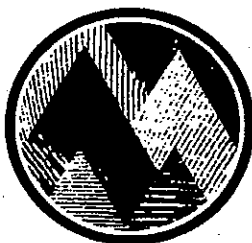


Metro
Metropolitan Exposition -
Recreation Commission

Expo Center Expansion:
Construction Cost Management

March 1998

A Report by the Office of the Auditor



METRO

1998-10101-AUD

Alexis Dow, CPA
Metro Auditor



METRO

OFFICE OF THE AUDITOR

March 6, 1998

Commissioner Gary Conkling, Chair, MERC
Commissioner Baruti Artharee
Commissioner George Bell
Commissioner Ben Middleton
Commissioner Alice Norris

Re: Audit of Expo Center expansion

Dear Chair Conkling and Commissioners,

The enclosed report describes our audit of construction cost management for the new hall at the Expo Center.

Overall, we found MERC staff generally managed the costs of the Expo expansion adequately. However, some areas can be improved. Our recommendations are summarized in Chapter 4 on page 23 of this report. For your convenience, an executive summary is provided on page 1.

We appreciate the cooperation and assistance provided by MERC staff during our work on this review, and we look forward to continuing our positive relationship with you.

If you have any questions or comments regarding this report, please call me at 797-1891.

Very truly yours,

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

Alexis Dow, CPA
Metro Auditor

AD:ems

Auditor: Doug U'Ren

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Response to the Report

MERC Chair Gary Conkling

EXECUTIVE SUMMARY

The Portland Metropolitan Exposition Center is a consumer and trade show facility. In April 1997, work was completed on a new building that added about 135,000 square feet of exhibit space to the Center.

Metro's Office of the Auditor reviewed the effectiveness of measures taken by Metropolitan Exposition-Recreation Commission (MERC) staff to manage the costs of this expansion. We focused on construction expenditures, which constituted over 85% of the \$13.5 million project cost. MERC obtained construction services using the Construction Manager/General Contractor contracting approach.

We found that MERC staff adequately managed the costs of the Expo expansion. They achieved cost control by hiring a highly experienced general contractor, closely monitoring construction work, and utilizing the services of a construction specialist loaned to the project by Metro. At completion, construction costs were about \$300,000 under budget, and total project costs were slightly under the \$13.5 million project budget.

We engaged the services of a construction cost consultant to evaluate the construction budget, which was also the guaranteed maximum price MERC negotiated with the general contractor. Using a computerized estimating process, the consultant confirmed that the \$12.1 million construction budget was reasonable.

Although overall construction cost management practices were satisfactory, we found several areas where improvements are needed. In particular, we recommend MERC staff improve procedures for documenting construction decisions and for ensuring that prices for indirect construction services are competitive. We also noted inconsistent backup of expenditures reimbursed to the general contractor and recommend better documentation before reimbursement. Lastly, we recommend that MERC: 1) establish guidelines to help staff decide which costs to charge to construction projects, and 2) re-evaluate policies regarding sealed bidding and contract retainages.

Chapter 1

Introduction

The Portland Metropolitan Exposition Center (Expo) is a consumer and trade show facility consisting of four buildings that provide approximately 330,000 square feet of exhibit space. Expo is located about six miles north of downtown Portland, immediately west of the I-5 freeway and south of the Oregon Slough of the Columbia River (Figure 1). The site covers nearly 61 acres of land.

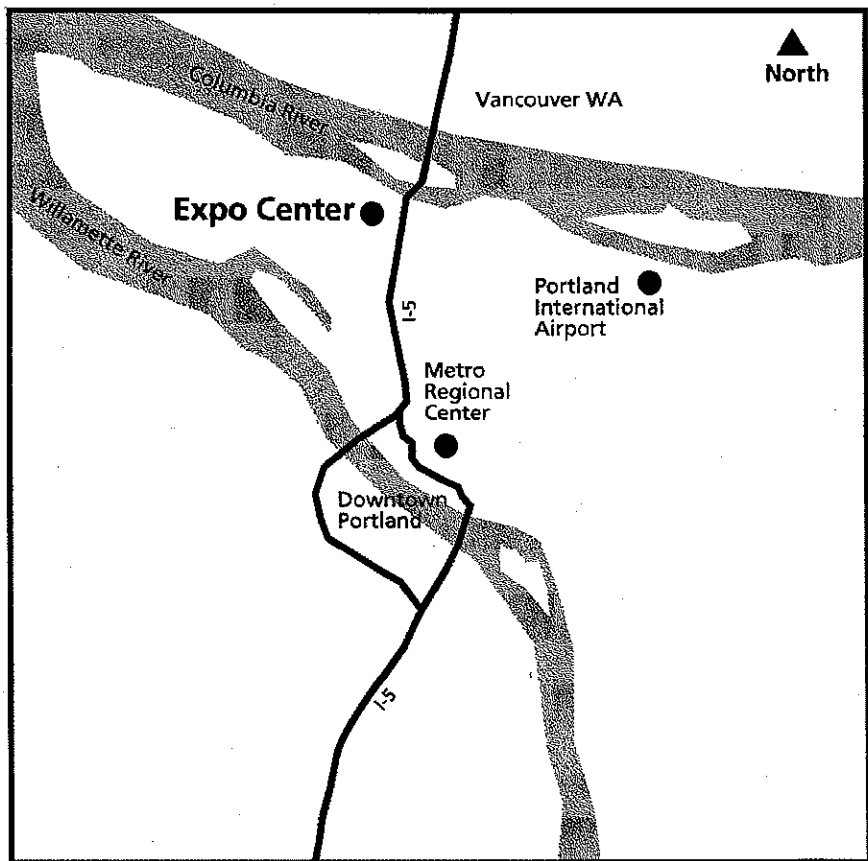


Figure 1. The Expo Center is located north of downtown Portland, Oregon.

