

METROPOLITAN EXPOSITION-RECREATION COMMISSION

Resolution No. 03-24

For the Purpose of approving Change Order #2 to Contract #923781 with Northwest Engineering Services, Inc, authorizing the MERC General Manager to execute Change Order #2 on behalf of the Commission, and authorizing the MERC General Manager to execute any additional amendments necessary to complete the project up to a total maximum contract price of \$283,460.

WHEREAS, Northwest Engineering Services, Inc. has been contracted to complete Testing and Air Balancing Services ("TAB") for the Expansion Project, and

WHEREAS, the original contracted amount of \$183,460, and Change Order/Amendment #1 of \$1,590 were conservatively established based on completion of services without construction impacts; and,

WHEREAS, multiple design impacts and modifications to the Oregon Convention Center Expansion have required additional TAB services beyond the original scope of work contracted in order to meet code and life safety requirements and verification of operational systems; and,

WHEREAS funding was identified, and is available, within the OCC Expansion Budget to finance the additional Testing and Air Balancing costs created by the design modification impacts, and,

WHEREAS, the OCC Expansion Team recommends approval of Change Order/Amendment #2 in the amount of \$82,483.61 for the purpose of incorporating identified change of scope work, as identified in Exhibit A, into Contract #922771 with Northwest Engineering Service, Inc. and increasing the "not to exceed" payment amount to \$267,533.61; and

WHEREAS, additional Testing and Air Balancing Services may be further required in order to complete construction requirements for the Expansion; and,

WHEREAS, the OCC Expansion Team recommends approval of a \$100,000 cap to contract #923781 for a total contract "not to exceed" payment amount of \$283,460 to allow for additional amendments to be executed by the General Manager, if necessary, to complete any required Testing and Air Balancing services not identified to date;


BE IT THEREFORE RESOLVED AS FOLLOWS:

1. That the Metropolitan Exposition-Recreation Commission approves Change Order/Amendment #2 to MERC contract #923781 with Northwest Engineering Service, Inc., in a form substantially similar to Exhibit A; and
2. That the MERC General Manager is authorized to execute Change Order/Amendment #2 to MERC contract #923781 on behalf of the Commission , and
3. That the MERC Commission authorizes the General Manager to execute, as necessary, additional amendments to MERC contract #923781 for any remaining Testing and Air Balancing Services required for completion of the OCC Expansion construction, provided, however, that the total "not to exceed" payment amount for this contract shall not exceed \$283,460.

Passed by the Commission on June 25, 2003.



Chair



Secretary-Treasurer

Approved As To Form:

Daniel B. Cooper, General Counsel

By:



Senior Assistant Counsel

Exhibit A: Change Order #2 to MERC Personal Services Agreement #923781

STAFF REPORT

Agenda Item/Issue: Approval of Change Order #2 to MERC Contract # 923781 with Northwest Engineering Service, Inc. for Testing and Air Balancing (TAB) Services, for the Oregon Convention Center Expansion, and authorizing the MERC General Manager to execute any additional amendments necessary to complete the project up to a total maximum contract price of \$283,460.

Resolution Number: 03-24

Date: June 17, 2003

Background/Analysis:

MERC Resolution #01-33 dated October 24, 2001 authorized release of an RFP and subsequent contracting for testing services to verify that the mechanical air and water distribution systems functioned to required levels for the OCC Expansion. Northwest Engineering Service, Inc. was selected to provide services based on criteria defined in RFP #01R-58-MERC for Testing and Air Balancing Services dated November 26, 2001, and contract #923781 was executed effective February 1, 2002. The services to be provided included verification that the Project's air systems provide the required air for the building and verification that the Fire Life Safety system operated as required for smoke exhaust. An additional requirement was to verify that the heating and cooling water distribution systems provided the quantity needed to operate the mechanical system at its most efficient level. An estimated "not to exceed" contract amount of \$183,460 for these services was based on the assumed completion of construction without any requirements to double- or triple-test the systems.

Additional testing of the garage exhaust fans became required beyond the contracted scope of work, and Change Order 1 was executed August 5, 2002 in the amount of \$1,590.00. Total contract "not to exceed" amount to date is \$185,050.00.

Impact to Project:

The Project Team originally set a maximum not to exceed amount on the cost for the Testing and Air Balancing Services contracts based on a normal project's needs. The contracted amount was conservatively established based on estimates that had minimum overtime schedule impacts so hours worked were not inflated. By setting this original conservative cap, it alerted all Expansion Team members to attempt to work within those requirements.

