ROCKY MOUNTAIN VIEWS
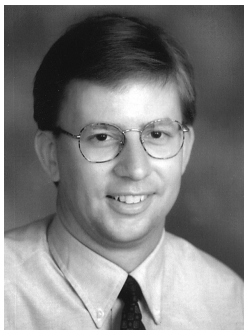
Rocky Mountain Association of Higher Education Facilities Officers

Spring 1999

President's Message

In the report "Transforming Higher Education: A Vision For Learning in the 21st Century" by Dolence and Norris, it states: "Schools and colleges in teaching knowledge will yield to individual learning by millions of knowledge seekers in all walks of life. Worldwide networked learning will replace place-bound teaching." This means that the trend of becoming technology dependent will continue, as will increased demand for access. I believe mobility will become central to design in facilities as well as networks. There will be a time when there will be campus-wide wireless networking if it isn't already happening on your campuses.

Charles Andersen

How does this impact the role of a Facilities Manager? Well, I believe our role will become more strategic as institutions strive for this "High Tech- High Touch" environment. Planning will become more challenging due to the rapid changes in technology and not all technology changes at the same rate. This means we must use the tools that are available to make good decisions and quickly. Many of these tools are already out there and these issues allows us to share how many of us are using computers and technology in collecting data to use in our decision making process and the management of the institutions resources.

I am looking forward to both the APPA 1999 Educational Conference and Annual Meeting in Cincinnati, June 20-22, 1999 and the 1999 Annual RMA Conference in Albuquerque, New Mexico, October, 6-10, 1999. I hope you have noted these meetings on your calendar and have already sent in your registration. These meetings give an even greater opportunity to discuss future trends and best practices. I look forward to seeing you there and learning from you.

Editor's Corner

By Paul Smith

Summer is almost here. For those of us in the desert southwest it is still spring like, so I am hoping that this is not an indication of how hot it will get. In this issue the scholarship information, both an application and the procedure, are enclosed. This is an excellent opportunity to attend a session of the Institution for Facilities Management or an Academy. I strongly urge you to apply.

The next issue of the newsletter articles due by August 6, will have as its focus new building construction, building renewal or major renovation – how it is handled, lessons learned, positive and/or negative experiences, was it design/build, construction manager/general contractor, etc. I am sure your state/province correspondent will be really excited to get an article, makes their job real easy. As always this newsletter is here to serve you, so please feel free to contact me with ideas, suggestions, comments you believe will make the newsletter better for all of us. I am also looking for focus ideas for future issues, so please don't hesitate to suggest one.

Have a great summer and I hope to see you in Cincinnati.

47th Annual Educational Conference

October 6 -10, 1999

Albuquerque, New Mexico

inside . . .

State/Province Report

Featured Article -- It's a Crying Shame

STATE/PROVINCE REPORT

CANADA REPORT
By John Watson

The University of Calgary hosted the 2nd Annual Canadian APPA membership meeting in Calgary, February 16-19 with close to 50 attendees and partners. We had an up front agenda, the subtle behind the scenes agenda, and the ever popular hidden agenda.

Up Front Agenda	Subtle Agenda	Hidden Agenda
Welcome/Introductions	Easy going start to the day	Be so boring that the rest of the presenters come off top notch
Dynamics of Business Planning	Linking your vision to the institution's	Induce creative lateral thinking
Change Management	Some insight into how we bring systems and people together during changes	Start the shift to logical thought while connecting back to the business aspects
Accountable Leadership	Rubber to pavement stuff for an elusive buzzword.	By the end of this day people should have good connectivity between business planning, vision/mission, and organizational performance management
Poker night in Cochrane	Put on cone of silence	Except, remember to get pictures of Provincial Advance Ed rep dressed in ladies clothes, beer in hand
APPA SAM discussion	Initiate networking on adaptation of Canadian model	Aim benchmarking practice at "how do you compare in support we get from our institutions"
Energy Management Opportunities	Panel discussion should provoke ongoing dialogue	Gang up on Federal money-giving rep for his cumbersome application process
Tours of U of C	Show Off	Remind people about the enjoyment part of our job
Tour Chinese Cultural Centre	Walk off the hangover (Chinese New Year?)	Appreciate diversity, history, the architecture
Closing session	Plan improvements into next meeting	Find a way for everyone to get to the maritimes within two years
Get in some serious R & R	With plenty of time to visit with each other	And leave with fond memories photo reminders to follow

If our enjoyment in hosting the event is any measure of success, then we fully achieved the objective.