Expo History Expo's original facilities were constructed by the Pacific International Livestock Association during 1921 and 1922 to accommodate what was to become the west coast's largest livestock exposition. Expo's facilities were used to grade cattle, hold rodeos and conduct livestock auctions. The original Expo building burned down three years after it was constructed but was quickly rebuilt.

Expo continued to thrive through the 1950's. However, the livestock markets changed and in 1965 the Swift Company shut down a packing plant located at the western end of the complex. That same year, Multnomah County purchased the property. The county remodeled the facilities and operated them until 1994, when it transferred management to the Metropolitan Exposition-Recreation Commission (MERC) under the terms of an intergovernmental agreement with Metro. The county deeded Expo to Metro in 1996, though it remains under MERC management.

Description of Expo Facilities Built Before 1996 Before the most recent expansion, Expo had several halls in three buildings available for consumer and trade shows (Figure 2). The main building contains Halls A and B and two smaller halls. It has an area of 100,000 square feet and consists of four exhibit halls. It is wood-framed, with unpainted plywood walls and floors that are both concrete and asphalt.

Exhibit Hall C is a 60,000 square foot wood-framed building with painted plywood walls and concrete floors. Exhibit Hall D is a 60,000 square foot steel structure built in 1982.

All three buildings described above have limitations that reduce their attractiveness to some potential users. For example, they all have structural columns, which reduce flexibility because exhibits and booths need to be positioned around the columns. Some of the buildings are not well heated, and air conditioning is limited.

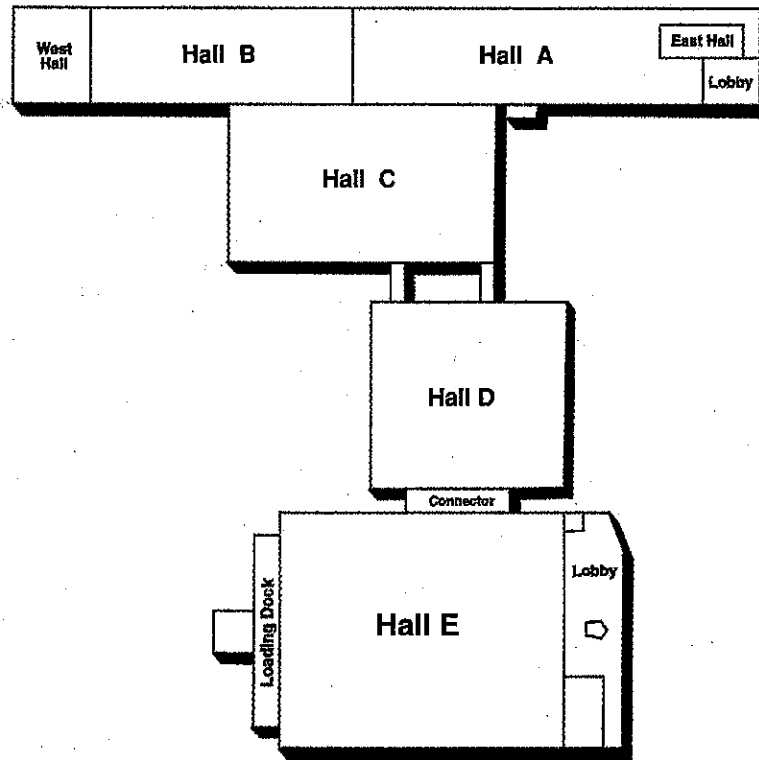


Figure 2. Outline of the Expo Center, including the new hall (Hall E).

Expo's Newest Building – Hall E

In 1995, officials from the Smithsonian Institution in Washington, DC, began searching for a facility in the Portland area to host the “America’s Smithsonian” exhibit. This exhibit is a collection of items from the Smithsonian’s museums that was assembled for a national tour commemorating its 150th anniversary. They originally tried to book the Oregon Convention Center, but scheduling problems could not be resolved. They also considered renting the existing Expo halls, but the buildings’ limitations reduced their appeal. MERC officials then began considering the option of constructing a new hall. This new hall would meet the needs of the “America’s Smithsonian” exhibition and fulfill a need for additional, higher quality exhibit space that had been identified as early as 1992. In early 1996, MERC and the Metro Council decided to proceed with plans to build the new hall.

With a budget of \$13.5 million, MERC authorized construction of a new 135,000 square foot hall (Figure 3). Groundbreaking took place in June 1996, and the new facility, dubbed “Hall E”,

was substantially completed in March 1997. The first event held in the new hall, the “America’s Smithsonian” exhibit, was widely acclaimed and drew 425,000 visitors over 34 days.

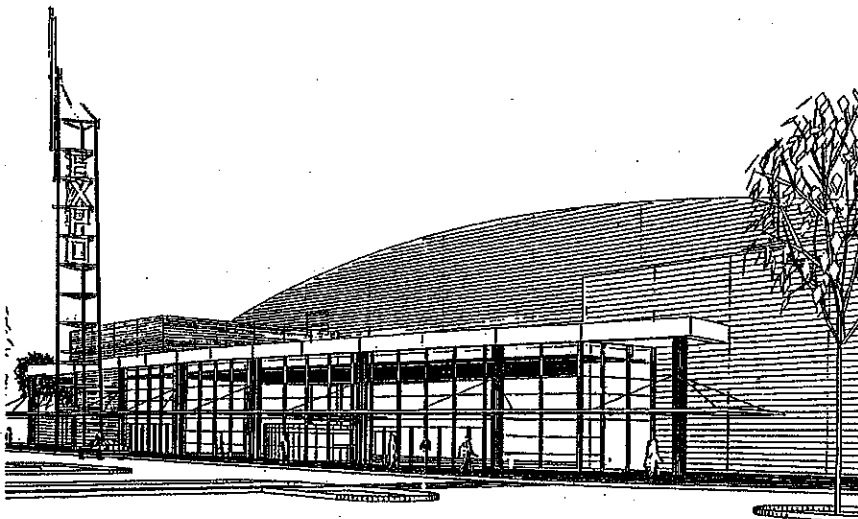


Figure 3. Front view of the new hall at the Expo Center.

