

METRO

**Metropolitan Exposition Recreation
Commission**

**MERC Facilities Efficiently Maintained –
Maybe Too Efficiently**

May 2006

A Report by the Office of the Auditor



METRO

PEOPLE PLACES
OPEN SPACES

Alexis Dow, CPA
Metro Auditor



METRO

AUDITOR

ALEXIS DOW, CPA

May 22, 2006

To the Metro Council, Metropolitan Exposition Recreation Commission and Metro-area citizens:

As part of the Metro Auditor's risk assessment and audit plan, we studied facility care and capital improvement processes at the Metropolitan Exposition Recreation Commission (MERC), a unit of Metro. Facility care includes janitorial and repair and maintenance activities. Capital improvement processes include plans for determining necessary capital improvements and obtaining adequate, reliable funding for capital renewal and replacement projects.

MERC owns public assembly facilities with a book value of over \$200 million. It manages the Oregon Convention Center, the Portland Center for the Performing Arts and the Portland Metropolitan Exposition Center. The cost of maintaining and safeguarding these facilities consumes about 14% of MERC's operating revenues each year.

The cost of MERC facilities care activities benchmark below that of other facilities across the nation. While low cost is generally a positive, some improvements in facility care practices and capital improvement processes could be made. We recommend that MERC:

- Evaluate the adequacy of staffing for janitorial and maintenance activities and add electrical expertise where needed.
- Establish a system to track all cleaning and maintenance activities.
- Identify an adequate and reliable funding source for capital renewal and replacement at each facility.
- Consider clarifying spending criteria on capital funding agreements currently in existence.
- Adopt a predictive maintenance program for electrical and mechanical systems using infrared thermography.

The following report provides further detail for improving management of MERC's facility care and capital improvement programs. The last section of the report presents the written response of the MERC Chair to each recommendation.

We appreciate the assistance provided us as we gathered the information necessary to prepare this report and recognize the many people at MERC and Metro actively committed to improving the efficiency and effectiveness of Metro and its programs.

Yours very truly,

A handwritten signature in black ink, appearing to read 'Alexis Dow'. The signature is fluid and cursive, with a prominent loop at the end.

Alexis Dow, CPA
Metro Auditor

Auditor: Debbie DeShais, CPA

Table of Contents

Executive Summary	1
Recommendations	2
Introduction	3
Several areas of facility care can be improved	
Staffing	6
Reporting systems	11
Maintenance program	12
Capital improvement processes adequate; funding plan needed	16
Appendices	
A – Audit methodology	19
B – Additional information on janitorial and maintenance benchmarks	21
C – Can MERC save money by contracting out its maintenance work?	23
D – References	25
Response to the Report	

Executive Summary

This audit examines facility care practices and capital improvement processes at facilities managed by the Metropolitan Exposition Recreation Commission (MERC), a unit of Metro. The facilities – the Oregon Convention Center, the Portland Center for the Performing Arts and the Portland Metropolitan Exposition Center – are the region’s main public venues for conventions, exhibitions, shows, concerts, theatrical events, and symphonies. The audit found that while MERC facilities are efficiently cleaned and maintained, some improvements in practices and processes could be made. The audit’s key findings are as follows:

- **Adequacy of staffing for janitorial and maintenance duties is questionable.** Understaffing appears to be a problem. It is contributing to an inability to sufficiently clean and keep up with routine maintenance in a timely manner. Staffing at MERC facilities generally appears to be below industry benchmarks.
- **Expertise is needed in electrical maintenance.** Electrical safety law requires that only appropriately licensed personnel perform electrical work. The exposition center does not have a journeyman electrician on staff and unlicensed maintenance personnel have performed electrical work – a situation that could lead to serious safety concerns. A related concern exists at the performing arts center in that some employees holding licenses that limit them to maintenance projects are working on electrical installation projects.
- **Management lacks sufficient information about facility care activities.** MERC facilities currently do not have systems for tracking how janitorial and maintenance personnel spend their time. Better systems would help keep track of costs, ensure that event fees are sufficient to recover these costs, and help management make decisions about how time should be spent.
- **Systems for tracking preventive maintenance need enhancement.** Each facility has a system, but all can be improved – perhaps through utilizing MERC’s new event business management software.
- **New approach can enhance maintenance of electrical and mechanical systems.** Infrared testing of these systems can spot problems invisible to the naked eye and holds promise for saving both time and money.
- **Better plans are needed to help ensure adequate capital funding.** MERC’s processes for identifying and prioritizing needed improvements are sufficient, but processes for identifying funding sources are not as strong. Over the next 15 years, MERC projects capital needs of \$11 million, with few stable and identified funding sources. At the performing arts center, where funding sources do exist, some clarification of how funds are used appears in order.

Recommendations addressing these issues follow.

Recommendations

1. **Address staffing adequacy.** MERC facilities – especially the convention center and performing arts center – should perform a workload analysis of janitorial and maintenance staffs. Consideration should be given to reorganizing existing personnel as well as adding additional staff.
2. **Electrical expertise is needed.** At the exposition center, management should add a journeyman electrician to the maintenance staff. This electrician could then install electrical systems, perform all required preventive maintenance on electrical systems, observe all electrical work contracted out, and report any issues to the Supervising Electrician. At the performing arts center, management should discontinue the practice of using electricians with Limited Maintenance Electrician licenses on electrical installation projects and take steps to secure properly qualified personnel as needed.
3. **Track how staff spend their time.** MERC facilities should take steps to track, by event or project and by type of activity, the time spent on facility care, event service activities and capital maintenance projects.
4. **Track preventive maintenance.** MERC facilities should establish and utilize an overall maintenance-tracking system. MERC may want to consider using the facility maintenance system available through its new business management software. Whatever system is adopted, management should ensure that (1) it allows each facility to track progress on all maintenance to ensure it is being performed adequately and in a timely manner; and (2) progress is updated regularly.
5. **Enhance maintenance of electrical and mechanical systems.** MERC should adopt a predictive maintenance program using infrared thermography for electrical and mechanical systems at all of its facilities.
6. **Plan for capital funding.** MERC should identify an adequate, stable and reliable funding source for capital renewal and replacement projects at each facility. To do this, MERC may want to adopt a policy that requires the use of a formula, such as a percent of operating revenues or asset value, that could be consistently used to set aside funding for both near and long-term capital improvement plans.
7. **Clarify use of capital funds at the performing arts center.** MERC should carefully evaluate the risks associated with not obtaining a formal written understanding with the City of Portland as to the acceptability of charging operational staff salaries and benefits against City-provided funding for capital improvements. A formal understanding would help ensure violations of the current agreement do not occur and also allow for greater transparency in accounting practices and records.

Introduction

Background The Metropolitan Exposition Recreation Commission (MERC),¹ a unit of Metro, oversees the management and development of three of the region’s main public assembly facilities – the Oregon Convention Center, the Portland Metropolitan Exposition Center, and the Portland Center for the Performing Arts. Collectively, these three facilities provide venues for trade, sporting goods, home and garden, and antique shows, as well as conventions, concerts and theatrical events.



- The convention center, the largest in the Pacific Northwest, is approximately 1 million square feet in size. More than 10 million people have attended convention center events over the past 15 years.
- The exposition center, with 350,000 square feet of space, is the West Coast’s largest exhibition facility.
- The performing arts center is comprised of three separate buildings totaling approximately 325,000 square feet. Its theaters and halls have combined seating of 7,000 and host more than 900 performances annually.

These facilities represent a substantial public investment and a major stewardship responsibility for MERC and Metro. Facility care – the day-to-day janitorial cleaning and maintenance tasks done on both a recurring and an as-needed basis – is a substantial part of this stewardship. Collectively, the three facilities employ more than 139 staff to care for the facilities. This audit examines several important aspects of how MERC carries out this function, as well as how it plans for capital replacements once regular maintenance is insufficient to sustain an asset.