The next significant meeting is the June WCUPPA in Regina, which will have occurred by the time we read this newsletter. Our thanks to Dave and staff for bringing us together for this event and we'll have more news to offer for the next edition.

The event will have acknowledged the career of Bob Whitney from Banff and Paul Juneau from Saskatoon in terms of their pending retirements. Bob helped guide the transition of the Banff School of Fine Arts to its present day self-sufficient model of convention site, Professional Management Centre, and accomplished fine arts centre. He is also personally responsible for painting half the elk in Banff green, one shot at a time.

I've made fun of Paul Juneau in recent articles for not replying to my requests for newsletter input. He's the guy with the reputation for walking into your University of Saskatchewan building just days or moments before it's condemned or falls down. The truth is that he has fostered the growth and care of a beautiful campus and a great group of people.

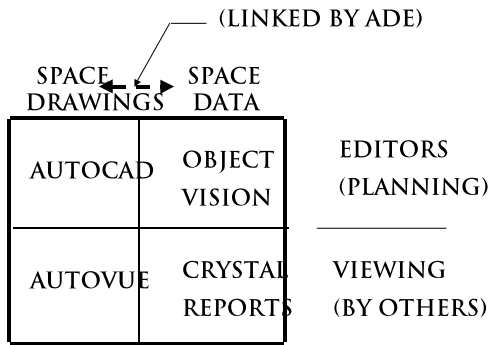We all wish Paul and Bob a happy and healthy retirement.

University of Regina
By Vern Rogne

CADD

We've used CADD for ten plus years. AutoCAD is the vehicle and we're using Release 14.

CAFM

About four years ago we recognized the urgent need for a user-friendly space inventory system. Funds being very limited, we hired a local consultant with a reputation for developing workable, inexpensive solutions. He interviewed key Physical Plant people and we jointly developed a business plan using existing *AutoCADD* space plans and the computerized space database. Very quickly, we had the system up and running. (I was surprised while attending conferences that we were way ahead of many institutions in this regard.). The paradigm below indicates generally how the system works.

(LINKED BY ADE)

SPACE DRAWINGS	SPACE DATA	
AUTOCAD	OBJECT VISION	EDITORS (PLANNING)
AUTOVUE	CRYSTAL REPORTS	VIEWING (BY OTHERS)

The *AutoCAD* drawings are linked to the space database by enabling software called *AutoCAD Data Extension (ADE)*. *Oracle Form* is a software package that allows qualified planning people to make changes to the space database, but prevents non-qualified people from messing it up. *AutoVUE* is a software package that allows people like me to view all *AutoCAD* files and customize them by "red-lining". I can also cut selected portions of a space plan into a WORD document and annotate thereto. *Crystal Reports is* a software package that allows people like me to query the database to determine a myriad of space planning scenarios, from a number of standard reports we developed. (E.G.: How much space does Faculty "X" occupy on campus, any building? -Or- How much space in Bldg. "4"? As discussed, a customized *Crystal Report* can be downloaded into EXCEL.

We selected this arrangement to maximize use of existing information - both graphics & data - without incurring great cost. Compared to using information and software products already available through our Computing Services, we kept costs very low, compared to (say) *Archibus,* which we determined to be cost-prohibitive, both from a software cost and training cost basis. Our software costs were very low (less than $2K) as were implementation/training costs. For the latter, we used the aforementioned local consultant - Ron Gill (*CADD/FM Systems*). Our major costs were "catch-up" to streamline the old database categories.

We've found this capability very helpful for analyzing space-planning scenarios. We've leveraged the system to include FM (Facility Management) layered drawings. We've entered our computer drop & telephone addresses into this system and are well on our way with M & E FM drawings. We upgraded to *AutoCADD* Release 14, which allows us to delineate current or potential occupants by solid colour, instead of less readable cross-hatching. It's a powerful tool for our presentations to upper administration officials and to the Space Allocation Committee. RMV

MONTANA REPORT

Bob Lashaway

With regard to CMMS, GIS, and Cadd issues, Rich Pylypuw at Montana Tech in Butte reports that at present, we do not have CMMS, but do want to move in that direction. We are most interested in CMMS. Two products I have been looking at are DataStream and MicroMain's MS2000. We have a computer to set up as a network NT server for Physical Facilities for CMMS, AutoCAD, key control, custodial inventory, preventive maintenance, maintenance inventory, bar coding, network printing, etc.

We have two AutoCAD stations in our department, one on R13C4 and the other R14. When AutoCAD 2000 becomes available, I would like get the network version and load it on the NT server we are installing so both our stations share current files rather than operate stand-alone.