Hall E features 108,000 square feet of column-free space, meeting rooms, a large lobby and a 4,500 square foot connector that links Hall E to Hall D (Figure 2). A key element of Hall E’s design was five trusses, each about 300 feet long and weighing 159,000 pounds. These trusses allowed the new exhibit space to be free of columns. The Expo expansion project included extensive re-landscaping, paving parking lots, and major improvements to a nearby road.

The City of Portland, in approving a conditional use permit for the Expo expansion, required extensive landscape improvements to Expo but allowed MERC to defer them for up to seven years. No additional building permits will be issued at Expo after seven years unless the landscape changes have been made. We understand MERC used about \$250,000 of Expo expansion project funds to meet the City’s requirements. MERC’s capital improvement plan indicates that the remaining landscape work, estimated to cost \$1,000,000, will be performed in FY 2002-3.

The Project Budget Under the original funding plan, the new Expo hall was financed using the following sources:

<u>Source</u>	<u>Amount (millions)</u>
Transfer from Oregon Convention Center Operating Fund	\$ 9.0
Privately placed revenue bond (with Intel Corp.)	2.5
Expo Fund Balance	1.5
Loan from Oregon Convention Center Operating Fund	<u>0.5</u>
Total	<u>\$ 13.5</u>

Expenditures were budgeted as follows:

<u>Expense</u>	<u>Amount (millions)</u>
Construction contract	\$ 12.1
Architect and engineering fees	1.0
Other (construction permits, inspections, 1% for Art, etc.)	<u>0.4</u>
Total	<u>\$ 13.5</u>

**Contracts for
Architectural and
Construction Services**

MERC signed two major contracts for the Expo project — one for architectural services and one for construction management. Yost Grube Hall (Yost) provided architectural services. Yost created designs for the new hall for MERC's consideration, produced construction drawings and specifications, helped MERC staff obtain building permits, and assisted the Expo construction management team. MERC's fixed price contract with Yost totaled \$1,030,000. Six minor work scope changes raised the final price of the contract to \$1,062,849.

Hoffman Construction Company (Hoffman) provided construction management services. MERC's contract with Hoffman was cost-plus, with a guaranteed maximum price of \$12,097,432. Hoffman subcontracted nearly all construction work and was allowed under the construction services agreement

to charge MERC for these services at its cost. Subcontract services costs totaled about \$10.8 million.

Hoffman was also allowed to recover all expenditures for the salaries and benefits of Hoffman employees assigned to the Expo project, as well as "general conditions". These general conditions included insurance, field surveying, renting temporary structures, office supplies and equipment, temporary sanitation and other such indirect costs. General conditions and salary costs totaled about \$630,000. Finally, Hoffman was paid a fee equal to 3.2% of all construction costs, which came to about \$365,000.

The design/bid/build method of acquiring construction services is commonly used. It entails hiring an architect to design the project and then awarding a fixed-price contract to the general contractor furnishing the lowest cost bid. There are two drawbacks to this method that can raise costs: 1) sometimes the general contractor cannot easily build the structure as designed, and 2) sometimes opportunities to reduce construction costs through changes in design or specifications are not identified until it is too late to implement them.

MERC's contract with Hoffman used the Construction Manager/General Contractor (CM/GC) approach, which attempts to avoid some of the drawbacks of the design/bid/build method described above. Under the CM/GC approach, the general contractor is selected early in the project. This allows it to ensure the structure can be built as designed, identify cost reduction opportunities and estimate total construction costs.

The CM/GC approach can reduce total construction time by enabling the general contractor to order long lead time materials and begin site work before the architect has completed all designs and drawings. The "fast track" nature of the CM/GC approach was a primary reason why Metro and MERC staff chose it for the Expo expansion project. Early in the project, they estimated it would reduce the time to complete the Expo project by six months, from nineteen months to thirteen. This shortened project schedule enabled MERC to host the "America's Smithsonian" exhibition.

In addition to the construction services agreement, which was signed in May 1996, MERC and Hoffman entered into another agreement in March 1996 for pre-construction services. The amount of that fixed price contract was \$20,000.

- Project Management Team** The team that managed the Expo expansion project met once a week during construction to discuss progress and scheduling issues and to resolve problems. It was composed of:
- MERC's Construction and Capital Projects Manager
 - Oregon Convention Center Director (supervises Expo Manager)
 - Expo Manager
 - Expo Operations Manager
 - Metro's Construction Manager
 - Representatives of Yost Grube Hall
 - Representatives of Hoffman Construction Company of Oregon.

Project team member responsibilities were not clearly defined. However, the MERC Construction and Capital Projects Manager provided overall coordination for the project, and it appears that the Oregon Convention Center Director had primary responsibility for authorizing subcontract awards and approving project expenditures.

- Audit Objectives and Methods** As part of our annual audit plan, we evaluated the effectiveness of measures taken by MERC staff to control the costs of constructing the new Expo hall. Our review focused on such questions as:

- Did MERC establish an appropriate construction budget for Expo?
- Did actual costs remain within the established budget?
- Was the cost reporting system accurate and reliable?
- Were procedures adequate to ensure construction services were acquired at a competitive cost?

We did not begin our audit until after the new hall was completed. This avoided diverting staff's attention from the critical task of getting the new hall built in time to host the Smithsonian exhibit. Our goal was to provide MERC and Metro with information they can use when managing other large construction projects such as the Oregon project under way at the Metro Washington Park Zoo and a proposed project for the Oregon Convention Center. Most of our work focused on issues surrounding construction contract management, as construction costs accounted for more than 85% of total project costs.