Audit scope and objectives This audit examines facility care practices at each facility managed by MERC as well as MERC’s overall capital improvement process. The decision to conduct this audit stemmed from the Metro Auditor’s risk assessment and annual audit plan, which determined that support for everyday maintenance and capital improvements at the convention center was significant to Metro operations. Because of the interconnection of policies and procedures for all MERC facilities, we decided to expand the review to include all MERC facilities, not just the convention center.

¹ MERC is both a seven-member citizen commission and the organization that operates the facilities under the Commission’s direction.

The objectives of the review were to determine if MERC’s operational maintenance and capital improvement programs provide assurance that facilities are and can continue to be cared for in an efficient and effective manner. Proper care of the facilities will help ensure public safety and preserve the value of these public assets while providing exceptional venues for the region’s arts, convention, and exhibition events. In order to accomplish these objectives, this audit addresses the following questions:

- Are MERC facilities being cared for efficiently?
- Are MERC facilities being cared for adequately?
- Are the policies and procedures for identifying and scheduling capital improvement projects adequate?
- Are funding streams sufficient to provide for capital improvement projects in a timely manner?

The two main subjects – facility care and capital planning – are focused at different levels within MERC. Facility care practices are decentralized, meaning that each facility has its own practices geared to its specific needs. We reviewed facility care, classifying it into two different categories, as follows:

- janitorial or housekeeping activities (involving cleaning, sanitizing, vacuuming, shampooing, and minor cosmetic touchups), and
- maintenance activities (generally of a technical nature involving maintenance and repair of electrical, mechanical, audio/visual, and telecommunication systems).



While facility care is decentralized, MERC’s capital improvement plan is centralized, and its processes relate to procedures for identifying and scheduling facility improvements and major equipment repair or replacement. Our review of capital planning was thus focused on MERC as a whole, though it included work at the three facilities as well.

Cost and other information in the audit are primarily from fiscal year 2005. To gather information on maintenance costs at the three MERC facilities, we had to develop a survey, because the facilities themselves do not track staff effort by project or event. The information came from staff involved in janitorial and maintenance work. For comparison purposes, we obtained benchmark costs from similar types of activities throughout the country. In assembling these benchmarks, we took the average age and size of MERC facilities into account. The performing arts and exposition centers are much older than the convention center, and they are only one third the size of the convention center. Consequently, two different sets of statistics from published benchmark sources were compiled, one for the convention center and one for the performing arts and exposition centers. Within those two sets, statistics were also compiled for both janitorial functions and maintenance functions. The statistics used are meant only to help assess the reasonableness of the audit evidence gathered through audit procedures performed. We also surveyed management at the facilities to determine their perceptions of the adequacy of maintenance.

Appendix A contains additional detail about our methodology. We conducted our audit in accordance with generally accepted government auditing standards.

Several areas of facility care can be improved

Several types of improvements can be made in MERC’s facility care procedures. These improvements relate to (1) assessing more thoroughly whether facilities have the correct level of staffing to perform necessary janitorial and maintenance tasks, (2) ensuring there are adequate and properly qualified electrical staff to maintain the facilities, (3) improving reporting systems, and (4) examining the possibility of converting to a mechanical and electrical maintenance approach that offers cost-saving and other advantages. Each is discussed in more detail below.

Staffing

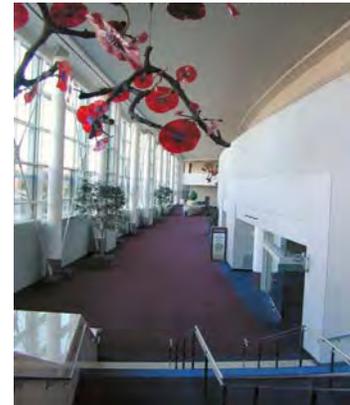
Adequacy of staffing needs review

Our surveys of staff and our on-site reviews both indicated several areas in which current maintenance levels appeared to be deficient. MERC employees indicated they were not able to keep up with janitorial and/or maintenance schedules – a condition backed up by maintenance logs and by direct observation. To the extent that we could assemble data to compare MERC’s costs and staffing levels with other facilities, understaffing in all three locations does appear to be a problem. This situation merits further review by MERC managers.

Potential problems in facility care

On the basis of our surveys of management and staff, our review of maintenance logs and other documentation, and our on-site inspections, we identified potential problems with facility care at all three facilities. Here is a facility-by-facility summary:

- Convention center** – Problems were noted here on both the janitorial and maintenance sides. Seventeen of the 19 janitorial staff surveyed said they needed more time to clean and sanitize in the manner expected by management. Management’s policy is to maintain the facility in “premier, first class condition.” However, our walk-throughs showed that not all carpet stains and restroom tile grout stains were being fully addressed. Similarly, staff responsible for maintenance also said they do not have adequate time to complete maintenance tasks and that some preventive maintenance such as electrical cord inspections are not being done within the timelines prescribed by management. Convention center management noted that the facility is essentially operating at pre-expansion staffing levels for both janitorial and maintenance.²



² The convention center’s 2003 expansion doubled its size. Available data indicate the convention center had approximately 55 maintenance staff before expansion. Maintenance staffing increased to approximately 81 immediately after the expansion was complete but decreased to 63 in fiscal year 2005.

- **Exposition center** – With one exception, no significant problems were noted here. Janitorial staff said they had ample time to complete assigned tasks. No janitorial problems were noted either in our walk-throughs or on the most recent biannual inspections performed by MERC management. The exception, discussed in a separate section later in this report, is not an issue of having enough staff, but rather whether the exposition center has staff with the appropriate qualifications to work on electrical equipment.



- **Performing arts center** – Here, the picture was mixed. On the janitorial side, no major problems were noted, either in staff surveys or in our walk-throughs and examinations of records. On the maintenance side, however, all staff surveyed said they were unable to perform routine preventive maintenance tasks as scheduled – a contention borne out in maintenance records, where we found that several scheduled routine maintenance projects were either not completed or had not been documented. In addition, the performing arts center had improperly licensed staff working on electrical installations.



Staffing levels are below industry benchmarks

The primary explanation for problems regarding facility care at MERC facilities appears to be staffing levels.³ At the convention center, managers said they were understaffed for both cleaning and maintenance work. The performing arts center managers said they were understaffed for maintenance, while management at the exposition center felt all staffing levels were adequate. The data we were able to assemble about maintenance costs and staffing levels tends to support these assertions. To the extent possible, we used surveys of janitorial and maintenance staff to assemble information about how they spent their time.⁴ We then compared this information to industry benchmarks nationwide. Across all the measures we were able to gather – janitorial and maintenance costs per square foot, amount of square footage cleaned or maintained per employee, and overall staff size – the three MERC facilities generally appeared to be staffed at lower levels than industry benchmarks.⁵

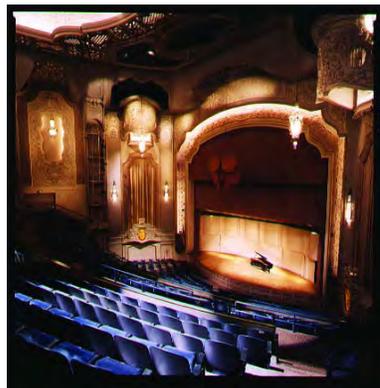
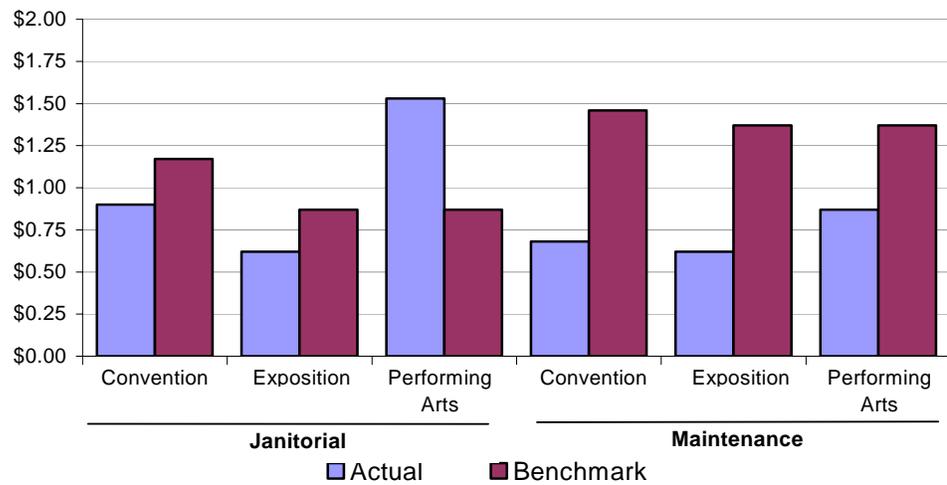
³ Another potential explanation for problems – inexperienced staff – does not appear to hold for these facilities. For the most part, the maintenance staffs are very experienced and are well versed in management requirements for appropriate cleaning and maintenance of the facilities.

