to PAC and A&R. The committees of APPA exist only for the membership, and we encourage your active feedback to the committees at any time throughout the year. It is your input that will keep the functioning of the committees relevant to the membership.

### Awards

One of the most exciting and rewarding charges that PAC and A&R have is to oversee APPA's institutional and individual awards programs. The commitment of the committee members to reading, evaluating, and then meeting to discuss the awards process is highly commendable. The awards for this year are as follows:

#### Award for Excellence

APPA's highest institutional honor, the Award for Excellence in Facilities Management, provides educational institutions with the opportunity to receive national and international attention for their outstanding achievements in facilities management. There were six submissions for this award; three were selected.

- Smithsonian Institution (ERAPPA)*
- University of Alabama at Birmingham (SRAPPA)*
- University of Michigan at Ann Arbor (MAPPA)*

#### Effective and Innovative Practices

APPA's Effective & Innovative Practices Award recognizes programs and processes that enhance service delivery, lower costs, increase productivity,

improve customer service, generate revenue, or otherwise benefit the educational institution. Entries can describe either a new program or significant restructuring of an existing program or process. This award includes a cash prize that is given to no more than five programs each year.

- Brown University—Safety Fair*
- Bryn Mawr College—Innovative and Collaborative Approach to storm water management*
- Georgia Institute of Technology—Building Services Customer Achievement Program Award*
- California State University, San Bernardino (PCAPPA)—Comprehensive Energy Services Master Enabling Agreement*
- University of British Columbia (PCAPPA)—In-Vessel Composting Facility*

There were 24 submissions, representing 20 institutions for this award. Awards are underwritten by Sodexo and each institution will receive a cash award of \$4,000. We thank Sodexo for their ongoing commitment to this program.

#### APPA Fellow

While most awards recognize past achievements, the APPA Fellow designation brings with it both recognition of specific accomplishments to date and expectations for continuing involvement in APPA's leadership program through research and mentoring. This is APPA's highest individual achievement award. There were four submissions for the Fellow designation, and these three selections.

- Chris Ahoy, MAPPA*
- Don Guckert, MAPPA*
- Gary Reynolds, RMA*

#### Meritorious Service Award

Each year APPA members bestow the Meritorious Service Award upon the individual member or members who



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have made significant contributions to APPA and to the profession of educational facilities management. APPA's highest award for individual service, the Meritorious Service Award is given to no more than three individuals each year. There were nine submissions for this award.

Harvey Chace, RMA

Cheryl Gomez, ERAPPA

Michael Sofield, ERAPPA

### **Pacesetter Award**

First given in 1999, 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. There were eight submissions for this award.

Mark Hunter, PCAPPA

Nancy Hurt, RMA

Fred Long, ERAPPA

John P. Morris, RMA

Arthur E. Sykes, CAPP

L. Scott Turley, CAPP

Keith Woodward, ERAPPA

We offer our sincerest congratulations to the institutions and individuals that have won awards this year. Remember to start thinking now about the awards process for 2007. Information about the variety of awards may be viewed at [www.appa.org/recognition/](http://www.appa.org/recognition/). Some tips for submitting applications or nominations for awards:

- Complete each area of the application form
- Ensure that all the criteria for the award are addressed
- Apply for the most appropriate award
- Provide complete documentation
- Submit early
- Use the online application process
- Keep your regional PAC or A&R committee members involved at each step of the process

- The awards program is for APPA institutions and individuals. What a wonderful way for you to recognize people in your organization. Determine NOW to submit an award nomination for 2007.

### **Other Committee Work**

During the year PAC and A&R have continued to address issues that are pertinent to the membership:

- The application process for all awards is now available online and the person submitting the award is provided a confirmation number and the regional representative is also provided confirmation. This has been a huge undertaking and we thank Jill Amstutz and Steve Glazner for their stellar efforts with this process.
- The awards inventory has been reviewed for all APPA awards, and minor modifications have been included to provide committee members the flexibility to make awards in an appropriate and inclusive manner.
- The application process for APPA Fellow has been streamlined so that A&R receives a complete record of all documentation necessary to make appropriate decisions about awards. We thank CFaR and the APPA office for helping with this initiative.
- Communication processes have been developed and documented to ensure that the notification process for awards is timely and appropriate. Flowcharts have been developed for both institution and individual awards. This process enables the APPA office and committee members to communicate award information to persons in an acceptable manner.
- PAC will be reviewing the current criteria for the Facilities Management Evaluation Program to ensure that criteria are consistent with and comparable to the criteria for the Malcolm Baldrige National Quality Award Program. We thank the numerous FMEP evaluators who have provided us feedback for this process.
- Code advocacy continues to thrive thanks to the hard work and advice of Brooks Baker, University of Alabama at Birmingham. Brooks had the vision to implement a program within APPA that will afford APPA members an opportunity to have a say on technical advisory panels and bodies that impact building codes. As of this moment, more than 30 APPA members and business partners have indicated their willingness to be part of the process. We are in the process of recommending placement of code bodies to ASHRAE and later NFPA.
- The "Code Talker" column in *Facilities Manager* has been published for nearly two years now, and we thank all the authors that have been involved in this process. Some authors include Brooks Baker, Chris Ahoy and Dave Ballard, Doug Erickson, Jeff Cooper, Tom Jaeger, Mike Anthony, Ray Gill, John Bowers, John Antonucci, and Dan Wagner. We thank these folks that have been willing to step up to the plate and to be counted.
- APPA continues to reach out to other professional organizations and the synergy of these alliances and strategic partnerships has a meaningful impact on the value of APPA membership. APPA currently has more than ten alliances that enable our organizations to network and cross-fertilize ideas and programs. The EPA's Strategic Partnership, through the Colleges and Universities Sector Workgroups, ACUHO-I, ASHE, and ISSA are just four working examples. APPA has made presentations at ASHE's annual conference and ASHE has presented at APPA's annual conferences and submitted articles to *Facilities Manager*.

- APPA continues to work with the International Sanitary Supply Association in a collaborative manner. APPA has presented two Supervisor's Toolkit workshops in conjunction with ISSA's international conferences in New Orleans and Las Vegas. APPA has an assigned slot on the technical standards committee of ISSA, and ISSA has presented two seminars in conjunction with APPA's annual conferences. In addition, ISSA has offered a matching grant of \$7,500 towards a research project that addresses the impact of cleaning (or lack of cleaning) on student performance. The draft of this project has been filed with CFaR and includes researchers from both APPA and ISSA.

### The Future

Thanks to the foresight of President Jack Colby and the support of APPA's Executive Committee and Board of Directors, exciting times lie ahead as PAC, A&R, and all APPA committees strive to meet the seven strategies that have been identified for the next few years. PAC and A&R look forward to working with Jack Colby and President-Elect Chris Ahoy and we move ahead to accomplish the seven strategies. Together we will be creating the future of APPA today, and to provide for and meet the membership needs of tomorrow. We need to **hear from you**—your ideas, hopes and dreams are what should be driving us to create the future today. Please stay in touch with any and all members of the APPA Board. APPA is nothing without **you**, and without **your** input we cannot

implement the grand strategies that lie ahead.

### Executive Vice President's Report

*E. Lander Medlin*

**A**s the perfect storm of ever-increasing enrollments and continuously declining state and federal appropriations continues, it is clear that stormy budgeting weather is here to stay. Significant state and federal support cannot be relied upon to solve the funding challenges facing higher education especially given the continued escalation of state entitlement program obligations and federal defense spending. However, despite all these challenges, most of the world's citizenry value the work of colleges and universities and their education systems as a whole and correctly understand the economic and social benefits that a good education delivers to its youth. Overall public perception is positive, however, it is their financial support that is desperately needed.



Fortunately, APPA continues to receive strong support through active individual member involvement and participation and from its member institutions and business partners. One measure of that support is our financial stability. Our diverse portfolio of programs, products, and services continues to serve us well. We are pleased to report a year-end surplus of \$41,000. A large portion of these monies have been placed in our operating reserves fund representing close to 75 percent of our long-term, Board-directed cash reserves goal. We are also pleased to report that most

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categories of our budget achieved or exceeded the budgeted targets set by the Board for revenue generation and expense minimization. As such, APPA remains the "association of choice" serving the educational facilities professional with a myriad of professional development opportunities.

Under the excellent leadership of President Jack Colby, our strategic plan has been revitalized with a focus and direction on the achievement of 7 Key Strategies over the next three to five years. Those 7 Key Strategies are:

- Develop and execute a "branding" program
- Develop and implement a cutting-edge website to provide the "go-to" resource and brand clarity
- Expand research to build credibility and visibility
- Engage in symbiotic and collaborative partnerships
- Engage young professionals in the organization
- Provide targeted cutting-edge educational programs and "fix" the Forum
- Establish credible and valued credentialing programs for individuals and institutions

The desired outcomes of competency, collaboration, and credibility of our members remains a consistent key message and a laudable goal for the association.

### Competency

The guidelines and standards established by your colleagues over the past several years remain invaluable tools for resource allocation and strategic planning. If your resource library does not include the new 2004-05 *Facilities Performance Indicators* Web-based materials, the trilogy of staffing guidelines for the custodial, trades, and grounds areas, and our newest books *Making the Case for Renewable Energy* (published in collaboration with NACUBO and SCUP) *Stewardship & Accountability* in

*Campus Planning, Design, & Construction*, you should quickly ensure that it does. In addition, I highly recommend the previous titles of *Planning and Managing the Campus Facilities Portfolio*, the *Building Commissioning Handbook, second edition*, the monograph *Field Notes* by James Christenson, and the customer service

book titled *Creating A Service Culture: Making the Customer Connection*.

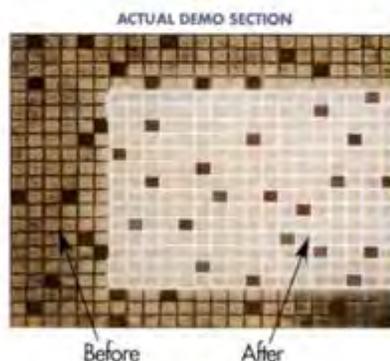
Further, the availability and flow of relevant information regularly occurs via APPA's bimonthly magazine, *Facilities Manager*; *Inside APPA*, our biweekly electronic newsletter; our website, [www.appa.org](http://www.appa.org); and the



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CFaR, APPA's Center for Facilities Research, is also resident on our website and fills a vital need by integrating the development, collection, and delivery of research in the education environment. Active participation in and involvement through CFaR by facilities professionals, allied associations and agencies, and other education community stakeholders is increasing the quality and quantity of credible data and information you need to make knowledgeable and informed decisions for your institutions. CFaR is designed to be a repository of educational facilities-related information. The research collected and sponsored by CFaR will provide compelling information to a number of

key constituencies and educational stakeholders.

A dozen research projects have been completed to date. Of special note is the completion of APPA's two major sponsored research projects. The first major research projects *Buildings... The Gifts That Keep On Taking: A Framework for Integrated Decision Making* and is intended to demonstrate the importance of integrated resource planning and management for both capital development and renewal/maintenance of all facilities. The resulting strategy should stimulate better decision making around capital development and maintenance/renewal by facilities professionals and senior institutional officers.

The second major research project is *The Impact of Facilities on Student*

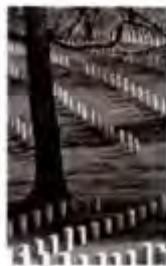
*Recruitment and Retention*. Forty-six institutions responded, ultimately garnering 16,153 student responses to the survey. The data has been analyzed and the final results published across two articles in APPA's *Facilities Manager* magazine (March/April and May/June 2006 issues).

Both research projects' contribution to the body of knowledge for the facilities profession and impact on higher education senior institutional officers' decision making is impressive. Please make sure you get more detailed information from APPA's website on these two projects. It is this type of work that will ultimately brand APPA as the "go to" resource for educational facilities questions.

*Continued on page 27*

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*Continued from page 24*

Finally, as part of our strategy to expand research, APPA, through the gracious sponsorship of Carter & Burgess, developed and delivered a Thought Leaders Series Workshop this past May. A group of key higher education stakeholders consisting of chancellors, presidents, regents, business officers, facilities professionals, and representatives from the business community were assembled and engaged in a day-long discussion of the drivers of change expected to shape the future of higher education and their impact on facilities. Key findings from the workshop will be published in a monograph and disseminated to facilities professionals and senior institutional officers early this fall 2006.

The content and appeal of APPA's vast array of educational programs (Institute for Facilities Management, Leadership Academy, and the Supervisor's Toolkit) continue to provide members with the professional and personal growth and development needed to compete and collaborate effectively in today's environment. And, to meet your continuing education/ licensure requirements, look for the CEUs and PDHs that are now being offered for many of our courses and programs.

Of particular note is the complete reformulation of our annual meeting (now simply called "APPA 200X"). We will focus on professional development programs and the hottest topics for the educational facilities professional. We will collaborate with other allied associations and governmental agencies for program development and delivery. This approach will strengthen this offering in a number of ways and ensure differentiation from regional and state chapter meetings. Also, we will deliver a distinct program strictly for senior facilities officers called the "Senior

Facilities Officers Summit" within the same venue. These two educational programs will serve the continuing professional development needs of both mid-level managers and senior facilities officers. These activities are considered essential by the volunteer leadership to provide for a continuum of professional development opportunities for the educational facilities professional.

To add to our complement of competency-based programs and services, APPA's Board of Directors has approved the development and execution of two credential/certification programs. The first credential will be a curriculum-based credential/ designation for the **young** educational facilities professional. The second credential will be a certification for the **seasoned** professional that will incorporate both the body of knowledge of facilities management and successful demonstration that knowledge has been shared and applied at the institutional level. This step is essential for the future engagement of our young facilities professionals in APPA and the educational workplace.

### **Collaboration**

Strategic collaboration and partnering continues to occur on a number of fronts and increases the depth and breadth of research and information and ultimately the value you receive as part of your membership. Our latest association strategic alliances have expanded the collaborative opportunities available to you. Visit our website for details about our combined offerings to take advantage of these relationships.

The joint conference collaboratively planned with NACUBO (National Association of College & University Business Officers) and SCUP (Society for College & University Planning) in Honolulu, Hawaii, July 2006, just occurred offering a seminal educational program. We couldn't be more pleased

with the members and business partners' high level of participation. For example, we received almost a thousand proposals for 150 educational programming slots alone. The **Campus of the Future: A Meeting of the Minds** joint conference truly represents the ultimate opportunity for collaboration and partnering.

These strategic alliances and partnerships help APPA leverage its resources to provide cost-effective, focused research, information, and educational programming, and at the same time, ensure an increased information flow to our members and provide opportunities for more meaningful engagement by young facilities professionals.

### **Credibility**

Environmental issues and compliance concerns remain an important part of our public policy agenda. APPA is one of six organizational members of the EPA College & University Sector Initiative that is focused on reforming the hazardous materials regulations and establishing better environmental performance measures and systems. This alliance consists of the ACE (American Council on Education), NACUBO, CSHEMA (Campus Safety, Health, and Environmental Management Association, a division of the National Safety Council), HHMI (Howard Hughes Medical Institute), and C2E2 (Campus Consortium for Environmental Excellence) and continues to drive our efforts to create and maintain a substantive dialogue with the EPA. As a matter of fact, the hazardous materials regulations have now been modified substantively and posted for public comment. Therefore, significant progress is being made regarding regulatory change in hazardous materials/waste compliance. This effort is both notable and noteworthy in our quest for a meaningful and substantive dialogue with EPA. Visit our

website for updates on progress and a link to this EPA initiative and the associated compliance assistance center.

In addition, we have partnered with the EPA's Energy Star staff and have agreement for the future development of a college and university focused Energy Star Rating Tool. To accomplish this end, we will need your help in submitting aggregate energy consumption data (among other data elements) this fall. Look for our specific request in September. This data will also be incorporated in our *Facilities Core Data Survey* data collection effort. Either way, we need a minimum of 350 institutions to participate in order to move forward with the EPA. In the meantime, we are partnering with Sebesta Blomberg to secure 15 to 30 institutions for a

consortium-based pilot program to drill down into the details of energy metered data for various space types as a supplemental effort to that of the EPA's Energy Star program requirements.

I cannot emphasize enough the importance of APPA's primary role to increase the awareness of the facilities profession with senior institutional officers. Our brand identity in education is reflective of this goal and its continuous attainment. Certainly, the challenges we face well into the future will require our best collective and collaborative efforts. Your contributions will be key in helping to shape the future of education. APPA's contributions will be key as a significant voice on strategic institutional

issues for the educational facilities profession.