However, with the discovery of a multiple number of mechanical design issues after the contract with Northwest Engineering was established, the Project Team has had to require additional testing of the systems that were not properly designed. This has included, but is not limited to, multiple testing of the garage exhaust system, Fire and Life Safety take-up and exhaust systems, sound adjustments at multiple units, and research and recommendation for air distribution units to meeting rooms and public spaces. In addition, an engineer from Northwest has been requested by the Design Team to provide additional detailed information and design solutions for systems that were discovered not to be working efficiently. This additional work was not anticipated. The cost for hours required for TAB Services will exceed MERC's amendment cap of 20% to the original contract amount.

Solution:

The Project Team closely monitors the hours spent for the inspections and authorizes additional TAB services as needed to meet the schedule and to respond to construction requirements. Correspondence from Northwest Engineering Service, Inc. dated May 1, 2003 (see Attachment A to Change Order #2) details the additional scope of work that has been required. Change Order #2 in the amount of \$82, 483.61 is proposed to cover the costs for completing the testing of all identified work to date. This would raise the "not to exceed" payment amount to \$267,533.61.

In addition, until all systems are functioning as required, there is potential for additional TAB testing work to be completed which has not been identified to date. Therefore, Staff requests that a cost increase cap of \$100,000 from the original contracted amount be approved for Contract #923781 with Northwest Engineering Services to allow, if necessary, additional TAB testing as may become required. This cap would allow the contract to be increased by up to an additional \$15,926 to a "not to exceed" contract amount of \$283,460, should it become necessary to authorize additional TAB services to complete required testing for the OCC Expansion.

Fiscal Issues:

The Project's soft cost budget provides contingency funding for issues regarding construction work such as this. The additional costs for TAB services had already been anticipated in the Project budget once it was determined that there would be an extensive amount of mechanical design deficiencies that would have to be corrected.

In addition, the Design Team settlement has reimbursed the Project budget for cost impacts caused by the design issues defined above. Funds are available in the Project's soft cost contingency to cover both Change Order #2 and any future possible change orders up to the \$283,460 not to exceed contract amount. Therefore, this change order and the proposed increase of the contract not to exceed amount of \$283,460 have no overall impacts to the Project budget due to anticipation of the additional services.

Recommendation:

Staff recommends that the MERC Commission approve, and authorize the MERC General Manager to execute, Change Order Amendment #2 to contract #923781 with Northwest Engineering Services, Inc. in the amount of \$82, 483.61 for additional Testing and Air Balancing (TAB) Services for the Oregon Convention Center Expansion, which will raise the contract "not to exceed" payment to \$267,533.61.

Staff further recommends that the Commission authorize the General Manager to execute, as necessary, additional amendments to MERC contract #923781 for any remaining TAB Services required for the completion of the OCC Expansion construction, provided that the total "not to exceed" payment amount for this contract does not exceed \$283,460.



Change Order/Amendment No. #2

Northwest Engineering Service, Inc. - Contract #923781



This Amendment modifies the Personal Services Agreement (Contract #923781 between the Metropolitan Exposition-Recreation Commission, referred to hereinafter as MERC, and Northwest Engineering Service, Inc., referred to hereinafter as "Contractor", for Special Inspection (Construction Materials) Testing and Balancing Services, which was effective March 7, 2002.

An additional sum of \$82,483.61 (Eighty-Two Thousand Four Hundred Eighty-Three and Sixty-One/100 dollars) is to be added to the Contract for change of scope work as per the attached correspondence from Northwest Engineering Service, Inc. dated 5/1/03 (Attachment A), and paid upon the next invoicing for work completed. This will raise the "not to exceed" total from \$185,050.00 (One Hundred Eighty-Five Thousand and Fifty and 00/100 dollars) to \$267,533.61 (Two-Hundred and Sixty-Seven Thousand Five Hundred Thirty-Three and Sixty-One/100 dollars).

All other terms and conditions of the Contract shall remain unchanged.

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PORTLAND, OR 97232

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MERC

Northwest Engineering Service, Inc.

By: _____

By: _____

Date: _____

Date: _____

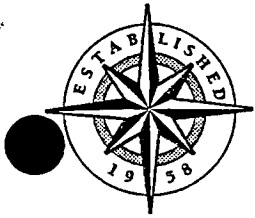
Expansion Project Manager

By: _____

Date: _____

Attachment A: Correspondence from Northwest Engineering Services, Inc., 5/1/03

EXPANSION



NORTHWEST ENGINEERING SERVICE, INC.

