



Fall 2003

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Message

Fall has finally arrived in Arizona. It's been a long, hot summer and we are thankful that cooler weather is here!

The 51st Annual Educational Conference in Sedona, Arizona was a tremendous success. It was a good thing the meeting was scheduled in September because October set records for high temperatures. The weather in Sedona during the conference was actually very pleasant and I've heard many positive comments from members about the educational conference.

For those of you that missed the conference you missed an opportunity to hear about issues that are important to all of us and most importantly an exchange of ideas and information with your colleagues. If you were unable to attend this year's conference start planning to attend the educational conference in Jackson Hole, Wyoming in September 2004. The conference will be hosted by the University of Wyoming and I know it will be of significant value to those that are able to attend.

Some of the highlights from the Annual Member Business Meeting:

- Election of 3rd Vice President – Eakle Barfield, Montana State University.
- Montana State University was selected as the host institution for the RMA Annual Education Conference in 2006.
- RMA has agreed to fund two tuition-only scholarships to APPA's "Supervisor Toolkit" training scheduled for early February. One scholarship will go to Polly Pinney an APPA Education Committee Representative and we are looking for one other interested party. RMA is sponsoring two attendees for the purpose

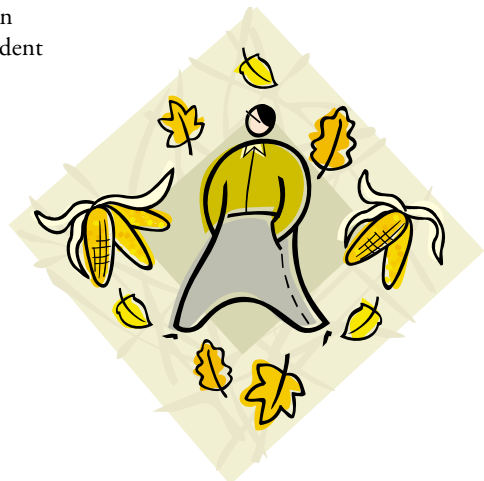
of familiarizing RMA with the APPA training program and developing internal resources to make it available to the RMA members within our region. We are seeking individuals with skills as presenters and facilitators who will be available to present this program within the region. If you are interested or would like to nominate someone please send a letter or e-mail of intent with the individual's resume to Polly Pinney, Arizona State University (480-) 965-6109 or polly.pinney@asu.edu.

- John Bruning was re-elected as Secretary / Treasurer. John's support of RMA is outstanding and we really appreciate it! Great job John!
- Paul Smith was re-elected as the Newsletter Editor. What a great job Paul has done with the Newsletter! Great work Paul!
- We voted to increase annual RMA dues from \$20 to \$25, which is still a bargain. RMA provides its membership with scholarship opportunities for APPA training programs, financially supports regional training, provides regular newsletters, and other services.

As your new President it is my goal to continue to move RMA forward and to increase RMA's value to all members. As I mentioned at the Annual Banquet; I am here to serve all of RMA's membership and I want to hear from you. I have asked for comments and/or suggestions on what RMA can do for its members. Please contact me via email at david.brixen@asu.edu. I have already received some excellent feedback, but I would like more.

Once again don't forget to mark your calendars for September 18th – 21st for Jackson Hole, Wyoming for the 52nd Annual Education Conference.

Dave Brixen
RMA President



Fall 2003

Jackson Hole, Wyoming
RMA Educational Seminar 2004
September 18 -21

The majestic Teton Mountains will provide a picturesque backdrop for three days of education and activities. For reservations to Jackson Lake Lodge call 1-866-875-8456

For Seminar information contact Jenn Coast, Conference Coordinator at jklass@uwyo.edu or (307)766-2404

<http://UWADMINWEB.UWYO.EDU/PPLWEB/RMA2004>

Hosted by the University of Wyoming

Thank you Sedona! Photos from the conference are posted on the site:

<http://fmis.fm.asu.edu/GoldenProspects.html>

Thank you Business Partners for your continuous support, making these extraordinary conferences possible!