I firmly believe that our competitive advantage in this rapidly changing and challenging world is the fact that you continue to choose to remain members of APPA, actively engage in our programs, and faithfully utilize our products and services. These are difficult and trying economic times. The decisions you face and the priorities you make must be strategic. We are pleased to be part of your strategy for your individual professional development and continuous institutional improvement.

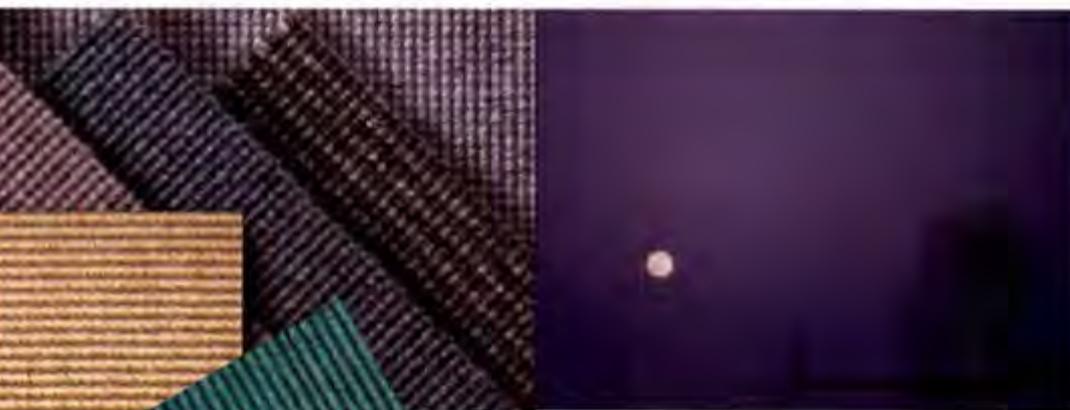
Therefore, we appreciate the value you place on your membership in APPA and in our professional development programs, targeted publications, and meaningful recognition

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and awards programs. Our efforts to focus on the grassroots of this organization will continue in the coming year to ensure that your needs and expectations are being heard and ultimately met. I truly believe that it is through the vast array of educational offerings, print and electronic information and research, and publications

that APPA can help you gain that competitive edge and enhance your professional image. 🏛️



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## Chemical Hazards: Know the Facts

by Daniel S. Wagner

George wasn't feeling quite himself that evening. His three-year old son had come down with a nasty case of the flu and George was a little concerned. In fact, he himself seemed to be coming down with a particularly bad cold. As he prepared to clean the biology building's 4th floor lavatory, his mind began to wander. He picked up a bottle of an unidentified liquid and mixed it with an ammonia-based glass cleaner. Minutes later, George began to have trouble breathing, developed a severe headache, and a burning sensation in his lungs. The unidentified liquid was not water as George had suspected.

The scenario described above helps explain why it is so crucial that employees recognize and understand the identity and hazards associated with the chemicals that they may be exposed to when working. The U.S. Department of Labor estimates that more than 32 million workers are exposed to potentially hazardous chemicals and exposure to such chemicals can contribute to many health effects including heart ailments and kidney and lung damage. The use of such chemicals also has the potential to cause fires, explosions, and other serious accidents. Further, the problem is often exacerbated if employees are not familiar with workplace chemicals and may be intensified when dangerous chemicals are mixed. Little did George know that the chemical in the unlabeled bottle above was, in fact, bleach, a substance which, when

*Daniel S. Wagner is standards development manager and manager of regulatory compliance for ISSA, The Experts on Cleaning and Maintenance in Lincolnwood, Illinois. He can be reached at [daniel@issa.com](mailto:daniel@issa.com). This is his first article for Facilities Manager.*



mixed with an ammonia-based cleaner, causes toxic fumes that can have devastating health effects.

It is readily acknowledged that employees have both a need and a right to know such information. It is for this precise reason that the Occupational Safety and Health Administration (OSHA) affirmatively enforces the Hazard Communication Standard (29 CFR 1910.1200). Ultimately, OSHA's Hazard Communication Standard is designed to provide employees with the critical information that they need so that they are better positioned to take steps to reduce exposures, substitute less hazardous materials, and establish safe work practices.

### The OSHA Hazard Communication Standard

Under the Standard, which specifically applies to those chemicals that present either a physical or health hazard, including many janitorial and maintenance chemical products, employees receive crucial chemical-specific hazard information through the use of material safety data sheets (MSDS), container labels, and comprehensive training programs. Each hazard communication method is briefly described below.

- **Material Safety Data Sheets** (MSDS) represent the primary source of hazard information and an up-to-date copy must be readily

accessible to all workers. They should contain all pertinent physical and health hazard information, exposure limits, precautions for safe handling and use, and applicable control measures, including personal protective equipment requirements. (29 CFR 1910.1200(g))

- **Container Labeling** is also an effective method of communicating crucial hazard information. Intended to be an immediate visual reminder of the hazards of potentially dangerous chemical products, labels are required by the Standard to include all appropriate physical and health hazard warnings. (29 CFR 1910.1200(f))
- Effective **employee training** is also crucial. Employers are required to provide employees with information and training regarding the chemicals that they will work with and to which they may be exposed, as well as information on measures that employees can take to protect themselves, including appropriate work practices, emergency procedures, and personal protective equipment. Training must be provided prior to exposure to a hazardous chemical and must be provided whenever a new hazard is introduced. (29 CFR 1910.1200(h))

It is important to note that it is not enough to make hazard information available. Rather, employers need to make sure that employees understand all pertinent hazard information employers must, therefore, take into account language barriers, illiteracy concerns, and other factors and take all action necessary to ensure that employees gain an understanding of the

hazards associated with those chemicals with which they will be working. For example, although material safety data sheets are required to be in English, they may be translated into other languages and made available to assist non-English speaking employees.

Further, as mentioned, MSDSs must be maintained so that they are "readily accessible" to employees at all times during a work shift. OSHA does allow for the electronic means of making MSDSs available, including computers with printers, CD-ROMs, etc., provided that there are no barriers to "immediate" access. Employers therefore, must ensure that electronic devices are reliable and accessible, that workers are trained in the use of such devices and understand how to retrieve the hazard information, and that there is an adequate backup system that affords access to MSDSs in the event of an emergency, such as a power outage or equipment failure.

While, educational facilities can generally rely on their suppliers to draft and make available compliant MSDSs (manufacturers and distributors have an affirmative duty to provide MSDSs to their customers) and label primary product containers with the required information, it is most often the responsibility of the facility to ensure that all secondary or portable containers are labeled with the necessary hazard information.

Specifically, all secondary or portable (in-house) containers into which hazardous chemicals are transferred must be labeled with the following information:

- 1) the identify of the hazardous chemical; and
- 2) appropriate hazard warnings or, in the alternative, "words, pictures, symbols, or a combination thereof, which provide at least general information regarding the hazards of the chemical" (i.e., HMIS ratings).

The key is to ensure that an employee can pick up a bottle and immediately understand the potential hazards.

There is, however, a general exception to the secondary container-

labeling rule. Such containers do not need to be labeled in accordance with the OSHA standard as long as the person who performs the transfer of the hazardous chemical into the container is the person who is intended to use the transferred chemical.

Finally, employers are required to develop and implement a **written hazard communication program** that describes how the employer will meet the MSDS, labeling and employee training requirements (29 CFR 1910.1200(e)). The written program must be readily accessible to employees and should include a comprehensive list of all hazardous chemicals known to be present in the facility. OSHA stresses that it does not need to be particularly lengthy or complicated so long as it includes the required information.

### Enforcement

Hazard communication violations are among the most frequently cited and can carry substantial penalties.

OSHA has reported that the Hazard Communication Standard was the second most-violated standard from October 2004 through August 2005. More specifically, published 2004 fiscal year enforcement figures indicate that the failure to have a written hazard communication program was the most frequently cited violation (2,326 violations), with the failure to train employees on new chemical hazards ranked #3 (1,047 total violations), failure to train employees with regards to hazardous chemicals, in general, ranked #9 (768 violations), and the failure to make material safety data sheets available as required ranked #12 (708 violations).

Unfortunately, the Administration does not calculate average per-violation penalties because of the multitude of factors that enter the equation, but fines have been known to reach six digits. Further, while federal OSHA enforcement understandably garners the most attention,

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it is important to remember that state agencies that oversee occupational safety and health can also penalize facilities for non-compliance.

### State Right-to-Know Laws

The federal OSHA Standard is not the only hazard communication law that educational facilities may need to be concerned with. Those facilities located in New Jersey, New York City, Pennsylvania, and California also must ensure compliance with the state or local jurisdiction's hazardous chemical right-to-know law. All four local laws require that container labels include hazard communication information in addition to what is required under the federal OSHA Standard, although the primary obligation to provide such information falls on the product manufacturer or distributor.

### Your Responsibilities

Manufacturers, distributors, and users of hazardous chemicals all have certain obligations under the Standard. While, as mentioned, it is

the primary responsibility of the chemical manufacturer or distributor to determine the hazards of each chemical product, obtain or develop and make available up-to-date MSDSs, and prepare product labels, employers also play a key role. Most notably, it falls on the shoulders of the educational facilities manager, as an employer to:

- ✓ Identify and list all chemicals that may be found in their workplace.
- ✓ Obtain MSDSs for hazardous products and ensure that they are readily accessible.
- ✓ Make sure that *all* containers are labeled as required by the Standard and by any state right-to-know laws that may apply, including affirmatively labeling all secondary or portable containers into which hazardous chemicals are transferred.
- ✓ Identify those employees who must be trained in accordance with the standard and conduct the necessary training.

- ✓ Develop and implement a written hazard communication program. (Note: a written program is not required for laboratories.)

### Future Prevention

The OSHA Hazard Communication Standard is designed to assist in the prevention of work-related injuries and illnesses by making crucial hazard information available to those individuals who may be exposed to potentially dangerous chemicals. Ultimately, it is the responsibility of the educational facility manager as an employer to ensure that employees are provided with such hazard information. Make sure that you have up-to-date copies of all material safety data sheets. Conduct the required hazard communication training. And, please, make sure that all labels are labeled with physical and chemical hazard information. George is sure to thank you. 🙏

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## Recruitment and Retention Tune-Up

by Christopher K. Ahoy

All organizations need to tune-up once in a while as they continue to serve their members. An organization must continue to be agile as it provides the many value propositions (education, research, and recognition) it has to offer its members as it continues along the journey of continuous improvement. APPA is at such a threshold for this rejuvenation and refreshment.

APPA's membership growth needs a boost. Significant changes are taking place that will have a profound impact on the facilities profession and thus on our APPA organization. Specifically, the impending retirement of an aging leadership in the next five years will create gaps in leadership positions. It is up to us to build our membership pool locally, regionally, nationally and internationally to maintain APPA's vision—"Becoming a Global Partner in Learning."

The key to having a healthy organization is to bring in new members and to retain the existing membership by making APPA the "association of choice." This is the right time to ask chapter, state, regional, national, and international association members to align with each other. Alignment means direction, interest, and common goals to enhance the experience of all members through education, research, and recognition.

APPA is poised to do great things for its members. We already have a vast array of building blocks for our membership—a treasure chest of the association's body of knowledge and



wealth of experiences. We have many publications, educational opportunities, and training tools available for the use of all facilities professionals. As APPA juxtaposes itself to meet the challenges of the new century to "manage its present" and with ever-increasing clarity to "focus on the future," President Jack Colby in November 2005 introduced seven key strategies envisaged through a strategic planning process. To face the turbulent times with many changes taking place in our environment, the APPA Board of Directors enthusiastically supported this effort and "gave it legs." We are on the move!

What we do together, how we conduct ourselves, and where we eventually end up depends on each one of us. Someone succinctly once said, "If it is to be, it is up to me." People with enthusiasm and passion and commitment can do great things and make a difference by stepping up to the plate. Members must voluntarily commit the time and effort for the benefit of all concerned. APPA members who are already doing the right things must enthusiastically bring potential members into the fold.

To take the APPA organization to the next level of excellence, we will all need to create high-level relationship building and encourage like-minded professional educational facilities to join APPA for the common good. It is

time for all members to talk to other potential members on a one-on-one basis and bring new, young faces to the association.

I ask all leaders and members of local, state, regional, national, and international chapters to network for the greater good. Opportunities already exist for us to model, mentor, motivate, monitor, and multiply membership. If we each were to add one member, we would build a stronger, professional, personalized organization with credible and rich experiences for all. Invite others to come and learn about APPA!

We all know the following clichés: "No man is an island," "none of are smarter than the sum of all of us," and "we are all in this together." During my tenure as your APPA President, I wish to reinforce the importance of President Colby's seven key strategies by continuing and specifically emphasizing the following strategies:

1. Branding (marketing APPA to new members and others)
2. Enhanced Website (knowledge capture and transfer)
3. Expanded Research (global thinking with local solutions)
4. Collaborative Relationships (global thinking with local solutions)
5. Engage Young Professional (recruitment and retention goals)
6. Cutting-Edge Education Programs (provide target programs, knowledge capture, and transfer)
7. Certification and Credentialing (create the future)

I will have the distinct honor and privilege to lead the APPA organization to continue the work already begun and APPA's world-class staff is ready as always to assist in this worthwhile endeavor. Please join with me to make a difference for all of us. 🏛️

**Christopher K. Ahoy is APPA's 2006–07 President and associate vice president for facilities at Iowa State University, Ames, Iowa. He can be reached at [ckahoy@iastate.edu](mailto:ckahoy@iastate.edu).**

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## DEALING WITH RADICAL AND UNCERTAIN CHANGE

by Glenn R. Smith

We are in the middle of a genuine techno-economic revolution. This is the kind of moment that takes up whole chapters of history books. Fifty to 60 years from now, entire history chips will be devoted to this decade, recounting how well—or how badly—the great institutions of the mature industrial economies were able to reinvent themselves for the Information Age. Of all those institutions, the one whose successful reinvention will be the most important, is the oldest institution. Older by far than democracy or capitalism, the university and higher education will go through truly revolutionary times over the next 5, 10, 15 years. And in order to succeed in revolutionary times, they will have to be revolutionary themselves.

—David Pearce Snyder

January/February 2006 Facilities Manager

**D**avid Pearce Snyder is certainly not alone in his conviction that revolutionary times lie ahead for all of us. Perhaps the only thing we can absolutely count on is *change*. Book store shelves are lined with business, management, psychology, and self help manuals for dealing with the ever-increasing rate of change. Entrepreneurs are convinced that he who can best predict what lies ahead will

have the competitive edge, and thus the role of futurists like David Pearce Snyder is taking on increased importance. We are all looking for suggestions on how to survive and preferably thrive in this era of rapid change. New “gurus” are popping up every day—on book shelves, in DVDs, and on the lecture circuit—offering their personal brand of sage advice. But where do you turn? Who should you believe?

A great place to start is with three men—W. Edwards Deming (1900-1993), Stephen Covey (1932- ), and Peter Senge (1947- )—each of whom has gained considerable followings in recent years, but not for radically new ideas of how to prepare for the future and deal with rapid change. Rather, each of these individuals, in his own way, has advocated a return to the basics of focusing on the individual employee, developing a clear vision, and thinking in terms of total systems. I believe they would all agree that the only way to “thrive on change” is to be well rooted in these basic concepts. (Note: Although Dr. Deming passed away in 1993, his followers and teachings are as strong today as when he was alive.)

While Deming speaks in terms of 14 points, Covey espouses 7 habits, and Senge describes 5 disciplines, each readily admits there is nothing new in their teachings other than a new way of looking at some fundamental principles, which can foster wiser decision-making. In fact, much of what they preach is so basic, it has been described as “nothing more than common sense.” All three of these gentlemen are strong advocates for returning common sense and human judgment to the decision-making process. Since success or failure in any endeavor is inevitably linked to a series of wise or foolish decisions, and since the pace of change drives the pace of

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decision-making, it might be worth listening to what these three men have to say on the subject.

### Individual Transformation

All organizations, corporations, governments, societies, and institutions have as their basic element the individual person. The success of any collection of individuals is determined by the effectiveness with which these individuals work together toward common goals. To deal with the complexity and pace of today's problems and challenges, individual people must work together in teams. Teamwork requires trust—a two-way, interdependent proposition. But trust cannot grow between and among individuals until each person learns to “self-trust.” The key element of self-trust is integrity—the capacity to live what one believes. The simple truth is this—people cannot live or work together effectively, they cannot make wise decisions, they cannot adapt to change, unless they can first trust themselves.