Excellence In Engineering Service

14835 SW 72nd Avenue • Tigard, Oregon 97224

(503) 639-7525 • (800) 856-NESI (6374) • FAX (503) 684-3589 • www.nwesi.com

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May 1, 2003

Mr. Karl Schulz
Oregon Convention Center Expansion Office
834 NE MLK Jr. Blvd.
Portland, Oregon 97232

Subject: **Oregon Convention Center Expansion Project Status
NWESI Job #7234**

Dear Karl,

The following is a summary of our work at the Convention Center with regards to what is complete, what is left to do, and the costs involved. This summary is up to date through our April 19, 2003 billing. This table lists each item by job number corresponding to those on the billings you receive, and arranged in three sections.

1. Work currently included in our contract that is complete.
2. Work performed beyond the original scope of the contract that is complete:
 - a.) Additional work
 - b.) Lost time to circumstances beyond our control
3. Work remaining to complete the project (including estimated hours and cost).

Each task includes a description of the scope of work, the cost estimated originally to perform the task if estimated and the amount currently that has been charged to each.

We appreciate the opportunity to present this information and look forward to scheduling the remaining work for timely completion of this project. If there are questions regarding any of this information, please call.

Sincerely,

NORTHWEST ENGINEERING SERVICE, INC.

David P. Cunningham, P.E.

DPC/dg

Enclosure

OREGON CONVENTION CENTER EXPANSION - JOB #7234
SUMMARY OF COSTS BY JOB NUMBER

Job #	System / Task	Scope of Work	Date of Work	Estimated Cost to Perform Service	Cost of Time and Materials Charged Through 4/19/03
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1. Work Currently Included in Our Contract That is Complete

7234	New Air and Hydronic HVAC Systems	Complete Testing, Adjusting, and Balancing Service for Bid Package 5 and 6 HVAC Systems.	3/02 - 4/03	\$155,830.00	\$192,400.27
7234-9	High-Lift Rental	Addition included in original contract, Item #12 from itemized letter of services, 1/16/02. Originally contracted for \$4,580. Due to multiple revisits to multiple systems because of design/construction problems that were unforeseen during initial cost estimation this amount has been exceeded.	12/02 - 4/07	\$4,580.00	\$9,933.17
7234-11	Tolerances for Air and Hydronic Balance	Addition included in original contract, Item #5 from an itemized letter of services dated 1/16/02. This item was meant to be an additional expense only if the original job tolerance specifications were to be met. The option proposed an alternative set of tolerances agreeable to CBG that would eliminate the additional expense. After a conversation with Karl Schulz, 1/03, it was determined selection of this option was a mistake and the relaxed tolerances were acceptable. Mr. Schulz directed the amount in the contract for this option be credited back to offset some of the other additional work.		\$6,150.00	
7234-1	EF-41	Additional fan testing, April, 2002 to aid in determination of cause of low fan performance. Funding for this work was approved as Contract Modification #1.	4/02	\$1,590.00	Included in 7234 Total
Completed Work Currently Included in Our Contract				\$168,150.00	\$202,333.44

2. a.) Work Performed Beyond the Original Scope of the Current Contract That is Complete

7234-2	EF-41	Rebalance of north wall openings with east wall branch capped. Sept., 2002. Cost of work was described in Quote #7355.	9/02	\$1,200.00	\$1,195.00
7234-3	EF-41/BF-1	Rebalance of exhaust openings with addition of Booster Fan, BF-1, CCD #146. Cost of work was described in Quote #7352.	3/03	\$3,125.00	\$2,710.00
7234-4	Additional Heating Water Pump Testing Related to P-26 Noise Issues	Testing of existing and new heating water pumps and boilers in several configurations to aid CBG in determining the source of noise during P-26 operation (work beyond original TAB contract scope). Description of work was covered in an e-mail from Bruce Gilpin to Karl Schulz, 11/02.	11/02	\$1,600.00	\$1,642.50
7234-5	Smoke Ventilation Pressure Profiles	Duct pressure profiles for AHU-54 & 57 and EF-38 during smoke ventilation to determine location of added restriction causing inadequate performance. Also includes testing AHU-54 & 57 with units operating at the end of the motor service factor amp rating. Estimated cost to perform service is T&M charged.	2/03 - 3/03	Time and Materials	\$1,337.50