We have ArcView GIS loaded on the R14 AutoCAD station. Work has begun to input certain data related to our floor plan ACAD drawings, but it is on hold for the time being. Our operator was a knowledgeable student who graduated and left us to pursue his career. We have not found a suitable replacement. The real solution is to convince Administration that a classified Drafter position is vital to our operations and hire a trained AutoCAD/GIS/GPS technician who wants to do this work as a profession.

Eakle Barfield at MSU-Billings reports that, as with the entire Montana University System, we are immersed in implementing the latest SCT Banner 2000 software (for progress info check our website at www.b2k.montana.edu/banner 2000). Our Administration has devoted at least half of their time over the last 18 months and a local budget of over $2 million. We have remained on the periphery as the Facilities Services component was not included in the initial consolidated statewide procurement. The larger campuses at Bozeman and Missoula have their own independent systems in-place and we are eagerly awaiting the results of their interfacing with Banner. In the meantime, we have installed PC's throughout our organization (to include wiring our Janitor's closets) and our warehouse inventory has been computerized with scanners and bar coding. We are looking forward to reviewing the newly released Banner module for Facilities Services as well as their competition, such as TMA and AssetWorks in Cincinnati. Hope to see you all there!

Here at MSU-Bozeman Facilities Services, we operate our own independent IBM AS/400 system. After years of defending our independent need for specific construction and maintenance related business applications as opposed to educational applications, our campus is now headed more toward a distributed computing approach which favors our current set up. Those business applications include general stores and inventory, car rental agency, fueling station, utility distribution, landscape and grounds services, waste hauling and disposal, custodial services, professional engineering and

design services, construction, construction management, maintenance and repair services, contract management, facilities management, mechanics shop and tool inventory and rental. Our self-supported and independent computing operation is essential to maintaining our efficient business operation.

We utilize in-house developed software applications to automate our specialized business activities. Our computing operation survives with two employees, some intermittent student help and we contract out our programming functions. System compatibility with the campus computing and business center has always been adequate and improves with each hardware or software revision we implement. Management systems that have been fully computerized include our work order system, time and attendance, stores inventory management (fully bar coded), vehicle fuel dispensing, vehicle fleet management, vendor transactions, budget status reporting, utility management, human resource management, facilities inventory, facilities condition inventory, preventive maintenance, and auto billing systems. We also run AutoCAD and other design software off our LAN. We are nearing completion of our Y2K compliance effort for AS/400 systems, and we will be doing a live test on an independent AS/400 system in early September.

At some point in the future we may be ready to consider a vendor-developed CMMS system, however, we are not ready to abandon our in-house investment yet. We are keeping an eye on the CMMS market and its progress. **RMV**

UTAH REPORT

The Physical Plant at Salt Lake Community College prides itself on being up-to-date with the newest technology available for their needs.

The Physical Plant is currently using a version of Maximo for its computerized maintenance management system. It has been in use for approximately two years after converting from the MCRS system. It is the goal of the physical plant to be able to track their equipment, buildings, man-hours and material costs with this system. If a piece of equipment breaks down, we are able to see how many times this piece of equipment has been visited and whether a repair is necessary or if it would be more cost effective to replace it due to its past history.

We also use this system to track the man-hours of all physical plant employees, in all crafts. The Maximo Advantage System gives a supervisor the ability to run reports. It provides a great deal of reporting flexibility from accounting for time, which lists time charges sorted by T&M account for a specified date range, to employee time which lists time charges sorted by employee, request time, and work order time.

We also use the Maximo System for work orders and Preventative Maintenance (PM's). Work orders are issued on all requests for work to be done ranging from repairs, remodels, set-ups, custodial duties, etc. Our System Manager runs the PM's on a regular, requested cycle for all departments in the physical plant.

Salt Lake Community College uses a web base system to give

access to facility personnel of the building maps. Building maps are simple – consisting usually of one level of a building which contains room layout and room numbers. The link to the building maps is located on the facilities home page. Building maps are converted from an AutoCAD .DWG file to a .DWF file for Internet use. There is a special browser plug-in called Whip that is used to view the .DWF file. It allows the user to pan, zoom and view drawing layers for each reference and usability. The web site is organized by campus site, building and/or floor level.

For Administration, when a change is to be made on a map, the change is made and a new .DWF file is made and replaced over the existing file for the web server to find.

We also use AutoCAD version 14 for creating and changing building maps and projects. All electronic files from in-house projects and other A/E projects are filed on a server. This server is backed up nightly for protection from loss of data due to computer complications. There is a limited number of users allowed to access the files for integrity reasons. All older projects that have hard copies (prints, sepias, mylar, vellum) are stored and archived under a filing system that is located by a database.

