



**USAID**  
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**OFFICE OF INSPECTOR GENERAL**

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**AUDIT OF  
USAID/AFGHANISTAN'S  
URBAN WATER AND  
SANITATION PROGRAM**

AUDIT REPORT NO. 5-306-07-006-P  
June 07, 2007

MANILA, PHILIPPINES



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*Office of Inspector General*

June 07, 2007

**MEMORANDUM**

**TO:** USAID/Afghanistan Director, Leon S. Waskin

**FROM:** RIG/Manila, Catherine M. Trujillo /s/ [George R. Jiron Jr. for]

**SUBJECT:** Audit of USAID/Afghanistan's Urban Water and Sanitation Program  
(Audit Report No. 5-306-07-006-P)

This memorandum transmits our final report on the subject audit. In finalizing the report, we carefully considered your comments and have included your comments in Appendix II.

The report includes 5 recommendations for USAID/Afghanistan's action. Based on your comments and the documentation provided, we consider that final action has been taken on Recommendation Nos. 3 and 5, and that management decisions have been reached on Recommendation Nos. 1, 2 and 4. A determination of final action for Recommendations Nos. 1, 2 and 4 will be made by the Audit Performance and Compliance Division (M/CFO/APC) upon completion of the proposed corrective actions.

I want to thank you and your staff for the cooperation and courtesy extended to us during the audit.

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# SUMMARY OF RESULTS

The Regional Inspector General/Manila conducted this audit to determine whether selected activities under USAID/Afghanistan's Urban Water and Sanitation Program were on schedule to achieve planned results (contract deliverables). (See page 3.)

Planned contract deliverables were generally being achieved under the Mission's Afghanistan Urban Water and Sanitation Project (AUWSP) per the contract amended schedule. Although planned deliverables were achieved, we concluded that long-term sustainability of the overall AUWSP was questionable and contract administration problems were found with the contract between the Mission and Camp Dresser McKee Inc. (CDM) the contractor hired to implement AUWSP. (See pages 4 and 5.)

Under AUWSP, CDM was contracted to implement such activities as design and construct or improve water distribution systems in various cities, prepare water system feasibility studies in several cities, deliver capacity-building assistance to applicable Afghan ministries, and provide water and sanitation technical advisory services to the Mission. Through the CDM contract, the Mission was able to achieve several of its AUWSP program objectives by ensuring the completion of water distribution systems in Gardez, Ghazni and Chil Duktharan and the extension of the water distribution system in Karte Se. (See pages 4, 5, 6, 7, and 8.)

However, concerns about the sustainability of the newly constructed and extended water distribution systems could affect future benefits or impact of the AUWSP program. For example, after recognizing the need for operator training for the newly built water distribution systems, the Mission did not properly assess and ensure the adequacy of 1) training provided to proposed operators of the newly built water systems or 2) plans of the Government of Afghanistan's ministries with water and sanitation responsibilities to assure the financial and operational sustainability of the newly built and extended water systems. (See pages 8, 9, and 10.)

In addition, substantive contract administration problems were identified with the implementation of the AUWSP program activities. First, the Mission's alternate cognizant technical officer (CTO) responsible for the AUWSP program requested CDM to make unauthorized changes to its work efforts in Kandahar. Second, the Mission did not require CDM to comply with all contract work requirements or to meet reporting requirements needed to assist the Mission in evaluating the AUWSP program. (See pages 10, 11, and 12.) Third, the Mission did not require CDM to provide it with necessary financial information to help monitor contract costs. As a result, the Mission's system for controlling, projecting and monitoring the contract costs did not provide for the necessary information to foresee the contractor's request for an additional \$1.6 million in funds one month prior to the end of the contract. (See pages 12 and 13.)

This report made five recommendations to help correct the above identified problems. (See pages 10, 12, and 13.) USAID/Afghanistan concurred with the five recommendations. Additionally, the Mission's written comments outlining their action plans to address our recommendations were detailed and focused on appropriate corrective measures to strengthen the CTO administration of ongoing active awards and deal with sustainability issues specific to this program. (See pages 14, 15, and 18.)