Editor's Corner

The holiday season is upon us and gives us a time to reflect on the past year. RMA continues to be one of the strongest regions within APPA. The newsletter needs you! I know you are busy but I believe you can take 10 - 15 minutes to write an article about your successes, failures and/or challenges. As our resources are decreased we need to be able to tap into the experiences of our peers throughout the region and the newsletter is one of the best ways to do that. Please consider supplying an article for the winter or spring newsletter. The articles are due to me by February 6, 2004 for the winter edition and by May 7, 2004 for the spring edition. Articles can be faxed to (520) 206-4536, or emailed to either me or Esther in Word or WordPerfect at Paul.Smith@pima.edu or Esther.Federico@pima.edu. The February edition will have a list of topics for the coming year but regardless of the topic your article will be used. Also in this edition is the scholarship application for RMA for the Institute and Leadership Academy. These applications must be received by Eakle Barfield at Montana State University (Billings) by February 27, 2004 for

consideration for the coming year. Eakle's address is 1500 University Drive, Billings, MT 59101-0298 and his fax number is (406) 657-01719.

Have a happy and safe holiday season.

Historian Report

For those RMA members who were able to attend the 51st conference in Sedona I hope you enjoyed reading the 50 Years of RMA. It was my pleasure to have the opportunity to work on such an interesting project. If you notice any corrections, can identify any of the individuals with missing names from the photographs, have ideas for future editions, or have any items you would like to donate to the RMA Archives (old tribe items, photographs, conference pins, old boxes you find in that deep dark corner, etc.) please feel free to contact me, John Morris, RMA Board Historian, jmorris@users.fm.colostate.edu.

For the members of RMA who were not able to attend the 51st conference in Sedona you missed a great opportunity to receive a copy of the 50 Years of RMA published to commemorate our organizations first fifty years. If you would care for a copy please feel free to contact our Board Historian, John Morris, at jmorris@users.fm.colostate.edu.

APPA Calendar of Events

December 4 - 5, 2003
Sustainability on Campus: Green Investment -
- Green Returns
Harrisburg, PA

December 9 - 10, 2003
Turfgrass Institute and Trade Show
Duluth, GA

February 1 - 5, 2004
APPA's Institute for Facilities Management
Tampa, FL

State/Province Reports

Montana Report

Since MSU constructed its major utility tunnel project in 2000 and the central campus pedestrian Mall was completed, use of the Mall for University functions has been increasing. Student Services hosted its second annual student welcome event on the Mall the first two days that the students were back on campus in August. Over 100 vendor booths provided community and campus information for the students. In April, the Art Department hosted the second annual Art-on-the-Mall Day and October 31, saw the third annual Great Pumpkin Caper, with some 400+ Jack-O-Lanterns on display from architecture classes, despite temperatures that sunk to zero degrees F. We hope to see such uses increase in the future.

We also reluctantly demolished the smoke stack on our 80-year-old Heating Plant in August. The stack had been rendered obsolete after recent boiler replacements were installed with their own short stacks so that no equipment ties into the old stack. Significant earthquake liability finally "did in" the 150 foot tall stack. It was dismantled piece-by-piece in about a month. We completed a lengthy and comprehensive analysis and public comment process prior to bidding the project.

MSU-Northern in Havre experienced a devastating afternoon of thunderstorms in July and saw many of their roofs damaged. The storms indeed came with a silver lining as Rob Harrison, Facilities Director, reports that they received more emergency insurance funding to replace damaged roofing (after considerable arguing) than they have seen in legislative maintenance funding for many sessions. MSU-Northern is also completing contract documents for their new Advanced Technology Center project and they hope to be under construction during 2004.