This system is also used by our Interior Design Specialist who is responsible for all carpet and furnishings in both office and classroom areas on campus. The system can design a completely new room or re-configure an existing room to accommodate current needs.

Computer technology in the workplace is a must in order to keep up with today's needs. **RMV**

Colorado Report
By John Bruning

Computer aided facilities management tools have changed the culture of our business. Many of us are just now catching up to what's happening at the "bleeding edge" of this technology and adapting our business plans to incorporate integrated information management systems. I want to share how the Department of Facilities Management at the University of Colorado at Boulder is "backing into the information technology age."

Our journey into the computer age began in the late 1970's. It was the era of mainframe computers and homegrown work order systems. Our proprietary Unidata based work order system was designed primarily to interface with our university financial recording system, basically an accounting and work history tool. It was a progressive system at the time, particularly when there were few package systems available. The transition from paper systems to a computer system was met with a great deal of skepticism and resistance. Data access was mainly centralized and highly controlled. Unfortunately, processes and system changes were poorly documented, which resulted in a progressive degradation of data integrity.

By the early 1990's, only a portion of the original work order system data fields were being used and the lack of system documentation, combined with attrition in our data system staff, created a situation where the majority of the data was suspect and system improvements were nearly impossible. We were at a low point with our information management systems. Finally, a change in departmental leadership and philosophy brought new hardware and software tools. First to come was a computer aided drafting system, made necessary by our intense growth of capital planning and construction activities. Autodesk products were chosen because they have the greatest market share and were used by the majority of area consultants and design firms.

The mainframe computer and "dumb" terminals were replaced by a Macintosh LAN and file server system. The transition to this new equipment and software was widely embraced, but once again we failed to support this hardware and software investment with adequate system training and process documentation. Furthermore, the decision to go with Macintosh severely reduced our options for CMMS software to replace our aging work order system. To this day, we're using the work order system that was designed in the late 1970's. Data integrity has improved, but we lack contemporary work management planning and scheduling modules.

Meanwhile, we made tremendous progress with our CADD system development in terms of creating campus base maps with layered utilities, irrigation system, tree inventory and building floor plans. We built CADD specifications into our construction standards and received planning and construction project information in compatible formats for integration into our database. This growing information resource has become a campus asset used by many service departments and the College of Architecture and Planning. However, the process of collecting, validating and maintaining the information contained in the CADD database has been difficult.

The two databases, CADD and space, were not linked and information had to be manually manipulated. Field verification, through surveys and room measurements, improved the accuracy of the physical information, but space management information, assignment and use of the spaces, required extensive research and cooperation from virtually every campus department. There is no centralized space management entity on our campus, as each Vice Chancellor and the Chancellor have authority over the space they occupy. This exacerbates the problems associated with maintaining an accurate space management file. Our solution to link the CADD and Space databases was to migrate the information contained in our proprietary Unidata space management inventory into Archibus. Now, the physical (AutoCAD) and tabular information (Archibus) are relationally connected. Currently, we're working with AutoCAD 14.0, AutoMap 3.0 and Archibus 10.0.

Our research into CMMS options has shown that we need to document our work management processes before diving into selecting a system. Otherwise, we would adapt our processes to match the software. In effect, we would work for the software, instead of it working for us! To that end, we hired a work management consulting firm, Reliability Management Group (RMG) from Minneapolis, Minnesota, to assess our current work management practices and suggest possible improvement opportunities. RMG brought in an assessment team of six people who spent one month interviewing our staff and customers and digging into our existing work and inventory management systems. They overlaid their findings onto their proprietary *Reliability Management Grid*, a unique scoring tool, which provided us a snapshot of where we are compared to state-of-the-art work management systems.

This grid, combined with RMG's recommendations for strategic process improvement, serves as an objective assessment of where we are and where we want to be. The next phase of our work with RMG will build the foundation for efficiency and effectiveness improvements through highly facilitated action teams working together to refine, develop and document our work management processes. This foundation, coupled with our CADD and space management systems, will allow us to take the next steps of selecting CMMS and facilities audit software to integrate into a robust and contemporary information/work management system. Finally, we have confidence that we're on the right track, despite backing into the information technology age.