⁴ See the discussion of our methodology (page 5 and Appendix A), where we describe the steps we took and the limitations in the data.

⁵ We also compared MERC's costs against available benchmarks for contracted maintenance. See Appendix C for this discussion.

The results are most easily seen in maintenance costs per square foot. As Figure 1 shows, the convention center and exposition center are below benchmark averages for both janitorial and maintenance costs, while the performing arts center is below the benchmark average for maintenance. For example, the convention center’s janitorial cost of \$.90 per square foot is \$.27 lower than the benchmark of \$1.17 for similarly sized facilities, while its maintenance cost of \$.68 per square foot is less than half the benchmark average of \$1.46.⁶ Results were similar across each measure we used. Generally, reduced costs are to be expected when facilities are understaffed. Evidence suggests, however, that facilities could add staff and still be under benchmarked costs for similar services (see Appendix B for more specific results).

Figure 1
Janitorial and Maintenance Cost Comparison



The only exception to this pattern was the cost of janitorial activities at the performing arts center, which exceeds the national benchmark by 75%. The higher costs, however, may be related to the specific types of janitorial work performed. Most of the difference appears related to the fact that janitors at the performing arts center have significant obstructions (multi-level theaters with up to 3,000 seats, orchestra pits, stage props, etc.) compared to light-to-moderate obstructions at the exposition center and many facilities that are in the benchmark average.

⁶ These figures were calculated on a square foot basis and include the cost of supplies as well as personnel salaries and benefits.

The exposition center, for example, is a large metal structure with wide-open spaces and concrete floors. At the performing arts center, staff also face sanitizing issues due to patron illness caused by such things as strobe lights, theatrical fogging, and loud music. Even so, there is a clear imbalance in costs being so far above the benchmark for janitorial activities and so far below the benchmark for maintenance activities – a signal that staffing shifts may be in order.



These results should not be taken as definitive, because the survey data are, at best, approximations of how MERC employees spend their time. Being somewhat below benchmarks may also be a sign of good efficiency and cost control. However, if understaffing is a significant issue, overworked employees can put MERC at risk for the following:⁷

- Decreased attention to detail
- Increased error rates
- Drops in performance levels
- Increased absenteeism and worker’s compensation claims
- A need for additional supervision and management
- Retention issues
- Competitive disadvantage (not being able to provide the extent and quality of services provided by fully staffed competitors)

Based on all of the above, we recommend that MERC facilities (especially the convention and performing arts centers) perform a workload analysis of their janitorial and maintenance staffs. Consideration should be given to reorganizing existing personnel as well as adding additional staff to ensure appropriate staffing levels for required cleaning, sanitizing, repair and preventive maintenance activities. For instance, the performing arts center may want to move some of its janitorial resources to the side of electricians, engineers, and others involved in repair and preventive maintenance work. The convention center may want to consider adding staff to both repair and maintenance and custodial functions. Such adjustments can help ensure that all maintenance is performed adequately and on a timely basis.

Expertise needed in electrical maintenance

The audit also revealed two issues with regard to electrical maintenance – one at the exposition center, the other at the performing arts center. Both issues resulted in violations of electrical safety law and present safety issues as well as risk to MERC and Metro.

⁷ “The Cost of Understaffing,” ABA Search and Staffing, 2000.

- At the exposition center, the issue involves not having qualified staff for electrical work. The exposition center does not have a licensed electrician on staff; instead, management contracts out electrical services for events and for any issues that cannot easily be fixed in-house. However, exposition center personnel have, in the past, performed electrical work for which a license is required. Electrical safety law requires that only appropriately licensed electricians perform electrical installations and electrical maintenance. There are many levels of electrical licenses, for which the rules and laws can be very confusing. However, a good rule of thumb is as follows: if the equipment involves a current-carrying conductor, an appropriate electrical license is needed to install, troubleshoot, or maintain it.



One incident at the exposition center illustrates the importance of having staff with sufficient expertise in electrical work. A 200-ampere disconnect switch and its grounding system – a complicated electrical device – was either improperly installed or maintained. The result was that the grounding system became part of the current-carrying system. This error, which was detected by a MERC electrician assisting exposition center staff in rectifying an electrical code violation, could have caused serious injury (including electrocution) to staff, contractors, and potentially, exposition center patrons. It is unclear whether the original building contractors, event service contractors (who install all temporary electrical services for exposition center events), or someone on the exposition center staff accidentally caused this safety issue. It is clear, however, that the exposition center would benefit by having an experienced electrical journeyman on staff who could recognize serious safety issues such as this.

- At the performing arts center, the issue is electrical licensing. Management at the performing arts center was unaware that neither limited maintenance electricians (LMEs) nor LME apprentices can participate in electrical installations, even if working under a supervising electrician. LMEs are limited to maintenance activities. When improperly licensed electricians are performing electrical work, safety issues could result.



The risks created by incidents and issues such as these include worker's compensation claims, OSHA penalties, loss of use of the facility through fire damage, and potentially, lawsuit from injured parties. To correct the situations and minimize such risks, we recommend the following actions:

- At the exposition center, management should add a journeyman electrician to their staff who, under the performing arts center’s supervising electrician (the signatory on the exposition center’s recent master electrical permit), can install electrical systems, perform all required preventive maintenance on electrical systems, observe all electrical work contracted out (such as temporary electrical service for events), and report any issues to the supervising electrician.
- At the performing arts center, management should discontinue using LMEs on installation projects. If the performing arts center wishes to continue performing electrical installation projects that require more electricians than its supervisor and his plant journeyman apprentice,⁸ it should consider contracting for the extra electricians needed, hire additional journeymen or, if possible, increase its apprenticeship program for plant journeymen.

Having appropriately licensed staff on hand to perform electrical work will help ensure a safe environment for staff and patrons of these public facilities as well as help mitigate risks for MERC and Metro. Timely preventive maintenance performed by qualified staff can prolong the life of expensive mechanical equipment and electrical systems. It can also help ensure safe, uninterrupted service to all customers.

Reporting systems

Reporting systems can be improved

MERC facilities lack reliable data for several types of janitorial and maintenance-related activities. Two opportunities for improving data – and thereby improving operations – are related to better tracking of how employees spend their time and what maintenance needs to be done.

Facility care activities are not tracked

MERC facilities currently do not have systems for tracking how janitorial and maintenance personnel spend their time. Cost statistics in this report were determined by surveying staff for their “best guess” at the amount of time they spend on janitorial and maintenance activities. These statistics are instructive, but they are not as reliable as data that could be developed from a tracking system. Such a system would allow management at each facility to do the following:

- Determine upkeep costs – and compare them to benchmarks – with greater certainty. Tracking the effort associated with cleaning and maintenance of the facility itself would allow management to determine exactly what it costs to maintain the facility.
- Ensure that service activity costs are recovered through event fees. For example, tracking effort on event service activities would provide management with a more accurate picture of what it costs to provide services for each event. Tracking event services by type would provide data on what it costs to provide electrical hookups, setup assistance or janitorial services for each event. While facilities must be competitive in their rental fees, more detailed costing information would allow management to better determine the adequacy of their charges for space rental.