# BACKGROUND

Most of Afghanistan's infrastructure, including that used to provide water and sanitation services, fell into disrepair or was destroyed during the period of unrest from the mid-1970s through the Soviet invasion and subsequent years of civil war and Taliban rule. According to World Bank estimates, less than 20 percent of the people in Kabul have piped water, and more than half the provincial capital cities do not have piped water systems. Sanitation facilities are crude or lacking and infant mortality rates from diarrheal diseases account for 27 percent of all infant deaths in the first year of life.

To restore essential water and sanitation services to the Afghan people, USAID/Afghanistan's strategy included an urban water and sanitation program. Under this program, USAID/Afghanistan planned to assist Afghan ministries and the private sector by increasing the supply of safe drinking water in both rural and urban areas of the country, expanding sanitation services, and building a strong technical and institutional foundation for sustaining water and sanitation services.

USAID/Afghanistan's urban water and sanitation program has evolved over time. Originally, the Mission awarded a contract to the Louis Berger Group Inc. (LBGI), which together with its subcontractor, Camp Dresser McKee Inc. (CDM), was to implement the water and sanitation program in Afghanistan at an estimated cost of about \$23 million. However, the Mission subsequently removed the program from LBGI's contract and decided to implement the program directly through CDM.

On September 30, 2004, USAID/Afghanistan awarded a sole-source contract to CDM to implement the Afghanistan Urban Water and Sanitation Project (AUWSP)—the largest project under the Mission's urban water and sanitation program. The contract was initially valued at \$41.3 million, and it had a project completion date of March 31, 2006. The AUWSP had five components or programs under which CDM was to design and construct or improve water distribution systems in various cities, extend the distribution networks and provide increased sources of potable water in provincial capital cities, prepare feasibility studies and detailed designs for water distribution systems in other cities, deliver capacity-building assistance to the Afghan ministry responsible for water and sanitation services in urban areas, and provide water and sanitation technical advisory services to the Mission.

A series of contract modifications, however, significantly changed the AUWSP's costs, duration and statement of work. For example, estimated contract costs were reduced from \$41.3 million to \$37.3 million and the project completion date was extended by nine months to December 31, 2006. Further, the number of water distribution systems to be designed and built was reduced, which significantly lowered the estimated subcontractor construction costs from \$18.6 million to \$10.8 million. A good portion of this decrease was offset by increases in estimated costs for non-construction activities. Table 1 on the next page shows a comparison of the AUWSP's original and final budgets by cost element. The next section of the report describes more fully the changes made to the project's scope of work.

**Table 1: Comparison of Original and Final Contract Budgets Costs**

| <b>Cost Element <sup>1</sup></b> | <b>Original Contract Budget <sup>2</sup><br/>(Sept. 30, 2004)</b> | <b>Final Contract Budget<br/>(Nov. 23, 2006)</b> | <b>Percent of Change<br/>(Rounded)</b> |
|----------------------------------|---|--|--|
| Labor                            | \$ 1,355,321  | \$ 1,356,306                                     | 0                                      |
| Other Operating Costs            | 7,858,980   | 8,433,149  | 7                                      |
| Subcontractor Construction       | 18,625,295  | 10,784,038                                       | -42                                    |
| Subcontractor Security           | 4,497,141   | 4,810,696  | 7                                      |
| Other Subcontractor Costs        | 6,123,283   | 9,055,204  | 48                                     |
| Sub-Totals                       | \$38,460,020  | \$34,439,393                                     | -10                                    |
| Fixed Fee                        | 2,873,408   | 2,873,408  | 0                                      |
| Total Cost                       | \$41,333,428  | \$37,312,801                                     | -10                                    |

This audit covered activities under the AUWSP for the period from September 30, 2004, through December 20, 2006. For this period, USAID/Afghanistan had obligated \$37.3 million and spent \$36.2 million in support of the AUWSP. The Mission's Office of Infrastructure, Engineering and Energy was responsible for managing the AUWSP.