MSU-Billings completed renovation of their Liberal Arts Building this summer, which included some space reconfiguration,

mechanical work and badly needed new elevators. They also had some construction under way at their College of Technology, funded by a \$1 million federal grant and a new bridge over the irrigation canal that runs through campus. They continue to see considerable energy "savings" from the propane backup system they installed which allows them to employ an interruptible natural gas supply contract.

MSU-Bozeman hosted the annual Montana University System Facilities Administrators Meeting on November 6. We had a full day's agenda, covering issues from plumbing permit acquisition and On-Call pay, to facilities condition assessments and safety manuals. We also developed our strategy for entering the next legislative session's Long Range Building Program, which is not expected to have much funding to dispense.

Many of the Montana campuses have residence facilities that lack either fire sprinkler systems and/or fire alarm systems and the state Board of Regents are beginning to pay attention to this outstanding liability. At the September Regents meeting, MSU-Bozeman requested authority to pursue installing sprinklers in the last three un-sprinklered residence halls and MSU-Billings will do the same at the November meeting. However, installing these important life safety systems will place a heavier financial burden on some of Montana's smaller campuses and may take several years to complete.

Many of the Montana University System units experienced record student enrollments this fall, but unfortunately, those record enrollments have not translated into record revenues. Primarily due to the FTE mix of Western University Exchange students, we expect to be about \$1.5 million short on MSU's ~\$84 million budget. Fortunately, MSU set aside a ~\$1.5 million emergency reserve during last year's budget cycle, and that has offset any need to make immediate cuts and is expected to significantly soften any necessary cuts after spring enrollment is confirmed early next year.

Wyoming Report

In February of this year a section of the tunnel sidewall housing the pipes for the steam distribution system on campus failed. This affected approximately 250 ft. of the tunnel luckily the piping maintained its integrity. The tunnel in this area was built in 1954. Of course the area above had to be an asphalt parking lot, a main entrance to campus for pedestrian traffic, and surrounded by academic buildings. In order to excavate the site in a very confined area three fuel oil storage tanks had to be removed, the soil ad to be checked for possible contamination and shoring installed; estimate to restore the failed tunnel \$1.3 million.

Currently construction is ongoing, the tunnel has been rerouted, and the old tunnel has been sealed at both ends and filled with slurry. The sides and floor are poured and the new piping is being installed prior to pouring the top. Expected substantial completion is the end of November of this year.

Dealkalizers: On February 4, 2003 two dealkalizers were installed in the Central Energy plant in order to reduce the amount of chemical being utilized.

Alkalinity is a factor that most often dictates the amount of boiler blowdown. High alkalinity promotes boiler foaming and carryover and causes high amounts of boiler blowoff. When alkalinity is the limiting factor affecting the amount of blowdown, a dealkalizer will increase the cycles of concentrations which reduces blowdown and operating costs. The reduction of blowdown by dealkalization keeps the water treatment chemicals in the boiler longer, thus minimizing the amount of chemicals required for efficient, noncorrosive operation. Carbonate and bicarbonate alkalinities are decomposed by heat in boiler water, releasing carbon dioxide into the steam. This gas combines with the condensed steam in process equipment and

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Fall 2003

RMA -- 51st Annual Educational Conference



Are you Sure we are in the right place?



I just love it when a plan comes together



Bridge over the Verde



So much to see, so little time.



First of many door prizes

Sedona, Arizona 2003



Happy Birthday!!!!



Francine, Lander & Polly



Conference attendees



Well, what do we do now?

Continued from page 3

return lines to form carbonic acid. This depresses the PH value of the condensate returns and results in corrosive attack on the equipment and piping.

In general, a dealkalizer is best applied to boilers operating below 700 psi. In order to justify installation of a dealkalizer on low pressure boilers, the alkalinity content should be above 50 ppm with the amount of make-up water exceeding 1,000 gallons per day.