⁸ Apprentices for plant journeyman licenses can participate in electrical installations.

- Assess the benefits and costs of performing capital improvement projects in-house. Actual in-house project costs could be compared to bids or outsourcing estimates as well as facility maintenance reports to determine if any savings from using maintenance personnel to complete in-house capital projects outweigh the resulting backlog of maintenance projects. Management would then be better equipped to make decisions about using in-house staff to perform capital improvement projects.

We recommend that MERC facilities track, by event or project and by type of activity, the time spent on caring for the facility, event service activities, and capital maintenance projects.

Systems for tracking preventive maintenance need enhancement

Each MERC facility has, or has had, a system for tracking routine preventive maintenance. Each facility generally has a backlog of such maintenance during busy times of the year, which is then caught up during the off-season. At each facility, the tracking system can be better utilized.

- The convention center used to have a computerized system for tracking maintenance, but when the decision was made to change accounting software, upgrades to the old tracking system were discontinued. The convention center does have sophisticated maintenance tracking directly on most pieces of equipment but it does not currently have a system to track progress on all required routine facility and equipment maintenance in one central, easy-to-access location.
- The exposition center has a manual system in which the operations manager requires hand-written progress notes from his maintenance staff and keeps reminders on his computer calendar to schedule maintenance. The center also uses a board, visible to all staff, to schedule maintenance. This rather basic system seems to work well for this small maintenance team. However, it does not allow upper management to see reports showing the status of preventive maintenance projects.
- The performing arts center has a computerized system to schedule and track all maintenance projects. Review of the system however, showed that it is not fully utilized nor updated adequately and timely.

We recommend that each MERC facility establish and utilize an overall maintenance-tracking system. Such a system is available through MERC’s new event business management software system and MERC may want to consider utilizing this system at all facilities. In any event, the system should enable operations managers and upper management at each facility to track progress on all maintenance to ensure it is being performed adequately and in a timely manner. Management should also require that the maintenance system be updated regularly.

Maintenance program

New approach can enhance system maintenance

MERC facilities would benefit by switching to a maintenance program that uses infrared thermography for determining when maintenance is needed on electrical and mechanical systems. This technology compares temperature trends against known limits for the equipment for the purpose of “detecting, analyzing, and

correcting problems before they occur.”⁹ It can identify and document temperature exceptions in electrical and mechanical systems that could eventually result in failure. For instance, in electrical systems it can identify loose connections (such as circuit breakers in electrical panels), deteriorated connections (such as temporary power cords used at events), short circuits, overloads, load imbalances, and faulty or mismatched components.¹⁰ In mechanical systems, it can identify such problems as water-damaged insulation in roofs, energy losses and air leakage, water in ductwork, as well as problems with rotating equipment, contactors, power transmission, and fluid flow. Following are graphic images of several of the issues noted above:¹¹

Figure 2
Loose connections (circuit breakers)

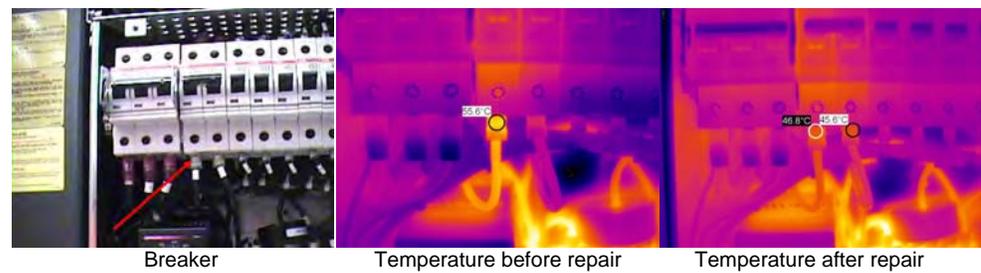


Figure 3
Deteriorated connections

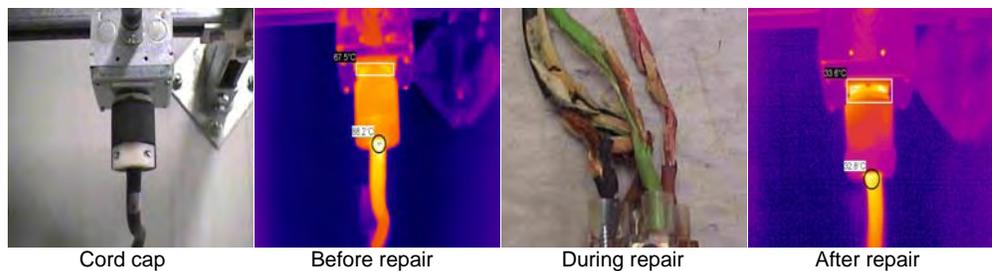
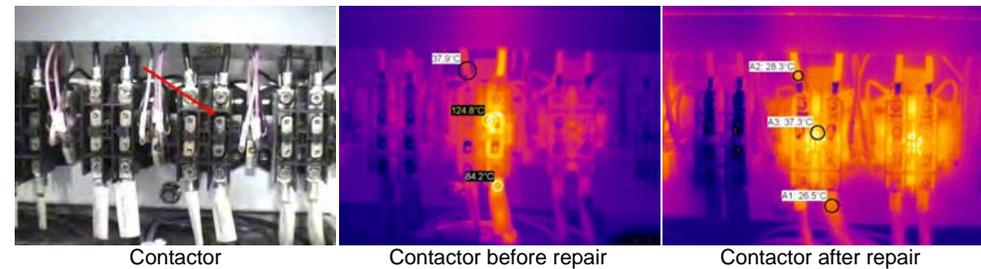


Figure 4
Contactors

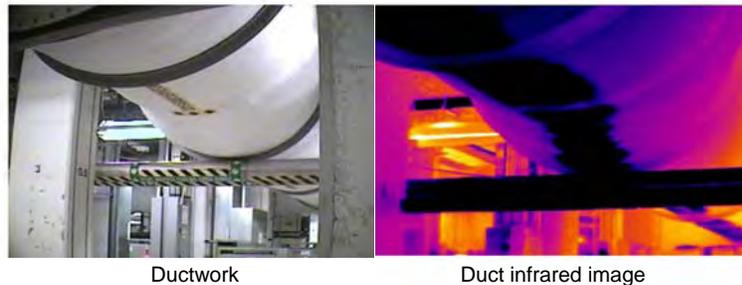


⁹ Michael V. Brown, *Applying the Predictive Approach and Managing Maintenance Planning and Scheduling*, New Standard Institute, Inc., 2003, p.1.

¹⁰ “Corporate Operating Procedures for Infrared Thermography,” *Intel Corporation Infrared Work Group*, Section 2.1.

¹¹ Figures 2-5 were provided from the personal collection of an anonymous infrared thermographer.

Figure 5
Standing water in ductwork



This approach would move electrical and mechanical maintenance from being conducted on a preventive basis (that is, conducting maintenance at intervals based on the amount of run time or calendar time that has elapsed) to being conducted on a predictive basis (that is, conducting maintenance only when the condition of the equipment warrants it). By conducting maintenance only when it is needed, a predictive approach has the potential to save money. One source has reported savings of \$11 for every dollar spent on predictive maintenance programs;¹² another source reported even more than that.¹³ While we do not expect this type of savings for MERC facilities, we do believe a predictive approach to maintenance could improve both maintenance efficiency and maintenance effectiveness. Other benefits of a predictive approach to maintenance include:¹⁴

- Increased safety though steady, uninterrupted operation.
- Increased job satisfaction through more satisfying and worthwhile work.
- Improved operating efficiency by predicting problems in the initial stages, thereby allowing downtime to be scheduled for the most convenient and inexpensive time.
- Minimized probability of unexpected failures.
- Reduced likelihood of damage to adjacent parts or equipment by identifying potential failures in advance.
- Increased troubleshooting capabilities by determining issues not evident to the naked eye.
- Increased equipment life cycle as equipment is only dismantled for maintenance when necessary, reducing the possibility of failure due to incorrect re-assembly.