## **AUDIT OBJECTIVE**

This audit was conducted as a part of the Regional Inspector General/Manila's fiscal year 2007 audit plan. The audit was designed to answer the following question:

- Were selected activities under USAID/Afghanistan's Urban Water and Sanitation Program on schedule to achieve planned results?

Appendix I contains a discussion of the audit's scope and methodology.

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<sup>1</sup> Summary of CDM contract cost elements included in the original contract and contract Modification No. 7.

<sup>2</sup> Table amounts shown differ slightly from the amounts in the original contract due to rounding.

# AUDIT FINDINGS

USAID/Afghanistan generally achieved its Afghanistan Urban Water and Sanitation Project (AUWSP) planned results (contract deliverables) per the contract amended schedule. However, despite the completion of the contract deliverables the sustainability of this project is questionable because of matters dealing with the financial and operational capacity of the constructed water systems, hence the overall impact of this project to provide sustainable water supplies to planned populations of Afghanistan into the future could be impacted. This issue is further discussed starting on page 8. Furthermore, throughout the implementation of this program, USAID/Afghanistan did not in all instances administer this contract in accordance with USAID policies and acquisition regulations as further addressed starting on pages 10 and 12.

USAID/Afghanistan's objectives with this program were to maximize the impact of funds expended, and achieve a reasonable balance in obtaining results as quickly as possible, while ensuring that current and future interventions in the water sector could be sustained. To accomplish this, USAID/Afghanistan, on September 30, 2004, awarded Camp Dresser & McKee Inc. (CDM) an 18-month sole-source cost-plus-fixed-fee contract estimated to cost about \$41.3 million to implement an urban water and sanitation project. The major portions of work originally planned over the 18-month period was for CDM to extend the water distribution systems and provide increased sources of potable water to an estimated population of 380,000 in three provincial capital cities Kandahar, Gardez, and Ghazni. In addition, CDM was to design and implement expansion and improvements to a water distribution system in Chil Duktharan and extend an existing water distribution system in Karte Se.

However, because of problems encountered with project implementation such as the availability of water and security concerns, USAID/Afghanistan modified the original statement of work (SOW) by decreasing the planned deliverables from the original design. Additionally, USAID/Afghanistan extended the original contract period of performance from 18 to 27 months to allow CDM to complete the revised planned deliverables. The Table below summarizes the CDM contract's revised planned deliverables versus actual achieved deliverables.

**Table 2: Summary of Revised Planned Deliverables Compared to Actual Achieved Deliverables (As of December 20, 2006)**

| <b>CDM Contract</b>  | <b>Summary of Revised Planned Deliverables</b>                                     | <b>Summary of Actual Achieved Deliverables</b>                                      |
|----------------------|--|---|
| <b>Program One</b>   | Potable water in two cities for a future population of about 190,000 in year 2020. | Water systems were constructed in two cities.                                       |
| <b>Program Two</b>   | Prepare seven preliminary water project feasibility studies for designated cities. | Seven preliminary water project feasibility studies were prepared.                  |
| <b>Program Three</b> | Provide water sector specialist advisory services and train water utility staff.   | Provided water sector specialist advisory services and trained water utility staff. |

| CDM Contract        | Summary of Revised Planned Deliverables  | Summary of Actual Achieved Deliverables   |
|---------------------|--|---|
| <b>Program Four</b> | For Chil Duktharan <sup>3</sup> , design and construct a new water system and for Karte Se extend the Kabul water supply system. | Designed and constructed a water system for Chil Duktharan and extended the Kabul water system in Karte Se. |
| <b>Program Five</b> | Provide water and sanitation technical advisory services over the initial 18 months of the contract.                             | Provided water and sanitation technical advisory services over the initial 18 months of the contract.       |