Currently, the division of Facilities Management at the Auraria Higher Education Center provides facilities management services to three institutions on the campus. They are the University of Colorado at Denver, the Metropolitan State College of Denver, and the Community College of Denver. We utilize several computer programs with regards to CMMS. The major programs are AutoCAD R14, AutoCAD Map R3 (GIS), and FM Systems which is a Facilities Management Database system. We use these programs, collectively, to track the square footage of rooms as well as use, and maintain accurate as-built information. We are currently exploring the use of a campus mapping system to record our land use and help in master planning. We are currently undecided at this time as to which program is the wisest investment the AutoCAD Map or a full GIS software package. All construction projects are also done using electronic drafting of some kind keeping all of the buildings floor plans current. We also use an electronic work order system called 'Camp' to track and record all work order requests. This database helps managers make better work load decisions and be more proactive in forecasting workloads. The underlying reason that we continue to invest in technology is really quite simple. We have to provide the best service to our customers that we can. These programs, coupled with other techniques, allow us to respond quickly and intelligently to our customers. We are currently looking at and evaluating how we might better use the Web to better interact with are clients. This area holds great potential to provide yet another point of contact with our clients. Although only briefly mentioned here, each one of these pieces of technology adds a level of complexity and cost to the facilities management department and as such we constantly try to carefully balance the cost against the potential benefits.

We would like to encourage anyone to contact us at oeinckj@ahec.edu to discuss what they are doing with CMMS.

RMV

New Mexico Report

By Rick Olcott

If you haven't made the jump to a Computerized Maintenance Management System (CMMS) yet, you are probably considering it. One of the biggest CMMS challenges facing facilities officers is determining how to pick the best CMMS solution for their institution. The good news is that there are scores of CMMS packages to choose from. The bad news is that there are scores to choose from. How do you make a reasonable choice? Do you pick one that was recommended by a colleague? Do you pick the one that was most recently featured in a trade magazine? I submit that you already know how to go about selecting a good CMMS: pretend the project is a building! The similarities between a project involving a new building on campus and a new software system on campus are striking.

Usually, we have a pretty good idea of what kind of building is going to be built before we contact an architect or a contractor to design and "spec" the building. Does our campus need a new classroom building or a new dormitory? The eventual use of the building will determine virtually every specification of that building. A CMMS system is no different. If our need were for better preventive maintenance and not financial reporting, then a CMMS that is heavy on the financial reporting side but weak on the preventive maintenance side would obviously not meet our needs very well. Our hypothetical CMMS "building" needs to be planned at least as carefully as any other mission-critical building on campus. We next ask, "How are we going to use this system? Who is going to use it? How will this system fit into the rest of our campus systems? Is the infrastructure sufficient to support this system? Who is going to use it? How will this system fit into the rest of our campus systems? Is the infrastructure sufficient to support this system? Who is going to take care of the system once it is built?" "Do the people who will be using the system need additional training?"

Rather than start with the inevitable laundry list of "features" that every CMMS vendor touts, I suggest that you establish a short list of goals or desires that lists plainly what you hope to get out of this new CMMS "building" that you're considering. Examples might be: "Shift our focus from corrective maintenance to preventive maintenance," or "Get a better handle on our materials costs and inventory", or "track our labor costs and scheduling better." These goals, while perhaps a little vague, will act as guideposts during the rest of the planning and during the selection and implementation phases of this project. I find it almost never helpful at this stage to delve into the details of exactly how the CMMS package will accomplish the goals that you have identified. The important thing here is to establish a reasonable number of goals that can be agreed upon by those involved in the planning process.

Once you've drawn up a list of your goals, you should consider the absolute requirements that are specific to your campus and its environment. If your department's revenue is dependent on invoicing for your services, the CMMS system that you are considering should be able to handle invoicing and departmental charge-backs (or at least be able to export

data to some sort of invoicing system.) If your department is geographically distributed across the campus and you want people at multiple locations to be able to accessed the CMMS system, you will need to consider a network-based CMMS system. As one of my state's former Governors once said, "That opens up a whole box of Pandoras." If you determine that you will need a distributed CMMS system, you should get the computer network people involved in your planning early on. If, for example, your campus network is a UNIX-based IP-only network and your CMMS system of choice will only run Novell IPX, you will probably have to reassess your choice.

Who is going to establish your goals and requirements? As much as we all dislike establishing committees (they do tend to develop a life of their own, don't they?), the committee approach is a good one in this case. No one has a complete view of the entire organization. On first examination, it might seem like a good idea to track every single screw used in a remodel project, but the hapless person who has to inventory the screws might think otherwise. When looking for possible members of your planning committee, ask yourself the following three questions: "Who can help make these decisions?" "Who will be affected by these decisions?" and "Who will have to implement these decisions?" If you include in your planning efforts some of those people whose names come up when you answer these questions, you will have a better "buy-in" from all levels of your organization. Including people from all levels of your organization will do more to insure a successful project than any other single factor.