Predictive maintenance programs are being utilized by facilities across the nation, but they are especially beneficial at facilities where uninterrupted service is a requirement – such as with MERC facilities. At MERC facilities, interrupted service runs the risk of losing valuable event customers and patrons.

¹² “What is Predictive Maintenance?” Spintelligent Labs, 2001, p. 2.

¹³ Lisboa, Fernando, *Thermal Imagers in a Predictive Maintenance Program*, Pharmaceutical & Medical Packaging News, 2003, p. 2.

¹⁴ “Justifying Predictive Maintenance,” *Literature Number PM-AN2*, DLI Engineering, p. 2.

MERC has taken some steps in this direction but can do more. The performing arts center currently contracts out infrared thermography services at a cost of approximately \$2,500 per year. Our research showed that a reasonable infrared camera could be purchased for around \$10,000. At least one staff person, preferably an electrician, would have to be trained in the use of the camera and how to analyze results, but if used across MERC facilities, the camera and training could potentially pay for itself in a little over a year.

We recommend that MERC adopt a predictive maintenance program using infrared thermography for electrical and mechanical systems in all three of its facilities.

Capital improvement processes adequate; funding plan needed



Besides caring for its facilities, MERC must also plan effectively to identify and schedule needed capital improvement projects. In this regard, MERC’s processes for identifying and prioritizing needed improvements are sufficient. However, its processes for identifying funding sources are not as strong. There is also risk that MERC is not in compliance with an intergovernmental agreement with the City of Portland, one of its two identified funding sources for the performing arts center.

Processes for identifying and scheduling capital improvements are sufficient

MERC’s procedures are adequate to ensure that significant improvement projects are appropriately identified and scheduled in a timely manner. Our review showed the following:

- The right people are involved. Each MERC division is involved in recommending capital projects, ranking those projects and suggesting the timing of those projects. All personnel involved in formalizing the annual capital improvement plan are seasoned employees with many years of experience relating to capital improvements. The MERC Construction Manager, who decides whether to add a project to the capital improvement plan, reviews facility recommendations and works with facility management to determine whether replacement or renewal is the best method of extending the life of the asset.
- The plans are appropriate. MERC has plans reflecting both a short-term and a long-term outlook. Each year, the budget submitted to Metro shows MERC’s proposed capital improvements for the next five years. In addition, MERC facilities have long-term plans showing proposed capital improvements over the next 15-20 years. The capital improvement plan is reviewed annually during the budget process and is flexible enough to allow changes should the unforeseen occur. For instance, the exposition center rescheduled installation of a non-critical exhaust fan in an equipment room for a later year when a critical roofing issue (the separation of roofing materials) developed on an older building.
- The scheduled work is carried out. Nearly all of the scheduled capital projects in the current year’s plan are complete or in progress.

Funding streams are uncertain

While the process for identifying and prioritizing capital projects appears adequate, the process for identifying needed funding for future projects is not. MERC needs to develop a long-term plan to ensure there are adequate funding streams to provide for necessary capital improvements across all its facilities. Over the next

15 years, MERC estimates it will need approximately \$11 million to complete projected capital renewal and replacement projects throughout its facilities. With the exception of the performing arts center, MERC's facilities have no stable, reliable funding source for capital improvements. And even the funding sources for the performing arts center, while stable and reliable, may not be adequate to cover capital needs. For instance, the performing arts center receives approximately \$300,000 annually from the City of Portland in support of capital improvements, but according to the adopted budget for fiscal year 2006, the performing arts center plans to spend \$1.2 million on capital projects. Friends of the Performing Arts, a non-profit organization that supports the performing arts center, does fundraising for improvement projects for the center, but according to the director of the performing arts center, "recent significant catastrophes around the world have limited the amount of funding available to support the performing arts. It is becoming more difficult to fund capital projects."

MERC's policies call for ensuring the adequacy of such funding. The Metro Capital Asset Management Plan, formally adopted by MERC, requires that "a renewal and replacement reserve account for each operating fund responsible for capital assets, be established." According to the Capital Asset Management Policy, "renewal and replacement reserves should initially be established based on the value of the asset and consideration of known best asset management practices." Given these requirements, MERC may want to adopt a policy that requires the use of a formula, such as a percent of operating revenues or asset value, that could be consistently used to set aside funding for each facility in its long term capital improvement program. In developing such a formula, certain factors such as building age, type, square footage, intensity of use, recent renovations and whether existing funding sources are adequate, should be considered. Funding requirements for each facility may vary widely based on these factors. In addition, MERC should periodically review each facility's formula for adequacy. Establishing and fully funding renewal and replacement reserves each year will help ensure capital improvements are performed adequately and timely.

Practices limit transparency in capital spending

We also identified an additional issue related to the use of moneys designated for capital projects at the performing arts center. This issue involves how well the performing arts center is able to track whether these moneys are actually used for capital improvements. The Visitor Facilities Intergovernmental Agreement of 2001 requires the City of Portland to "provide \$600,000 per year, adjusted annually by the consumer price index, to be used one-half in support of the performing arts center's operations and one-half for the performing arts center's capital improvements."



The performing arts center is currently performing some capital improvement projects and related administrative services in-house. Consequently, it is charging some administrative and operational staff salaries to the MERC pooled capital account. However, the performing arts center does not track operational staff time by project or task and it is impossible to tell if the amount of wages and benefits being charged to MERC's pooled capital account relates solely to work performed on capital projects. In addition, directly charging administrative and operational staff salaries to a capital account is highly unusual.

With regard to this practice, the performing arts center's Executive Director said:

- The City of Portland is aware that salaries are paid out of the capital account.
- The funding is needed to support operations and, prior to the current operating agreement, had been considered operational funding.
- Revising the existing agreement so that the funding could be used for either operational or capital projects was not worth the effort, because the City of Portland and Metro are not the only parties to the agreement.

We recommend, however, that MERC carefully evaluate the risks associated with not obtaining a memorandum of understanding from the City of Portland regarding the performing arts center's current practice of charging operational staff salaries and benefits against City funding received in support of capital improvements. A formal understanding between the City of Portland and MERC as to how the capital dollars received from the City may be spent would help ensure violations of the agreement do not occur and allow for greater transparency in the performing arts center's accounting practices and records.

Appendices

Appendix A – Audit Methodology

The audit was conducted primarily by performing extensive tours and inspecting the condition of each MERC facility, interviewing and surveying MERC management and staff regarding facility care and the time spent on janitorial and maintenance activities, and benchmarking janitorial and maintenance costs against national indices.

Facility tours were purposely conducted during tear-down phase immediately following large events or during a long-running play when rehearsals were not occurring. This enabled us to get a first-hand view of facilities during and just after events. The tours also facilitated a basic knowledge of each facility and an understanding of the cleaning and maintenance issues it faces. For instance, the performing arts center incurs different maintenance and cleaning issues than the other facilities in that it has extensive theatrical lighting and stage rigging, requires complicated sound systems, and the areas to be cleaned are often heavily obstructed (multi-level theater seating, musical instruments, props, etc.). The tours included the entire structure of each facility, from basement to roof, as well as all mechanical and electrical equipment.



We interviewed MERC and facility management to get their perspective on both facility care and capital improvement processes. We also surveyed staff to determine: (1) how much time they spent on janitorial and maintenance activities (as compared to providing event services or performing in-house capital projects); (2) whether they had enough time to perform housekeeping and maintenance projects appropriately; (3) if they do not have enough time to complete projects, what is not getting done; and (4) how much more time is needed. Survey results allowed the calculation of the full-time equivalent number of staff working on janitorial and maintenance projects and, subsequently, an estimate of the cost per square foot to clean and maintain each facility. These calculations were necessary to compare each facility's estimated maintenance costs to benchmark statistics.