To accomplish the Mission's overall AUWSP objectives stated above, USAID/Afghanistan defined the five programs. The original planned and final deliverables under each of the program areas are described in further detail below. USAID/Afghanistan did not require CDM to report its contract costs based on work performed for the five individual programs; therefore the audit was only able to identify costs for limited activities within the five programs.<sup>4</sup>

**Program One** - Originally the contract SOW required CDM to extend the water distribution systems and provide increased sources of potable water to an estimated population of 380,000 in three provincial capital cities Kandahar, Gardez, and Ghazni. Later, because of inadequate water resources and security concerns, Kandahar was deleted from the program. Afterwards, CDM was to provide potable water for an estimated year 2020 population of 190,000 for Gardez and Ghazni. As of December 2006, the accomplishments for the Gardez and Ghazni sites were:

- On December 9, 2006, RIG/Manila auditors visited both Gardez and Ghazni and observed that the majority of the construction work had been completed and the water distribution systems should soon be finalized. As well, a staff member of International Relief & Development, Inc. (IRD), the consultant hired by the Mission to assist it with monitoring and evaluation of the CDM contract programs, concluded the water distribution systems were almost completed.
- On December 20, 2006, USAID/Afghanistan formally transferred both the Gardez and Ghazni projects to the Ministry of Urban Development and Housing (MUDH) within the Government of Afghanistan (GOA).

<sup>3</sup> Since there are several spellings used in Mission documents to identify Chil Duktharan, which is south of Kabul, Afghanistan, we chose the spelling used in the original CDM contract.

<sup>4</sup> The Chief of Party for CDM had agreed to provide additional contract costs information for the programs but the information had not been received by the time we issued our report.



OIG photograph of a USAID-funded steel water tank that is part of the water distribution system constructed in Gardez. The water tank which is on the right-hand side is surrounded by a security wall. Gardez, Afghanistan (December 2006)



OIG photograph of a USAID-funded steel reservoir used to hold water from production wells before being sent through the water distribution system. Gardez, Afghanistan (December 2006)

- According to CDM documentation, the estimated construction and design costs (exclusive of administrative and security costs) for the Gardez and Ghazni water distribution systems were about \$3 million and \$2.5 million respectively.

**Program Two** - Originally the contract SOW required CDM to prepare engineering feasibility and design studies for five cities for implementation of future urban water sector projects and detailed conceptual designs for three of the five cities. Later, USAID/Afghanistan deleted the contract requirement for CDM to prepare detailed conceptual designs for three cities and requested CDM to only provide preliminary level feasibility studies for a total of seven designated cities. As of December 2006, CDM had completed preliminary level feasibility and design studies for all seven cities.

**Program Three** - Originally the contract SOW required CDM to provide, at the national level, the services of a water sector institutional specialist on a half-time basis, and, at the local operating level in urban communities, water sector institutional development specialists, assisted by locally-hired support staff, to work with and train GOA ministry staff responsible for urban water and sanitation services. Later, the SOW was revised

requiring the water sector institutional specialist to spend more time implementing other programs and the water sector institutional specialist and water sector institutional development specialist positions were combined into one position. As of December 2006, CDM had devoted a level of effort to this requirement by providing operator training to GOA ministry employees and by attending meetings sponsored by MUDH concerning water and sanitation issues.

**Program Four** - Originally the contract SOW required CDM to design and implement expansion and improvements to a water distribution system in Chil Duktharan and extend an existing water distribution system in Karte Se. Both of these locations are near or within the City of Kabul, Afghanistan. For example:

In Chil Duktharan, CDM was to construct a concrete water storage tank, install conveyance pipelines from existing production wells, install one fuel storage tank and install neighborhood fire hydrants and standpipes.

In Karte Se, CDM was to design and install water distribution piping, install two different sizes of water pipe house connections, install water standpipes and public taps, and there was no requirement for patching of pavement after installation.

Later, the contract SOW was revised, for example:

In Chil Duktharan, CDM was to construct a steel water storage tank, complete installation and testing of two water production wells, install two fuel storage tanks, delete plans for installation of neighborhood fire hydrants and standpipes but add requirements for a water tap to the local village and a water line and tap to the local boy's school.