Our audit work did not cover the following aspects of the Expo expansion project:

- Whether the size, features and design of the new Expo hall were appropriate
- Whether the general contractor and project architect complied with all contractual and legal requirements applicable to their work on the Expo expansion
- The appropriateness of processes used to select the project architect and general contractor
- The accuracy of cost figures supplied by the general contractor in support of payroll overhead rates charged to the Expo project (the amount paid to the general contractor for these costs totaled approximately \$89,000).

We carried out our work by reviewing MERC and Metro Council actions pertaining to the Expo expansion and by interviewing Metro, MERC and general contractor staff who played key roles in managing the project. We examined cost reports, pay requests, construction logs, subcontract amendments and other documents obtained from MERC staff, Metro's accounting division and the general contractor. We also hired a construction cost consulting firm, Rider Hunt Ackroyd, to determine whether the guaranteed maximum price contained in the construction services agreement was reasonable. The consultant also helped evaluate the process MERC used to control construction cost adjustments.

We were unable to locate a comprehensive set of standards for administering construction contracts with the CM/GC approach. Therefore, we developed most of the standards expressed or implied in this report by identifying the requirements of the construction services agreement and by adapting standards and controls applicable to cost-plus contracts.

Our audit was conducted in accordance with generally accepted government auditing standards.

Chapter 2

Project Costs Were Adequately Controlled

In our opinion, MERC implemented adequate management controls over Expo expansion project costs. Key cost controls are listed below.

1. A project budget was established, and reviewed and approved by the MERC Commission and Metro Council.
2. The construction budget, which accounted for nearly 90% of the project budget, was reasonable according to an independent analysis.
3. MERC negotiated a contract with the general contractor that limited expenditures to \$12,097,432, unless MERC authorized a significant change in work scope. No such work scope changes occurred.
4. In general, project costs were properly recorded and cost reports were accurate, providing MERC staff with the information needed to adequately monitor project cost status.
5. All facets of the project, especially construction work, were closely monitored by MERC staff, the project architect, and a Metro construction manager assigned to the Expo project.

Expenditures Remained within Project Budget

Project expenditures came in under budget, largely as a result of the management control measures listed above. A comparison of budgeted and actual expenditures through June 30, 1997, are presented below:

<u>Category</u>	<u>Budgeted Cost</u> (thousands)	<u>Actual Cost</u> (thousands)
Construction services	\$ 12,097	\$ 11,771
Architect's fee	1,030	1,053
1% for Art	117	115
Permits and fees	105	175
Other (inspections and testing, geo-technical assessment, construction management, etc.)	151	190
Total	<u>\$ 13,500</u>	<u>\$ 13,304</u>

We found net additional costs of \$188,000 that should have been recorded to the project but were instead recorded as general Expo capital expenditures. They included a new, Expo-wide telephone system that was specified in the construction budget and reimbursements to Expo's concessionaire (Fine Host) for concessions equipment installed in the new hall. These costs, netted against two minor costs that should not have been recorded to the project, brought total project expenditures through June 30, 1997 (the end of MERC's fiscal year), to \$13,492,000. No significant additional costs were charged to the project after that date.

**Cost Consultant
Confirmed
Construction Budget
Was Reasonable**

The construction budget was the largest component of the overall project budget and equaled the guaranteed maximum price in the construction services agreement MERC signed with Hoffman. We engaged a construction consulting firm (Rider Hunt Ackroyd) to determine if the guaranteed maximum price MERC negotiated with the general contractor was reasonable. The Rider consultant used a computerized estimating process and concluded that the cost to build the new Expo hall, based on the specifications and drawings used to set the guaranteed maximum price, was about \$12,023,000. Since this amount differed from the actual guaranteed maximum price (\$12,097,432) by less than 1%, we believe the construction budget was reasonable.

**Criteria for
Identifying Project
Costs are Needed**

Our review of Expo's capital expenditures indicated that, to a reasonable degree, Expo expansion project costs were properly recorded in Metro's accounting system. As noted earlier, we found expenditures of about \$188,000 that we believe were erroneously recorded as general capital costs rather than Expo expansion project costs. The classification of these costs is somewhat subjective because MERC lacks criteria for deciding what costs to record to projects. We recommend developing such criteria.

Chapter 3

Construction Contract Management Processes Were Adequate, but Some Improvement is Needed

Controlling the cost of services provided by the general contractor was a critical part of managing the Expo expansion project since the construction budget constituted nearly 90% of the \$13.5 million project budget.

Actual costs paid to the general contractor (Hoffman) are shown in the following table.

<u>Category</u>	<u>Actual Costs (millions)</u>
Reimbursed subcontracted services costs	\$ 10.8
Reimbursed General Conditions costs	0.4
Construction management fee at 3.2%	0.4
Salaries & benefits of general contractor staff assigned to the Expo expansion project	<u>0.2</u>
Total paid to construction contractor	<u>\$ 11.8</u>

“General Conditions” costs included liability insurance, construction bonds, office and construction equipment rental, office supplies, temporary sanitation and surveying.

We reviewed construction management literature and assessed the risks inherent in the construction services agreement. To control construction costs under the CM/GC contracting approach, we determined that the following steps were necessary:

1. Ensure construction services are competitively priced.
2. Ensure only those costs allowed by the construction services agreement are billed to the Expo project.

3. Ensure construction services are provided at cost, as required by the construction services agreement.
4. Ensure contractor is reimbursed only for services actually received.
5. Ensure 3.2% management fee is properly calculated and billed.