Cooling system make-up will also benefit from reduced alkalinity. The addition of a dealkalizer to a cooling water system will substantially reduce the amount of acid required to treat the same amount of water.

The University of Wyoming has experienced the following savings by installing the dealkalizers; approximately \$350 per day in energy costs by increasing the cycles of concentration in the boiler water from 12 to 34 cycles; and reducing the amount of condensate chemical treatment from 4.5 gallons per day to one gallon per day, this calculates to a saving of \$113 per day at today's prices for the neutralizing amine.

The biggest savings that the Central Energy Plant has experienced in their operations budget was when the demand for steam had increase to the point that they were able to burn coal year round.

And finally a reminder to mark September 18 – 21, 2004 as the dates the University of Wyoming Physical Plant will be hosting the 52nd Annual Rocky Moun-

Utah Report

Like most other campuses, the University of Utah is increasingly committed to saving energy. We started in 1973, with disconnecting lights deemed to be redundant, and by cycling fans and chillers. Of course, although we saved on electrical costs, we actually increased the burden on our O&M budgets. We stopped the load shedding, for the most part, and continued to embarrass people to get them to turn off their lights. This was the mode in which we operated until the last 7 years or so.

In the mid-nineties, many of us started talking again about energy conservation, both from an ecological perspective as well as from a pragmatic we-need-to-control costs perspective. We became much more concerned about building design, energy efficient HVAC and lighting systems, and building control systems.

Five years ago, the University of Utah took a giant step. Over the course of a couple of years, we energy-retrofitted most of our buildings on our campus, focusing on those that were built between the early sixties and the mid-nineties. We spent \$20 million dollars replacing lights, pump and fan motors, chillers, and other miscellaneous equipment. Most of the dollars, however, were spent on replacing outdated building control systems.

At the same time, we became aware of the need to replace a half dozen old chillers in the Health Sciences precinct of our campus. Thus, instead of replacing those units in place (with the associated mandated updates in mechanical room designs) we decided to build a \$12 million central chiller plant. Through the improved use of redundancies of a central plant vs. local plants, we were able to reduce the required tonnage by over 20%. Furthermore, the new chillers are much more energy efficient than the displaced ones. Obviously, this reduced the electrical load dramatically.

Next, we spent just under \$10 million building a new High Temperature Hot Water Plant on the upper edge of our campus. Pumping hot water uphill is very inefficient, losing 5% of its heating value for every hundred feet of grade change. There is about 300 feet difference between our old Plant and the Health Sciences area. Thus, by building this new Plant, we became much more energy efficient while freeing up capacity on our Main Campus Plant for future growth.

All of this is being paid for through the implementation of the aforementioned energy conservation measures. Under a guaranteed program, we are using the savings to service the debt. To date, our actual savings have been significantly higher than projected.

We're not satisfied, yet. Currently, we are exploring a relationship with a consult-

ant who specializes in behavior modification. It is believed that, through modifying the campus culture, another substantial reduction in energy costs can be realized. We are also exploring ways to fund an electronic, computerized campus-wide metering system. Experts tell us that, through careful monitoring of building performance at the meter, in conjunction with modifying the culture, upwards of another 30% cost avoidance can be realized. Just maybe, when we see that, *then* will we be satisfied.

Colorado Report

Hoping for a "Normal" Colorado Winter

By John Bruning

Hello again from Colorful Colorado! Being a facilities manager in this part of the Rocky Mountain region can be particularly challenging during the heating and cooling seasonal transition periods. Too hot/too cold complaints are the most common customer complaints we receive during the spring and fall seasons. About the time you get all of your summer cooling issues worked out, it's time to shut things down for winter and start heating again...about the time you get all your heating problems worked out, it's time to cool things down again! On the front-range of Colorado, this transition can occur within a few hours going from the 80's to the low 40's overnight. Part of a good seasonal transition strategy should be to let the communities we serve know when the transition will begin, what to expect and a single point of contact to keep the complaints off of the Vice President's/Vice Chancellor's desk!

