Smithsonian Institution

Greater Efficiencies and Increased Oversight Needed for the NMAAHC Construction Management Process

Office of the Inspector General

Audit of Management of the National Museum of African American History and Culture Building Project, A-12-03-2 Audit Report

September 28, 2012

Smithsonian Institution
Office of the Inspector General

In Brief

Greater Efficiencies and Increased Oversight Needed for the NMAAHC Construction Management Process
Report Number A-12-03-2, September 28, 2012

Why We Did This Audit

We are conducting a series of audits of the Smithsonian's management of the National Museum of African American History and Culture (NMAAHC) building project.

This is the second report covering the contract modification process. Our audit objectives were to assess the efficiency and effectiveness of the Smithsonian's: 1) contract modification process for the construction management at-risk (CMR) contract; and 2) oversight process for awarding construction packages under the CMR contract.

Background

In 2003, Congress established NMAAHC, dedicated to the collection, preservation, research, and exhibition of African American historical and cultural material. The $500 million funding for this project will be split evenly between federal appropriations and private donations. The Smithsonian announced that the museum will open to the public in November 2015.

What We Found

While Smithsonian management actively oversees the National Museum of African American History and Culture (NMAAHC) building project, they need to continue to improve the efficiency of awarding and administering construction packages for the construction management at-risk (CMR) contract. First, the Contract Specialist did not authorize the CMR contractor to begin work on construction packages soon after executing the modifications. This partially contributed, along with other process inefficiencies, to a 51 day delay in the start of construction.

In addition, the Smithsonian did not adequately monitor the CMR contractor's allowance pool to ensure adequate competition. Therefore, this increases the risk that the Smithsonian may not be receiving a fair and reasonable price for this work.

The conditions we identified were primarily caused by a lack of written policies and procedures within the Office of Contracting and Personal Property Management (OCon&PPM) and the Office of Facilities, Engineering, and Operations (OFEO) for awarding and administering construction packages.

What We Recommended

To improve the efficiency and effectiveness of the CMR contract modification process, we recommended that management reinforce project priorities and that OCon&PPM and OFEO develop and implement policies and procedures for awarding construction packages.

Management concurred with our findings and recommendations and has planned corrective actions to address the recommendations. We will continue to monitor management's progress towards completion of these recommendations.

For additional information or a copy of the full report, contact the Office of the Inspector General at (202) 633-7050 or visit http://www.si.edu/oig.

Smithsonian Institution Memo

Office of the Inspector General

Date September 28, 2012

To Albert Horvath, Under Secretary for Finance and Administration and Chief Financial Officer
Nancy Bechtol, Director, Office of Facilities, Engineering, and Operations
Dorothy Leffler, Director, Office of Contracting and Personal Property Management
Era Marshall, Director, Office of Equal Employment and Minority Affairs
Lonnie Bunch, Director, National Museum of African American History and Culture

cc Richard Kurin, Under Secretary for History, Art, and Culture
Patricia Bartlett, Chief of Staff, Office of the Secretary
Judith Leonard, General Counsel
John Clark, Budget Analyst, Office of Planning, Management and Budget
Stone Kelly, Program and Budget Analyst, Office of Planning, Management and Budget

From Scott S. Dahl, Inspector General

Subject Greater Efficiencies and Increased Oversight Needed for the NMAAHC Construction Management Process, A-12-03-2

Attached please find a copy of our final report titled *Greater Efficiencies and Increased Oversight Needed for the NMAAHC Construction Management Process.*

We made two recommendations to improve the efficiency and oversight of awarding construction packages for this project and any future projects using this method. Management concurred with our findings and recommendations and has planned corrective actions to address the recommendations. We will continue to monitor management's progress towards completion of these recommendations.

We appreciate the courtesy and cooperation of the staff of the Office of Facilities, Engineering, and Operations; Office of Contracting and Personal Property Management; and Office of Equal Employment and Minority Affairs during this audit.

Please call Michael Sinko, Assistant Inspector General for Audits or Joan Mockeridge, Supervisory Auditor on 202.633.7050 if you have any questions.

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INTRODUCTION

The Office of the Inspector General (OIG) is conducting a series of audits of the Smithsonian's management of the National Museum of African American History and Culture (NMAAHC) building project. In this audit, we focused on the Smithsonian's contracting process because previous OIG audits revealed weaknesses in this area and because management expressed concern about the efficiency of this process.

This is the second of two reports covering the contracting process for the NMAAHC building project and addresses the Smithsonian's contract modification and oversight processes for awarding construction packages under the construction management at-risk (CMR) contract. We issued a separate report earlier covering the architect/engineer (A/E) contract because at the time we began our fieldwork, the Smithsonian had not yet awarded any construction packages under the CMR contract.[1]

Our objectives for the overall audit were to assess the efficiency and effectiveness of the Smithsonian's: (1) contract modification process for the A/E and CMR contracts; and (2) oversight process for awarding construction packages under the CMR contract.

For the first time, Smithsonian management selected the fast-tracked CMR project delivery method to design and construct its new museum because they believed this was the only method that would enable the Smithsonian to meet its November 2015 opening date. Under the CMR project delivery method, the Smithsonian contracts with an A/E firm to design the building and a construction contractor to perform pre-construction services during the design phase. Unlike the traditional delivery method, fast tracking accelerates the schedule by allowing the CMR contractor to begin construction on portions of the work before the A/E contractor has completed the building's overall design. The Smithsonian awarded a base contract to the CMR contractor for pre-construction services and is incrementally awarding modifications to this contract for portions of construction work.

Three Smithsonian units are primarily involved in awarding and administering the construction packages: Office of Contracting and Personal Property Management (OCon&PPM), Office of Facilities Engineering and Operations (OFEO), and Office of Equal Employment and Minority Affairs (OEEMA).