In Karte Se, CDM was to provide a different allocation of water distribution piping, install water pipe house connections all the same size, delete installation of water standpipes and public taps, and add a requirement for pavement repairs and replacement after installation.

As of December 2006, the audit determined the following accomplishments for these two sites:

- Chil Duktharan is a community located about 20 kilometers south of Kabul. CDM, in concert with relevant GOA ministries, the City of Kabul, the World Bank's consultant, and CARE International was to develop a sustainable potable water supply for a newly planned community designed to provide residences for up to 2,000 returning Afghan refugees. CDM started construction of the planned water facility in Chil Duktharan in May 2005 and USAID/Afghanistan transferred the completed facility over to the GOA in November 2006. CDM expended about \$2.1 million for the construction and delivery of the Chil Duktharan water supply facility.<sup>5</sup>
- The Karte Se neighborhood is located within the city of Kabul. CDM started construction of the planned extended water distribution system in Karte Se in

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<sup>5</sup> The costs for Chil Duktharan and Karte Se reported by CDM are exclusive of administrative and security costs because CDM did not capture these costs by project.

May 2005 and USAID/Afghanistan transferred the completed facility over to the GOA in September 2006. The extension of the Kabul water distribution system to Karte Se cost about \$3.3 million for subcontract and delivery costs.

**Program Five** - There were no significant revisions to the contract SOW for this program. As originally planned, CDM was to provide, on an as-needed basis, technical advisory services to assist the Mission in the development of follow-on activities, technical scopes of work, cost estimates, assistance with program management, policy recommendations, and strategic planning for USAID activities in the water and sanitation sector. As of December 2006, CDM had provided the Mission with two assessment studies concerning solutions for problems found at the Afghanistan National Army Hospital and Microrayan Wastewater Treatment Plants.

Although the Mission generally achieved its AUWSP planned deliverables, only some of the Mission's intended program objectives were achieved and contract administration problems were found with the contract used to implement AUWSP. Therefore, the overall results for the USAID/Afghanistan AUWSP were less than expected. For example, the audit concluded that there is uncertainty about the long-term sustainability of the AUWSP. As well, USAID/Afghanistan did not always administer the contract in accordance with applicable USAID regulations. Each of these areas is discussed in further detail below.

## **Sustainability of Water Supply Systems a Concern**

Summary: USAID/Afghanistan's overall objective underlying this program was to develop sustainable supplies of suitable quality water for certain areas of Afghanistan. To further sustainability of this project USAID/Afghanistan recognized the need to put in place procedures for collecting user fees for new water systems and for training operators to maintain and operate the systems after the GOA's acceptance of the systems. However, during project implementation USAID/Afghanistan did not take appropriate measures to ensure financial and operational sustainability of the constructed water systems beyond the project completion date primarily because it believed that adequate provisions had been made. As a result, the constructed water distribution systems built under the AUWSP could have significant short and long-term financial and operational problems ultimately impacting the supply of water to the intended populations of Afghanistan.

USAID/Afghanistan's contract with CDM stated that the overall objective of the AUWSP was to develop sustainable supplies of suitable quality water. In fact, USAID/Afghanistan emphasized at the onset of its AUWSP plans the need for evaluating any national or provincial water sector institutional strengthening measures to ensure that the interests of the public drinking water component of the entire Afghan water sector are given the priority that public water supplies are accorded in most countries. Each of the five program areas collectively would contribute to the achievement of this objective. To sustain this program, USAID/Afghanistan intended through its contractor to provide assistance to the GOA ministries concerning procedures for collecting user fees to assist with the financing of these systems and to provide operator training to maintain and operate the new water distribution systems.

However, despite these requirements and intended actions USAID/Afghanistan did not take the appropriate measures to ensure that these water systems were financially and operationally sustainable.