**Procedures to Obtain
Competitive Prices
from Subcontractors
Were Generally
Followed**

The general contractor awarded 42 construction subcontracts for the Expo project. The initial value of work under these subcontracts totaled \$8.0 million and amendments boosted their final cost to \$10.8 million. Many of these amendments were anticipated and they did not increase the \$12.1 million construction budget.

The contract for construction services established the following requirements for subcontracts:

1. The general contractor was required to sub-bid all construction work costing more than \$2,500 unless an exemption from sub-bidding was obtained from MERC.
2. Requests for subcontract bids were to be advertised at least 10 days in advance of bid opening in the Daily Journal of Commerce. They were also to be advertised in at least one other newspaper targeted to reach women- and minority-owned businesses.
3. All bids for subcontract work were required to be sealed.
4. All subcontract awards were to be approved by MERC.

The construction services agreement set a goal for the general contractor to obtain at least three bids for each work package, presumably to help ensure that subcontracted services would be competitively priced.

For the initial \$8.0 million in construction work awarded to subcontractors, we found that MERC and the general contractor substantially followed the subcontract award procedure specified in the construction services agreement. This provided a significant level of assurance that MERC received competitive prices for the initial work awarded to subcontractors.

Forty of the construction subcontracts exceeded the \$2,500 threshold for sub-bidding given in the RFP. The general contractor awarded 31 of them based on competitive bids. These

31 subcontracts comprised over 95% of the initial value of work awarded to subcontractors.

More than 90% of the 40 subcontract awards were based on three or more bids. All but one was awarded to the lowest cost bidder. The single subcontract not awarded to the low bidder was awarded to a Disadvantaged Business Enterprise; the amount of the subcontract was relatively small at \$24,000.

MERC management approved all subcontract awards. This requirement was also listed in the RFP.

**Policies Regarding
Sealed Bidding Should
Be Re-evaluated**

Although the general contractor usually followed the required procedure for awarding subcontracts, we noted the contractor did not ask potential subcontractors to submit sealed bids as required by the construction services agreement. We checked five subcontract files at the general contractor's office and found that four of the subcontracts had been awarded based on faxed bids rather than sealed bids. We came across no evidence indicating that bid results were affected by this procedural change. However, we believe the sealed bid requirement should have been enforced to provide additional assurance that the integrity of the sub-bid award process was preserved.

MERC may wish to make the subcontract bidding process more efficient by raising the threshold for sealed bids from \$2,500 to \$10,000 or \$25,000. For subcontracts under the increased bid threshold, MERC could assure competitive pricing by requiring the general contractor to obtain and record at least three competitive quotes for each construction service required.

**Better Documentation
of MERC's Approval
of Subcontract
Amendments
Recommended**

As noted in the previous section, subcontract amendments processed during the construction of Hall E totaled about \$2.8 million. These amendments affected the amount MERC paid the general contractor but did not raise either the overall construction budget or the maximum price set by the construction services agreement.

Why Subcontract Changes Occurred

Considering our analysis of selected subcontract changes and on discussions with MERC staff, we found that subcontract amendments occurred for several reasons.

In order to complete construction as scheduled by March 1997, the general contractor requested bids and awarded subcontract work before the project architect had completed all designs and drawings. MERC signed a construction services agreement with the general contractor shortly before subcontract bids were requested. This agreement contained allowances for building features that had not been designed, and some subcontractors performed the additional work after the designs and drawings were completed.

Unforeseen conditions also resulted in subcontract amendments. For example, the area where Hall E was built had apparently once been a county dump site. Although MERC hired a geotechnical firm before construction to assess soil conditions, the core samples taken by the firm did not fully identify the problem. As a result, the original construction subcontracts did not specify all the excavation and debris removal work that was eventually required. The construction services agreement contained allowances for this unforeseeable expense, as well as others associated with road improvements, site grading and landscaping.

Another subcontract amendment approved overtime labor. This was done to ensure construction work would be completed on schedule.

Some subcontractor bids were less than the general contractor budgeted. MERC used the savings to add extra features to the building. For example, MERC exercised an option to install folding partition walls that can be used to divide Hall E into two smaller exhibit spaces.

MERC Established Several Processes to Control Construction Changes

At the beginning of construction, MERC's Construction Manager established several processes for ensuring proposed changes to construction specifications and costs would receive appropriate review. The processes are summarized below.

Change Proposal Notifications (CPNs). These notices were used by the general contractor to request two types of changes: 1) scope changes or allowance adjustments that affected the construction contingency fund, which was originally set at

\$420,000; and 2) scope changes that changed the guaranteed maximum price of building the new Expo hall. Notices were prepared by the contractor and routed to MERC staff and the project architect for review. They were signed by the Oregon Convention Center Director (to whom the Expo Center manager reported). The project architect reviewed notices but did not sign them. About 115 notices, with a cumulative cost impact of \$1.6 million, were proposed by the general contractor.

Design Clarification/Variation Requests (DCVRs). These requests were used by the general contractor to obtain interpretations of construction specifications or to request permission to use a different construction method, material or design than originally specified. Requests contained two sections: one section for the general contractor to describe the request or the problem to be solved, and the other section for the architect's response. We were told that MERC's Construction Manager reviewed all requests, but we noted that neither he nor any other MERC manager was required to sign them. Almost 500 requests were processed during the construction of the new Expo hall. Change Proposal Notifications were to be prepared for any approved requests that would increase construction costs; this would ensure proper approval of changes.

Construction Change Directives (CCDs). These directives indicated construction changes desired by MERC or the architect. Directives were prepared by the architect and approved by MERC's Construction Manager. It was our understanding that, if a directive affected construction costs, the additional costs would be authorized through a Change Proposal Notification, assuring proper approval.