[1] Smithsonian OIG, *The Smithsonian Should Streamline and Standardize Its Architect/Engineer Contract Modification Process*, A-12-03-1, May 11, 2012.

We limited our scope to construction packages and change orders contained in the modifications executed as of March 31, 2012. Change orders are changes to the base contract caused by unforeseen field conditions or design changes. Within our scope, we identified two construction packages and one change order for pre-construction services, totaling $31.7 million. We include a detailed description of our scope and methodology in Appendix A.

RESULTS IN BRIEF

While Smithsonian management actively oversees the NMAAHC building project, management needs to continue to improve the efficiency of awarding and administering construction packages for the CMR contract. First, the Contract Specialist did not authorize the CMR contractor to begin work on construction packages 1 and 2 soon after executing the modification, even though the terms in the CMR contract required the specialist to do so. As a result, the CMR contractor was not able to start construction work for these packages.

Second, for construction package 1, OFEO did not timely provide the price proposal to OCon&PPM and OEEMA, delaying their offices' reviews and approvals of the proposal. Without these approvals, the CMR contractor could not begin work on this package as originally scheduled.

Both OCon&PPM not authorizing work to begin, and OFEO not forwarding the price proposal for package 1, are two of many issues that contributed to the CMR contractor pushing its construction completion date back by 51 calendar days. Management pointed out, that even with this extension, the museum's opening date - November 2015 - remains unchanged. In addition, this extension did not cost the Smithsonian additional funds because the CMR contractor had not yet started construction.

However, to open on schedule, the Smithsonian will need to overlap the construction and exhibit work, which increases the risk of mistakes, injury, damage to collections, and delays due to conflicting work sequences.

Third, for packages 1 and 2, OCon&PPM and OFEO did not adequately monitor the subcontracts funded from the CMR contractor's allowance pool to ensure that the CMR contractor met the contract's requirement to compete all work exceeding $50,000. The contractor's allowance pool sets aside funds for portions of the work, without clear specification, for competitive bidding at the time the Smithsonian awards the package. Without adequate monitoring, the Smithsonian would not be aware whether the CMR contractor awarded a subcontract without competition. As a result, there is an increased risk that the Smithsonian is not receiving a fair and reasonable price for this work.

Finally, although OFEO appropriately increased its oversight of the CMR contractor when the contractor or its affiliate competed for work, the Contracting Officer's Technical Representative (COTR) should improve the documentation of this oversight. By not documenting his review of the bids, the COTR increases the risk that the Smithsonian, in the event of an unsuccessful bidder protest, will not be able to demonstrate that it fulfilled its responsibility to ensure that the CMR contractor awarded subcontracts fairly.

The conditions we identified were primarily caused by a lack of written policies and procedures within OCon&PPM and OFEO for awarding and administering construction packages. Although challenges may exist when using any project delivery method for the first time, we believe the Smithsonian should have established procedures for this method in advance. In their response, management stated that they have since made improvements to address these problems.

We made two recommendations to improve the efficiency and oversight of awarding construction packages for this project and any future projects using this method. Management generally concurred with our findings and recommendations. For recommendation 2, management has proposed corrective actions that will address the recommendation. However, for recommendation 1 corrective actions described by management do not fully satisfy the intent of this recommendation. This recommendation will remain open, pending we will continue to monitor management's progress towards completion of this recommendation. Please refer to Appendix B for management's complete response.

BACKGROUND

The NMAAHC Building Project

In 2003, Congress established NMAAHC, the Smithsonian's newest museum, dedicated to the collection, preservation, research, and exhibition of African American historical and cultural material. The $500 million funding for this project will be split evenly between federal appropriations and private donations. The Smithsonian held a groundbreaking ceremony in February 2012, when the Smithsonian announced that it will open the museum to the public in November 2015.

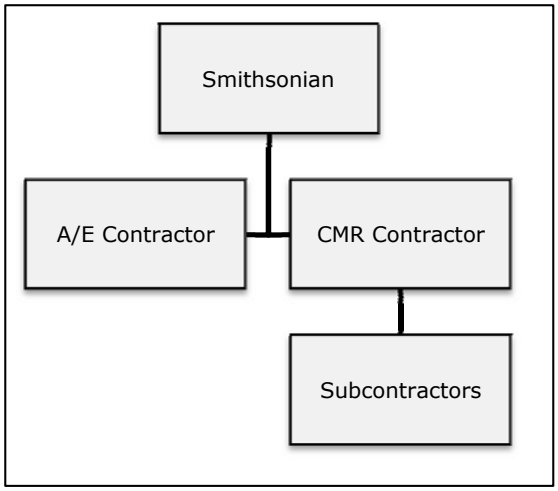
CMR Project Delivery Method

Using the CMR project delivery method, the Smithsonian contracted with an A/E firm to design the building and a construction manager to perform pre-construction services (such as constructability reviews, value-engineering analysis, and cost estimating) during the design phase. The design phase typically includes submission of design documents in the following sequence of completion: 35 percent, 65 percent, 95 percent, and 100 percent. Once the A/E contractor delivers the 65 percent design documents ("documents") for the entire project, the

Smithsonian and the CMR contractor will negotiate and agree on a guaranteed maximum price for construction services. Smithsonian management subsequently informed us that they would negotiate the GMP at 95 percent documents. The Smithsonian awarded a base contract to the CMR contractor for pre-construction services and incrementally awards modifications to this contract for portions of construction work. Because the Smithsonian did not compete the construction services when it awarded the base contract, competition for the construction trade work occurs at the subcontractor level. According to OCon&PPM's contracting procedures manual, competition is a contract strategy in which an organization solicits more than one (sub)contractor to submit an offer. The CMR contract specifically requires that the contractor compete all work exceeding $50,000 by obtaining a minimum of three bids. Upon receiving Smithsonian approval, the CMR contractor awards subcontracts, and these subcontractors are contractually bound only to the CMR contractor. In some cases, the CMR contractor or its affiliates may perform work themselves ("self-performed work"), but must compete for the work in the same manner as other potential subcontractors.