Stephen Covey's first three habits are intended to develop personal integrity—to raise the individual from a state of dependence to one of independence. In his words:

The root is character: the foundation of integrity which builds the trustworthiness. Everything else builds on top and is made effective by it. ... If you are an effective manager of your self, your discipline comes from within; it is a function of your independent will. You are a disciple, a follower, of your own deep values and their source. And you have the will, the integrity, to subordinate your feelings, your impulses, your moods to those values.

Covey believes “a life of integrity is the most fundamental source of personal worth.” People who do not think their life has value will have trouble respecting other people. Those with low self-esteem become easily defensive, are quick to blame others, and lack the courage of their convictions. These individuals tend to exhibit a conservative, risk-adverse attitude toward change, preferring to stick with the comfort and stability of the status quo. If they could only understand that in today's era of constant change, nothing could be more destabilizing. Dr. Covey goes on to explain that reaching a level of strong integrity and high independence is not sufficient in today's complex, interdependent world:

Independent thinking alone is not suited to interdependent reality. Independent people who do not have the maturity to think and act interdependently may be good individual producers, but they won't be good leaders or team players. They're not coming from the paradigm of interdependence necessary to succeed in marriage, family, or organizational reality. ... Integrity in an interdependent reality is simply this: you treat everyone by the same set of principles. As you do, people will come to trust you.

So we must begin with each individual player, helping each to develop a sense of personal integrity which will lay the foundation for relationships with others based on trust.

In his last book, published shortly before his death when he was nearly 93 years of age, Dr. W. Edwards Deming has this to say:

The first step is transformation of the individual... The individual, transformed, will perceive new meaning to his life, to events, to numbers, to interactions between people... He will have a basis for judgment of his own decisions and for transformation of the organizations that he belongs to. The individual, once transformed, will:

Set an example...

Be a good listener...

Continually teach other people...

The word *metanoia* is more suitable than transformation.

Metanoia... means penitence, repentance, reorientation of one's way of life, spiritual conversion.

Covey believes “a life of integrity is the most fundamental source of personal worth.”

While Deming tends to be thought of primarily as a statistician concerned with reducing process variation, he understood full well that the great variable in any process is human behavior. We all make decisions based upon our best prediction of the outcome, but when human behavior is inconsistent, there is no way to accurately predict. And the key to consistent behavior is integrity which produces trustworthiness which earns trust—trust in the sense that people will act for the right reasons, exercise common sense, exhibit sound judgment, and respect one another.

Peter Senge is also fond of the term *metanoia*, which he defines as a “shift of mind.” He likens *metanoia* to the process of “learning,” which also requires “a fundamental shift or movement of mind.” Growing as a person, adapting to the times, moving from a dependent to an independent to an interdependent state, making wise decisions that affect the future—the capacity to do all these things hinges on our ability to learn. In Senge's words:

Real learning gets to the heart of what it means to be human. Through learning we recreate ourselves. Through learning we become able to do something we were never able to do. Through learning we perceive the world and our relationship to it. Through learning we extend our capacity to create, to be part of the generative process of life.

This, then, is the basic meaning of a “learning organization”—an organization that is constantly expanding its capacity to create its future.

Covey, Deming, and Senge are all strong believers in the value of vision, not in the sense of determining a final destination, but rather setting a course toward a more desirable future state.

The key is that learning must start on an individual level. In many ways the process of learning, or as Senge puts it, "expanding the ability to produce the results we truly want in life," is akin to rising through Maslow's hierarchy of needs. Most "knowledge workers" today have moved beyond the deficiency needs, to where they are "motivated primarily by social, esteem, and self-actualizing needs." This process requires individual learning and growth throughout our lives. The more individuals grow, the better they are able to interact on a professional basis, appreciating the fact that differences between people can be complementary just as easily as conflicting. What motivates individuals is a function of where they reside on the "growth" scale, be it Maslow's or Senge's or Covey's or anyone else's. Kazuo Inamori, founder of Kyocera Corporation, says this:

Whether it is research and development, company management, or any other aspect of business, the active force is "people." And people have their own will, their own mind, their own thinking. If the employees themselves are not sufficiently motivated to challenge the goals of growth and technological development ... there will simply be no growth, no gain in productivity, and no technological development.

Covey, Deming, and Senge all agree that before groups of people can grow and deal with change, the individuals comprising those groups must develop a sense of personal integrity, transform and reorient their way of thinking, and, by learning, move along the path toward self-actualization. Only then can they embrace change as an exciting opportunity rather than fearing it as a departure from the "tried and true" comfort zone.

Thus the first responsibility of leadership is to help people develop and grow as individuals, to self-actualize, to reach their maximum potential. This "people first" approach is easier said than done, however. In the words of Stephen Covey (with a little help from Dr. Deming):

American management has given lip service to tapping the potential of its most important resource—its people. "The greatest waste in America is failure to use the abilities of people," laments Deming. The first fundamental transformation of thinking required of American management is to develop new basic attitudes toward the intrinsic dignity and value of people, of their "intrinsic motivation" to perform to their maximum capabilities.

## Vision

Once the individuals are "ready," the second responsibility of leaders is to bring them together in a coherent way, encouraging them to move in a common direction. Covey, Deming, and Senge are all strong believers in the value of vision, not in the sense of determining a final destination, but rather setting a course toward a more desirable future state. But until people truly believe that they can affect some control over their lives, the concept of vision is nothing more than wishful thinking—a dream state. Stephen Covey refers to his first habit, *Be Proactive*, as the "habit of personal vision."

When Covey encourages people to be proactive, he means they must come to understand that each individual has the ability to choose his or her response to any situation. With that power to choose comes the burden of accepting responsibility for our actions, but also the opportunity to plot the course of our lives. In essence, each person has the power to influence his own future—to progress along the road to self-actualization. In the words of Henry David Thoreau, "I know of no more encouraging fact than the unquestionable ability of man to elevate his life by conscious endeavor." Noel Tichy and Stratford Sherman, writing about the changes made by Jack Welch at General Electric, put it this way:

No one has absolute control over his or her destiny. The point is to control what you can. ... "control your own destiny or someone else will" is a philosophy of life basic enough to apply to anyone. ... The meaning is simple: Take responsibility.

Covey's second habit, *Begin with the End in Mind*, addresses the power and importance of long-range personal vision that encompasses who you are, what you believe, and what you want to accomplish. It is impossible to deal with constant change, to keep your life on course, without the foundation provided by a personal vision. As Covey puts it:

People can't live with change if there's not a changeless core inside them. The key to the ability to change is a changeless sense of who you are, what you are about and what you value.

Deming takes the concept of vision from the personal level to the group or organizational level. His Point #1 (revised) states: "Create and publish to all employees a statement of purpose of the aims and purposes of the company. The management must demonstrate constantly their commitment to this statement." His message is simply this: any organization has two kinds of concerns—those that have immediate or short-term impacts and those that have long-term impacts. He stresses the need for balance between these concerns:

It is easy to stay bound up in the tangled knots of the problems of today, becoming ever more and more efficient in them. But no company without a plan for the future will stay in business.

*Continued on page 40*

**Christine Cruz**  
**Safety Coordinator**

**Wesleyan University, CT**

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another problem in another part of the system. In this sense, cause and effect are not closely related in time and space. Lack of knowledge of the complex interrelationships can result in tampering which tends to create a larger problem in a different place and at a different time. It is crucial that all players within the system, from the lowest level to the most senior, understand how their role fits into the aim or vision of the system. Actions taken or decisions made by individual players must consider the "whole" perspective with a clear understanding of the interactive ricocheting that can result.

Given the rate of change taking place around us, it is tempting to take quick actions to generate immediate results. Sometimes the short-term results are impressive, but all too often the long-term impact on the system is disastrous. Listen to Peter Senge summarize this need for systems thinking:

[M]ost of the problems faced by mankind concern our inability to grasp and manage the increasingly complex systems of our world... Today, the arms race, the environmental crisis, the international drug trade, the stagnation in the Third World, and the persisting U.S. budget and trade deficits all attest to a world where problems are becoming increasingly complex and interconnected.

Today, systems thinking is needed more than ever because we are becoming overwhelmed by complexity. Perhaps for the first time in history, humankind has the capacity to create more information than anyone can absorb, to foster greater interdependency than anyone can manage, and to accelerate change faster than anyone's ability to keep pace.

## Conclusion

Everywhere we look, the irresistible force of change is being felt. The strategy of "doing things the way we've always done them," which for a long time meant comfort, stability, and security, is now a sure formula for disaster. The ability to adapt and change with the times is essential. But with so much complexity and so many unknowns, how can anyone do more than merely react and hope to survive one day at a time?

W. Edwards Deming, Stephen Covey, and Peter Senge have each approached this challenge in his own way, based upon their own experiences spanning different generations. But they seem to agree on three very basic, but essential ingredients required for today's leaders to survive and, hopefully, succeed:

- Focus first on each individual, helping him/her to develop as a person. Everyone needs to develop a sense of self-worth, self-confidence, self-mastery, and inner-strength, which ultimately breeds integrity. Only then will they permit the vulnerability required by effective teamwork, partnering, and interdependent relationships.



- Develop a shared vision of a brighter tomorrow. Everyone needs to be inspired and drawn toward the prospect of a more desirable future state. Such a vision helps leaders stay on course during turbulent times, and provides each person a frame of reference for making decisions.
- Promote systems thinking at all times. Educate all players as to the complex interrelationships of the system, the organization, the process. Each player needs to value the way differing talents and opinions complement the total system, and understand how his or her actions and decisions affect the whole.

These ingredients for success are not startling new revelations developed for a time of revolutionary change, but a return to the basics of common sense, prudent judgment, and respect for one another. Perhaps the radical changes we are experiencing do not require new solutions, but rather a new way of thinking about basic truths. Perhaps that is what T.S. Eliot understood when he observed:

We must not cease from exploration and the end of all our exploring will be to arrive where we began and to know the place for the first time. 🏰

## Endnotes:

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The APPA Facilities Management Evaluation Program (FMEP), initiated in 1989-90, represents a compelling leadership tool designed to serve organizations looking for a proven and successful approach to performance management and improvement. It is made to order for the facilities management profession.



# Getting Started with the Facilities Management Evaluation Program

by Jack Hug

Patterned after the Baldrige National Quality Program Criteria for Performance Excellence, the FMEP criteria provide a framework for continuous improvement. Here are a few aspects that set the FMEP criteria apart from other assessment programs:

- FMEP criteria are regularly reviewed by the APPA Professional Affairs Committee to determine if anything needs to be changed or added. This review ensures that the criteria are at the leading edge of validated facility management practices. The criteria are designed to help facility management organizations use a comprehensive and integrated approach to organizational performance management. In other words, its scope covers all critical aspects of facilities management and connects the dots so that we can see a picture of the organizations performance all in one place.
- The FMEP takes a system approach whereby the seven-section criteria and its 57-subsections are all part of a

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system that must be integrated in order to optimize organizational performance. This integrated system embraces the central idea that "it is not possible to achieve excellence by only doing some of the things that are easy and ignoring the rest."

- The FMEP criteria and the criteria that are utilized to evaluate institutions that apply for the APPA Award for Excellence are the same.
- Embedded within the seven criteria are a number of interrelated core values and concepts that are taken from beliefs, practices, and behaviors found in high-performing organizations and adopted directly from the Baldrige National Quality Program. Each of these core values listed below are described in detail in the Baldrige National Quality Program publication, "Criteria for Performance Excellence," available at [www.baldrige.nist.gov](http://www.baldrige.nist.gov).
- Visionary leadership

- Customer-driven excellence
- Organizational and personal learning
- Valuing employees and partners
- Agility
- Focus on the future
- Managing for innovation
- Management by fact
- Social responsibility
- Focus on results and creating value
- Systems perspective

Now how can we dispute with these core values? It seems to me that these values describe the organizational environment that we must create today and they are comprehensive enough to cover all aspects of leading and managing in the facilities management profession.

## The Self-Evaluation

On first glance at the FMEP criteria, the seven major categories and its 57 subsections can seem quite daunting. However, if the FMEP is going to add sufficient value and serve the facilities management organization in the most advantageous way, then preparing a high-quality self-evaluation is the critical and essential first step. Its sensible use and consistent application can help employees at all levels assess their

individual department and their entire facilities management organizations overall readiness to meet today's requirements. In times of increasing complexity, more demanding customers, endless challenge, and chaotic change, achieving readiness, and being positioned for overall effectiveness and productivity is not easy.

### Getting started with the Self-Evaluation

You do not have to wait until you are ready to do a FMEP to begin using the criteria. In fact, many organizations begin using the criteria for annual self-assessments and for developing action plans based on the results.

### The Organizational Profile

The first step and a prerequisite for the use of the FMEP

campus work environment and organizational work relationships.

Answer these questions about the organization's description and characteristics

#### 1) Main Products and Services

What are our organization's main products and services? What is the delivery mechanisms used to provide our products and services to our customers? **If you think that you are simply a service organization and that the term products doesn't apply, then think again.** Take a look at the APPA *Facilities Manager* of September/October 1997. In his article, "Product Based Management," Bill Daigneau<sup>2</sup> writes:



criteria, whether performing a self-assessment or going for a full-scale FMEP, is the preparation of an Organization Profile. One of the most overlooked and a frequently short-changed component of an FMEP Self-Evaluation is the Organizational Profile. The Organizational Profile is a snapshot of our organization, the key influences on how we operate, and the key challenges we face.

Our Organizational Profile is critically important because it is the most appropriate starting point for self-assessment; it helps us identify potential gaps in key information and lack of organizational focus on key performance requirements and results; it is used by the review team members to understand the organization and what we consider important; and it can be used by itself as an initial self-assessment to help us get started on the full bodied self-evaluation.

The Organizational Profile contains two major parts; organizational description and organizational challenges.<sup>1</sup>

#### I. Organizational Description

The Organizational Description asks the question; what are our key organizational characteristics? Within our response we should include answers to several questions relating to the

Like most of us in the facilities management business, I had been brought up through the ranks believing that we were a service organization, providing essential support services to our universities and colleges. The service industry, unlike manufacturing or construction, is different in that we don't deliver tangible products like autos or buildings. This difference affects how we manage people, processes, and finances, and how we treat our customers.

Services by their nature, we are taught, are intangible, variable, perishable, and produce only "memories." Products, however, are tangible, measurable, time specific, and are in the physical world. So, in the practice of managing services, how do we bridge this gulf between services and products? How do we apply management practices that seem to work so reasonably well in the manufacturing business to the service industry?

All it requires is that you readjust your focus, from the world of intangible services to the world of real, measurable products. Once that readjustment is accomplished,

you will be able to use all of the tools and techniques employed by successful businesses, covering all aspects of production management, finance, marketing, and productivity improvement.

## 2) **Organizational Culture**

What is our organizational culture? What are our stated mission, values, and vision?

## 3) **Employee Profile**

What is our employee demographic profile? What are our categories and types of employees? What are their educational levels? What are our organization's workforce diversity and job diversity, organized bargaining units, use of contract employees, and special health and safety requirements?

## 4) **Major Technologies**

What are our major technologies: equipment, software, and facilities?

## 5) **Regulatory Requirement**

What is the regulatory environment under which our organization operates? What are the applicable occupational health and safety regulations; accreditation, certification, or registration requirements; relevant industry standards; and environmental, financial, and product regulations?

## 6) **Reporting Relationships**

What is our organizational structure and governance system? What are the reporting relationships among senior leaders and throughout the facilities management organization?

## 7) **Key Customers and Stakeholders**

Who are our key customers and stakeholders? What are their requirements and expectations of our services and products? What are the major differences in the requirements among the various customer and stakeholder groups?

## 8) **Partners, Suppliers, and Distributors**

What are our most important types of Partners, Suppliers, and Distributors? What contracts for services do we have that help us deliver services, innovate, and create value? What forms of communication do we have with them?

## II. **Organizational Challenges:**

### **What are our Key Organizational Challenges?**

In the Organizational Challenges section of the Organizational Profile we should describe the institutional environment, the institution and the facilities management department's strategic challenges, and performance improvement processes that we may have in progress. Answer these questions about organizational challenges:

### 1) **Institutional Position**

What is our institution position, i.e., Research top 50; top 10; or other? What is our relative size in the education market and how do we measure it? Who are our peer institutions that senior administrators typically use as comparisons? Is there collaboration with other institutions that might be considered competitors?