With regards to financial sustainability in Gardez and Ghazni the systems lacked proper equipment as well as an adequate billing structure to ensure that fees could be collected from the users. According to the Mission's alternate cognizant technical officer (CTO) and the Mission's AUWSP plan consultant from IRD, the World Bank had installed an operable water distribution system network for the Gardez and Ghazni new water distribution systems. However, water meters necessary to measure water consumption for each user were not available. Second, the billing structure for fee collection was based on a flat rate so each user paid the same amount regardless of the amount of water consumption. As a result, this fixed billing rate lacked controls to promote any water conservation measures by the users.

As well, according to the CDM Chief of Party and the Mission's water program consultant from IRD, as of December 2006, only about 20 establishments were presumed to be connected as clients to the Karte Se extended water system which was completed in September 2006. When asked why there were so few hook ups to the water system, the officials stated that most potential clients either viewed the monthly charges for access to the water system as too high or believed that their current water wells were adequate. The Mission had intended that there would be about 1,000 additional service connections added to the city water supply after the water extension in Karte Se. However, according to the officials, a study or assessment had not been performed to try to help determine the expected level of use by residential and business clients once the extended water system was made available.

Hence, the lack of water meters and the billing structure in place could impact the GOA's ability to financially sustain water operations in Gardez and Ghazni. In addition, the GOA's ability to financially sustain the water operations in Karte Se could be impacted by potential clients preferring to use their current water wells rather than the extended water system.

With regards to operational sustainability, USAID/Afghanistan did not take proactive measures to ensure that, once handed over to the GOA, the water systems would be operated and maintained in accordance with the system requirements. According to the CDM Country Director in an October 2006 Monthly Status report, the level of technical capability of the two operators assigned to Chil Duktharan was dramatically less than what would be required to understand the most basic concepts to operate and troubleshoot the water system. It was stated that the lack of understanding was attributable to the fact that the two operators had never seen any electronics, instrumentation, or control systems of any kind.

In a November 2006 Monthly Status Report, CDM reported to the Mission that CDM staff were working well with the GOA agency operators in Gardez and Ghazni and they appeared eager to learn, but expectations for the operators should not be set unreasonably high. For example, CDM reported that the operators had limited education and would have trouble with parts of the operation that require knowledge of technology or deciphering even the most basic technical manuals. Further, CDM reported that these issues could not be overcome in the one month remaining on the project.

During audit field visits to Gardez, RIG/Manila auditors confirmed during interviews with CDM's mechanical and electrical engineers that operators sent by the GOA ministry to get trained did not know how to read and understand English and did not understand simple technical/engineering instructions. RIG/Manila auditors could not assess the knowledge and capabilities of the operators because the water distribution systems in Gardez and Ghazni were not yet fully operational at the time of the field visits.

During the conduct of the audit, RIG/Manila could not determine any efforts on the part of the Mission to assess the adequacy of training provided to proposed operators of the newly built water systems or how the GOA ministries with water and sanitation responsibilities planned to assure the financial sustainability of the newly built and extended water systems. USAID/Afghanistan officials were either not aware of or had not taken any actions to address the above issues. As a result of the Mission's unawareness of the sustainability problems, the newly built water systems could have significant financial and operational problems in the future. To achieve sustainability for completed systems, we recommend the following:

*Recommendation No. 1: We recommend that USAID/Afghanistan conduct an assessment at the Gardez and Ghazni sites where a water distribution system was installed and make a determination as to the extent that further training is required, and then provide the training as necessary, for Ministry of Urban Development and Housing operators to operate and maintain the water systems at a sustainable level.*

*Recommendation No. 2: We recommend that USAID/Afghanistan assist the relevant Government of Afghanistan ministries with water and sanitation responsibilities in determining the appropriate user fees to be charged to water system clients and how to increase usage of water system services by potential clients.*

## **Contract Administration Needs Improvement**

Summary: USAID/Afghanistan did not properly administer its contract with CDM in accordance with its acquisition policies and directives. USAID/Afghanistan did not require CDM to deliver certain performance reporting documents considered critical for evaluating the performance progress of the project. In some cases USAID/Afghanistan redirected work prior to official notification from the contracting officer of the changes. As a result, USAID/Afghanistan lacked key reporting information to adequately evaluate the project's financial and performance progress. Furthermore, the beneficiaries were impacted to the degree that they were not satisfied or in full agreement with the changed level of effort.