See figure 1 for a depiction of the various contractual relationships under the CMR delivery method.

Figure 1. Smithsonian Relationship with Contractors for the NMAAHC Building Project



Fast Tracking Construction Packages

The Smithsonian is fast tracking the NMAAHC building project, pursuant to the CMR contract. Unlike the traditional delivery method where the design and construction occur in a linear sequence, fast tracking accelerates the schedule by allowing the CMR contractor to begin construction on portions of the work before the A/E contractor has completed the building's overall design. Overlapping design and construction in this manner requires the A/E contractor to deliver substantially complete design documents for the accelerated portions of the work.

While there are advantages to fast tracking, beginning construction while design is ongoing introduces the risk of additional construction costs and schedule delays due to unforeseen field conditions or design changes.

As of June 2012, the Smithsonian had awarded four of the eight total planned construction packages—incremental phases of the construction work. Our audit covered the Smithsonian's award of construction packages 1 and 2.

Construction Package 1: Site Utilities and Miscellaneous Trades
In January 2012, the Smithsonian awarded construction package 1 to the CMR contractor for $4.9 million. This package consists of work related to site utilities such as water distribution, storm drainage, sanitary sewers, and underground ducts for electrical and telecommunication systems. In addition, this package included miscellaneous trade work to set up the construction site and field offices.

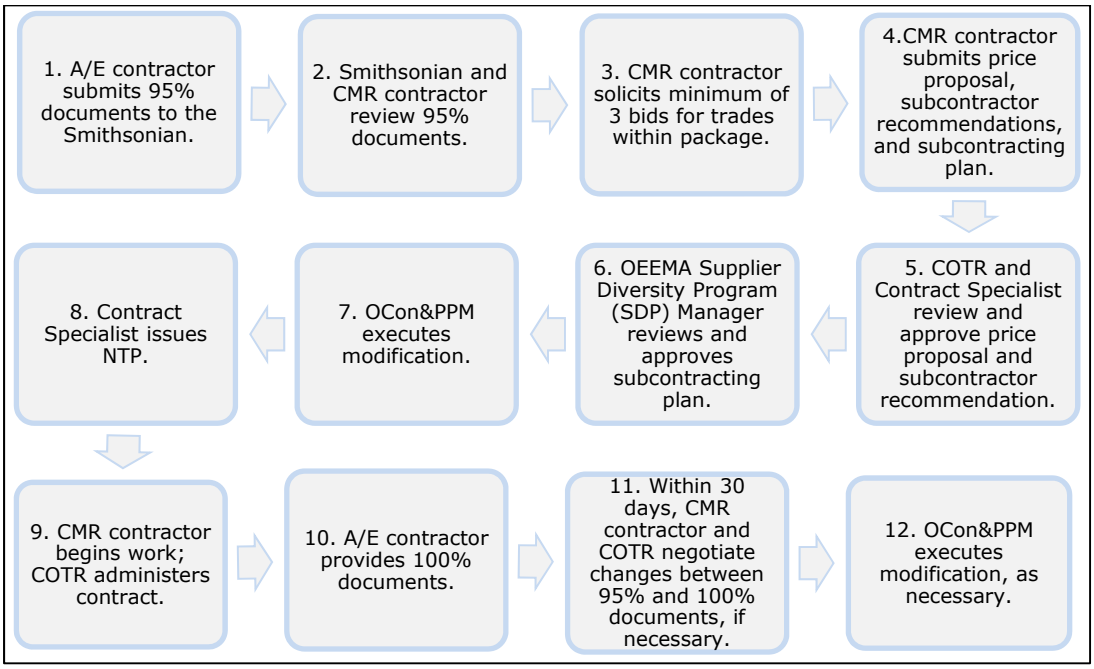
Construction Package 2: Support of Excavation/Excavation/Dewatering/Deep Foundation
In March 2012, the Smithsonian awarded construction package 2 for $26.7 million. Package 2 comprises building an excavation support system, excavating, removing water, and installing the deep foundation. The CMR contractor awarded a subcontract to its affiliate for $13.9 million.

The six remaining packages, which the Smithsonian anticipates costing approximately $274 million, cover various trades, such as the exterior enclosure, concrete, structural steel, mechanical, electrical, plumbing, and carpentry. The Smithsonian intends to have all remaining packages awarded by March 2013.

Steps for Awarding Construction Packages

The CMR contract describes the following twelve steps for the Smithsonian to award construction packages and the CMR contractor to begin work:

Figure 2. Steps for Awarding Construction Packages According to the CMR Contract



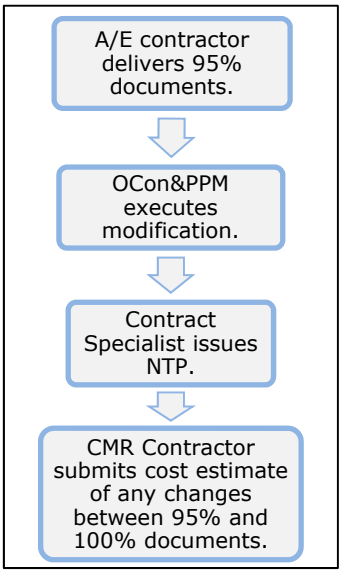
RESULTS OF AUDIT

OCon&PPM Did Not Authorize the CMR Contractor to Begin Work Timely

The Contract Specialist did not authorize the CMR contractor to begin work on construction packages 1 and 2 soon after executing the modification even though the steps in the CMR contract required him to do so. As a result, the CMR contractor was not able to start construction work for this package as scheduled. In fact, withholding the NTP for package 1 partially contributed to the CMR contractor extending the estimated construction completion date by 51 calendar days.