### 2) **Success Factors**

What are the principal factors that determine our success as an organization? What are the key changes taking place that affect our situation?

### 3) **Comparative Data**

What are the key available sources of comparative data for facilities management that are most relevant to our situation? What are our organizations strategic initiatives? What are the organizations methods of continuous improvement? How do we maintain overall organizational learning? How do we achieve process improvement?

**The Organizational Profile should be limited to three to five pages.**

The next step in preparing a self-evaluation is to recognize that the work required to prepare a self-evaluation is not an individual task. The best method is to involve a team or teams of people who have an interest in better understanding and in using the FMEP criteria as a template for improving the organization. A team should consist of from three-to-five members who represent employees from different levels throughout the organization.

The team composition will vary depending on the particular criteria category. For example, in a large organization the criteria category 1.0 Leadership, the team composition could be: Senior Facilities Officer, Director of O&M, Director of Design and Construction, and the Director of Campus Physical Planning. Other unit managers/supervisors can be added along with frontline staff.

Another example for the criteria category 5.0 Development and Management of Human Resources, the team might consist of the facilities department human resources person, various directors, managers, supervisors, and frontline staff. For this category, supervisory staffs are typically key participants.

If this sounds like too much for the smaller institution, a single assessment team can be assembled in smaller organizations to assess all seven FMEP criteria categories.

Strategic and operational planning consist of the planning process, the identification of goals and actions necessary to achieve success, and the deployment of those actions to align the work of the organization.

## The Self-Evaluation Criteria

### 1.0 Leadership

*The facilities organization's senior leaders should set direction and establish customer focus, clear and visible values, and high expectations in line with campus mission, vision, and core values. Leaders inspire the people in the organization and create an environment that stimulates personal growth. They encourage involvement, development and learning, innovation and creativity.*

#### Bottom-line lessons learned:

The failure of an organization to achieve high levels of performance, more often than not, is a result of a failure in leadership. In successfully addressing this criteria category, we should be able to say, Our leadership team uses our organization's values to guide the organization and employee behaviors, creates a work environment that helps employees do their jobs, shares information about the organization, encourages learning that will help all employees advance, lets employees know what they think is most important, and regularly asks employees what they think. Employees know the organizational mission, values, and vision statements.

### 2.0 Strategic and Operational Planning

*Strategic and operational planning consist of the planning process, the identification of goals and actions necessary to achieve success, and the deployment of those actions to align the work of the organization. The facilities organization should anticipate many factors in its strategic planning efforts: changing customer expectations, business and partnering opportunities, technological developments, evolving regulatory requirements, and societal expectations, to name a few.*

#### Bottom-line lessons learned:

Strategy development and strategy deployment are two key areas of focus for this criteria category. Anyone who had ever developed a strategic plan knows how difficult it is. The voice of experience has taught us that even though developing strategy is difficult, the execution or deployment of the strategy is at least three times as difficult.

A successful response to this criteria will include a description of the active participation by the management team and by employees in planning for the future; department leaders

ask employees for their ideas; employees and managers know the parts of the plan that will affect them and their work; and how to tell if they are making progress on their part of the plan.

### 3.0 Customer Focus

*Customer focus is a key component of effective facilities management. Various stakeholders (faculty, students, staff and other administrative departments) must feel their needs are heard, understood, and acted upon. Various tools must be in place to assure customer communication, assess and assimilate what is said, and implement procedures to act on expressed needs.*

#### Bottom-line lessons learned:

Customer service is a contact sport. If your department is delivering lousy service, and if you are a facilities manager, then it's your fault! This criteria category is all about the customer and about the employees. A successful response to these criteria will have real examples that clearly demonstrate that employees know who their most important customers are; employees keep in touch with customers; customers have no reservation about telling employees what they need and require; employees are allowed to make decisions to solve problems for their customers. This criterion also requires managers to spend time with front-line employees discussing customer needs and requirements and for managers to spend face-time with customers to ensure that there is an understanding of customer needs and requirements.

### 4.0 Information and Analysis

*Information and analysis are used to evaluate performance and drive future performance improvements. Of interest are the types of tools used (for example, peer comparative data clarified and validated through benchmarking), and how the tools are used to enhance organizational performance. Various aspects of information include facilities inspections/audits, financial/expenditure reports, utility data, and other relevant measures and indicators.*

#### Bottom-line lessons learned:

The first rule of quality management and for achieving performance excellence is "Manage from fact!" We are asked about how the organization utilizes the technology to capture relevant information and how employees utilize this information to support decisions and to provide the organization an indication on how it is doing. An organization that has achieved success with these criteria will have employees who know how to measure the quality of their work; will know how to analyze (review) their work to see if changes are needed; use analysis to make decisions; and are able to get the important information they need to do their work.

## 5.0 Development and Management of Human Resources

*An organization's success depends increasingly on the knowledge, skills, innovative creativity, and motivation of its employees and partners. This criterion addresses the ways in which the facilities organization ensures continuing learning environment through communication, policies, recognition, training, professional development opportunities, and other methods.*

### Bottom-line lessons learned:

This criterion is considered the most important by many facility management professionals. It certainly ranks right up there alongside L.O Leadership. Time and time again, FMEP review teams are heard to comment about the positive difference which the quality of people make in a facilities management department. There is no doubt that having the right people, in the right jobs, provided with the right training, skills, and genuine organizational appreciation do make a recognizable difference. As facility managers we must always remember—"it's people who do the work". Just like there is no such thing as a free lunch, there is no such thing as a free worker who's been properly trained to do a great job. This criterion stress the importance for employees to cooperate and work together; to develop their job skills; to be recognized for their work and to work in a safe and healthy work environment where managers care about people.

## 6.0 Process Management

*Effective process management addresses how the facilities organization manages key product and service design and delivery processes. Process management includes various systems such as work management, performance standards, estimating systems, planning and design of new facilities, and other key processes that affect facilities functions.*

### Bottom-line lessons learned:

Today, managing a campus facilities department means managing the processes. Core business processes are the focus here. There is probably no area within the broad scope of facility management that has greater potential for improvement than that of facility process management. There are so many processes to choose from and so many different ways to do things that a genuine focus on processes will keep the organization on a continuous improvement continuum. A high performance work environment will have good processes for doing the work, and give employees a sense that they have control over their work processes.

## 7.0 Performance Results

*The facility organization's performance can be assessed through campus appearance, employee satisfaction and motivation, effectiveness of systems operations, customer satisfaction, financial results, and supplier/business partner results. Where feasible, it is helpful to have measurement tools in place to assess performance in these areas.*

### Bottom-line lessons learned:

The organizations performance criterion highlights the importance of the facilities management organizations ability to carry out its mission. It reaffirms the importance of campus infrastructure reliability and condition of facilities, customer satisfaction, managing the financial resources, process management and the ability of the organization to remove things that get in the way of progress, and how well the organization is positioned to keep current and abreast of cutting edge developments. Standards, ethics, campus community involvement and job satisfaction are all included in this section.

## 8.0 Other Considerations

*This category is intended for the institution to use to list any special requirements or areas of focus that the institution would like to include in the FMEP. Generally this would consist of topics that are not generally covered by the seven major criteria.*

## Conclusion

The seven criteria incorporate a set of 57 performance-oriented requirements. An FMEP assessment thus provides a profile of strengths and opportunities for improvement relative to the 57 performance oriented requirements. The criteria have progressed over time toward a comprehensive, integrated system perspective of overall organizational management. The FMEP is truly a relevant tool to help facilities professionals connect the dots to achieve a clear picture of organizational performance.

The criteria are non-prescriptive and adaptable. In other words they are: broad rather than narrow; flexible rather than rigid, unbending or regulatory; and they are more lenient than strict, authoritarian, or dogmatic. The criteria do not prescribe: how your organization should be structured; that your organization should or should not have departments for service quality, planning, or other functions; or that different units in your organization should be managed in the same way. These factors differ among organizations, and they are likely to change as needs and strategies change.

It is a tendency of FMEP review team members to look at another facilities organization in comparison with their own respective institution. For example, it is often heard during a review that "at our university we do it this way." This message is frequently received by the recipient as "this is the way we do it at my place and therefore this is the way you should be doing this."

*Continued on page 50*

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Nothing could be farther from the truth. In the majority of instances, the right thing to do depends upon the circumstances of the institution. The specific and particular circumstances can be and usually are substantially different. The institutional context, culture, and work environment, and the major issues needing to be addressed are some of the things that must be considered in making recommendations.

The proper conduct of an FMEP is not a "slam-dunk" or a "one size fits all" approach. The challenge to be objective is

substantial. Institutions vary wildly in size, form, and age, and it is risky to presume that a proven "cure" developed in one place will be effective elsewhere.

The focus of the criterion is on results, not on procedures, tools, or organizational structure. Organizations are encouraged to develop and demonstrate creative, adaptive, and flexible approaches for meeting service requirements.

The management of current organizational performance is a delicate balancing act, even while simultaneously innovating for the future. This demands a new level of management competence on the part of facility managers. Faced with

major change initiatives and organizational transformations, facility managers must make the right decisions—at the right levels—at the right times.

APPA can help. Visit the APPA website and review the FMEP criterion and other materials. Invite a representative to speak to your team, attend the APPA Leadership Academy, and become an FMEP review team member. 🏠

#### Endnotes:

1. Baldrige National Quality Program 2006, Criteria for Performance Excellence.
2. Bill Daigneau is vice president and chief facilities officer at the University of Texas M.D. Anderson Cancer Center, Houston, Texas. He is a cochair of APPA's Leadership Academy. Daigneau received the 1998 Rex Dillow Award for Outstanding Article for this article.

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# APPA's Influence on the 2008 National Electric Code



By Michael A. Anthony, P.E.

*Mike Anthony is a senior electrical engineer for Business Operations at the University of Michigan, Ann Arbor, Michigan. He serves as APPA's representative on the National Electric Code and can be reached at [maanthon@bf.umich.edu](mailto:maanthon@bf.umich.edu). The author wishes to thank Rivan Frazee (Michigan State University), Paul Kempf (Notre Dame), Bill Serantoni (UCLA), and Danny Wong (Harvard) for their valuable input into this article. Anthony's most recent article, "Article 230 and the Energy Web," was published in the June 2006 issue of NEC Digest.*

*APPA's "wait and see" approach on a controversial electrical safety issue has forestalled at least \$250 million in regulatory conformity costs; but at what price? Here's how it happened.*

Since 1999, the year APPA obtained voting privileges on the content of the National Electric Code, the awareness of flash hazard has had a positive, transformative effect upon the electrical power industry. This effect resembles the market-moving transformation that took place when facility managers funded projects to eliminate the hazards associated with PCB transformers and hazards associated with circuit overloads caused by harmonics generated by personal computers.

While flash hazard has existed since the Big Bang it was not until we continued concentrating ever larger amounts of electrical energy in the built environment—and then expected electricians to keep the power on while maintaining the equipment—that the flash hazard issue began its ascent on the list of hazards. Safe work practices were not rigorously codified until 1976 when the first edition of *NFPA 70E—Standard for Electrical Safety in the Workplace* was published. This code, with its numerical similarity to NFPA 70 (otherwise known as the National Electric Code) was written to assist OSHA (the Occupational Safety and Health Administration) in preparing electrical safety standards that would serve OSHA's need to reference a more dynamic standard than the U.S. government could produce.

The worlds of the few federal OSHA inspectors and the many local electrical inspectors remained fairly separate until the 1999 NEC code cycle, when the first IEEE research on flash hazard was made available to the safety community. It took until the 2002 code cycle for the first proposals, based on this research, to appear before the panel at which APPA has its vote. The electrical safety community submitted a proposal to translate the flash hazard sections of NFPA 70E into NFPA 70—a bit of a stretch because NFPA 70E is a safety standard, and NFPA 70 is a code for premises wiring in buildings.

In the proposal stage of the 2002 code cycle I voted with the majority to include the incident energy number with the following Comment on the Affirmative: "Acceptance of this proposal is a bold stroke on behalf of electrician safety. It could be a very costly addition to the NEC, however, if it raises engineering costs for building owners... I hope for lively and engaging debate on this subject in the ROC stage of the 2002 NEC."

Lively and engaging debate, indeed. The following questions were—and still remain—typical.

- What do I do now? Allocate more money for training, for repairs, or for scheduled outages?
- Who is responsible for assuring that any incident energy number etched on a label remains accurate?
- Will the process of gathering cable, fuse, and transformer data that is required to compute short circuit current, cause more injuries?

Even though the committee changed the original proposal in the comment stage by removing the incident energy requirement, I was not convinced that the world was ready for this kind of legislation. My Explanation of Abstention read: "Even with the modifications to the original proposal, this change to the NEC may have unintended consequences for manufacturers, for building owners and for persons in the risk management community. While our support for electrician safety is unconditional, the practical details and the practical effects of this proposal needs more study."

Many engineers embraced the incident energy labeling proposal because it held out hope for more funding for engineering. We saw flash hazard regulations as a way to get funding to fix stuff. Sensing the market, the IEEE updated its

While flash hazard has existed since the Big Bang it was not until we continued concentrating ever larger amounts of electrical energy in the built environment—and then expected electricians to keep the power on while maintaining the equipment—that the flash hazard issue began its ascent on the list of hazards.

standard 1584, *Guide for Performing Arc Flash Hazard Calculations*. Among the 5,870,000 Google hits on the term "flash hazard," are websites that will produce flash hazard labels for you *online* as low as \$50 *per item* of switchgear—as long as you key in the necessary circuit data along with a valid credit card number.

In the proposal stage of the 2005 NEC essentially the same proposal came before the committee and it was plain that the three years had changed some minds. (See sidebar on page 55.) The committee discussed the pro's and con's of incident energy labeling for days—early in the morning, late into the night and on weekends. Ultimately a compromise was struck with an "Agreement in Principal" crafted by a respected voice representing the electrician's union. As the record shows however, APPA's vote neither supported nor rejected the compromise. APPA's vote was entered as an abstention in both the proposal and comment stage of the 2005 NEC. APPA's 2005 abstention was a pivotal vote and presaged formation of a new majority.

How could the writers of this part of the NEC have come so close to placing an economic burden of this magnitude on its users? A partial answer is that code writers know the American National Standards Institute (to which the National Fire Protection Association conforms) provides a workaround. Even if the APPA abstention had failed to pre-

## What is the cost of putting incident energy numbers on the labels of every piece of accessible electrical equipment in every building at every college and university in the US?

According to the National Center for Educational Statistics, there are 30 million students and 15 million faculty and staff in U.S. higher education. We can estimate how much power they consume by using a number available from the *Statistical Abstract of the United States*. With total U.S. power consumption at 3.13 Terawatts and a population at 300 million, we can estimate that each would person consumes about 1 kilowatt per person. This number resembles average power consumption on many APPA member campuses and is a good number for a facility manager to have for other reasons.

To estimate how many items of equipment that would require an incident energy number assume that an "average" 480V piece of equipment requiring service while energized is 200 amperes and comprises 25% of a typical building power system. Similarly, assume that the average piece of 208V equipment is 100 amperes and equipment operating at this voltage comprises 70% of a building power system.

Finally, assume that another 5% of the equipment to carry incident energy labeling operates at 5kV to 15 kV farther upstream and from time to time it must be serviced while energized. Applying these percentage factors, and ampere conversions familiar to electrical engineers, results in an estimate of 940,000 items of electrical power equipment that would be affected by NEC Section 110.16. Round up to 1 million items of equipment in the buildings for those 45 million students, faculty, and staff.

Assume that the cost to investigate cable sizes, fuse/breaker ratings, record, calculate and label each item is on the order of \$500 per item. (This figure will cover about 2 hours of engineering time, and 2 hours of field work by technicians and 1 hour of circuit detailing, compiling, organizing and archiving—*per item*.) This leads to \$500 million—and we haven't even included the other accessible enclosures for equipment that operates between 50V and 120V. Even if we cut this number in half, we are left with \$250 million items of equipment requiring an incident energy number. (Other methods employing square footage estimates for the 1,300+ APPA member institutions leads to higher estimates.) To treat the issue with an abundance of prudence let us settle on the \$250 million averted cost knowing, however, that the cost to put incident energy numbers on equipment may easily be one or two orders of magnitude larger.

vent the incident energy number from being written into the 2005 NEC code anyone—and the NFPA holds the door open to anyone—would still have an opportunity to file an appeal to the NFPA Standards Council. Many costly and controversial issues in the past have been resolved in this way.