During the planning stage, first establish a list of goals or desires, then a list of absolute requirements and see how these fit into the known constraints of your environment. Bring people from all sectors of your organization into the planning phase. Time and effort spent on the planning phase of your CMMS "building" will repay you many times over when you reach the "construction" and "O&M" phases. RMV

Arizona Report

By Bob Preble

C.A.D.D.

The Facilities Management Department of The University of Arizona introduced Computer Aided Drafting Design (C.A.D.D.) within the department during the 1996-97 fiscal year.

The software used at that time was the AutoCAD Version 12, currently we are using AutoCAD Version 14.

Two key units of Facilities Management have responded to the computer drafting challenge and are C.A.D.D. literate and very dependent on this electronic media to accomplish their goal and distinct mission.

The Utilities unit has as one of its many functions and duties the responsibility of tracking and mapping all the underground utility infrastructure. Working in conjunction with the Department of Campus and Facilities Planning, a G.I.S. mapping system was implemented using aerial photogrammetry.

The previous utility infrastructure mapping was done by the "old" conventional overlay drawing method. These conventional infrastructure maps were scanned into AutoCAD format to complement the G.I.S. vehicle. The conversion to electronic media of all the infrastructure mapping is now in full swing.

The second Facilities Management department to go to electronic media was the Remodeling Alteration Project Services (R.A.P.S.). R.A.P.S. is responsible for providing to the campus community all segments of work related to remodeling and alterations, from estimating and consulting to project coordination. Complete working drawings are accomplished using the C.A.D.D. system.

These two units of Facilities Management despite having different and varied responsibilities have kept an open line of communication and complement each other's area of responsibility.

CMMS

Our Computerized Maintenance Management System (CMMS) was purchased from WinterCress Development in 1994. This system is used in the management of our Work Order Processing, Inventory, and Preventative Maintenance Scheduling. This system interfaces with our Job Costing system.

Our existing job accounting system was written in an antiquated environment. Extracting information and making modification to this system is at best, difficult. Also, the system is not Year 2000 compliant. We have developed a PC Windows application that will be implemented into production July 1, 1999. This system includes Customer, Job Costing, Billing, Equipment, Material Invoicing, Labor Capture, and Employee Management modules. Through this effort we are now able to more efficiently and effectively deliver services to the University.

We continue to learn from our development experiences. We are implementing well controlled, flexible, maintainable business tools. We feel this is just the start of many exciting opportunities awaiting us. We are looking at an automated time and attendance system, work order scheduling and system control centers that monitor equipment, security, access, fire safety, and more.

MAINTENANCE

The University of Arizona's, Facilities Management Department, has a comprehensive reliability-based maintenance system that includes preventive, predictive, and proactive maintenance. Preventive maintenance is scheduled through the Maintenance Systems and Support (MSS) shop using the WinterCress system. Additionally, the predictive maintenance system is run from the MSS shop. The predictive maintenance system includes vibration analysis and alignment and balancing.

The Maintenance Systems and Support Team hopes to further enhance the system with the future addition of infrared thermography. This would not only be used for electrical equipment, but to detect component fatigue, mechanical rubs and friction, and heating or coolant loss.

CMMS MISSION IMPOSSIBLE (ALMOST)
By Donna Baker, Pima Community College

We are currently in the process of procuring a new CMMS. As I work on this project, I sometimes feel I am behind enemy lines and have been assigned a special mission . . .

BACKGROUND: Current system is unable to produce management and technical reports as well as being difficult to use.

OBJECTIVE/MISSION: Locate new CMMS.

OBSTACLES TO OBJECTIVE: Crossing over departmental boundaries have caused political unrest. Dissidents are hoarding technical information and data. This prevents us from accessing data needed to streamline procedures and functions. Areas where caution is advised: Purchasing, Accounting, Receiving, Transportation and Toolcrib.

- Communication and direction between headquarters and personnel in the field have been difficult. Relayed messages are lost, undecipherable, or encrypted with no way of translation. Due to the history of unreliable messages, personnel are distrustful and slow to respond to direction and information that does get through.
- Resources are scarce. Funding to support expected activity needs to be obtained from potentially hostile sources. Extreme caution advised when presenting requests for money.
- Entrenched attitudes of "That's the way we have always done it" and "Why fix it if it ain't broke" sap initiative and prevent implementation of new procedures. You will encounter this problem with both enemy and allied forces. Be aware that it has infiltrated deeply within the current organization.
- Pockets of a resistance movement have surfaced. Personnel have been known to enter inaccurate and out-of-date information. This movement has permeated all levels of the command chain. It is a subtle form of sabotage that could ultimately destroy the mission.