As mentioned in the background, the CMR contract describes the steps that must be completed for the Contract Specialist to authorize the CMR contractor to commence work. First, the A/E contractor delivers 95 percent documents for the package. Then, once the Contract Specialist executes the modification, he should issue an NTP *before* receiving the CMR contractor's cost estimate of any changes between the 95 percent and 100 percent documents, if applicable. See figure 3.

Figure 3. Sequence for Issuing NTP According to the CMR Contract



For construction package 1, the Contract Specialist did not follow these steps. Instead, the Contract Specialist authorized the CMR contractor to begin work only after the CMR contractor provided the cost estimate for a design change identified between 95 percent and 100 percent documents. There was a nine day lapse between when OCon&PPM executed the modification and when the Contract Specialist issued the NTP letter.

Similarly, for package 2, the Contract Specialist did not follow the steps described above and issued an NTP late. Specifically, the Contract Specialist did not authorize the CMR contractor to begin work until 28 days after he executed the modification even though, at the time the Contract Specialist executed the modification, he had all the required documentation from the CMR contractor, including the cost estimate of the changes, to award the package.

The Contract Specialist withheld the NTP for several reasons:

- The Contract Specialist was more concerned about the budget than the schedule, despite the Smithsonian's emphasis on the importance of meeting the museum's scheduled opening date. Specifically, he was concerned that the design changes for these packages could cause the project to go over budget. Therefore, the Contract Specialist did not want the CMR contractor to proceed with any work on the packages until the Smithsonian knew their total cost. We recognize that the Contract Specialist is fulfilling his duties as outlined in OCon&PPM's contracting procedures manual, which states that the Contract

Specialist should be aware of the financial status of the project and should identify and mitigate risks. Nonetheless, we believe that in choosing the fast-track project delivery method, the Smithsonian accepted the risk that the design may change, and therefore costs will change, even as construction progresses. While we acknowledge the importance of being mindful of the budget, we also believe the Contract Specialist needs to be flexible, when appropriate, and allow the CMR contractor to begin work on portions of the construction package that are not affected by the design change. By not allowing the CMR contractor to begin any work, the Contract Specialist prevents the Smithsonian from gaining the full benefit of the fast-track method.

Further, we believe OCon&PPM and OFEO have different project priorities—OCon&PPM, the budget, and OFEO, the schedule. Project management best practices state that the success of any construction project is based on the project team's ability to prioritize three project constraints: budget, schedule, and quality. The Contract Specialist does not believe that the Smithsonian has prioritized these constraints for the NMAAHC project.

- For package 1, the Contract Specialist could not determine that the documents he received were based on 95 percent design completion in accordance with the CMR contract. Even though the CMR contract states that the A/E contractor will provide 95 percent documents for the construction packages, the A/E contract and its modifications do not require the A/E contractor to do so. In fact, an A/E contract modification states that, for package 1, the A/E contractor will provide documents based only on 75 percent to 90 percent design; for package 2, the modification did not state any percentage. For packages 3 through 8, the Smithsonian still has not modified the A/E contract to require the delivery of these remaining construction packages.

- The Contract Specialist wanted to know the total cost of each package before allowing the CMR contractor to begin work. For package 2, after the A/E contractor had issued 100 percent documents, the project team identified a design change—outside the scope of the package, which resulted in significant additional costs. The Contract Specialist believed that this change should have been included within the original package.

For package 1, withholding the NTP was one of many issues that contributed to the CMR contractor shifting the estimated construction completion date from June 30, 2015, to August 20, 2015, an extension of 51 calendar days. Management informed us that, even with this extension, the museum's opening date - November 2015 - remains unchanged. However, to achieve this date, the Smithsonian will need to overlap the construction and exhibit work. Having the construction and exhibit contractors working in the same space at the same time increases the risk of mistakes, injury, damage to collections, and delays due to conflicting work sequences.

This extension did not cost the Smithsonian additional funds because the CMR contractor had not yet started construction. However, now that construction has begun, OFEO estimates that any further extension of the construction completion date will cost the Smithsonian $18,000 per day in general conditions cost alone. While management believes that withholding the NTP for package 2 did not result in an extension, we are concerned that should the Contract Specialist withhold NTPs for future packages, the construction completion date may extend beyond August 20, 2015.

Management's response to this report states that the Contract Specialist issued NTPs at reasonable intervals considering the extent of collaboration needed. However, for packages 1 and 2 the Contract Specialist did not follow the process agreed to in the contract. Furthermore, both OFEO and the CMR contractor expressed concern that the Contract Specialist withholding NTPs may negatively impact the schedule.

Process Inefficiencies Prevented the CMR Contractor from Beginning Work Timely

OFEO's COTR, who is responsible for monitoring the contractor's progress and costs, receives the price proposals for each package directly from the CMR contractor (step 4 from Figure 2). To ensure that the Smithsonian awards construction packages efficiently, OFEO should provide the CMR contractor's proposal soon after receiving it to (a) OCon&PPM's Contract Specialist, who is responsible for awarding and administering the contract; and (b) OEEMA's SDP Manager, who ensures small disadvantaged businesses receive equal opportunity in Smithsonian procurements.