USAID Automated Directives System (ADS) 202.3.6.3 outlines the operating unit's and Strategic Objective (SO) Team's responsibilities stating that they must make adjustments in tactics when conditions warrant. This may include developing an entirely new activity and instrument, or simply modifying and changing existing activities. In either case, the contracting officer must be involved early in the process.

When changes are considered necessary the SO Team must consult the contracting officer and, if appropriate, the Office of General Counsel or its Regional Legal Advisor as soon as possible when it is considering any change that would affect a legal agreement.

In addition, USAID ADS 302.3.7.1, which incorporates by reference Acquisition and Assistance Policy Directive 04-10, Standardized Model Letters for Designating the Cognizant Technical Officer (CTO) for Contracts, Grants, and Cooperative Agreements, provides guidance on CTO designations. USAID policy delegates authority to the CTO to provide technical direction and guidance to a contractor but does not give authority for the CTO to direct the contractor to change the contract statement of work. CTO authorities and limitations, such as precluding the CTO from taking any action which may impact on the contract schedule, funds, scope or rate of utilization of level of effort, were stated in the CDM contract.

In the following instances, USAID/Afghanistan did not properly administer its contract in accordance with its acquisition policies and USAID directives.

1. According to CDM weekly reports for the week of June 17 and June 24, 2005, the alternate CTO instructed CDM to close the Kandahar project and seek alternative projects because of the lack of suitable water supplies and security problems. CDM reported that during the week of July 22, 2005, it stopped work in Kandahar and it had started performing feasibility studies on other possible sites. However it was not until August 2005, according to a CDM weekly report, that it met with USAID to obtain approval for replacing the SOW on Kandahar with sites in the northern area of Afghanistan. USAID/Afghanistan did not modify the contract to reflect these changes until July 27, 2006, a year after the alternate CTO instructed CDM to stop and redirect its work in other areas. This reduction in work was by far the most significant change to the contract in terms of scope and costs. As a result, from a contractual standpoint, the CTO's direction had an impact on the contract schedule, funds, scope or rate of utilization of level of effort, which were outside of the CTO's delegated authority to do.
2. The original contract SOW required CDM to prepare feasibility studies for drinking water systems in five provincial capitals and prepare a detailed conceptual design for three of the five capitals. A CDM progress report indicates that from the beginning of the project, it did not intend to prepare detailed conceptual designs for three of the provincial capitals as defined in the contract SOW. However it was not until July 27, 2006, that the contracting officer formally deleted this requirement from the contract and revised the SOW to reflect what CDM had actually been working on from the start of the contract. Furthermore, according to the GOA ministry officials in MUDH, they were not consulted on these changes which ultimately impacted the GOA's satisfaction with the technical services received under this contract.
3. USAID/Afghanistan's contract required CDM to submit an annual work plan, an annual report and periodic performance monitoring and evaluation plans containing the contractor's plan for monitoring all activities by quarter. The plan was to include key indicators (technical and administrative), data sources and methodology of data collection and analysis and quality verification and targets. CDM never submitted a performance monitoring and evaluation plan and the

annual report requirement was not met because CDM management believed that the weekly and monthly status reports met the spirit of the performance monitoring and evaluation plan and that the annual report was essentially a compilation of the weekly and monthly reporting requirements so it served no value. USAID/Afghanistan's contracting officer modified the CDM contract in November 2006 deleting these requirements citing in the negotiation memorandum that these changes were necessary to reflect the actual reports that CDM submitted which USAID accepted during contract performance in lieu of what was required. As a result, USAID/Afghanistan did not have the necessary tools to effectively and systematically assess progress in achieving results and to make informed management decisions on a timely basis.