Just as likely, however, APPA member institutions could have simply stricken it from text they adopt from the NEC. Simply making a part of the NEC inapplicable to your jurisdiction is allowed. Writers of the NEC do not like to see this happen though and neither does the NFPA. They want to write clear, enforceable code in step with the technological times without increased hazards.

The rejection of the incident energy proposal for the moment is nothing over which to rejoice, despite the likely “savings” to our industry. First of all, the rather dramatic reversal in support for incident energy labeling has yet to be confirmed in the comment stage of the 2008 NEC. Second, even if incident energy proposals are rejected again, educa-

to a workplace safety code (OSHA’s 29 CFR 1910.332). Get some clarity.

- At every flash hazard training session ask electricians to add to a list of hazardous electrical equipment. Putting together such a list is a delicate undertaking because it can result in the identification of units that have not had sufficient funding to keep their electrical infrastructure safe. The low voltage backbone a building’s infrastructure—upstream from the power outlets funded by individual research projects but downstream from the service switchgear—is usually an area of neglect. Use this list to rank priorities no matter how far away a funding possibility may be.
- Assemble a circuit diagram maintenance team anyway. The safety community that brought the incident energy proposals to the NEC is ingenious and well meaning. It is likely that this issue will emerge in another form, possibly in another code, in the future. Having a good start on keeping circuit diagrams up to date shows due diligence to



tional facilities managers may have to answer questions from safety advocates within their own organization. Our \$250 million guess at averted regulatory expense has to be weighed against the cost of one human life. In other words, the APPA abstentions grant us a hollow victory.

Finally, to paraphrase the preface to the new *NFPA 70E Handbook on Electrical Safety*, it is hard to count something that does not happen. When electricians get together to talk shop they speak of “near misses.” Data on near misses is hard to come by but, intuitively, we all know that the increased safety training and hazard awareness must be doing some good.

Here are a few proposals for facility managers to “spend” the savings.

- Have your electrical professionals design changes to electrical systems so that equipment does not have to be worked hot. Condition building occupants for outages. A great deal can be learned just by preparing for an outage.
- Work cooperatively with the IBEW, OSHA, and your Authority Having Jurisdiction on the local implementation of the various codes that apply to your organization. As it now stands in many jurisdictions, on Day One all you are required to do is conform to an installation code (NFPA 70). On Day Two, however, you are required to conform

to a workplace safety code (OSHA’s 29 CFR 1910.332). Get some clarity.

- At every flash hazard training session ask electricians to add to a list of hazardous electrical equipment. Putting together such a list is a delicate undertaking because it can result in the identification of units that have not had sufficient funding to keep their electrical infrastructure safe. The low voltage backbone a building’s infrastructure—upstream from the power outlets funded by individual research projects but downstream from the service switchgear—is usually an area of neglect. Use this list to rank priorities no matter how far away a funding possibility may be.
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OSHA which has adopted NFPA 70E by reference. It is neither practical, nor affordable, nor even expected of any organization to do this work instantly.

Facility managers probably do not need to be reminded that electrical systems are extremely complex. Arguably, electrical systems are more complex than the architectural and mechanical systems in campus buildings because; beyond the basics of power outlets, lighting fixtures, fire alarm systems and telecommunications; campus buildings are richly interconnected and have many “nerve endings” of an electrical nature (such as the controls for doors and windows, thermal and plumbing systems). The electrical power trades bring a concentrated form of energy closer to human beings than any other discipline involved in the built environment.

In summary, even though the NEC does not now require incident energy labels it still requires labels that warn that equipment likely to be service while energized must be labeled as a flash hazard. OSHA requires that you protect your electrical professionals with personal protective equipment but will probably not come knocking to look for incident energy labels required by NFPA 70E unless there is an accident. After the first accident, all bets are off. It is for this reason that many large manufacturers are implementing

*Table showing the progress of NEC committee voting on mandatory incident energy numbers. The votes are stated as (AFFIRMATIVE)-(NEGATIVE)-(ABSTAIN). A 2/3 majority vote is required to change the NEC. Note the decline in support for incident energy labeling over three code cycles.*

NEC EDITION	PROPOSAL VOTE	COMMENT VOTE
2002	11-1-0 New Section 110.16, including an incident energy number, is proposed for the first time. APPA voted with the majority to include the incident energy number.	12-0-1 In a procedural move, the committee removes the incident energy number and settles for a warning sign only. After polling electrical professionals, APPA enters an abstention vote, citing the need for more study of the legal ramifications of an incident energy number.
2005	7-4-1 Now four panel members cast votes against the addition of the incident energy requirement to the labeling approved in 2002. APPA was the abstention that kept the incident energy number from becoming code. Since a 2/3 majority vote is required to change the NEC the proposal did not pass the Proposal vote.	7-4-1 The voting in the comment stage affirmed the voting in the proposal stage. In its abstention, APPA suggests that many industries do not yet grasp the cost implications and suggests one more code cycle for the industry. This is as close as the voting ever got to mandating an incident energy number.
2008	1-9-2 Now nine panel members cast votes against the incident energy requirement in 110.16. The straw vote taken at the proposal meeting is a dramatic reversal in sentiment since 2002.	Comments on the voting that occurred in the proposal stage will be available to the general public in July 2006. Voting on the public reaction to the incident energy proposals will occur in December 2006.



large flash hazard conformity programs. Much remains jurisdiction dependent.

Many APPA institutions already have their electrical people putting labels on enclosed electrical equipment—at least on new electrical construction. Others are already attempting to conform to the workplace safety requirements where NFPA 70E is enforced. Others have assembled pilot programs with temporary workgroups to get a feel for the cost and the challenges if incident energy labeling becomes mandatory sometime in the future. These are all steps in the right direction. For a deeper understanding of the NEC code writing process and of the subtleties in the flash hazard debate, see the expanded link from this article on APPA's website.

### Forward

The next challenge for writers of the National Electric Code seems to be reconciling the competing requirements of overall electrical safety with the accelerating costs of copper, aluminum, and PVC. For facility managers who have a growing need to operate and maintain newly acquired off-site (or campus perimeter) commercial buildings, challenges may lie in adapting the generally lower standards of commercial construction to the higher standards of electrical construction to which campus electrical professionals are accustomed. 🏢

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# Personnel Data and Costs Reported from the 2004-05 Facilities Core Data Survey



by **Laura T. Long**

A total of 210 institutions completed two or more of the 12 modules in APPA's 2004-05 Facilities Core Data Survey. This reflects a 3.4 percent increase in the number of institutions participating in the survey from the 2003-04 cycle.

APPA's Information and Research Committee, which oversees the survey and the resulting *Facilities Performance Indicators Report*, released the 2004-05 reports only through

*Laura Long is president of LTL Collaborative, LLC, Friday Harbor, Washington, and serves as APPA's survey consultant. She can be reached at [ltl@rockisland.com](mailto:ltl@rockisland.com).*

## Facilities Performance Indicators



the APPA website at [www.appa.org/research/fcds.cfm](http://www.appa.org/research/fcds.cfm). This is a change from past practices; thus, APPA will not be producing the report in print or CD-ROM formats. The committee's goal for this year was to place the report at your fingertips with no setup procedure and no software download or upgrade requirements for your computer.

### 2004-05 Report Innovations

Besides being Web-based, the 2004-05 Report has many new features.

1. The 2005 Report contains additional report sections:

- Strategic Financial Measures
- Internal Processes
- Evaluations (Financial, Internal Processes, Innovation & Learning, and Customer Satisfaction Performance Self-Evaluations, plus Customer and Employee Satisfaction Survey Sections)

2. The 2003-04 Report has been translated to the Web format so that you can access it as well as the 2004-05 Report on the APPA website. This is quite useful when you are looking for a particular institution that might have taken the survey in 2004 but not in 2005. APPA anticipates that having historical statistical data available through the website will be a vital tool for many facilities research projects.

3. The Overall statistics have been increased to include minimum and maximum values, median, and the standard deviation along with count and average.

4. One of the innovations found in this Web-based report is the addition of significant new data grouping statistics. APPA has traditionally organized its data by funding source (public versus private institutions), APPA Regions, Carnegie Classifications, and Enrollment Ranges. These remain the most important groupings. In 2004 APPA introduced new summaries including:

- Inclusion/Exclusion of Auxiliary Services
- Percent of Dollars in Contract Services
- Building Age Range

As well as a few function-specific summaries: e.g.,

- Level of Custodial Services for the custodial function
- Cogeneration Yes/No and District Utility System for Energy/Utilities Function

This year APPA has added the following new grouping summaries:

- Maintenance and Landscaping/Grounds Levels of Service
- Overall Customer Satisfaction
- Overall Employee Satisfaction
- Performance Level Self-Evaluation

Now you can evaluate operating cost averages in terms performance level self-evaluation, customer satisfaction, and in some cases, level of service. If you download the report tables, you can do a best-practices search by keying into these factors.

5. For our valued Canadian participants, we added the a faux "Carnegie Classification" summary of Canadian institutions only. This information is in USA dollars, gross square feet, and acres. The Canadian Dollar conversion factor used was \$1.00 CAD = 0.856128 USD.

One institution reported dollars in Euros. The conversion factor used was \$1.00 EURO = 1.20335 USD.

## Personnel Data & Costs Report Comments

A total of 145 institutions participated in the Personnel Data & Costs module of the 2004-05 Facilities Core Data Survey. However, the counts vary from position to position. For instance, some institutions provide FTE (full-time equivalent), collective bargaining status, and average salaries for all their filled positions. Others enter information for only select positions. Several provide only FTE or average salaries. Of course, any and all entries are welcomed, but these variations make it important to examine counts prior to using data from this survey section as reference points.

The key information produced on Personnel Data & Costs are:

- The current average levels and trends in position salaries
- The Web-based report shows current position average salaries by numerous groupings and the bar charts provide multiyear overall averages, some going back to 1994. This information is useful to recruit and retain facilities staff.
- Staffing salaries (FTE times average salaries) with average benefits (by function):
  - Per student
  - Per GSF (gross square feet)
  - In comparison with Labor Cost/GSF from Operating Cost entries

Staffing salary computations are tools for development of budgets and for confirming proper labor cost recovery from billing rates.

- FTE/student (by function)
- FTE/GSF (by function)

The above two measurements can be used in budget and productivity studies.

The comparison of FTE to students is most useful for institutions where the majority of programs are directed to teaching on the undergraduate level. The comparison is less useful where campus programs include large blocks of patient care, research, community service, etc., which broaden facilities responsibilities but do not noticeably increase student FTE.

Institutional comparisons of FTE/GSF are best when the campuses have similar proportions of space by space type. The Web-based reports on Building & Space provide information needed to identify cohort institutions in relation to type of space.

The following trends in salaries and staffing can be seen in the Web-based 2004-05 Facilities Performance Indicators Report:

- Average annual salaries for 37 out of 47 facilities positions increased. (The count of 47 excludes the "Other Positions" category under each function because it is so undefined.)



These comments will focus on salaries, FTE, and collective bargaining representation for the administrative function.

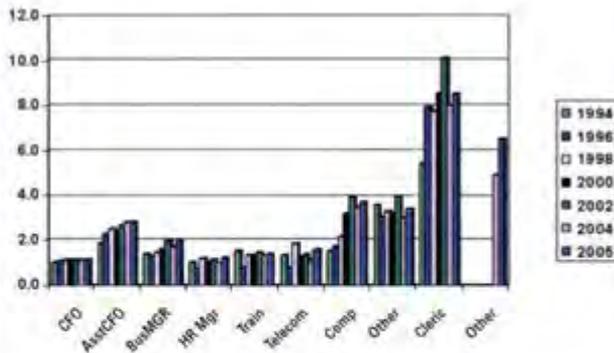
- Under Administration, the CFO (chief facilities officer) average salary has grown around 4 percent per year since 2000. This is in line with overall moderate increases observed for facilities positions between 2000 and 2005.

But, some administrative positions had reduced salary levels in 2005.

- For Telecommunications Specialist, the 2005 average salary dropped 14 percent and is back to the 2002 level. We will not know if this is a one-time abnormality of the sampling or the start of a trend.
- Human Resources Manager position average salary has been flat, gaining only a little over 1 percent per year over the last five years.

The range of salaries within facilities administration is quite large. At the high end the CFO salary averages \$105,600, and at the low end the clerical staff averages

### Average FTE Staffing Administration



\$29,200. But, as we know, the gap between senior management and staff can be many times larger in private industry.

You will notice the upward average FTE trend from two to three Assistant/Associate CFO positions. The Business Manager average staffing also grew from one to two since 2000.

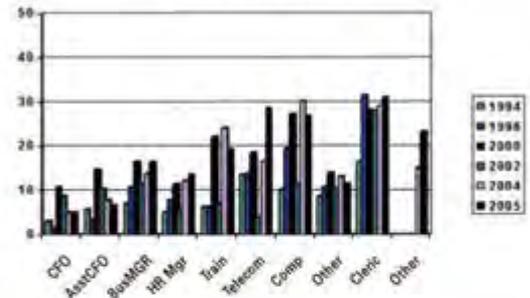
The average number of Computer Programmer/Analyst positions has been increasing since 1994, but in the year 2000 the average changed from 2.2 to 3.2 and in 2002 to 3.9 FTE. The 2005 average is 3.5.

Clerical average FTE peaked in 2002 at 10 FTE. The 2005 average is 8.5, which was the average in the year 2000.

The percent of positions under collective bargaining is a percent of institutions indicating Yes or No for collective bargaining representation. This is not a percent of headcount.

Around 5 percent of the institutions reported CFO or Assistant/Associate CFO positions as under union representation. Under 20 percent indicated the Business Manager, HR Manager, and Training Coordinator as represented by unions. About

### % Positions Under Collective Bargaining Agreements Administration



30 percent of the Telecommunications Specialist positions and Clerical positions are unionized.

### More Findings and Indicators Online

The preceding are only a few of the findings from one of many reports and comparisons in the 2004-05 *Facilities Performance Indicators Report*. The online *Facilities Performance Indicators Report* also includes access to the survey database, so that you may run your own sorts and queries beyond those provided in the report. Access to the Web-based report is priced based on your institution's level of participation in the Facilities Core Data Survey and your APPA membership status.

Every primary representative of APPA's institutional, affiliate, and business partner members will receive a complimentary executive summary of the survey findings. In addition, each participating institution receives a customized report showing their survey responses in relation to other survey respondents in categories such as Carnegie Classification, APPA Region, and Funding Source.

### New Cycle for Facilities Core Data Survey

APPA's Information and Research Committee, led by Vice President Michael J. Sofield of the Smithsonian Institution, urges all educational institutions to participate in the forthcoming 2005-06 Facilities Core Data Survey.

Beginning this year, APPA will collect data in the August-to-October timeframe (exact dates still to be determined). The final Web-based *Facilities Performance Indicators Report* will then be published in mid-January 2007. This change of the survey cycle is designed to provide you with data and analysis in a more timely fashion and to assist you better during your budget preparations.

If you have any questions about APPA's Facilities Core Data Survey or the Facilities Performance Indicators Report, please visit [www.appa.org/research/feds.cfm](http://www.appa.org/research/feds.cfm) or call APPA at 703-684-1446. 📞

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# Why Construction Safety is Important

by Jim Emmons

Today's owners face a variety of risks when they undertake a construction project. Not only must owners be concerned with potential risks to their employees, tenants, or property, but they must also be concerned about the risks that the contractor bears. Safety is a critical item on all construction projects for multiple reasons including protecting the welfare of employees, providing a safe work environment and controlling construction costs.

However, the importance of safety as a cost controlling measure is often overlooked by owners and contractors. As a means of reducing the risks associated with construction, safety can significantly impact the overall cost. A dedicated commitment to safety by both the owner and contractor helps ensure project success and can impact the bottom-line considerably.

Owners should understand that all of the contractor's risks, or even the threat of them, will either add considerable cost to the contract or decrease the potential profit a contractor is able to make on any specific contract. Since every contractor is in business to bring profit to the bottom-line, overhead would naturally take into consideration the "costs of doing business." Expected losses have to be taken into consideration and included in the estimate if the contractor wants to stay in business.