Yet, for construction package 1, OFEO followed its traditional change order modification process. Under this process, competition is generally unnecessary. As such, OFEO involves OCon&PPM at the end of the process when OFEO is ready for OCon&PPM to award the modification. Furthermore, this process does not generally require OEEMA's involvement because the subcontracting plan would have already been approved with the base contract. Because OFEO followed the traditional change order modification process, OFEO did not provide the price proposal to OCon&PPM and OEEMA soon after receiving it, delaying their review and approval of the proposal (steps 5 and 6 from Figure 2):

- Following OFEO's traditional change order modification process, a different process than what is described in Figure 2, OFEO forwarded the CMR contractor's price proposal to the Contract Specialist 18 calendar days after the date of the proposal. Upon receiving the proposal, however, the Contract Specialist did not award the package because the CMR contractor had not satisfied the contract's competition requirements. The Contract Specialist authorized the CMR contractor to begin work on the package only after the CMR contractor demonstrated that it had competed general conditions items greater than $50,000.

- Furthermore, OFEO forwarded the CMR contractor's price proposal, which included a small business subcontracting plan, to the SDP Manager 27 calendar days after the date of the proposal. The SDP Manager did not approve the subcontracting plan once he received it because this plan did not meet the contract requirements. The SDP Manager approved the plan after the CMR contractor submitted a revised one.

Without OCon&PPM's and the SDP Manager's approvals, the CMR contractor could not begin work on this package as scheduled, which partially contributed to the CMR contractor pushing its construction completion date back by 51 calendar days. The COTR, Contract Specialist, and SDP Manager all agreed that the process delays mentioned above occurred because their offices did not follow a mutually agreed-upon process for awarding the construction packages. OFEO was following its traditional change order modification process, rather than a process tailored to awarding construction packages.

We believe the Smithsonian should award construction packages following a process similar to that of awarding base contracts—not change orders—because construction packages, like base contracts, generally involve competition whereas change orders do not. Accordingly, OCon&PPM should be as involved in the process for awarding construction packages as it is for base contracts.

The process inefficiencies we observed involved the first construction package of a new project delivery method. Although challenges may exist when using any project delivery method for the first time, we believe the Smithsonian should have established procedures for this method in advance.

By not providing the price proposal sooner, OFEO prevented the Contract Specialist's and the SDP Manager's timely reviews and approvals of the price proposal and subcontracting plan. Without the SDP Manager's approval, OCon&PPM could not award the construction package. Likewise, the Contract Specialist did not authorize the CMR contractor to begin work until the contractor demonstrated that it had complied with the CMR contract's competition requirements.

These are two of many issues that contributed to the 51-day extension of the construction completion date. Extending this date any further may result in additional costs and increased challenges associated with overlapping construction and exhibit work we noted earlier.

During the course of the audit, project team members made improvements to their process. Beginning with package 3, OFEO forwards the CMR contractor's price proposals to the Contract Specialist and the SDP Manager soon after receiving them. Further, the SDP Manager is in regular contact with the CMR contractor regarding the subcontracting plans for future packages.

The Smithsonian Did Not Adequately Oversee the Contract's Competition Requirements

The CMR contract requires the contractor to compete all work exceeding $50,000. Yet, the Smithsonian did not adequately monitor the CMR contractor to ensure that the contractor met this requirement for work within packages 1 and 2 funded from its allowance pool. The contractor's allowance pool sets aside funds for portions of the work, without clear specification, for competitive bidding at the time the Smithsonian awards the package. Going forward, OFEO does not anticipate having to track many allowances because the Smithsonian will try to reduce the amount of allowances included in the remaining construction packages. In management's response, it stated that this is a small complication; however, the Smithsonian still needs to track existing and any future allowances to ensure that the CMR contractor complies with the contract.

The Contract Specialist attempted to track the CMR contractor's allowances by including language in the contract modification. Specifically, the contract modifications for packages 1 and 2 prohibit the CMR contractor from awarding, and beginning work for, subcontracts funded by the allowances until after receiving Smithsonian approval. The modifications also require that the CMR contractor report to the Smithsonian monthly on the status of all allowances. The Contract Specialist's efforts to monitor this information were not complete because the allowance report did not include *all* allowances from packages 1 and 2, as required.

OCon&PPM's contracting procedures manual does not clearly address who is responsible for tracking whether the CMR contractor competed subcontracts awarded using allowances. For example, the manual states that the Contract Specialist is responsible for ensuring compliance with the terms of the contract; however, it also states that the COTR is responsible for monitoring the contractor's progress and costs. Notwithstanding these assignments of responsibilities, both the Contract Specialist and the COTR agree that the COTR should track these allowances.

The Smithsonian did not adequately monitor whether the CMR contractor competed subcontracts awarded against allowances because the Smithsonian did not have procedures addressing this area. As we noted earlier, the Smithsonian lacked such procedures because the Smithsonian is using a fast-tracked CMR delivery method for the first time, and these issues are unique to this method. In previous Smithsonian projects using the traditional project delivery method, the Smithsonian would not need to track competition for the allowances, as the Smithsonian would have already competed the work before awarding the construction contract.

By not adequately monitoring the CMR contractor's allowances, the Smithsonian may not be aware if the CMR contractor awarded a subcontract without competition or is self-performing the work. This may increase the risk that the Smithsonian may not be getting a fair and reasonable price for this work.

OFEO Should Document Its Review For Self-Performed Work

Although OFEO appropriately increased its oversight of the CMR contractor when the contractor or its affiliate competed for work, the COTR should improve the documentation of this oversight. For package 2, which included nearly $14 million in self-performed work, the CMR contractor sent requests for bids to potential subcontractors. Following best practices, the COTR received the bids directly. While the COTR told us that he reviewed the bids before forwarding them to the CMR contractor, he did not have documentation supporting his statement. The COTR has since started documenting his review of bids where the CMR contractor or its affiliate submits a bid to perform the work.