Criteria Used to Evaluate MERC's Procedure for Controlling Construction Changes

Considering our assessment of risks, we concluded that MERC should review and approve all subcontract changes using Change Proposal Notifications or a similar process. The goals of MERC's review should be to:

- Evaluate the need for the proposed subcontract change
- Determine whether the cost of the proposed change is reasonable and fair

- Ensure extra services associated with each change do not duplicate services that have already been included in an existing subcontract.

The project architect or a qualified construction cost analyst could help MERC staff review construction changes that lead to subcontract amendments. Their experience could provide added assurance that the proposed changes are both necessary and reasonably priced.

MERC Staff Approved Most, But Not All, Changes that Resulted in Subcontract Amendments

As noted earlier, MERC authorized \$1.6 million of construction changes on Change Proposal Notifications. However, subcontract amendments totaled \$2.8 million, leaving about \$1.2 million in subcontract changes that were processed by the general contractor without MERC's formal written approval. MERC staff likely saw most, if not all, of these changes when they reviewed Design Clarification/Variation Requests and when they participated in weekly meetings that were held by the project team. In order to provide better accountability and further assurance that the subcontract amendments are necessary and cost-competitive, we believe written approval is needed for all changes and decisions that result in subcontract amendments.

When administering future construction projects that are done using the CM/GC approach, MERC should ensure that all subcontract amendments are reviewed and approved, either through Change Proposal Notifications or an equivalent process. MERC staff may wish to ask the project architect or an experienced construction cost analyst to review the notices when this would be cost-effective. This review would provide additional assurance that proposed changes are needed and reasonably priced.

MERC's Efforts to Ensure Competitive Pricing of Indirect Construction Services Need to be Documented

MERC paid the general contractor about \$400,000 for general conditions costs incurred during Hall E construction. General conditions were essentially indirect construction services and included the following:

- Liability insurance and contractor's bonds
- Rented construction and office equipment

- Surveyor services
- Office supplies
- Duplication of construction drawings.

We were told that the MERC Construction Manager, with assistance from Metro's Construction Manager, reviewed all categories of general conditions costs and ensured that they were reasonable before the construction budget was forwarded to MERC for approval. We were also told that they reviewed proposed equipment rental rates and found they were at or below market value. However, we were unable to identify the actual steps taken to ensure competitive pricing because the process was informal and no records were kept. Although formally documented price comparisons are not needed for low-cost services, we believe they should be done whenever amounts may be significant. For the Expo project, the services in this category would have included such items as insurance, equipment rental, surveyor and temporary structures costs.

**Increased Effort
Needed to Ensure
Construction
Contractor Provides
Adequate Support for
All Expenditures**

Overall, MERC staff implemented adequate controls to ensure that: 1) the general contractor charged the Expo project only for services actually received, and 2) only those costs allowed by the contract services agreement were reimbursed to the contractor.

Although most construction expenditures were well documented, some were not. We tested 40 construction costs reimbursed during the months of July 1996, February 1997 and March 1997. Thirty-two of these 40 expenditures were adequately documented. However, the remaining eight expenditures had incomplete documentation. Thus, we were unable to determine to a reasonable level of certainty if they were billed to the Expo project at the general contractor's cost. Although the contractor provided some documentation to support these eight expenditures, it did not provide copies of invoices or their equivalent showing the actual amounts billed and the vendors' payment terms.

MERC staff should require the contractor to furnish copies of invoices submitted by subcontractors and other vendors before reimbursing costs in future construction projects utilizing the CM/GC approach. This would help assure that services have been billed at cost. This requirement could be waived for low-cost services.

Costs to be Reimbursed to General Contractor Should Be Reviewed More Critically

During our tests of construction expenditures and payroll overhead rates, we noted that the general contractor charged about \$19,000 of questionable costs to the Expo expansion project. These costs were allowable under the construction services agreement and approved by MERC staff, but may have been unnecessary. They were not significant in relation to the total cost of constructing the new Expo hall. However, they do indicate the need for MERC staff to more critically review costs billed by general contractors in the future.

The labor time of the general contractor's staff assigned to Expo was charged at actual pay rates plus a 46% overhead rate that covered the cost of payroll taxes and fringe benefits such as medical and pension plans. About 8% of the payroll overhead rate was for the cost of providing a year-end bonus equal to one month's pay. We believe the cost of this benefit should have been disallowed. It is not required by law or labor agreement, and presumably the general contractor would not actually disburse this benefit to employees who leave the company before year-end.

The 46% payroll overhead rate also included 8.20% for social security (FICA) and Medicare health insurance benefits. The actual cost to Hoffman, however, was 7.65%. The estimated overcharge from this item and the year-end bonus totaled about \$7,000.

Hoffman Structures, an affiliate of Hoffman Construction, provided about \$77,000 in services for the Expo project. Hoffman Structures' charges to the project included a 3% management fee. In our view, this management fee should not have been charged to the Expo project. It duplicated a 3.2% management fee already being paid to Hoffman Construction under the terms of the construction services agreement. The estimated overcharge from this item was about \$2,000.

Hoffman Construction set up a temporary office next to the construction site and billed MERC for the costs of operating the office. During our review of these costs, we noted expenditures of about \$10,000 for desks, chairs, a fax machine, photocopier, and a laser printer. MERC staff indicated some of these items were rented, while others were purchased. They stated that some of these items were returned for credit at the end of construction. Since construction work occurred over a relatively

short period of nine months, we believe it would have been more economical to lease most of these items instead of buying them. If the items were needed for MERC's ongoing operations, in our opinion it would have been more appropriate to acquire them using MERC's normal purchasing process.

In future construction projects, we recommend that staff more closely review indirect construction costs to ensure all charges are for services that are both necessary and prudent.

**Management Fee Paid
in Accordance with
Construction Contract**

As noted earlier, the construction services agreement allowed Hoffman to charge MERC a fee equal to 3.2% of reimbursable costs for managing the construction of the new Expo hall. We reviewed payments to Hoffman and verified that the total management fee paid (\$364,991) represented 3.2% of total reimbursable construction costs.