## How Safety Works to the Owner's Benefit

Contrary to common perception, there is little up-front cost to the owner for implementing and maintaining the safety programs required since the contractor is already mandated by law to comply with local, state and federal regulations. To take advantage of this safety benefit, all the owner has to do is demand that the contractor document and implement the proper safety programs that will protect employees working on the job site.

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To avoid the high dollar losses caused by injuries, contractors are required to implement various safety procedures like fall protection, hazcom, respiratory protection, confined space entry, competent person and other programs that control the causes of injuries. If the contractor is successful in preventing these injuries, overhead costs of insurance and hidden costs of accidents are significantly reduced, bringing more profit dollars back to the contractor. Hidden costs of an accident are four to ten times the actual costs of the claim and account for items such as employee replacement costs, OSHA citations, loss of use, increased insurance costs, damaged product, etc. The direct costs of accidents only include items such as doctors, ambulance, indemnity, as well as prescription and medication costs.

Therefore, if the contractor has a great workers' compensation safety record, the firm is more efficient in reducing risks,

more profitable, has more on-time completion of contracts, less rework and is in effect, actively working to reduce the construction risks to the owner of the project. Owners who want to recognize the advantage a good contractor's safety program can bring to a project should hire and demand contractors that actively and successfully control their risks through comprehensive safety programs.

### **How Owners Can Work with the Contractor**

Owners sometimes hesitate and feel that they are interfering with the contractor's way of doing business if they express concerns over safety at a jobsite. In reality, owners have the absolute right to mandate that a good quality safety program be an important part of the selected contractor's culture. The contract documents are an effective tool in conveying the owner's safety requirements to the contractor.

In addition, there are many benefits to prequalifying a contractor by comparing the firm's safety record and other company statistics with the competition. A contractor with a good safety program is often a better choice even if the initial bid package is higher than the firm's competitors. Poor safety compliance increases the owner's risks and often inflates the final costs of a completed contract, and it is the final costs that need to be factored into this decision making process.

It is important for owners to take charge of the project and start viewing the contractor as a partner in the construction process. After all, the owner needs to have the project completed and the contractor needs the work. Neither one can be successful without the other. Although it takes a little more effort for the owner to become part of the process, his or her involvement is rewarded with a smooth-running, low stress, on-time and on-budget project. Without participation in the process, the owner is passively giving control to the contractor. There tends to be greater risks and the owner will often spend more time struggling to cope with the challenges rather than ensuring that his or her expectations are being met. Significant dollars are at stake during construction projects, and owners can either choose to control risks or let the contractors add money to their contracted price to cover the ultimate or expected losses.

### **How a Safety Program Controls the Owner's Risks**

#### ***Cost savings of safety vs. non safety***

The process of preventing employee injuries and illnesses itself makes the contractor more efficient and effective with projects. The pressure to cut corners, skimp on materials, reduce quality, or rush to get the project completed is significantly reduced through compliance to a good, jobsite safety program.

There are many components of a good safety program, depending on the type of project that is undertaken. To be effective, most programs should have the following components:

**1. Pre-project Planning (PrePP)** is the simple process of getting the leadership team together to discuss how the project will be carried out in accordance with the contract. Every phase of the project and corresponding tasks are examined including project overview, contracts, internal organization, schedule management, task planning, resource management, material/supplies, cost management, budget/production, cash flow management, risk management, safety, subcontractor management, and responsible individual list.

A contractor that plans work in this manner is more likely to perform the contract to the owner's expectations, particularly if the owner is actively engaged with the contractor as a joint venture partner in the project. This joint venture relationship also helps the contractor become very responsive to the needs of the owner.

Safety is planned into the job as an integral part of the operation rather than something that is used only when it is necessary. This reduces the "shoot from the hip" decision making process and replaces it through the implementation of planning. For example, if a public risk is identified, a plan is developed for the protection of the people using the facility. The plan would include tools, materials and labor costs as well as the design, engineering and scope required to install the proper protection. Getting on-time deliveries of the materials, tools and other equipment needed to build the protection is also improved because of effective planning.

The alternative to planning is just waiting to see what kind of innovative protection is erected, if any, and how effective the minimal protection is going to be. Further, the cost associated with the protection will probably exceed the estimate – assuming that an estimate for this cost was done in the first place.

Simply, pre-project planning reduces the owner's risks because the contractor, working with the owner's involvement, will consistently complete the project on schedule, on budget and with the quality anticipated. The contractor is also rewarded because jobs that are pre-planned are consistently completed with greater than expected profitability, fewer, less severe injuries and greatly reduced hidden costs of incidents.

**2. Pre-task Planning (PreTP)** is simply engaging the employees who are going to do the work. Conducting the pre-project planning generates a tremendous amount of critical information. To make the investment work effectively, additional planning sessions with the workforce may need to be completed. This is where the site specific safety program is developed and various types of training programs are selected based on the specific tools, materials, access, tasks and equipment that will be used to build this project. Further, this planning sets the expectations for the whole job. The owner is typically invited to participate with this process and often contributes critical information directly to the people who will do the work.

**3. Setting and Monitoring Safety Goals** for the project is really directed at how well safety is actively controlled on the project. This is usually completed in two ways: measuring results and measuring activities.

Results are usually measured by tracking the various OSHA Recordable Incident frequencies rates. There are three calculations that are typically used:

1. **# of OSHA Rec. Inc. X 200,000 = # of Recorded injuries/100 full-time employees/YR**  
# of Hours Worked
2. **# of Lost work day cases X 200,000 = # of Lost work day cases/100 full-time employees/YR**  
# of Hours Worked
3. **# of Lost work days X 200,000 = # of Lost work days/100 full-time employees/YR**  
# of Hours Worked

Unfortunately, these OSHA measurements are after-the-fact and are not as effective as they could be since they are reactive. A more effective measurement would be to monitor safety activities that have been put in place to prevent injuries. Participation in the morning Job Safety Analysis (JSA), conducting Manager Safety Audits (MSA), keeping up with the Assured Grounding program or some other safety function will work for this type of measurement. Although effective, it will take more time and effort to track them, which could add to the overall cost of maintaining the program.

**4. Claims Management Programs**, which include detailed management directives, drug testing, and return-to-work procedures are an excellent indication of the contractor's safety culture. Having a clear motto like "Treat first and ask questions later" is an insight into how the contractor works with employees and their workers' compensation claims.

Claims management is clearly a reactive program that is a very positive way to control the cost of a claim while protecting people. A good claims management program will also include WC (Worker Compensation) Incident and Near Miss Incident investigations as a mandatory part of the process. These programs are both very proactive and will prevent future incidents by looking at the root causes of the incident. The Near Miss Incident review is probably the most proactive since this allows you to prevent accidents before they can happen.

### **5. Accountability, Responsibility and Authority for Safety**

In order to develop a safety culture, the contractor must first hold employees responsible and accountable for safety. This means that all employees, not just a select group, have their annual compensation measured and indexed to the success of the company to meet its safety goals.

In addition, the annual review process should have a safety component that the contractor's employees can be measured against. Any merit, wage or salary increases should be heavily weighted on the employee's ability to meet these specific safety measurements, which could include the OSHA Recordable Frequency rates or some other proactive, measurable safety activity or criteria that can be applied to this process.

Probably the most important aspect of safety is that all employees should be given the authority to carry out safety. Anyone has a right to shut down an operation if there are known safety hazards that have not been addressed and the company will back-up and address the safety issues these employees have identified.

Finally, having a good safety culture must be considered a "Condition of Employment." A contractor with a good safety culture not only requires safety but demands that all employees "Live it, Breathe it." Just saying that they have a safety culture isn't good enough without all the employees actively working to make safety an integral part of the job process.

### **6. Formal Safety Program with a Working Field Safety Manual**

A good safety program requires written procedures, specifications and engineering that documents safety requirements and details how employees will work to a specific standard of safety. This program should also be behavior-based since it has been shown that approximately 96 percent of all hazards are related to the unsafe acts of people while only 4 percent are due to unsafe conditions.

With a great deal of the construction workforce being Hispanic/Latino, safety manuals need to convey information in a manner that will promote understanding of complex ideas. Pictures and demonstrations of work tasks are often more effective than written documentation. Having the information translated in both English and Spanish is also important if the contractor truly intends for the program to be understood by all employees in today's diversified workforce.

Unfortunately, there are many companies that produce safety manuals that are designed to only meet OSHA requirements and don't consider all the necessary elements of a safety program. Equally problematic, many contractors simply purchase these safety manuals and never intend to use them in the field.

There is nothing more important to an owner than selecting a contractor that has a field safety manual that is user-friendly, applicable for the project being done and available to the employees that are most effected by unsafe behaviors and conditions found in the workplace. Project managers, engineers and general superintendents are seldom affected in the same way as the laborers doing the work. A manual that can only be read by a small percentage of the people exposed to the hazards is ineffective and should be replaced by a guide that can be used by all employees.

## Risks Owners and Contractors Face

### RISK TO AN OWNER INCLUDES:

Cost overruns	Damage to property	Unidentified repairs
Contract extensions	Loss of use	Owner's client challenges
Business interruption	Client safety	Bad publicity caused by incidents
Contractual Liability	Public safety	Unresponsive contractor
Third party law suites	Unwanted publicity	

### RISK TO A CONTRACTOR INCLUDES:

Employee Injuries	Employee illnesses,	Delayed material deliveries
Property damage	General liability claims	Improper storage of materials
Law suits	EPA litigation	Improperly trained work force
OSHA citations	Contractual Liability	Poor workmanship (rework)
Increased Insurance costs		

## Topics to include for site specific safety programs:

SITE SPECIFIC PROGRAMS COULD INCLUDE THESE TOPICS AND MANY OTHERS DEPENDING ON THE SPECIFIC CONTRACT:

Hazard Communication	Permit Entry Confined Space
Fall Protection	Respiratory protection program
Swing stage Scaffolding	Competent person
Forklift Certification	Hydro demolition Certification

### 7. Safety Training Program

Safety training is often a good measure of a contractor's ability to establish and maintain a safety program. The willingness of management to spend the time and money it takes to do the training upfront reflects the importance safety is given in the work that is going to occur.

Training is how management expectations for safety can be effectively conveyed to their employees. Employees will receive the positive messages through leadership participation in the training. Although training must include the OSHA required safety information, there are many other things that should also be included in the program to have positive effects. Pre-task planning goes into the actual work task risks and the corrective actions that will prevent the risks from manifesting on the jobsite.

In order to improve comprehension, it is better to give demonstrations that allow the employees to participate in the process. There are four general steps for training to be successful.

- 1) Prepare the employee for the work he or she is about to perform.
- 2) Present the job through demonstration and detailed explanations.
- 3) Involve the employee with actual hands-on experience.

- 4) Follow-up by letting the employee do the work while still being available for questions and feed back as to the safety and quality of the work.

Once focused on safety requirements, the crew becomes more productive, efficient, effective, safer and aware of the risks associated with the jobsite. This in turn makes the contractor more profitable and able to meet the cost, production and safety expectations of the owner.

By participating in, or at least ensuring that the contractor is actively training employees, the owner is helping to reduce his/her risks and create a more positive and safe workplace. Another method that owners can use to keep construction costs to a minimum is to select contractors with this training capability.

### How to Find a Contractor with a Good Safety Culture?

The best way for an owner to become involved in the process and locate contractors with good safety programs is to implement a prequalification or screening process. This is accomplished by looking at the contractor's past safety history (experience modification rate). Review the following for the past three years: OSHA Recordable Rates, Lost Work Day Case Rate, and the Lost Work Day Rate. Also be sure to

review the contractor's current safety history and obtain references from past clients.

Further, there are many other ways that an owner can determine the contractor's ability to control safety. For example, ask questions that deal with the specific nature of the work that is planned, the capacity of the contractor to do the work and experience with the type of work being performed. Many companies will request the contractor's organization chart to see that the necessary leadership structure is there to support an active safety culture.

A great reference for additional safety information and ways to control safety on your jobsite is a book called *Construction Safety Management* by Raymond Elliot Levitt & Nancy Morse Samelson.

### The Bottom Line

In order to reduce overall construction costs, decrease the time for completion and improve the quality of the job, owners have learned that it is important to take an active role in the contractor's safety and training programs. Examining the contractor's current and past safety performance history allows an owner to see how successful the contractor has truly been with their safety and health programs.

A safe contractor wins because he/she understands safety effects the successful completion of the contract and adds to bottom-line profits. Insured losses as well as the hidden costs of accidents are significantly reduced, which also continues to add to the bottom-line. The added bonus is a reduction in the contractor's worker's compensation, auto and general liability premium rates charged by the firm's insurance carrier. The owner wins because his or her involvement helps to promote quality workmanship, prevent third-party lawsuits, and reduce general liability and property damage claims that would otherwise inflate the overall costs of the contract.

Perhaps the most beneficial aspects of owners and contractors working together with a joint venture safety program is that it provides for the safety, health, and well being of the owners' clients, employees and other people who live and work in or around the project. What a great way to give back to the community. 🏢

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**W**ith the impact that an architectural and engineering (A/E) professional service provider can have on the physical assets of an institution, it is important to secure the most qualified consultant, and receive the best services for the optimal fees. In order to achieve a win-win scenario, representatives for the institution must negotiate with the external A/E professional service provider to arrive at an acceptable professional agreement and an equitable fee for both sides to produce a value-added product.

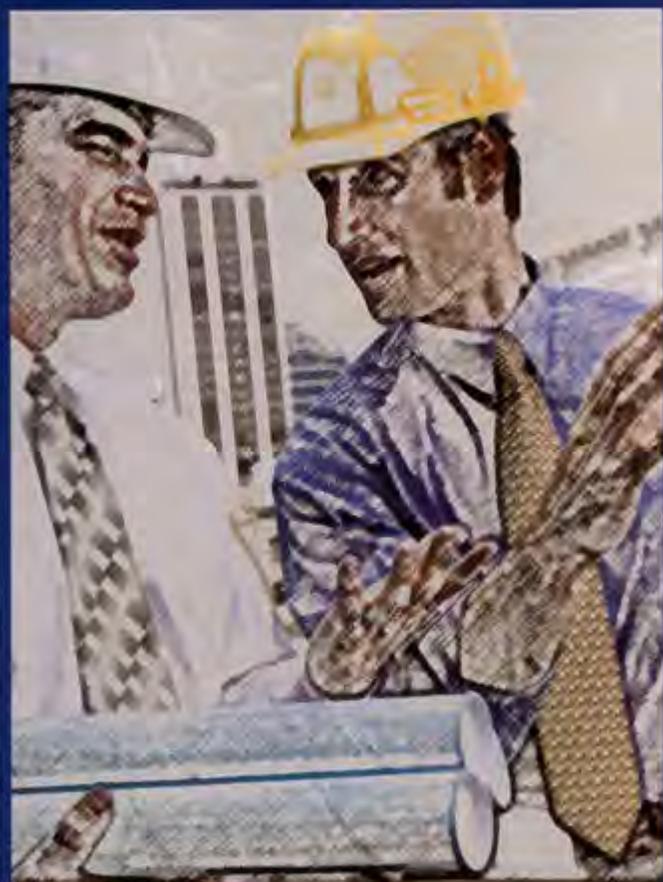
As stewards of the university's physical assets, we can gain significant gains in trying to reduce overall costs for capital projects. This needs to be accomplished while at the same time not compromising the integrity of the project. When the institution has need of Architectural and Engineering Services not available internally, these services are sought from outside professionals. The existing practices for acquiring these services are being questioned in these tumultuous times, where changes are fast outpacing expectations and customers are expecting more frugal financial practices, while at the same time, maintaining a stringent budget. The call for investigation with the intent to improve implies the need for change to the existing processes as well as exercising fair play.

Often reported are projects taking too long and cost estimates not matching the budget. To exacerbate the situations, the perceptions of those who manage the finances feel consultants are paid too much for the services rendered. On the supply side, consultants feel they do not make enough to cover the demanding client, excessive time involved in project definition, and continuous scope creep without compensation or remuneration. Unexpected circumstances, lack of understanding of expectations, along with failure to communicate what is wanted, needed, and required relative to available resources and project development, are some of the additional difficulties encountered.

Thus, there is an interest to investigate and propose an action plan for gaining assurance that optimal agreements for A/E services are negotiated, and the processes are consistent

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## Negotiating Win-Win A/E Professional Services Agreements

*by Christopher K. Ahoy and Donald Chrusciel*

and value-added. The intent of this multi-phase study is to arrive at an equitable solution (fee determination) for both the university and the A/E professional service provider, and establish a guideline for those directly involved in negotiating these fees.