The Smithsonian should take additional steps to oversee the procurement process when the CMR contractor chooses to submit a proposal to self-perform work. This will ensure that the affiliate subcontractor is—and appears to be—selected fairly, should CMR award them the subcontract. These additional steps, such as documenting the COTR's review, are necessary because the subcontracting community may perceive the CMR contractor as having an unfair advantage in these cases. Further, maintaining documentation is one of the COTR's responsibilities included in the COTR designation letter.

The COTR did not formally document his review of the bids for package 2 because the Smithsonian did not have written procedures requiring him to do so. As mentioned earlier, the Smithsonian lacked procedures specific to CMR project delivery because the Smithsonian had not used this method before.

By not documenting his review of the bids, the COTR increases the risk that the Smithsonian, in the event of an unsuccessful bidder protest, will not be able to demonstrate that it fulfilled its responsibility to ensure that the CMR contractor awarded subcontracts fairly.

Recommendations

To ensure alignment of the NMAAHC project team members' priorities and actions, we recommend that the Under Secretary for Finance & Administration/Chief Financial Officer, in coordination with the Under Secretary for History, Art, and Culture; OEEMA Director; and NMAAHC Director:

1. Reinforce the NMAAHC project priorities, such as the schedule and budget, with key NMAAHC project team members (Contract Specialist, COTR, Project Executive, and NMAAHC personnel), and agree to the risks involved in using the fast-track delivery method.

In addition, to improve the efficiency and oversight of awarding construction packages for this project, and because the Smithsonian may use this project delivery method in the future, we recommend that the Directors of OCon&PPM, OFEO, and OEEMA:

2. Develop, document, and implement policies and procedures for awarding construction packages, to include requirements that:
    a. OCon&PPM and OEEMA receive the CMR contractor's price proposals from OFEO soon after OFEO receives them;
    b. OCon&PPM and OFEO jointly agree on the percentage of design and any other requirements necessary to authorize the CMR contractor to begin work. Then modify the A/E and CMR contracts to stipulate the agreed-upon requirements;
    c. OCon&PPM and OFEO adequately monitor the CMR contractor to determine whether the contractor competed all contract allowances exceeding the competition threshold set forth in the CMR contract; and
    d. OFEO document the review of bids for self-performed work.

Management believes that their ongoing status meetings satisfy the intent of recommendation 1. However, we found that during those meetings OFEO and OCon&PPM had not agreed on project priorities—schedule and budget. OFEO and the CMR contractor understood that when using the fast-track method there is a risk that the design, as well as costs may change, even as construction progresses. Yet, OCon&PPM had not accepted that risk and did not allow the CMR contractor to proceed with any work on the packages until the Smithsonian knew their total cost. Therefore, this recommendation will remain open, and we will continue to monitor management's progress towards completion of this recommendation.

For recommendation 2, we believe management's planned actions will satisfy the intent of this recommendation. Management will develop and implement written policies and procedures by November 30, 2012.

APPENDIX A. SCOPE AND METHODOLOGY

Our overall objectives were to assess the efficiency and effectiveness of the Smithsonian's: (1) contract modification process for the A/E and CMR contracts; and (2) oversight process for awarding construction packages under the CMR contract. Our earlier report addressed the contract modification process related to the A/E contract. This report addresses the contract modification and oversight processes for awarding construction packages under the CMR contract.

We obtained an understanding of the NMAAHC project by attending project executive and oversight meetings. We also reviewed Smithsonian Board of Regents meeting minutes and NMAAHC Council transcripts.

To obtain an understanding of the Smithsonian's CMR contract modification and oversight processes for awarding construction packages, we interviewed personnel from OCon&PPM, OFEO, OEEMA, and NMAAHC. We also interviewed key personnel from the A/E contractor, CMR contractor, and the NMAAHC project audit contractor.

We identified criteria by reviewing previous OIG audit reports related to building project management; relevant sections of the FAR; Smithsonian policies and procedures; the CMR and A/E contracts, their modifications, and other contract-related documents; and the NMAAHC project auditing services contract. In addition, we obtained best practices from federal, state, and local governments that use the CMR project delivery method.

We limited our scope to construction packages and change orders contained in CMR contract modifications executed as of March 31, 2012. We identified two construction packages totaling $31.6 million, and one change order for pre-construction services, within four modifications. The Smithsonian also modified the contract for other administrative reasons such as to add funding or to revise the payment schedule for pre-construction services. We excluded these contract actions from our scope.

To test the efficiency and effectiveness of the Smithsonian's contract modification process, for modifications related to awarding construction packages 1 and 2 and pre-construction services, we obtained documentation for each step in the contract modification process and calculated the time between the steps. We also determined whether the project executive accurately incorporated the additional work into the project budget.

We assessed the Smithsonian's oversight process for awarding construction packages by testing whether the CMR contractor had competed all subcontracted work exceeding $50,000 within construction packages 1 an 2, as the contract requires, and whether the Smithsonian had concurred on the CMR contractor's subcontractor selection. We also reviewed the Smithsonian's process for overseeing the competition in cases where an affiliate of the CMR contractor intended to submit a proposal to perform work.

APPENDIX A. SCOPE AND METHODOLOGY (continued)

We did not review the Smithsonian's entire internal control structure for managing contracts. We limited our review to those internal controls related to the contract modification and oversight processes for awarding construction packages under the NMAAHC CMR contract.