OREGON CONVENTION CENTER EXPANSION - JOB #7234
SUMMARY OF COSTS BY JOB NUMBER

Job #	System / Task	Scope of Work	Date of Work	Estimated Cost to Perform Service	Cost of Time and Materials Charged Through 4/19/03
2. a.) Work Performed Beyond the Original Scope of the Current Contract That is Complete (continued)					
7234-6	Smoke Ventilation Modifications	Initially we were directed to accelerate our smoke ventilation test schedule by working overtime/additional crews to uncover any problems with the applicable systems as soon as possible. Once problems were discovered additional readjustments and measurements of airflow to supply hoods in the ballrooms and exhibit halls in support of both modifications to design requirements and to installed equipment were necessary. Our work was in support of RFI# 2554, 2583, 2600, 2605, 2609, 2613, 2618, 2622, 2635, 2652. Hoffman Construction Extra Work Authorizations (EWA) were obtained signed by Ken Hettinger for field work on a daily basis. Additional time was spent reporting the information from testing that was beyond our original scope of work, but was not covered by the EWA. Estimated cost to perform service is T&M charged.	3/03 - 4/03	Time and Materials	\$19,964.50
7234-10	AHU-63 Drive Changes	Both the supply and return fans for AHU-63 were provided by the fan vendor to operate at 60Hz at their normal HVAC flow rate. In order to achieve the required smoke ventilation flow rates it was necessary to resheave the fans. Northwest Engineering provided the sheaves, belts, and labor for this work even though the unit should have been provided able to achieve the higher required flows.	2/03	Time and Materials	\$438.58
7234-12	Volunteer Area - CCD #110	Additional work necessary to meet the requirements of CCD#110. It includes the addition of WSHF-15, 16, 17; EF-65; and SF-49.	3/03	Time and Materials	\$2,168.89
7234-13	VAV AHU's With TU's Acceleration of Schedule and Velocity Profiles	Initially we were directed to accelerate our capacity test schedule of variable air volume (VAV) air handling units (AHU's) with terminal units (TU's) to uncover any problems with the applicable systems as soon as possible. Our initial testing indicated many AHU's would have to exceed their design supply duct pressure rating to meet the airflow rate requirements. With units that had pressure/capacity problems we provided duct pressure profiles at capacity to aid CBG in determining possible solutions. Our work was in support of RFI# 2817. Hoffman Construction Extra Work Authorizations (EWA) were obtained signed by Ken Hettinger for field work on a daily basis. Only time spent producing the pressure profiles and the premium portion of overtime was considered beyond our contracted scope of work. Estimated cost to perform service is T&M charged.	2/03-3/03	Time and Materials	\$6,207.50
7234-14	Additional Elevator Pressurization Fan Testing and Adjustment	Karl Schulz directed us to resheave elevator pressurization fans as necessary so the doors would close during fire mode operation to satisfy the State Elevator Inspector. Fans had previously been adjusted to meet scheduled airflow requirements and minimum shaft pressure requirements. Estimated cost to perform service is T&M charged.	3/03	Time and Materials	\$2,641.95
7234-16	Retest of EF-42 After Blade Pitch Adjustment (Parking Level 1)	Adjustment of EF-42 to achieve design airflow caused the inlet ductwork to exceed its pressure rating. Additional testing/balancing was necessary once the ductwork had been reinforced (per RFI #2642) and the fan blade pitch was readjusted (per CCD #157). Estimated cost to perform service is T&M charged.	3/03	Time and Materials	\$1,218.00

OREGON CONVENTION CENTER EXPANSION - JOB #7234
SUMMARY OF COSTS BY JOB NUMBER

Job #	System / Task	Scope of Work	Date of Work	Estimated Cost to Perform Service	Cost of Time and Materials Charged Through 4/19/03
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2. a.) Work Performed Beyond the Original Scope of the Current Contract That is Complete (continued)

7234-17	SF-50 Addition, CCD #174	SF-50 was not included in our original contract price. Testing and adjusting on the fan was performed to maintain the project schedule.	3/03	Time and Materials	\$174.00
7234-18	Additional Process Cooling Water Elements	Since the contract documents were issued, six additional PCW elements were added to the system. These include two walk-in coolers, three ice machines, and WSH-18. Cost listed here is to include these new elements with testing of the originally contracted elements since it was most economical to test the entire system at once.	3/03	Time and Materials	\$561.50
Additional Work Completed Total					\$4,259.92