We also noted that, by March 1997, Hoffman Construction had requested and received management fee payments totaling \$375,114. This equaled 3.2% of the guaranteed maximum price of the construction services agreement but exceeded the total fee earned to that point by approximately \$15,000. We were told that Hoffman staff believed they were entitled to the full fee of \$375,114 once construction was substantially completed, as it was by March 1997, and they billed the Expo project accordingly. We were unable to determine when MERC staff first identified this error, but the overcharge was not corrected until July 1997, when Hoffman Construction submitted their final construction billing to MERC. It appears that closer review of the contractor's payment requests would have enabled MERC staff to identify the management fee overpayment more quickly.

**Funds Not Withheld
from Contractor's
Payments in
Accordance with
Construction Services
Agreement**

MERC's contract with the general contractor stated that "Contractor shall be paid 95 percent (95%) of the determined value of work accomplished... within thirty (30) days after receipt by Owner of Contractor's payment estimate. Owner shall routinely withhold five percent (5%) as Retainage." This provision was aimed at ensuring the contractor would perform all services required under the Construction Services Agreement. Another section of the RFP provided MERC staff with the option to stop retaining funds after 50% of work was completed if work progressed according to schedule.

In practice, MERC withheld only 5% of the value of subcontracted construction services, rather than 5% of all construction costs. Thus, by our calculations MERC retained \$4,000 to \$20,000 a month less than that required under contract terms during the first half of the construction period. We believe there was little risk in this decision, since the contractor was also required to provide a performance bond. We recommend that staff retain funds in accordance with the contract. If the contract's withholding requirement is considered too aggressive, consideration should be given to processing a contract amendment to reduce the requirement.

Chapter 4

Summary of Audit Recommendations

In summary, we found that MERC staff generally managed the costs of the Expo expansion adequately. They achieved cost control by hiring a highly experienced general contractor, closely monitoring construction work, and using the services of Metro's construction specialist. Although overall construction cost management practices were satisfactory, we found several areas where improvements are needed.

1. When managing future construction projects using the CM/GC contracting approach, MERC staff should:
 - Document their approval of all changes and decisions that result in subcontract amendments
 - Compare the general contractor's prices and rates for general services to those available from other vendors, and document the results of the comparisons
 - Ensure that the general contractor has provided adequate support for expenditures before reimbursing them
 - More thoroughly review indirect construction services to ensure they are necessary and prudent
 - Consider raising the threshold for sealed bidding, then ensure the required sealed bidding procedure is followed
 - Retain funds in accordance with the contract. If the contract's retention requirement is considered too aggressive, consider processing a contract amendment to reduce the requirement.
2. MERC should develop criteria for staff to use to decide which costs to record to projects.

These steps will help MERC and Metro manage the costs of other large construction projects, such as the Oregon project under way at the Metro Washington Park Zoo and a proposed project at the Oregon Convention Center.

Response to the Report



METROPOLITAN EXPOSITION-RECREATION COMMISSION

March 4, 1998

Alexis Dow, CPA
Metro Auditor
Metro Office of the Auditor
600 Northeast Grand Avenue
Portland, OR 97232-2736

Dear Alexis:

In accordance with Metro Ordinance 95-610A, this letter is written in response to the draft audit report on the Expo Center expansion. As noted in your draft report, the audit was designed to review the effectiveness of measures taken by Metropolitan Exposition-Recreation Commission (MERC) to manage the costs of this expansion. This letter will address:

- Agreement with the findings and recommendations, or reasons for disagreement
- Proposed plans for implementing recommendations
- Proposed timetables to complete such activities

First of all, MERC appreciates any feedback from the Auditor's Office that helps us to streamline and improve the effectiveness of our operations. As a public entity, we are here to serve the public's interest in the most efficient and cost-effective manner possible. As such, I would like to say that we do not disagree with any of the recommendations included in your report and will outline in this letter how we intend to implement them into our ongoing procedures.

I was pleased to note in your report that, based on your review, you found that MERC staff adequately managed the costs of the Expo expansion. We are committed to running the MERC facilities in the most entrepreneurial manner possible. The Expo expansion was a good example of how a public entity can evaluate an opportunity and design and implement a response to capitalize on that opportunity swiftly and prudently. I commend the Metro Council, MERC Commission and staff for their efforts.

In early 1996 the Metro Council and MERC Commissioners identified the opportunity to host the "Traveling Smithsonian" exhibit and recognized that this provided the ideal

opportunity to proceed with construction of a much needed new hall at the Expo Center. The budget was approved, ground was broken in June 1996, after the intended start date, and the Hall was substantially completed by March 1997 within its approved budget. The new Hall not only successfully housed the Smithsonian Exhibit, but also has successfully enhanced revenues at the Expo Center. The new Hall has served as a catalyst for bringing new events to Expo Center and has allowed existing events to shift to the new hall and to expand providing a "win-win" opportunity for Expo Center and its customers.

While I would certainly view this project as having been a success, we welcome the opportunity to improve on our success. In discussing your report with MERC staff, we have concluded that the recommendations contained in your report, *noted in italics and bold*, are valid and reasonable to implement into our future construction projects as noted below:

Summary of Audit Recommendations and MERC's response

1. *When managing future construction projects using the CM/GC contracting approach, MERC staff should:*

- ***Document their approval of all changes and decisions that result in subcontract amendments***

As was noted in your report, the Change Proposal Notifications (CPNs) were used by the general contractor for changes that affected scope or allowance adjustments that increased or decreased the construction contingency fund or that affected the guaranteed maximum price of building the new Hall. The CPNs were approved by the Oregon Convention Center (OCC) Director.