MISSION UPDATE: Although difficult, progress has been made under each of the listed obstacles.

Crossing over departmental boundaries have been difficult. Over time I have discussed issues with various leaders but heavy fire has ensued and the casualties have been great. Fears of take-overs have placed heavy artillery on the playing field. While some areas welcome the opportunity, others are bunking down for a long fight. Because of the politics involved I backed off this issue and requested headquarters use their clout and expertise for the success of this portion of the mission. Since then progress has been made in educating departments on the value of cooperation and the benefits of shared data. But it remains to be seen whether we will be successful or not.

Issues of communication have been hammered in the following manner:

Surveys requesting input on requirements for the new system.
Committee comprised of personnel from various trades for input (electrical, administration, general maintenance, refrigeration, central plant, and

locksmith).
Committee Meeting minutes were distributed to locations. Posting of extra copies at Plant Operations main facility.
E-Mails periodically sent out with updates and requests for suggestions.
Periodic updates and reminders of available meeting minutes announced at bi-weekly staff meetings.
Final information was presented with flow diagrams and descriptive text at a staff meeting. Copies were distributed to locations and management.
Distribution of magazine articles and informational sales brochures.
General face to face discussions with individuals throughout period.
There was also an opportunity for anyone who was interested to check out demo versions of some of the available systems. This was announced in staff meetings as well as e-mail notices.

I have distributed information and requests in various forms to discourage mis-communication. Out-of-date notions in the way physical plant and their personnel conduct business are slowly being replaced with concepts introduced by new technology. Many individuals are now better educated and have a greater understanding of what will be expected in a new CMMS. Changes to streamline current procedures and functions have caused excitement within the ranks but have raised fears outside the department (refer to crossing departmental lines).

Excitement has waned due to the reality of money and the concern for management's ability to understand and accept the fact that plant operation requires new technology, training, and updated equipment in order to provide quality service. More updates from headquarters are appreciated.

The situation has stalled in the process of procuring money. A consultant may be hired to refine requirements. In the meantime, I am prioritizing the current requirements list. Headquarters are working on both issues.

Education is the main thrust for combating entrenched attitudes and the resistance movement. By informing personnel where we are going, why we are changing, what we expect to gain from the changes, and how the changes will affect the individual has helped shift some perspectives. Combat here has been ugly. Resistance to change is strong. More power from headquarters is required before ground can be secured.

That's all for now. If you don't hear from me soon. . . consider me MIA.

In 1996, Mesa Community College (MCC) joined in partnership with the Mesa-East Valley Rose Society (MEVRS) to create the largest public rose garden in the Desert Southwest. The rose garden was designed by LeRoy Brady, a rosarian, master gardener and landscape architect. Brady played a major role in rose variety selection, plant location and watering systems. The community and Rosarians from MEVRS were key factors in constructing the Rose Garden. Businesses donated supplies, materials, labor and dollars. Volunteers spent hours, days and weekends planting and caring for the roses. There are volunteers that adopt a number of rosebushes and are responsible for the clipping of spent blooms which encourages nearly year-round blooming. Additionally, MCC students and staff have been crucial to the success of this project. Countless hours have been spent in the feeding, spraying, watering and weeding of the Garden by grounds personnel. MCC art students have produced ceramic tiles for the rosebeds that display the names and genres of the roses.

The East Garden contains Hybrid Teas, Climbers, Floribundas, Grandifloras, Minatures, Shrubs and David Austin English Roses. The West Garden has all of the classes of roses found in the East Garden, plus Old Garden Roses and a 200 bush All-America Rose Selections (AARS) test garden. In total, the Rose Garden contains approximately 2,500 rose bushes with 350 different varieties, and is the largest public rose garden in the Desert Southwest. In 1998, the Garden gained national status when All-America Rose Selections, Inc. designated the MCC/MEVRS Rose Garden as a "Public Garden" to receive each year the new winning roses. Then, in 1999, the Garden was given AARS "Demonstration Garden" status and received 200 roses to test over a two year period. Each year, 200 more new roses will be received for testing.

Overall, the partnership between Mesa Community College and Mesa-East Valley Rose Society is a symbol of the partnership of education and community. The result is a breathtaking display that will grace the campus for generations to come.

IT'S A CRYING SHAME

H. Val Peterson

A few years back I brought to your attention in this column the sad plight of a minority group that is continually subject to discriminatory practices. Even though great strides have been made in the elimination of discrimination affecting most minority groups, there has been no relief offered to this group. The group to which I refer are the left-handers.