Benchmarking analyses were also performed on both the janitorial and the repair and maintenance functions. An in-depth search was conducted for maintenance statistics relating specifically to theater and other public assembly facilities, but could not be found. Statistics were found, however, for the types of activities performed (cleaning, sanitizing, structural maintenance, electrical and mechanical system maintenance, etc.). MERC facility care managers are members of the

organizations publishing the benchmark statistics used in these analyses and assert they are the primary organizations used throughout the maintenance industry. The benchmark sources used provide statistics for office facilities, multi-purpose facilities, government facilities and facilities in local areas such as Portland, Oregon.

The audit also entailed reviewing relevant Oregon statutes and rules, Metro Code provisions, strategic plans, program plans, practices and processes as well as facility records. The audit analyzed facility care outsourcing possibilities and other best practices. A risk analysis of general and technical risks associated with not having adequate policies, procedures and practices to ensure facilities are cared for in a fiscally responsible, effective and efficient manner was also performed.

Finally, the audit was conducted in accordance with government auditing standards. These standards require that we review internal controls and report significant deficiencies that are relevant to audit objectives. MERC has several controls designed to ensure that facilities are appropriately maintained. These controls are summarized in Table 1 below:

Table 1
MERC’s primary controls for ensuring facilities are appropriately maintained

Control	Description
Capital project scheduling and budgeting process	Provides a mechanism for the annual review of planned projects and necessary funding associated with those projects. MERC’s project list goes out 15+ years, five of which are presented in the annual budget report.
Periodic walk-throughs by operational managers	Operations managers at each facility perform a walk-through of their facilities periodically (some on a daily basis). This allows managers to keep up-to-date on maintenance issues, propose remedies, track progress, and follow up on previous concerns, if needed.
Bi-annual formal facility review performed by MERC construction manager	Comprehensive independent facility reviews are conducted bi-annually by MERC’s construction manager and/or a qualified associate. Extensive lists of items to look for at each facility have been compiled and reports complete with a list of issues to be addressed are distributed to the operations director or manager of each facility after the review.
Maintenance tracking systems	All facilities have or have had (through the old ConCentRIC software program) some form of overall facility maintenance tracking system. MERC is replacing the ConCentRIC software program with a new enterprise business management program that also has maintenance tracking capabilities.

Significant internal control deficiencies found during the course of the audit are described in the report.

Appendix B – Additional information on janitorial and maintenance benchmarks

In addition to the cost-related benchmarks discussed earlier in this report, we gathered additional benchmark information related to janitorial and maintenance at MERC facilities. The other benchmarks involve:

- Area cleaned and maintained per day per staff
- Existing janitorial and maintenance staff

Area and staff level analysis

In order to further analyze the adequacy of janitorial and maintenance staffing levels at MERC facilities, the area cleaned or maintained per day per staff and the number of existing staff was compared to other facilities across the nation. The results are provided in Table 2 below:

Table 2
Analysis of area cleaned and maintained per day per staff and staffing levels

Janitorial Staff

Square Footage Cleaned Per Day Per Staff*	MERC Facility	Benchmark	Difference
Convention center	61,115	44,728**	16,387
Exposition center	67,956	44,728**	23,228
Performing arts center	32,267	19,632***	12,635
Existing Staff*			
Convention center	16.15	22.1	(6)
Exposition center	5.1	8.0	(3)
Performing arts center	10.8	7.27	3

Repair and Maintenance Staff

Square Footage Maintained Per Day Per Staff*	MERC Facility	Benchmark	Difference
Convention center	105,788	65,617	40,171
Exposition center	125,421	65,617	59,804
Performing arts center	97,091	65,617	31,474
Existing Staff*			
Convention center	9.33	15.04	(6)
Exposition center	2.85	5.45	(3)
Performing arts center	3.35	4.96	(2)

* Full-time equivalent

** Benchmark is for facilities with minimal obstructions

*** Benchmark is for facilities with some obstructions

With the exception of janitorial staff at the performing arts center, Table 2 shows more area is being cleaned or maintained with fewer staff than the benchmark average. The analysis also shows that the convention and exposition centers have less staff performing custodial activities (by six and three, respectively) than the benchmark average. The performing arts center has three more custodians than benchmark average. All three facilities show less in repair and maintenance staff than the benchmark average (the convention center by six, the exposition center by three, and the performing arts center by two).

Appendix C – Can MERC save money by contracting out its maintenance work?

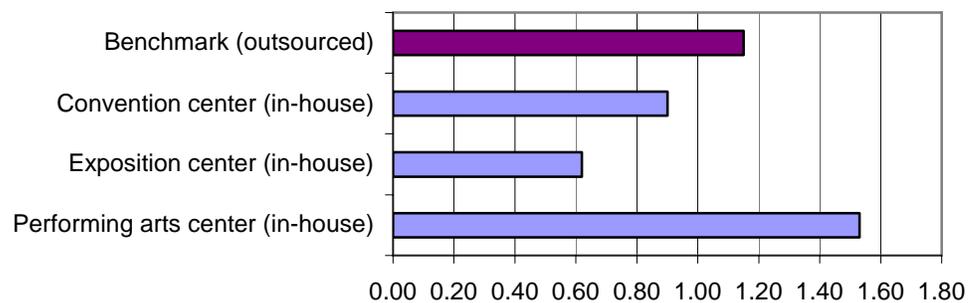
Outsourcing facility maintenance is probably not a feasible option for MERC. It is unclear whether contracting out would save money, and this option adds other potential issues – such as much higher staff turnover – that could be problematic.

MERC managers do not favor a contracting-out approach. They said they get more dedication, professionalism, and pride in the work product from in-house staff than from contracted employees. They believe their facility care staffs are very efficient and the functions could not be outsourced for less money. They also voiced a concern that, in event-driven businesses, staff must be on hand and knowledgeable of the processes needed to allow events to occur without a hitch. They noted that since MERC facility care staff (both janitorial and maintenance) provides event services as well as perform maintenance functions; specialized knowledge is required of each person.

To provide perspective on a contracting-out option, we attempted to find benchmark statistics for outsourcing costs for both janitorial and maintenance functions. Statistics encompassing both staffs were limited. Of the statistics we reviewed for maintenance, it appears most facilities prefer an in-house maintenance staff supplemented through contracts when needed. One source was able to provide data on the number of contracted staff generally required to maintain facilities of various sizes; MERC’s in-house maintenance staff was about one-third the number of staff under this benchmark.

Outsourcing costs for janitorial activities, however, were available from benchmark sources. According to one source, 74% of respondents in that survey outsourced janitorial activities. Figure 2 compares the three MERC facilities to the outsourced benchmark. As it shows, the convention center’s and exposition center’s in-house costs are below the benchmark, while the performing arts center’s in-house costs are above it.

Figure 6:
In-house vs. contracted janitorial costs



Some additional perspective is needed, however, to interpret these results. First, as was pointed out in the body of this report, the convention center may currently be understaffed, and if so, the understaffing tends to reduce the convention center's costs. However, even if additional staff were added to the convention center's workforce, it would probably still be under benchmark for outsourcing. The exposition center currently has adequate janitorial staff for their facility. It also would not benefit by outsourcing janitorial activities. Although the performing arts center's costs exceed those of the outsource benchmark, the benchmark may not be truly reflective of the janitorial work needed at the center. In particular, the obstructions and cleaning issues the performing arts center's custodial staff must deal with could account for a good share of its additional costs.

Besides costs, the skill levels and knowledge base of staff must be considered. The benchmarking source we used also reported that facilities contracting out janitorial activities have a 21% chance of 100% turnover, a 39% chance of 50% turnover, and a 62% chance of 25% turnover annually. Our review indicates that event-driven establishments consider turnover at these levels much too high. Reliable in-house employees knowledgeable about specific requirements for MERC events (productions, concerts, conventions and exhibitions) will always be preferred over contracted employees less familiar with those requirements, even if the cost is slightly higher. We conclude, therefore, that MERC facilities would not benefit from outsourcing either the janitorial or repair and maintenance functions.