We conducted this performance audit in Washington, D.C. from November 2011 through July 2012, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence we obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

APPENDIX B. MANAGEMENT'S RESPONSE

Smithsonian Institution

Memo

Office of Facilities Engineering and Operations

Date September 17, 2012

To Scott S. Dahl, Inspector General

Attn: Michael Sinko
Assistant Inspector General for Audits

cc Albert Horvath, Under Secretary for Finance and Administration/Chief Financial Officer
Era R. Marshall, Director, Office of Equal Employment and Minority Affairs
Derek Ross, Director, Office of Engineering, Design and Construction, OFEO
Willard Powell, Associate Director for Portfolios, OCon&PPM
Jud McIntire, Architect/Project Executive, Office of Planning and Project Management, OFEO
Rudy Watley, Supplier Diversity Program Manager, OEEMA
Joan Mockeridge, Supervisory Auditor, OIG
Michelle Uejio, Auditor, OIG
Brendan Phillips, Auditor, OIG

From Nancy Bechtol, Director, Office of Facilities Engineering and Operations
Dorothy A. Leffler, Director, Office of Contracting and Personal Property Management

Subject Management Response to the Draft Report, *Smithsonian Should Continue to Improve the Efficiency and Oversight of its Construction Management at-Risk Contract Modification Process*, Audit Report No. A-12-03-2

Thank you for the opportunity to review and comment on the draft report of Audit No. A-12-03-2 delineating delineates findings on the efficiency and oversight by of the Smithsonian's Construction Management at-Risk (CMR) contract modification process. The audit is one of a series being conducted by the Office of the Inspector General (OIG) on the management of the National Museum of African American History and Culture (NMAAHC) building project.

The following are statements of consolidated comments by reviewers of the report on the results of audit A-12-03-2, and the recommendations included in the draft report. Accompanying our comments on the recommendations are actions already implemented or planned to improve coordination and management of CMR projects at the Smithsonian.

RECOMMENDATIONS

Recommendation No. 1:

To ensure alignment of the NMAAHC project team members' priorities and actions, we recommend that the Under Secretary for Finance and Administration/Chief Financial Officer, in coordination with the Under Secretary for History, Art and Culture; Office of Equal Employment and Minority Affairs (OEEMA) Director, and NMAAHC Director:

1. Reinforce the NMAAHC project priorities such as the schedule and budget, with key NMAAHC project members (Contract Specialists, Contracting Officer's Technical Representatives (COTRs), Project Executive, and NMAAHC personnel) and agree to risks involved in using the fast track delivery method.

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Comment: Concur
Actions Taken: Specific-focus and ad hoc meetings have been ongoing since the NMAAHC project planning was initiated. The following meeting schedule was implemented at the time the NMAAHC construction project began. These meetings shall continue to ensure that project progress is routinely reviewed and necessary adjustments to priorities are addressed.

- **Weekly construction progress meetings**: During these weekly meetings the Construction Contractor team (CSR), the Architect-Engineer team (FABS), Office of Facilities Engineering and Operations (OFEO) project team (Project Executive, Design Manager, COTR for construction, and CM advisor team) and OCon&PPM meet to review construction progress and any project issues, such as the intricacies of each package, delivery of the construction work, submittals, RFIs, schedule and coordination issues.
- **Bi-weekly construction progress / client coordination meetings:** The weekly construction progress meeting attendee list is expanded to include NMAAHC (client) representatives, and representatives from the Exhibit Design firm as necessary. Meeting topics range from alignment of scope, scale, and budget to exhibit and artifact installation.
- **Monthly Project Executive Meetings**: NMAAHC, OFEO, and OCon&PPM managers, or their representative, and representatives from other SI offices, such as Office of the Treasurer and Planning, Management and Budget, attend the monthly meeting to review project design and construction status, upcoming milestones, funding, and risk.
- **Monthly Director "Check-in" Meetings**: The OFEO Director and Associate Directors for the Offices of Planning and Project Management (OPPM) and Engineering, Design and Construction (OEDC) meet at least one time each month with the NMAAHC Director review NMAAHC project progress and issues.
- **Quarterly Oversight Meetings:** Convened by the Under Secretary for History, Art and Culture, these meetings include senior SI management from across the Institution. Project status presentations are made by the OPPM Project Executive as well as the NMAAHC team.
- **Scheduled Coordination and Progress meetings**: Meetings are convened with all team members to review and resolve technical or process issues recognized by or brought to any members attention.

Target Completion Date: Completed; the above listed meetings are on-going.

Recommendation No. 2:

To improve the efficiency and oversight of awarding construction packages for this project, and because the Smithsonian may use this project delivery method in the future, we recommend that the Directors of OCon&PPM, OFEO and OEEMA:

2. Develop, document, and implement policies and procedures for awarding construction packages, to include requirements that:

    a. OCon&PPM and OEEMA receive the CMR contractor's price proposals from

OFEO soon after OFEO receives them;

b. OCon&PPM and OFEO jointly agree on the percentage of design and any other requirements necessary to authorize the CMR contractor to begin work. Then modify the A/E and CMR contracts to stipulate the agreed-upon requirements;

c. OCon&PPM and OFEO adequately monitor the CMR contractor to determine whether the contractor competed all contract allowances exceeding $50,000; and

d. OFEO document the review of bids for self-performed work.

Comment: Concur; the NMAAHC project management has been in accordance with this recommendation, albeit without written policies and procedures.

Actions Taken: OFEO will document and codify written policies and procedures for awarding construction packages.

a. Each of the recommended elements for CMR policies and procedures were applied as packages 3, 4 and 5 awards were processed.

b. Conflicting information in the CMR contract regarding completed documents percentages required for the Guaranteed Maximum Price (GMP) award has been resolved by deferring the GMP award to the 95% design document submission. For design, the A/E contract will be modified (award expected by November 2012) to incorporate delivery of construction packages 3 through 8.

c. OFEO is tracking this with a "Contingency-Allowance" log that looks at all components of the package proposals, including modifications to keep pricing reconciled and aligned, and coordinated with pay applications.

d. Subcontract proposals for competition that might include CMR contractor self performed or affiliate are received and logged by OFEO, then transmitted to the CMR contractor. Log of acceptance has been created and is maintained by OFEO.

Action Planned: OFEO and OCon&PPM will coordinate the development and implementation of written policies and procedures for CMR.