This study identifies the first step in this quest as establishing a common understanding amongst the participants. The first stage of our research was to investigate and discover any methodology used by other institutions, if one exists. From the findings, our research confirmed the importance of the common understanding among the participants as a means to derive an equitable solution. The results of this endeavor produced three products:

1. Basic services criteria for A/E Services to ascertain scope of work and expectations

The A/E professional service provider has an impact on the physical assets of an institution, so it is just as important to secure the most qualified consultant in order to receive the best services for the optimal fees.

2. Checklist for determining what services are being envisaged, included or omitted by the owner or owner's representative
3. Fee calculation guideline reference chart for Project Managers to negotiate an appropriate fee structure for the project envisaged so that scope, budget and expectations are aligned

### Research Questions and Methodology

The negotiations for architectural/engineering services, if not a win-win situation, could result in paying too much for the services or obtaining less than the desired service and product results. The importance of win-win negotiations, and ultimately the outcome of the finished product, is expressed in James Biehle's (2000) quotation below:

*If you spend a little more on designing and building schools now, the students will thank you twice: once when they enter their exciting, well-designed new school, and once again 20 years from now, when they're the taxpayers who won't have to pay out more to repair the building.'*

Lawrence (2002) characterizes the best approach for negotiating a win-win agreement is to search for common ground.<sup>3</sup> Achieving success, especially for future and long-term relationships, can only happen when all parties feel satisfied.

Given the valuable role that each Facilities Planning and Management (FP&M) staff member at Iowa State University plays in being a good steward of the universities' resources, the strategic investment of effort towards quality, cost, and time are paramount. The A/E professional service provider has an impact on the physical assets of an institution, so it is just as important to secure the most qualified consultant in order to receive the best services for the optimal fees. The focus of the first phase of this research project was to answer three questions in phase I followed by further investigation as to "Identify a Model for Evaluating Architectural and Engineering Services (A/E) costs."

1. What, if anything, can the institution do to better negotiate an optimal agreement to satisfy the interests of the parties involved?
2. What process improvements can the institution put in place that encourages value-added work and removes waste, in order to receive products and services of high quality, least cost, and fast delivery?
3. Will this be useful to other institutions facing the same issues?

To explore topics and obtain answers to the questions, the investigative team used qualitative research methods, in combination with continuous quality improvement (CQI), and LeanSigma tools, along with the six sigma methodology for solving existing problems with DMAIC (define, measure, analyze, improve, and control) methodology.

A formal semi-structured interview process allowed the researchers to set up specific meeting times with representatives from each of the eight identified A/E firms. Individuals from the firms were asked the same questions in a similar setting. This methodology provided assurance that the overall presentation package was comparable.

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Using a semi-structured interview method, the A/E firm representatives were asked to do an in-depth review of a prearranged chart of services required by FP&M, and to identify the specific services that the consultants felt fell under basic services, and those, which were seen as an extra services cost. The formulated basic services chart was based on the AIA (2001) prescribed services. After the interviews, eight additional questions were asked of each consultant representative. This was also to help probe into how one might be able to improve upon the working relationship between client and consultant, and perhaps to anticipate and point to those areas where to reduce the costs for A/E services now impacted by process issues.

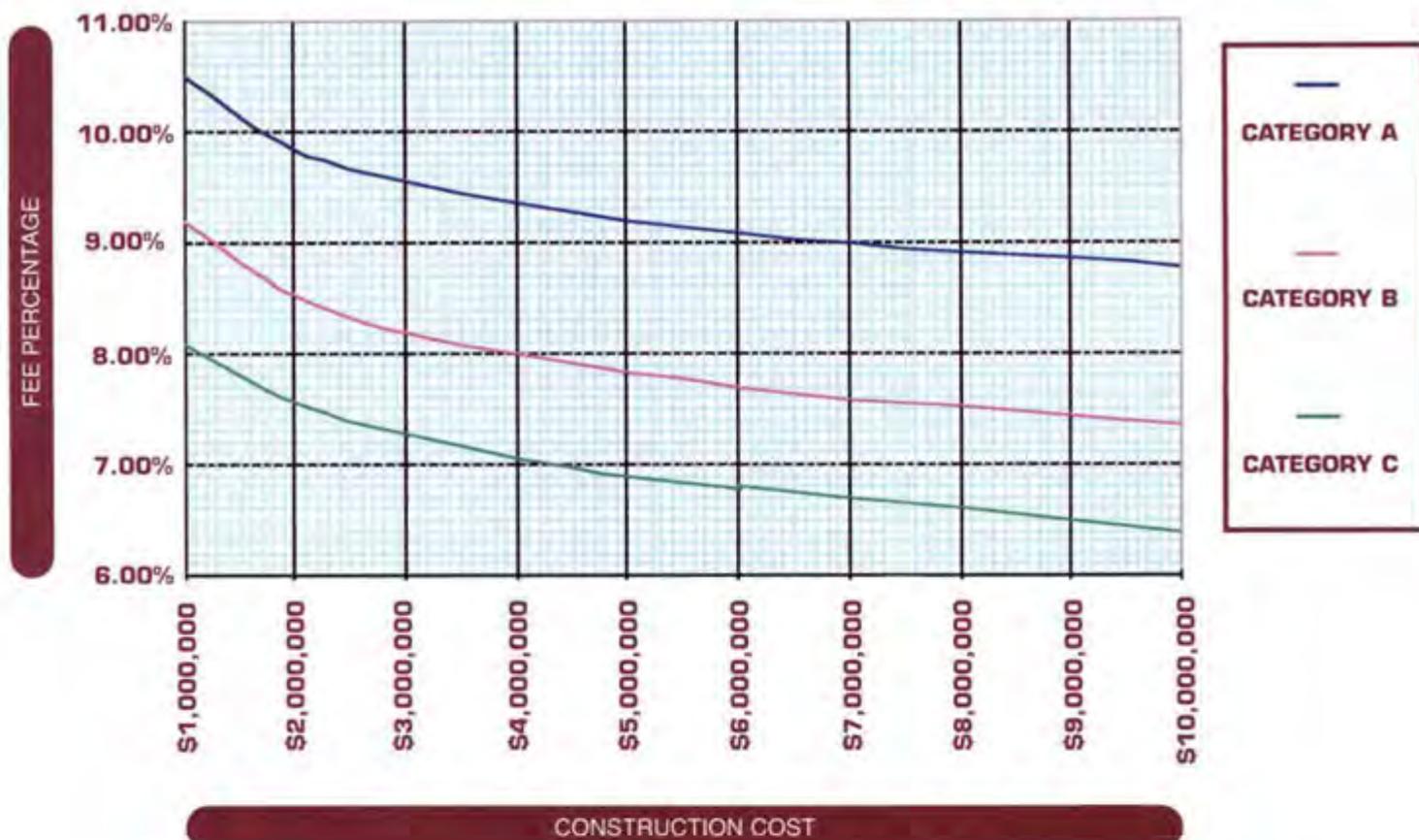
The responses from the A/E basic services review were combined for further evaluation(s). The responses for the other eight questions from the respondents were tabulated and put into a matrix for supporting evaluation purposes. It is that information gleaned from this research exercise that allowed the research team to delve deeper into investigation of the first of the three questions on how to improve this process by looking at:

1. What do we have currently in practice?
2. What is out there and being used for best practice?
3. What is needed to improve the existing paradigm?

### Approach and Findings

Prior to collecting and analyzing any data, we recognized that the best course of action was not only to collect data as it was happening, but investigate what other organizations may be using in the way of fee charts, how they are using them, and upon what basis they were developed. It was also interesting investigating the potential of any new and/or better methods already in use elsewhere by other organizations.

## Ahoy Chart A/E Services Fee (\$1M - \$10M) 1980



For clarification purposes, two categories of service activities were identified, basic and additional. Basic services are those activities the A/E firm is expected to provide under the normal "basic" contract. "Additional" services are identified as those activities above and beyond the normal "basic" services contract.

With this understanding as a starting point, two questions surfaced that influenced the project. First, does ISU consider basic services equivalent to what the A/E firms view as basic services? Secondly, if another organization has done research in this area, is their definition(s) equivalent to those of ISU? The answers to these questions do not influence the outcome of the project, but only the process of discovery. We realized that once the answer to the first question was determined, both parties could start at a common point to conduct contract negotiations. Given clear expectations for basic services and a common starting point, both time and effort from the client and vendor can focus on whatever falls outside the basic/normal A/E professional services contract.

### What is Out There?

The initial searches to uncover what other organizations in higher education do in regards to establishing negotiating guidelines for A/E services uncovered the same problem as above. The question arises as to whether the charts, calcula-

tors, etc., used by others, deal only with basic services, and if so, what are those basic services? The list of available entities providing some type of chart, matrix, feedback, etc., is numerous, but by no means exhaustive.

It included six state governments, which also covered their institutions of higher education, and an additional seven doctoral research extensive institutions. To complement this inquiry, an additional survey with another 12, predominately land-grant mission, research institutions were included. The institutions ranged in size from 15,000 students (FTE) to 30,000 students (FTE), and were drawn from a variety of locations within the continental U.S.

The common theme and purpose for the A/E fee calculation methods used by these organizations was to set up guidelines to provide the initial starting point for "basic service" fee negotiations. Because these methods are viewed as guidelines and the initial starting point for negotiation, it was not possible to determine whether the fee calculation method (chart, schedule, calculator, etc.) was actually used. This was substantiated further with the explanation that the dynamics of each specific capital project required individualized tweaking of the starting fee in order to arrive at a final number.

Another influencing factor was the demographics of the organization due to its geographic location and vendor mar-

*Continued on page 70*



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kets. Thus, projects could not be compared, and basic A/E activities per project were not a common set. There was also concern that the intent of any published chart might serve as a means to stifle the creativity component of the most qualified A/E professional service provider selected for the project.

It is on this basis that the research team felt the need to continue their quest as there was now a need to identify basic services.

### What is Needed? Developing an A/E Professional Services Guide

Based on the findings from the initial research (interviews) with the representatives from the multiple A/E firms, it became clear there was not a common understanding between the two parties. Iowa State University Facilities Planning and Management's knowledge management group compiled a cumulative list of A/E services based on the AIA "Range of Architectural Services." This listing was the basis for the review document used during the interview process with the A/E professional.

From that point, the entire FP&M project management group was asked to discuss in an open session the accumulated findings for the purpose of clarification, enhancement, accuracy, etc. Using a simplified color-coding, three categories of services were identified: basic services, additional services, and those in-between. Those services falling into the "in-between" grouping seemed to be the major point of contention when conducting negotiations for an A/E services contract.

Given the primary interest is to identify possible ways not only to improve the negotiations process, but also to reduce the overall costs, we realized that the first and very important step was to make sure there was a common understanding between the two parties involved in the negotiations. We decided that a tool would be useful in the form of an A/E services "Guide" to help project managers in fee negotiations. This evolved into a multi-page checklist by which the ISU FP&M University Architect can review the intended services with the A/E professional at the start of any A/E professional services negotiation to establish a common understanding between the two parties.

Following determination of services, a compensation fee chart for consultants based upon diversity of services would assist in helping frame an approximate guideline for how the fee was based upon the complexity of each project in category A, B, or C level of difficulty. This document, already available to ISU project managers, has been designated as the "Ahoy Chart" and is an appendix to services performed.

The resulting final document A/E Professional Services Guide comprises:

- Appendix A for fee calculation (Ahoy Chart, reprinted in this article)
- Attachment B for Basic A/E Services
- Attachment C for Checklist

The findings from the research with the A/E firms allow ISU FP&M to look more critically at how the operation conducts business. More specifically, what can the organization as the representative of ISU do differently to encourage better business practices, while at the same time, maximize the gain on our partnerships?

### Summary and Conclusions

With the initial interest to discover opportunities for effective negotiations between Iowa State University FP&M and its A/E professional service providers, the research team employed the six Sigma methodology for solving existing problem, the DMAIC (define, measure, analyze, improve and control) methodology supported with qualitative research. From the onset, we discovered that in order to establish an optimal partnership with an A/E professional services provider, a common understanding of the expected services is imperative.

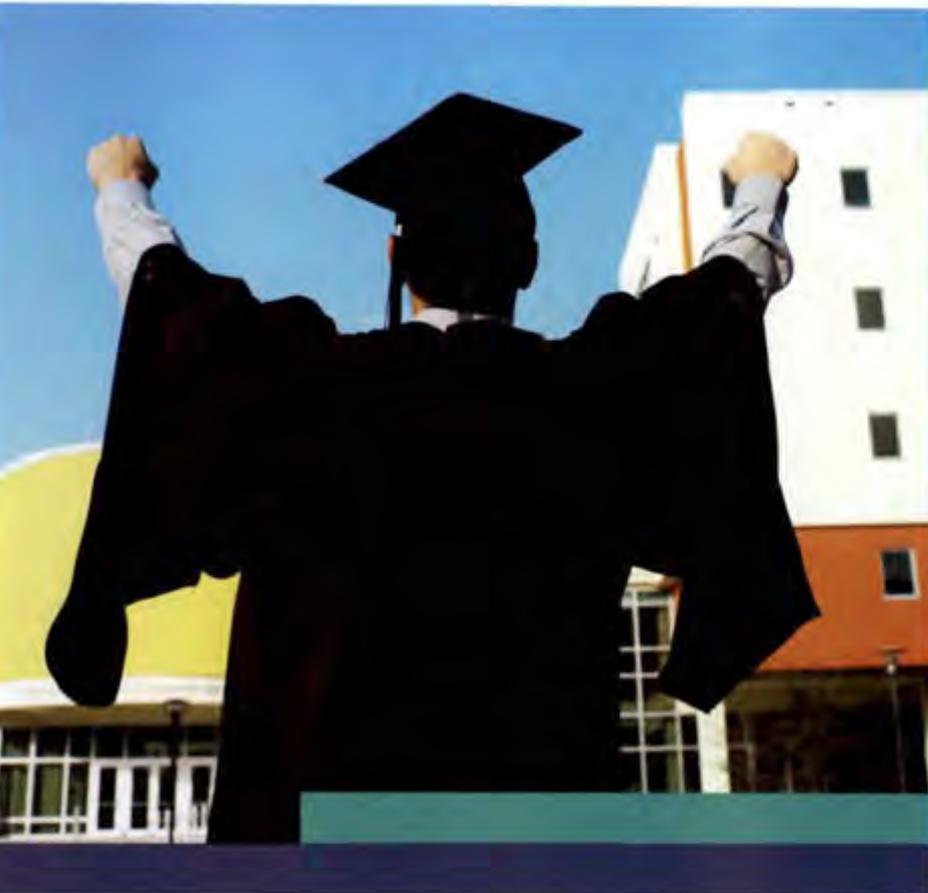
With this concept as a guiding principle, a basic service "Guide" check sheet and fee-calculating chart helps the ISU FP&M University Architect initiate negotiations with the service provider and establish a common starting point. This common ground not only sets the foundation upon which to establish an agreement, but also encourages the A/E professional service provider to collaborate further exploration to enhance negotiations for future partnerships. This is the first step towards establishing equitable agreements.

Culminating from the research effort was an understanding that the overall solution is much more complex, evasive, and difficult to define in just one research effort. To address this complexity, we decided to break up the entire quest into multiple phases, identifying key discoveries along the way. Work is ongoing as it matures and develops with changing times. The ideal A/E Professional Services Guide will continue to develop with improvements in both the definition of basic services, extra services, and other services, as well as a checklist for determining the scope of services required, and finally a methodology for estimating how fees can be calculated.

We hope the findings presented here will help in serving as a stepping-stone to future iterations of improved guidelines and as a stimulation of interest with intent to rally others to assist in this ongoing research effort, realizing the outcome can have significant impact on an institution's capital project program. 📌

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## Some New Thoughts About FCAs

by Matt Adams, P.E.

The use of facility condition assessments is commonplace in our industry now. However, the costs are still significant. There are some new best practices that have been learned over the last few years that can improve the return on this "significant" investment. When updating or conducting an initial facility condition analysis (FCA), the individual or team that is given this charge should utilize the following "to do" list in order to get the most from the effort.