Appendix D – References

1. “2005 BOMA Experience Exchange Report,” *Building Owners and Managers Management Association International*, 2005
2. “2005 In-House Cleaning Operations Benchmarking Survey Report,” *Cleaning Management Institute*, 2005
3. “Preventive Maintenance for Local Government Buildings: A Best Practices Review,” *Minnesota Office of the Legislative Auditor*, 2000
4. Larry Adams, “More Work, More Pay,” *Quality Magazine*, July 2003
5. Joan Alxelrod-Contrada, “Tough Times for Skeleton Crews: Understaffing leaves many more employees overworked to the bone,” *The Boston Globe*, October 2003
6. “An Audit of the Facilities Management Division,” *Office of the City Auditor*, San Jose, Calif., August 2003
7. Michael V. Brown, “Applying the Predictive Approach,” *New Standard Institute, Inc.*, 2003
8. “Corporate Operating Procedures for Infrared Thermography,” *Intel Corp. Infrared Work Group* (Section 2.1)
9. Jerry Daigle, “If You Can’t Measure It, You Can’t Manage It!,” *Facility Manager*, July/August 2002
10. “Dranetz Field Handbook for Power Quality Analysis,” *Dranetz Technologies, Incorporated*, 1991
11. Ellen Galinsky, et al., “Overwork in America: When the Way We Work Becomes Too Much,” *Families and Work Institute*, 2005
12. Wade Howarth, “Predictive Maintenance Saves Money, Improves Plant Reliability,” *Pharmaceutical Processing*, May 2004
13. “Infrared Predictive Maintenance,” *Sierra Pacific Infrared Thermography*, 2005
14. “Introduction to Infrared Thermal Imaging Surveys,” *Florida Electrical Resources, a division of TEAMWORKnet, Inc.*, 2005
15. “Justifying Predictive Maintenance,” *DLI Engineering*
16. Fernando Lisboa, “Thermal Imagers in a Predictive Maintenance Program,” *Pharmaceutical & Medical Packaging News*, 2003
17. Tammy Lundstrom, MD, et al., “Organizational and Environmental Factors That Affect Worker Health and Safety and Patient Outcomes,” *American Journal of Infection Control*, April 2002

18. “Operations and Maintenance Benchmarks 21,” *International Facility Management Association*, 2001
19. “Licensing,” *Oregon Administrative Rules: Department of Consumer and Business Services* (Section 918, Division 282, Building Codes Division)
20. “Electrical Safety Law,” *Oregon Revised Statutes: Protection of Buildings from Fire* (Chapter 479), 2003
21. “Overcrowding + Understaffing = Trouble,” *American Federation of State, County and Municipal Employees (AFSCME)*, summer 2004
22. Carl Schultz, “Developing and Implementing an Infrared Predictive Maintenance Program,” *Maintenance Technology*, 2005
23. John Snell, “Implementing an Infrared Thermography Maintenance Program,” *Fluke Corp.*, 2005
24. “The Cost of Understaffing,” *ABA Search and Staffing*, 2000
25. “What is Predictive Maintenance?,” *Spintelligent Labs*, 2001
26. Terry Wireman, “Getting the Most From Predictive Maintenance,” *Engineer’s Digest*, February 1997

Response to the Report

Metropolitan Exposition Recreation Commission



arts. sports. conventions. shows.

METROPOLITAN EXPOSITION-RECREATION COMMISSION

May 16, 2006

Alexis Dow, Metro Auditor
Metro
600 Northeast Grand Avenue
Portland, OR 97232

Dear Ms. Dow:

Thank you for the opportunity to comment on the facility maintenance audit *MERC Facilities Efficiently Maintained—Maybe Too Efficiently, May 2006*. We appreciate the thorough research and thoughtful recommendations provided by your organization in this audit.

MERC manages 1.65 million square feet of public spaces that hosted 2.1 million domestic and international visitors at 1,620 events in 2005. Providing first class public spaces that are attractively cleaned and safely maintained is of paramount importance to MERC and its 513 full and part-time employees.

We agree with the findings and recommendations provided in this audit, and we expect to implement many of the recommendations during the next two fiscal years, as financial resources allow. There are a few points that we would emphasize in relation to the findings and recommendations:

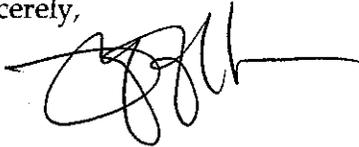
- The implementation of MERC's new event business management system (EBMS) will help address several of the audit recommendations related to staffing analysis and allocations, facility care and preventative maintenance. The EBMS system will accumulate staffing and event information that will allow us to perform workload analysis and improve staffing and operational efficiencies as requested in Audit Recommendation 1; track spending on facility care, event services and capital projects per Audit Recommendation 3; and track preventative maintenance per Audit Recommendation 4.
- The audit findings confirm what MERC has known for several years: MERC lacks an adequate public funding base for industry-standard facility care and for capital improvements and replacements. MERC's unusual funding structure relies heavily on enterprise (non-subsidized) revenues, making MERC extremely vulnerable to market changes and economic slowdowns. MERC receives no public property tax funding for capital or operations nor does it receive operations funding from Metro.



Alexis Dow
METRO
May 16, 2006

- Long term, stable public funding for capital improvement and replacements is a primary issue for MERC and Metro, its governing authority. And, the solutions are more complex than creating a simple formula and setting money aside from enterprise revenues as suggested in Audit Recommendation 6. Any solution must provide adequate, stable public investment and will require participation of Metro and other public partners and stakeholders of these regional public assets.
- The issue of insufficient funding to address capital maintenance needs will only worsen without significant new revenues. A recent funding analysis for OCC and PCPA show that capital reserve funding for these venues will continue to be drawn down at an alarming rate in a few years without additional public funding.

Sincerely,



Jeff Miller, General Manager



Sheryl Manning, MERC Chair

Audit: MERC Facilities Efficiently Maintained – Maybe Too Efficiently

Date: May 2006

AUDIT RESPONSE

Recommendation 1

Address staffing adequacy. MERC facilities – especially the convention center and performing arts center – should perform a workload analysis of janitorial and maintenance staffs. Consideration should be given to reorganizing existing personnel as well as adding additional staff.

Agree

Yes

No (specify reasons for disagreement)

What action will be taken (if any)?

OCC: The 2003 expansion coincided with a national recession and industry changes after terrorist attacks on 9/11/2001. Our response to sudden decline in convention business was to reduce non-event staff, which included night cleaning crews. Gradually, the industry is recovering and OCC is planning to add a graveyard cleaning crew of 5 people and a supervisor. This will solve some of the immediate needs for OCC.

Expo: An "analysis" should reaffirm that MERC does more with less. It should also document current and preferred staffing levels. On the downside, we are currently projecting a gap between our fund balance and our strategic fund balance goal. This is before added cost for appropriate maintenance staffing levels. A source of funding is a prerequisite to adding staff.

PCPA: We agree that the benchmark comparison of janitorial to maintenance staff is not reliable because of the significant obstructions in our facilities. We do know, however, that cleaning is barely being done at a standard acceptable for a first class theater, so that shifting from cleaning to maintenance is not a likely solution. On the other hand, we agree that more resources are required to meet our maintenance needs. We are adding a full time maintenance position in FY07. Further, we plan to use contract labor for capital projects to free maintenance staff to focus on facility maintenance.

Who will take action?

OCC: Jeff Blosser

Expo: Chris Bailey

PCPA: Robyn Williams

When will action be accomplished?

OCC: A graveyard cleaning crew of 5 people and a supervisor will be added in FY 06-07.

PCPA: We are adding a full time maintenance position in FY07.