I would venture to guess that left-handers are one of the last surviving minorities in our society with no organization, no collective power or goals, and no real sense of common identity. A sad plight indeed!

I am, let me admit it, a confirmed left-hander myself. It is nothing I really planned; it just worked out that way, in spite of everything. My parents told me I acquired the habit at a very young age and it has persisted throughout my life.

Allow me to share one of my own personal experiences of discrimination that happened to me as a young child. Even though this event happened many years ago, I still remember the event as vividly as if it had happened yesterday.

I was just starting first grade in a small two-room country school in Idaho. My teacher was the sister of the local sheriff, so you might suspect what her orientation would be. It was the first day of school and I recall that I was quite excited to be embarking on an educational journey. Picture in your mind this piquant scene. My left hand clutched a newly sharpened pencil, the teacher bending over me as I mark my paper. Firmly she takes the pencil from my left hand and puts it in my right, smiling encouragement. Just as firmly, I return the pencil to my left hand and go on writing. She pries if from my fingers, not smiling now, puts it back in my right hand and shows me her ruler.

Not quite believing and just being a naïve first-grader, I switch again. This time I hold on very tightly. It takes both her hands to tear the pencil loose. Now, as I watch with an interest that is not unfriendly, she tightly squeezes the fingers of my left hand together in hers, pins my hand flat against the desk, and – I can still feel the pain and surprise – raps my knuckles with the ruler. Fighting back tears of humiliation and the urge to jab her ample posterior with the point of my just sharpened pencil, I now realize my left hand is too numb to even hold the pencil. Picking up the pencil in my right hand, I submissively attempt to produce a semi-legible scribble on the paper. The attempt is utter failure!

This was the first of many incidents involving corporal punishment at the hands (no pun intended) of my teacher – not all of which I must confess were undeserved. My teacher was very good at executing a variety of physical punishments that left no bruises or permanent marks. These techniques were, no doubt, learned from her brother, the sheriff. While no visible marks were left on my exterior, alas I fear I was mentally scarred for life.

While I may be stubborn, I am not stupid – which may come as a surprise to all who know me well. After my first incident of discrimination with the pencil, I quickly learned the art of survival by deception. As a practicing and confirmed left-hander, I simply and silently went underground. I would start all writing exercises with my pencil clutched in the right hand. When the teacher would turn her back, the pencil was quickly transferred to the left hand and I would scribble like crazy. My poor penmanship can be attributed to the fact of always having to write fast while keeping one eye on the teacher and the other eye on my work. It raised hob with my eye muscles too.

I did discover at an early age that right-handers draw figures facing left, while left-handers do just the opposite. I was once mortified, and my classmates were sent into fits of giggles, to discover that I had lost my sense of direction in midstroke and had rendered the udder of an artfully crafted cow under the front legs instead of the back. Being a farm boy I certainly knew better.

In time, even that sort of lateral confusion passed. Cutting figures out of construction paper, however, remained forever beyond me. So does all scissor work to this day, requiring as they do, mastery of one among the countless workaday implements engineered, until recently, only for the right-handed majority: handles, screws, gearshifts, rulers (ouch), phone booths, gravy boats, power saws, can openers, corkscrews, violins, guitars, fishing reels, egg beaters, bowling balls, soup ladles, pencil sharpeners, saxophones, potato peelers, and banjos, to name a few.

In closing this treatise on discrimination I submit a few poignant words penned by a kindred spirit and fellow left-hander Benjamin Franklin:

> There are twin sisters of us; and the eyes of man do not more resemble, nor are capable of being on better terms with each other than my sister and myself, were it not for the partiality of our parents, who made the most injurious distinction between us.

> From my infancy I have been led to consider my sister as a being of a more educated rank. I was suffered to grow up without the least instruction, while nothing was spared in her education. She had masters to teach her writing, drawing, music, and other accomplishments, but if by chance I touched a pencil, a pen or a needle I was bitterly rebuked; and more than once I have been beaten for being awkward and wanting a graceful manner. . . .

Your obedient servant

THE LEFT HAND

So when you chance to meet a left-hander, give them sympathy and try to understand their plight and silent suffering. Do what you can to ease their burdens. A free meal here or a round of drinks there would certainly be appropriate. For after all, left-handers are people too.

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.

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FUTURE MEETINGS

1999 Annual Meeting	Albuquerque, New Mexico	University of New Mexico
2000 Annual Meeting	Salt Lake City, Utah	University of Utah
2001 Annual Meeting	Tucson, AZ	Pima Community College