Target Completion Date: November 30, 2012

RESULTS OF AUDIT

The following are comments on points selected from the narrative included in the Results of Audit section of the draft report. The information provided here is intended to edify OIG auditors on how their findings will be used to ensure improve management of the CMR process at the Smithsonian.

Finding: OCon&PPM Did Not Authorize the CMR Contractor to Begin Work Timely (page 6)

- *The Contract Specialist did not authorize the CMR contractor to begin work on Packages 1 and 2 soon after executing the modifications.*

- *Similarly, for package 2, the Contract Specialist did not follow the steps described above and issued an NTP late. Specifically, the Contract Specialist did not authorize the CMR contractor to begin work until 28 days after he executed the modification even though, at the time the Contract Specialist executed the modification, he had all the required documentation from the CMR contractor, including the cost estimate of the changes, to award the package.*

Comments:

OFEO and OCon&PPM take very seriously the need for timely coordination and communication among project team members for the CMR process to be successful and avoid delays with NMAAHC construction. OFEO and OCon&PPM have looked into the timeframes of project receivables and deliverables our offices required in order to issue Notices to Proceed (NTP) on packages 1 and 2. This analysis by OFEO and OCon&PPM for packages 1 and 2 awards reviewed by OIG indicates all actions occurred at allowable and reasonable intervals, considering the extent of collaboration required by the NMAAHC project:

• Package 1 sent to Clark-Smoot-Russell (CSR)	12/21/2011
• Package 1 mod 2 received from CSR at OCon&PPM	01/13/2012
• Package 1 awarded CSR	01/18/2012
• Bonds received	01/25/2012
• Bidding concurrence received/concurred	01/27/2012
• NTP given	01/27/2012
• Package 2 sent to OCon&PPM	02/09/2012
• Package 2 mod 4 sent to CSR Rejected due to schedule by CSR	02/18/2012
• Negotiation of new completion date of 8/20/2015 established	03/01/2012
• Revised package 2 mod 4 sent to CSR revised	03/02/2012
• Received package from CSR	03/08/2012
• Bonds received	03/07/2012
• OFEO request for NTP package 2 sent to OCon&PPM	04/05/2012
• NTP issued	04/05/2012

The OIG auditors recognized that although there was a delay in issuing the NTP for package 2, there was no impact to the critical path of the job, nor a negative cost impact to the job. Subsequent packages have maintained the August 20, 2015 completion date.

To prevent NTP delays in the future, OFEO is developing guidance for use by OFEO staff to describe and align project scopes of work and expectations and create budget/package comparison documents.

Finding: Process Inefficiencies Prevented the CMR Contractor from Beginning Work Timely (page 8)

OFEO did not provide price proposal to OCon&PPM and OEEMA timely…resulting in pushing the completion date back 51 days.

Comments:

The OIG auditors could not have been aware of the following issues that contributed to delays in notifying the CMR to proceed:

- The CMR requested a change in the basis of general conditions from a reimbursable to a lump sum cost prior to award of package 1. This had to be resolved prior to award.
- The CMR did revise the completion date from June 30, 2015 to August 20, 2015 with the award of package 2. However, this was a cumulative response to the overall scope increase of the project, including the addition of the history gallery scope – and not only a specific response to the contracting time duration.

Several other important issues and concerns needed to be resolved prior to notices being issued, they include: OCon&PPM required a CD containing the drawings that were posted on the OFEO ftp site but too large to email; all typical mobilization activities (fencing, trailers, dewatering, etc.) needed to be covered; obtaining utility permits; addressing permit requirements; receiving clarification of OEEMA requirements; and, addressing the requirement to compete any activity valued over $50K.

It has always been our desire to provide complete packages to avoid confusing our SI partners with multiple packages. It is now practice that we provide initial packages "for information," and send the final packages after all concurrences are received. OFEO shall continue to review schedules (the design deliverables, CSR production rates, and the exhibit packages) to identify any efficiencies in delivering the project. It is still our intention to complete the facility to be ready for a November 2015 opening.

Finding: The Smithsonian Did Not Adequately Oversee the Contract's Competition Requirements (page 9)

For packages 1 and 2, OCon&PPM and OFEO did not adequately monitor the subcontracts funded through CMR contractor allowance pool…. Ensure meeting requirement to compete work exceeding $50k….

Comments:

This was a big discussion point and part of the delay in package 1, where initially the CMR contractor had allowances for work for General Conditions activities and later competed. Package 1 was our biggest exposure on this issue, and in the big picture, this is a small complication.

Finding: OFEO Should Document Its Review For Self-Performed Work (page 10)

Although OFEO increased its oversight of the CMR contractor when the contractor or its affiliate competed for work, the COTR should improve the documentation of this oversight…

Comments:

Thus far, the CMR contractor has wanted its affiliated contractors to compete on two packages; Package 2, Clark Foundations, and Package 5, Clark Concrete. The entities are separate contractors and to ensure transparency, the proposals were delivered to OFEO. For package 2, OFEO assembled the proposals and forwarded them to CSR. Keep in mind this is not a

Smithsonian procurement; this is a CSR procurement that comes with their recommendation and our concurrence. The emailed proposals and acknowledgement of receipt were recorded and retained by OFEO and then transmitted to CSR. For package 5, OFEO created a log of acceptance and the base offers and options. For package 5, SI has a larger participatory role as we can and will provide our sense of the best approach.

Please direct any questions you may have regarding the above information to Derek Ross, Director, OEDC, for a coordinated response. Derek may be reached by telephone at 202.633.6276 or via email at RossDE@si.edu.

APPENDIX C. CONTRIBUTORS TO REPORT

The following individuals from the Smithsonian Office of the Inspector General contributed to this report:

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