Follow-up necessary to correct or prevent reoccurrence:

Audit: MERC Facilities Efficiently Maintained – Maybe Too Efficiently

Date: May 2006

AUDIT RESPONSE

Recommendation 2

Electrical expertise is needed. At the exposition center, management should add a journeyman electrician to the maintenance staff. This electrician could then install electrical systems, perform all required preventive maintenance on electrical systems, observe all electrical work contracted out, and report any issues to the Supervising Electrician. At the performing arts center, management should discontinue the practice of using electricians with Limited Maintenance Electrician licenses on electrical installation projects and take steps to secure properly qualified personnel as needed.

Agree

Yes

No (specify reasons for disagreement)

What action will be taken (if any)?

Expo: We would agree that the need to actively address the maintenance, repair and monitoring of electrical systems is prudent and in the best interests of MERC/Expo. We will need to evaluate if a full time employee is needed or if a contract employee or part time employee is a more appropriate choice. A 0.2 FTE Electrician is in the 2006-07 budget. The position was inserted as an estimate until we have time to analyze our requirements and make a decision.

- A. Staff, in cooperation with an outside source and/or a MERC electrician, will survey the facilities and determine what maintenance, repair and monitoring requirements may need to be addressed over a given year (scope of work);
- B. Estimate the man-hours necessary to accomplish the scope of work set against the electrical systems in place and the seasonal nature of Expo events;
- C. Prepare and distribute a Request for Quote to determine private sector interest and cost quote;
- D. Based upon the results of the RFQ, determine and implement what is in the best interests of MERC/Expo relative to satisfying the scope of work and financial resources.

PCPA: We will limit use of our LME's as helpers working under staff holding manufacturing plant electricians supervisors licenses.

Who will take action?

OCC: Jeff Blosser

Expo: Chris Bailey

PCPA: Robyn Williams

When will action be accomplished?

FY 2006-07

Follow-up necessary to correct or prevent reoccurrence:

Audit: MERC Facilities Efficiently Maintained – Maybe Too Efficiently

Date: May 2006

AUDIT RESPONSE

Recommendation 3

Track how staff spend their time. MERC facilities should take steps to track, by event or project and by type of activity, the time spent on facility care, event service activities and capital maintenance projects.

Agree

Yes

No (specify reasons for disagreement)

What action will be taken (if any)?

Currently, two new systems are being implemented MERC wide which will allow us to address how staff spend their time. The initial phase of Kronos, which tracks time for all employees, will be fully implemented at MERC by late summer. EBMS, our event and accounting system, was launched last September and is being implemented in modules. EBMS Facility Maintenance module will allow us to create maintenance projects ("events") and schedules for those events. This module is probably going to be implemented in late 2006-07 or 2007-08. With both Kronos and EBMS Facility Maintenance in place, we will be prepared to schedule maintenance and tracking staff time for "maintenance events".

Who will take action?

MERC Admin: Kathy Taylor

When will action be accomplished?

2007

Follow-up necessary to correct or prevent reoccurrence:

Audit: MERC Facilities Efficiently Maintained – Maybe Too Efficiently

Date: May 2006

AUDIT RESPONSE

Recommendation 4

Track preventive maintenance. MERC facilities should establish and utilize an overall maintenance-tracking system. MERC may want to consider using the facility maintenance system available through its new business management software. Whatever system is adopted, management should ensure that (1) it allows each facility to track progress and all maintenance to ensure it is being performed adequately and in a timely manner; and (2) progress is updated regularly.

Agree

Yes

No (specify reasons for disagreement)

What action will be taken (if any)?

EBMS Facility Maintenance module will allow us to create maintenance projects ("events") and schedules for those events. This module is probably going to be implemented in late 2006-07 or 2007-08.

Who will take action?

MERC Admin: Kathy Taylor

When will action be accomplished?

2007

Follow-up necessary to correct or prevent reoccurrence:

Audit: MERC Facilities Efficiently Maintained – Maybe Too Efficiently

Date: May 2006

AUDIT RESPONSE

Recommendation 5

Enhance maintenance of electrical and mechanical systems. MERC should adopt a predictive maintenance program using infrared thermography for electrical and mechanical systems at all of its facilities.

Agree

Yes

No (specify reasons for disagreement)

What action will be taken (if any)?

MERC will evaluate the benefits of using infrared themography including an evaluation of equipment purchase compared to contacting the service.

PCPA: We currently have infrared thermography done annually.

Who will take action?

MERC Admin: Mark Hunter

When will action be accomplished?

2006-07; however, no funds were budgeted for this project.

Follow-up necessary to correct or prevent reoccurrence:

Audit: MERC Facilities Efficiently Maintained – Maybe Too Efficiently

Date: May 2006

AUDIT RESPONSE

Recommendation 6

Plan for capital funding. MERC should identify an adequate, stable and reliable funding source for capital renewal and replacement projects at each facility. To do this, MERC may want to adopt a policy that requires the use of a formula, such as a percent of operating revenues or asset value, that could be consistently used to set aside funding for both near and long-term capital improvement plans.

Agree

Yes

No (specify reasons for disagreement)

What action will be taken (if any)?

MERC: The recommendation is an excellent idea. Each year our budget goal is to adequately fund a capital renewal and replacement reserve. However, the reality of operating at near breakeven and below our strategic fund balance goal precludes this option. Long term funding documents have been prepared for each facility and are a basis for discussions with Metro, MERC commission, community leaders or stakeholders. The solution is far more difficult than forecasting the need. The solution requires community and political understanding and support and funding.

PCPA: PCPA has the advantage of having an organization such as the Friends of the Performing Arts Center whose mission is to raise funds for capital. Although the Friends have been a fund raising source in the past – they've not been active currently and some question exists as to whether they will be in the future.

Who will take action?

MERC Admin: Jeff Miller

When will action be accomplished?

In process

Follow-up necessary to correct or prevent reoccurrence.

Audit: MERC Facilities Efficiently Maintained – Maybe Too Efficiently

Date: May 2006

AUDIT RESPONSE

Recommendation 7

Clarify use of capital funds at the performing arts center. MERC should carefully evaluate the risks associated with not obtaining a formal written understanding with the City of Portland as to the acceptability of charging operational staff salaries and benefits against City-provided funding for capital improvements. A formal understanding would help ensure violations of the current agreement do not occur and also allow for greater transparency in accounting practices and records.

Agree

Yes

No (specify reasons for disagreement)

What action will be taken (if any)?

PCPA: We have informal written understanding. Formal changes should wait until there is a need to open this agreement for more substantial changes than the issue concerning PCPA's. The parties to this agreement knew that the language was less than perfect at the time, but at that stage in the negotiations, it was not significant enough to keep the agreement open.

Who will take action?

MERC Admin: Jeff Miller

When will action be accomplished?

Informal agreement is already in place. Formal agreement will be broached if and when the VDI agreement is renegotiated. This will be driven by major political demand such as a headquarter hotel, shift of ownership of other property to MERC, etc.

Follow-up necessary to correct or prevent reoccurrence:



Metro Auditor Report Evaluation Form

**Fax... Write... Call...
Help Us Serve Metro Better**

Our mission at the Office of the Metro Auditor is to assist and advise Metro in achieving honest, efficient management and full accountability to the public. We strive to provide Metro with accurate information, unbiased analysis and objective recommendations on how best to use public resources in support of the region's well-being.

Your feedback helps us do a better job. If you would please take a few minutes to fill out the following information for us, it will help us assess and improve our work.



Name of Audit Report: MERC Facilities Efficiently Maintained – Maybe Too Efficiently, May 2006

Please rate the following elements of this report by checking the appropriate box.

	Too Little	Just Right	Too Much
Background Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Details	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length of Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clarity of Writing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Potential Impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Suggestions for our report format: _____

Suggestions for future studies: _____

Other comments, ideas, thoughts: _____

Name (optional): _____

Thanks for taking the time to help us.

Fax: 503.797.1831
Mail: Metro Auditor, 600 NE Grand Avenue, Portland, OR 97232-2736
Call: Alexis Dow, CPA, Metro Auditor, 503.797.1891
Email: dowa@metro.dst.or.us

Suggestion Hotline: 503.230.0600, MetroAuditor@metro.dst.or.us