### 1. Capital Budgeting Process

**Review** The FCA project team reviews and documents the capital budgeting process employed by the institution. The unique processes, priorities, IT legacy systems, and desired improvement are assessed. This interactive planning time onsite allows the consulting team and the clients to fully identify the exact data decision points that must be delivered by the FCA project. This upfront planning ensures that the campus is provided only the specific budgetary information required and in the exact format. No extraneous data or formatting is conducted, thus reducing available project time for the information that is most critical to the long-term success of the project.

**2. Facility Data Integration** Much has been said about "mapping" data from existing city FM software systems, e.g. CMMS, to the facility



audit software system. In fact, emphasis on mapping or converting data from one system to another after the FCA efforts are complete is too late in the planning process. Previous experience has shown that mapping data a year or more after the FCA is complete is cumbersome and inefficient. The FCA team should carefully examine the current IT systems in the overall Facility Management Department. By understanding the data structure of legacy systems from the start, the FCA data collection hierarchy, format, and storage location can be optimized to allow data exchange with the minimum of mapping and a high level of consistency. The goal is to avoid introducing any new data hierarchies or inconsistencies that require "mapping." This up front planning effort has considerable return on investment in terms of long-term accuracy and utilization of the FCA data model.

**3. FCA Report Design** The specific reports that are required to support the unique capital budgeting and prioritization process for the

institution should be design at the start and created in a facilitated forum. These reports are a direct result of the previous research of the current institutions budgeting processes and systems. In every new FCA, industry best practices are considered and utilized or customized to the unique environment of your institution.

### 4. Interpretation of FCA Results

The accurate interpretation and delivery of the projects results are critical to the success of the effort. The careful design of the FCA and its formats and structure in the context of current policies and procedures pays dividends at this point. A highly accurate and targeted message is delivered that is completely compatible with the capital budgeting language of the institution. The robustness of the FCA data must be considered. A variety of deficiency types must be lined with a variety of internal institutional funding streams. There are at least five categories of capital budgeting expenditures and the FCA team should take great care in rationalizing the FCA

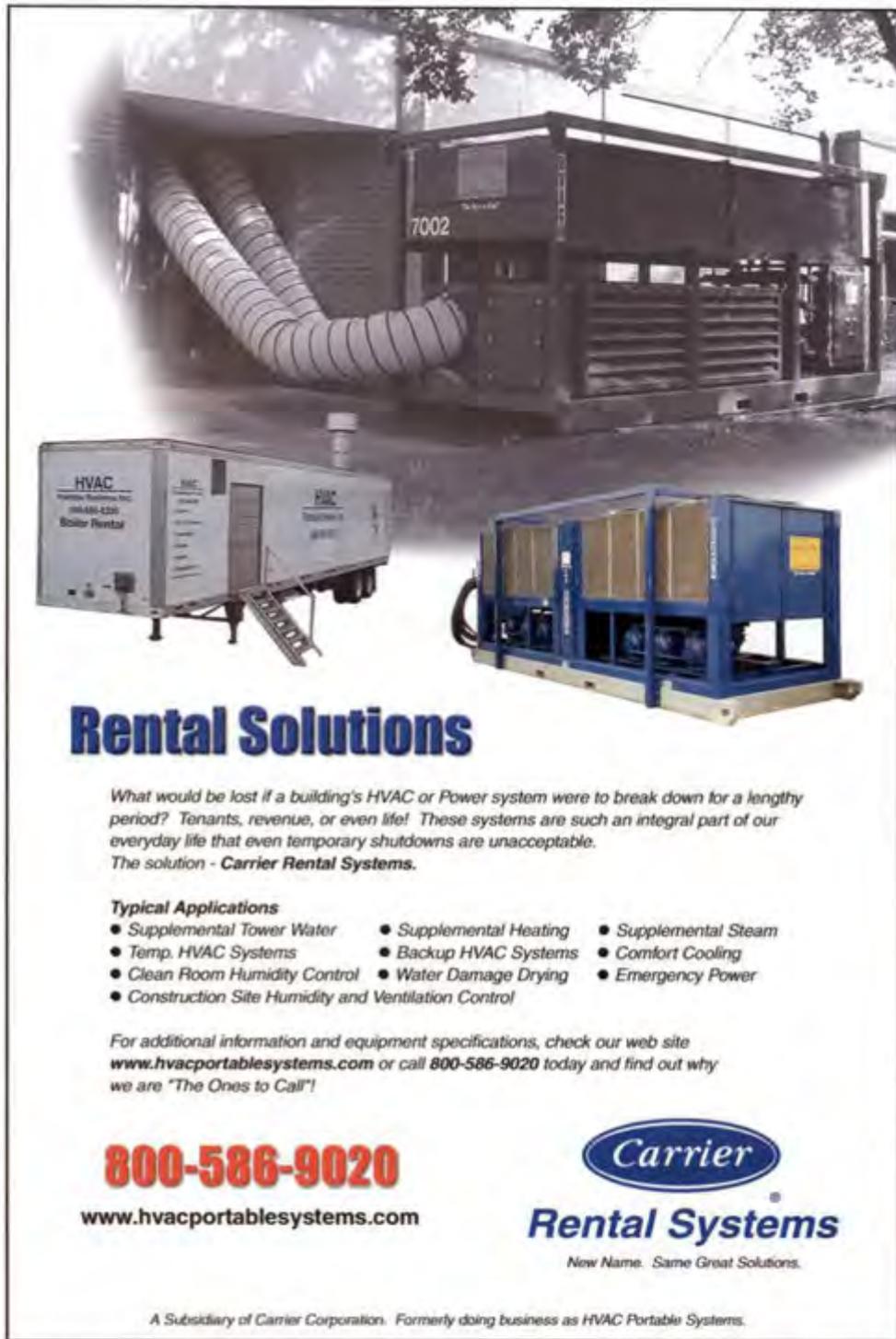
*Matt Adams is president of Adams FM Squared, LLC, Atlanta, Georgia. He can be reached at matt@adams-grp.com.*

A proven process of facilitated planning meetings allows the team to compile multiple funding packages that are consistent with each particular source of funds.

results in terms of the appropriate "source of funds."

#### 5. Preparation of the Capital

**Budget Models** Best practices show that the FCA team must develop proposed financing packages for the multiple funding streams of the capital budgeting models generated by the FCA. A proven process of facilitated planning meetings allows the team to compile multiple funding packages that are consistent with each particular source of funds. Basic business rules taken from industry best practices are used to initiate discussions that result in unique solutions to the capital unfunded requirements. For example, one new idea to introduce is the "Delta T" renewal model. This industry best practice was recently used at the University of Arkansas to fund ongoing renewal and technology upgrades to the total complement of HVAC systems on campus—from chillers to diffusers. This self-perpetuated funding model ensures that the University of Arkansas' Energy systems maintain top operational performance while achieving the full length of their designed life-cycles. This "stealthy" funding best practice is one of many examples of cutting-edge capital budget models that should be considered by each institution. 🏢



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

It seems as if facility officers are never done with performance issues. We're always looking for resources that help us deal with some of the more difficult parts of the job: people. Internal people, our human resources, demand a lot of attention because there's so much money invested in them beyond salary and benefits. External people, through contracts, require a lot of thought and care in advance to specify outcomes correctly. Both require constructive tools to direct the organizational focus in order to avoid other costly outcomes. The first book reviewed this month reiterates the helpful guidance some APPA members have already implemented. The second review provides a look at software designed to make refinements to contracts with designers and contractors easier, more collaborative, and integrated. Regardless of your needs, internal or external, these references should be helpful.

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## **Discipline Without Punishment:**

The Proven Strategy That Turns Problem Employees into Superior Performers, second edition, by Dick Grote, New York, 2006, paperback, \$19.95

Perhaps you have an employee who is performing below acceptable standards. You have talked

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As Dick Grote, author of *Discipline Without Punishment* points out, our culture's long-held reliance on punishment-based corrective action processes may not necessarily be serving us well.

to him about it, but seen no real improvement. Now what do you do? You know that bad apples can and do infect good ones and you *should* do something. But, you also know that nothing can ruin a working relationship faster, or de-motivate an employee quicker, than starting down that road of progressive discipline.

As Dick Grote, author of *Discipline Without Punishment* points out, our culture's long-held reliance on punishment-based corrective action processes may not necessarily be serving us well. For a variety of reasons, he says, our traditional progressive disciplinary action processes often end up being used as mechanisms to "build a case" against employees rather than to actually help and motivate employees to improve their performance. Employees see even the most benign corrective interventions as threats to their job, which often result not in long-term improved per-

formance, but feelings of resentment and frustration.

Instead of focusing on punishment as a way of discouraging the repetition of an unacceptable behavior (or at least, from getting caught doing it again), Grote suggests we focus on helping the employee take increased responsibility for their behaviors and the effect they have on others and the operation. The goal is that they will make different choices in the future not because they want to avoid additional punishment, but because they actually want to. After all, would you prefer a work force that is working to avoid punishment or one that is working to do the right thing?

*Discipline Without Punishment* effectively uses checklists, scripts, real-life examples, and clear practical descriptions of detailed processes and tactics for dealing with all sorts of performance concerns, including those involving attendance, performance, and even general conduct. It also includes useful—and usable—advice on topics such as: documentation; when to have a witness present; what to say when you see unacceptable behavior but cannot or do not want to address it at that moment; how to counter common defense mechanisms; identifying when it is time to separate; and even how to handle the separation when necessary.

The approach described by Grote does at first glance have some similarities with traditional progressive disciplinary systems. A verbal reminder of expectations and impact, followed by a written reminder when necessary, mirrors the traditional sequence of a verbal reprimand followed by a written warning. A paid-day-off with direction to consider whether the employee can and wants to do what is needed to be

successful in their job followed by an appointment upon return to share a specific commitments and plans to do so; these are reminiscent of the traditional unpaid suspension as the final step prior to involuntary termination. The real difference between the two disciplinary approaches has to do with the burden of responsibilities. Traditionally, it is management's responsibility to ensure people perform to standards. According to *Discipline Without Punishment*, it is the employee's responsibility to decide whether they want to opt into the organization by meeting standards, or essentially opt out by choosing otherwise. Management's role is simply to help them make an informed decision. Now, *that's* something.

—Reviewed by: Suzanne Drew,  
Director, Staff Development and  
Management, University of  
Nebraska - Lincoln

\*\*\*

**AIA Contract Documents**, version 2.0.5, the American Institute of Architects, 2006 (software) prices vary. AIA members receive 28-38% off list price.

**Contracts can be** a pain if one doesn't work on them regularly. One of the reasons for this is the amount of information needed to complete the documents; then there are the project/site/contractor/owner specific issues to address. Omission of key information can lead to questions, misunderstandings, and increase the likelihood of a lawsuit. Use of generic documents may not help solve the problem, they may make it worse by creating a false sense of security. The American Institute of Architects (AIA) has provided model contract documents for the design and construction industry for decades. These contract documents are recognized as a standard for the industry and are used by architects, engineers, contractors, subcontractors, attorneys, and owners to record agreements between parties for



The *AIA Contract Documents* software virtually eliminates the transferability problems by taking advantage of databases, editing histories, and electronic storage of information.

capital construction projects and consulting services.

The AIA makes their documents available for a fee. Individual documents cost between \$6 and \$10 each with individual forms costing \$0.50 each in paper form. These documents can only be used once and the information is not easily transferable because it is paper based. The *AIA Contract Documents* software virtually eliminates the transferability problems by taking advantage of databases, editing histories, and electronic storage of information.

Since receiving a review copy of the software and testing it, I've also had an opportunity to receive several draft documents created by the software. The power of the software lies in its ability to share development of the document between parties. Instead of multiple revisions requiring retyping of special terms and conditions, the software takes advantage of the power of MS Word to track changes, accept, and modify changes, and to copy common language from other documents.

These drafts can be shared directly between users of the software or can be converted to Adobe PDF (portable document format) files for sharing or printing of final versions. All AIA documents are available in this software.

Additional power lies in individual project databases that maintain architect, engineer, owner, and contractor information including address, phone numbers, and primary contacts. For those who do repeat business with different firms, shortcuts available through this software help reduce input errors. Change orders, pay requests, etc. can be easily completed by drawing on this data. In addition, this 'database' feature is particularly nice for the various project forms because the project history can be readily accessible and maintained.

An auto-fill feature within each document does reduce chances for errors. The use of technology to reduce errors is a valued feature. One concern I noticed is with the generation of change orders. Ideally, there would also be an auto-fill feature between documents such as the contract and previous change orders when developing subsequent changes. This is not present so user coordination with previous changes is essential. Granted, some changes may not be accepted in sequential order but since there are several overrides available elsewhere in the system, an auto-fill feature between the contract and subsequent change orders would be nice.

Regardless of your involvement in the development of contracts and contract terms, the software version of the AIA documents is a valuable tool for facility managers who do a lot of business with capital construction. 🏗️

# FIELD NOTES



*"The title of this book comes from my early experience as a surveying instructor and civil engineer. Field notes represent what has been observed and measured on the site. Field notes are not theoretical calculations of what might be or what we wish would be the case. They are intended to represent reality as closely as reality can be depicted on paper."*

—The author



## About the Author

James Christenson, a past recipient of APPA's Meritorious Service Award and Rex Dillow Award for Outstanding Article, has worked as a facilities professional for more than 40 years in 17 different facilities management positions. *Field Notes* provides an interesting read and plenty of useful ideas for the facilities professional or anyone involved in leading an organization to success.

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# Supervisor's Toolkit

## Nuts and Bolts of Facilities Supervision

**WHY TRAIN??** • The educational facilities workplace has been transformed in recent years by a variety of forces. Intensified competition, advancing technology, changing values, and a global economy have created new possibilities as well as vulnerabilities. This transformation is changing the nature of management and the roles of supervisors. Due to these changes, supervisors must develop a systematic approach toward organizing, managing, motivating, and meeting customer expectations. The traditional role of the supervisor/manager is no longer adequate. The new business environment demands leadership

**WHY SUPERVISOR'S TOOLKIT??** • **Supervisor's Toolkit** has been specifically designed to meet the needs of the facilities management employee. It is a structured, open-ended, and pragmatic approach to developing supervisors. It is not a "teach" program but a development process designed to help supervisors realize both personal and professional growth. The program is designed for a full week of training.

### **Module 1: Supervision, What Is It?**

Learn to define effective facilities supervision; identify the roles and responsibilities of supervisors; and understand four key functions of supervision (4 hours).

### **Module 2: It's More Than Administrivia.**

Learn to understand the supervisor's role in administering organizational policy and procedures; recognize the legal considerations in the facilities environment; and gain an awareness of resource management (4 hours).

### **Module 3: Communication, Let's Talk!**

Identify barriers to effective communication; demonstrate communication skills; and understand your role in the communication process (8 hours).

### **Module 4: If It Weren't for the People.**

Understand the importance of developing and maintaining effective relationships with others in the workplace; examine the different types of relationships that exist in the workplace; and identify strategies and skills for improving relationships with others (4 hours).

### **Module 5: Motivation and Performance.**

Identify methods of training and developing employees; ascertain methods of positive reinforcement; and understand the importance of performance management and evaluation (4 hours).

### **Module 6: Customer Service Triangle.**

Learn to create a basic understanding of three major aspects of customer service which include process, experience, and recovery; examine the role of the supervisor in customer service; and help participants identify areas for improvement in service delivery in their organizations (4 hours).

### **Module 7: Supervisors as Leaders.**

Master techniques to understand critical elements of leadership; transition from managing to managing and leading; and understand your own preferred leadership style (4 hours).

### **Module 8: Success, What Does It Take?**

Look at lessons learned, examine your toolkit, and evaluate the program's effectiveness (4 hours).

### **Cost**

This unique program, taught by Master Trainers in human resources, is tailored specifically toward the education facilities professional. All training materials used and distributed for this session, from the videos that depict real-life work examples to PowerPoint presentations, use facilities language so that participants can relate to what is being taught. You can bring this exciting program to your campus for \$750 a person (this price includes all class materials and all expenses for two APPA Master Trainers). Minimum class size is 20; let APPA help you promote this program to nearby colleges, universities, and schools.

## APPA 2006 SUPERVISOR'S TOOLKIT PROGRAM SCHEDULE

September 10-14

APPA Institute, Indian Wells, CA

October 3-7

ISSA/ INTERCLEAN, Chicago, IL

October 23-27

Virginia Commonwealth University, Richmond, VA

For additional information on one of the above programs, please contact [toolkit@appa.org](mailto:toolkit@appa.org).



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