Design Clarification/Variation Requests (DCVRs) were used by the general contractor to obtain interpretations of construction specifications or request permission to use a different construction method, material or design than originally specified. If a DCVR resulted in a CPN because it increased construction costs, it was signed by the OCC Director as noted above. If, however, the DCVR did not result in a CPN, it was reviewed and approved by the OCC Director and MERC Construction Manager orally at the weekly construction meeting.

Construction Change Directives (CCDs) indicated construction changes desired by MERC or the architect. CCDs were prepared by the architect and approved by MERC's Construction Manager. If a CCD affected construction costs, the additional costs would be authorized with a CPN as noted above.

All of the above changes were reviewed to evaluate the need for the proposed subcontract change and determine whether the costs were reasonable, fair and not a duplication of costs already covered in existing subcontracts. All changes, however, did not result in written authorization.

On future Construction Manager/General Contractor (CM/GC) construction projects, MERC staff will retain a written record to document that all subcontract amendments have been reviewed by a member of the MERC staff and found to be within the maximum guaranteed price and scope of work as stated in the contract. Additionally, for subcontract changes that result in a major change in scope, MERC will employ a project architect or a qualified construction cost analyst to review the proposed change, if deemed prudent and cost-effective to do so.

- ***Compare the general contractor's prices and rates for general services to those available from other vendors, and document the results of the comparisons***

MERC paid the general contractor about \$400,000 for "general services" costs incurred during Hall E construction. The MERC Construction Manager and Metro Construction Manager reviewed categories of general services costs to ensure they were reasonable before the construction budget was forwarded to MERC for approval. While these review steps were taken, they were not always documented in writing in MERC's records.

We agree that formally documented price comparisons are not needed for low-cost services, but should be conducted whenever amounts may be significant. Future construction contracts will set a threshold for items that are to be considered significant in cost (such as insurance or equipment rental) and establish a procedure to ensure competitive pricing is obtained.

- ***Ensure that the general contractor has provided adequate support for expenditures before reimbursing them***

As is noted in your report, overall MERC staff implemented adequate controls to ensure that: 1) the general contractor charged the Expo project only for services actually received; and 2) only those costs allowed by the contract services agreement were reimbursed to the contractor.

While MERC staff did require documentation for all expenditures before reimbursing them, staff did not always receive a copy of the invoice. For future construction projects, MERC will establish a materiality threshold in the construction contract to establish a requirement for the contractor to furnish copies of all invoices submitted by subcontractors and other

vendors before reimbursing any material costs for projects using the CM/GC approach.

- ***More thoroughly review indirect construction services to ensure they are necessary and prudent***

During your testing of construction expenditures and payroll overhead rates, you noted that the general contractor charged about \$19,000 of costs to the Expo expansion project that you and/or your staff viewed as questionable. These costs, as you note, were not significant in relation to total construction costs (less than one-quarter of one percent of total construction costs) and were allowable under the construction services agreement.

MERC staff assures me that they did monitor these services closely during the Expo project, and will continue to review indirect construction costs closely for future projects to ensure that all charges for services are both necessary and prudent. Additionally, staff has indicated that future contracts will specify the types of indirect costs that can be charged to the project.

- ***Consider raising the threshold for sealed bidding, then ensure the required sealed bidding procedure is followed***

For future CMGC construction projects, MERC will raise the threshold from \$2,500 to \$25,000 for requiring sealed bids for awarding subcontracts. For subcontracted services costing less than the increased threshold, MERC will require the contractor to obtain and record at least competitive quotes for each service required between \$5,000 and \$24,999.

- ***Retain funds in accordance with the contract. If the contract retention requirement is considered too aggressive, consider processing a contract amendment to reduce the requirement.***

MERC staff notes that they interpreted the Construction Services Agreement to require withholding of 5 percent of the value of subcontracted construction services, rather than 5 percent of all construction costs. Your office, however, interpreted the contract to require 5 percent of all construction costs. As your report noted, there was little risk in MERC's interpretation, as the contractor also was required to provide a performance bond.

MERC will ensure that future construction services agreements contain language that more clearly defines retention requirements. Additionally, we will ensure that retention is held in accordance with the construction

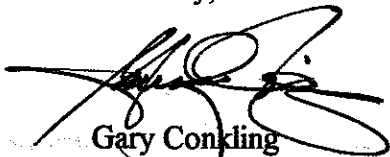
services agreement and will process a contract amendment to reduce the requirement during the project if the retention requirement is considered to be too aggressive.

2. *MERC should develop criteria for staff to use to decide which costs to record to projects.*

Your report noted that to a reasonable degree Expo expansion project costs were properly recorded in Metro's accounting system. The report noted, however, that about \$188,000 of capital expenditures recorded on Expo's books erroneously were recorded as general capital costs rather than Expo expansion project costs. These costs were for a telephone system and concessions equipment that were for the entire complex rather than just the new hall. Although a portion of the phone system was for the new building, and the portable concessions equipment could be used exclusively for the new building if needed, these purchases were not exclusively for the new hall. However, we will establish criteria for deciding what costs to record to future construction projects.

In summary, I would like to thank you once more for the work you and your staff performed on the Expo audit. Your recommendations will be implemented for future construction contracts as noted above. We will review these proposed changes with the Commission once your final report is released.

Sincerely,



Gary Conkling
Chair, Metropolitan Exposition-Recreation Commission

cc: Mark B. Williams, General Manager
Jeff Blosser, OCC Director
Chris Bailey, Expo Manager
Faye Brown, Director of Fiscal Operations
Mark Hunter, Construction Projects Manager



METRO

Metro Auditor Report Evaluation Form

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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"/>
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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: 797-1831
Mail: Metro Auditor, 600 NE Grand Avenue, Portland, OR 97232-2736
Call: Alexis Dow, CPA, Metro Auditor, 797-1891
Email: dowa@metro.dst.or.us