So far, it looks like we might have a "normal" winter in Colorado. If the past weekend's mountain snows are any indication, we may actually have some water in our reservoirs next year too. Along with a "normal" Colorado winter we can all expect to see much higher energy bills. The price of natural gas has gone up enough that the local energy companies are lining up to raise prices. With already tight budgets, a greater emphasis has to be placed on energy/resource conservation measures. When you're "inside looking in" it's

sometimes hard to see some of the conservation opportunities beyond the obvious lighting retrofits and other “low laying fruit”. Capital to fund energy/resource conservation projects is also scarce, so it may be time for more of us to bring in some outside help. Efficiency service companies (ESCO) are a viable option, as many of the institutions of higher education in the RMA region have already received the benefits from this type of service.

John Morris at Colorado State University sent the following update about their energy/resource conservation efforts:

CSU is currently working with an ESCO, Chevron Energy Services, to do a preliminary audit of the campus to look for saving opportunities that would lead to more detailed technical audits. If approved, operational savings from energy and water conservation measures could result in some building system upgrades. CSU has been actively working on energy conservation since the mid 1980’s so it is becoming increasingly more difficult to identify quick payback measures, but some opportunities still exist. Many of the efficient lighting systems installed 15 years ago are reaching the end of their useful life which leads to the opportunity to utilize more modern lighting systems saving energy, reducing maintenance costs and improving light levels.

Additional items include retro commissioning of buildings that were modified in the 1980’s and 90’s under a previous energy conservation initiative, and water conservation measures. Not only will the ESCO partnership help reduce university operational costs it will also comply with the Governor’s new mandate requiring an ESCO review before any future controlled maintenance funds will be considered. CSU is also into its fourth year operating on a new central chilled water plant. The plant is operating as hoped for. It has eliminated the need to install individual chillers in 3 new buildings, has allowed for year round cooling capabilities previously not available and has allowed for water conservation by eliminating a number of once through cooling processes.

John’s report is representative of what many RMA region institutions are doing to

conserve energy/resources, control costs and fund critical system and infrastructure projects. Optimizing the performance of our HVAC systems is an essential element of our business. Let’s hope we have a “normal” Colorado winter, but in the meantime, we need to take a deeper look for the energy/resource conservation opportunities available to us.



Carlos Oscar, a terrific end to the conference



Thanks for a great time!!

To see more photos go to <http://fmis.fm.asu.edu/GoldenProspects.html>

The ROCKY MOUNTAIN ASSOCIATION OF PHYSICAL PLANT ADMINISTRATORS OF UNIVERSITIES AND COLLEGES was organized in February of 1953 for the purpose of promoting the common interest in the planning, maintenance and operation of physical plants of Universities and Colleges in the Rocky Mountain Region: to foster a professional spirit among those engaged in this work; and to support and supplement the activities of its parent organization, the "Association of Higher Education Facilities Officers (APPA)." The Rocky Mountain Region encompasses the states of Arizona, Colorado, Montana, New Mexico, Utah, Wyoming, and in Canada the Provinces of Alberta and Saskatchewan and the Northwest Territories.

REGIONAL OFFICERS 2003-2004

President	David Brixen	Arizona State University
First Vice President	Mark Shively	University of Wyoming
Second Vice President	Tommy Moss	Colorado State University
Third Vice President	Eackle Barfield	Montana State University (Billings)
Secretary/Treasurer	John Bruning	University of Colorado, Boulder
Newsletter Editor	Paul Smith	Pima Community College
Senior Representative	Craig Bohn	University of Utah
Junior Representative	Paul Smith	Pima Community College

FUTURE MEETINGS

2004 Annual Meeting	Jackson Lake Lodge, WY	University of Wyoming
2005 Annual Meeting	Vail, CO	Colorado State University
2006 Annual Meeting	To be Announced	Montana State University