2. b.) Documented Lost Time to Circumstances Beyond Our Control

No Job Number	Retest of Heating Water Items	Retesting of elements on the heating water system that could not be measured or adjusted properly when the majority of the system was balanced. Normally small items would have been rechecked at no additional expense. Due to the large number of small deficiencies and difficult access the additional cost is listed here, 87.75 hours at \$65/hr.	3/03	Included in time charged to 7234	\$5,703.75
No Job Number	Additional time spent on air systems problems	This is time that NWESI and the Convention Center should not be responsible for because they are the result of other not performing their work correctly or completely. Lost time: 202 hours at \$65/hr.	11/02 - 4/03	Included in time charged to 7234	\$13,130.00
No Job Number	Additional time spent on chilled and process cooling water systems problems	This is time that NWESI and the Convention Center should not be responsible for because they are the result of other not performing their work correctly or completely. Lost time: 23.5 hours at \$65/hr.	11/02 - 4/03	Included in time charged to 7234	\$1,527.50
Lost Time Total					\$20,361.25

3. Work Remaining to Complete the Project

7234-7	Performance Test of Existing Chillers, Boilers, and Towers	<p>Addition included in original contract, Item #4 from itemized letter of services, 1/16/02.</p> <p>This work will be performed now that all cooling towers are filled and the boiler and chiller plants are operational. To complete this work it will be necessary to artificially create the maximum cooling load possible for each chiller and cooling tower by using the heating water system. Likewise, to test each boiler it will be necessary to use either excessive outside air or chilled water to create the maximum load condition for each boiler.</p> <p>It will be necessary to carefully coordinate this work with the Convention Center Operations personnel to both prevent adverse effects during occupied hours and to allow efficient completion of the testing.</p>	Testing not yet performed	\$4,615.00	\$0.00
				90 Hours	

OREGON CONVENTION CENTER EXPANSION - JOB #7234
SUMMARY OF COSTS BY JOB NUMBER

Job #	System / Task	Scope of Work	Date of Work	Estimated Cost to Perform Service	Cost of Time and Materials Charged Through 4/19/03
3. Work Remaining to Complete the Project (continued)					
7234-8	Seasonal Testing at Near Peak Design Conditions	Addition included in original contract, Item #9 from itemized letter of services, 1/16/02. This work is to include setting up the necessary trend logs through the building energy management and controls system for pertinent points such as outside air, space, and discharge temperatures, etc. for air handlers during peak seasonal conditions (mid winter and mid summer). In addition to logging the temperatures, this work will include evaluation of the test information and recommendations for possible corrective measures and performance evaluation.	Testing not yet performed	\$12,285.00 180 Hours	\$0.00
7234-19	AC-4 Addition, EF-58 and 59 Readjustment (CCD #91)	Work includes testing of the new AC-4 (already complete) and increase of airflow rates by sheave and belt change for EF-58 and 59.	5/03 (Est.)	\$616.25 8.75 Hours	\$227.50
7234-20	Retest of VAV AHU's With Capacity / Duct Pressure Problems	This work will include performance of capacity tests and adjustment of minimum outside air to air handlers once duct / fan modifications have been made to increase capacity. This includes AHU - 40, 41, 42, 43, and 44.	5/03 (Est.)	\$3,388.00 46.25 Hours	\$0.00
7234-21	AHU-59 & 60 Return Rebalance After Sound Trap Additions - RFI #2629	Work in accordance with the listed RFI response. This will include readjustment of return fan and opening airflows and adjustment of the minimum outside air setting for each unit once duct modifications are complete.	5/03 (Est.)	\$1,136.00 15.5 Hours	\$0.00
7234-22	AHU-42 Pressure Measurements at TU's and in Supply Duct Work	CBG Requested additional pressure measurements by email 4/29/03. This includes inlet pressures for 12 TU's, outlet pressures for 4 TU's and 2 pressure measurements in main supply duct at a capacity condition.	5/03 (Est.)	\$700.00 11 Hours	\$0.00
7234-23	Report Completion	Report time associated with the extra tasks required and the work yet to complete	5/03 (Est.)	\$2,200.00 40 hours	\$0.00
Total for Work Remaining				\$24,940.25	\$227.50
Hours				485 Hours	

Summary of Total Costs

Completed Work Currently Included in Our Contract	\$202,333.44
Additional Work Completed	\$40,259.92
Total for Work Remaining	\$24,940.25
PROJECT TOTAL	\$267,533.61