Since the contract has ended we are not making a recommendation concerning changes to the planned feasibility studies. However, to address the issues concerning CTO authority being exceeded and reporting requirements not being met, we are recommending the following:

*Recommendation No. 3: We recommend USAID/Afghanistan establish a practice that all incoming Cognizant Technical Officers attend an incoming briefing given by the contracts office to reinforce the knowledge of applicable contractual delegated authorities and limitations for the duration of their stay in Afghanistan.*

*Recommendation No.4: We recommend that USAID/Afghanistan require that Cognizant Technical Officers at least quarterly, as applicable, fulfill their contract administration responsibilities by confirming and documenting that contractors are complying with specific contract reporting requirements.*

## **Other Contract Administration Issues Need Improvement**

Summary: USAID/Afghanistan did not require necessary financial data from CDM to allow it to effectively manage the funding of this project to ensure compliance with contract limitation of funds issues. As a result, the Mission's system for controlling, projecting and monitoring contract costs did not provide for the necessary information to foresee the contractor's request for an additional \$1.6 million in funds one month prior to the end of the contract. CDM did not provide the Mission with necessary financial reporting information because the contract lacked specificity as to what was to be reported.

USAID/Afghanistan did not require the contractor to provide timely and valid cost, funding, schedule, and related management information for use in contract performance analysis. As a result, CDM did not comply with the limitation of cost clause concerning financial reporting matters.

Federal Acquisition Regulation 52.232-20, Limitation of Cost, limits costs contained in financial reporting requirements for cost-type contracts. The limitation of cost clause in cost-type contracts requires the contractor to advise the contracting officer in writing whenever the contractor has reason to believe that costs expected to be incurred under

the contract in the next 60 days, when added to all costs previously incurred, will exceed 75 percent of the estimated total contract costs or funds allotted to the contract, respectively. The limitation of cost clause also requires the contractor to notify the contracting officer when there are indications that the total cost for the performance of a contract will be greater or substantially less than the estimated total contract cost.

On October 19, 2006, one month prior to the end of the contract, CDM notified the USAID/Afghanistan contracting officer that the total cost for the performance of the contract, exclusive of fee, would be greater than previously estimated. CDM reported that as of October 19, 2006, it had invoiced \$33,568,119 for services through August 26, 2006. This represents 92 percent of the total estimated costs of \$36,462,801, which USAID/Afghanistan fully funded on October 10, 2006. Furthermore, CDM's draft invoice amount of \$2,182,472, which CDM had not yet submitted for September, brought total incurred costs to \$35,750,592, 98 percent of the total funded contract costs. In CDM's October 19, 2006, notification to USAID, it requested an additional \$1,619,641 along with an extension through December 15, 2006, to complete the scope of work in the contract. This occurred primarily because:

- The contract with CDM included a requirement for CDM to provide quarterly and annual expenditure reports. The contract did not stipulate the specifics of what was required within these reports. In lieu of these reports, CDM attached to its monthly invoices a cumulative expenditure report reflecting total costs incurred and paid through the current invoice along with unused budget amounts.
- Though USAID/Afghanistan's Office of Financial Management monitors and reports the cumulative expenditures against total estimated costs and obligations, this information is not effectively used by the CTO in the technical office as a management tool for purposes of managing the contractor's performance.

As a result USAID/Afghanistan's system for controlling, projecting and monitoring the contract costs did not provide for the necessary information to foresee the contractor's request for an additional \$1.6 million in funds one month prior to the end of the contract.

Given that this contract has ended, no specific recommendation can be given in respect to this activity. However for current and future acquisition awards we recommend the following:

*Recommendation No. 5: We recommend that USAID/Afghanistan strengthen its system for controlling, projecting and monitoring contract costs by:*

- *stipulating the specifics of the type of financial reporting information that is required for quarterly and annual reports, and*
- *requiring Mission technical offices to use cumulative expenditures against total budget estimated costs by line item and obligations as a management tool for purposes of managing the contractor's performance.*

# EVALUATION OF MANAGEMENT COMMENTS

USAID/Afghanistan's comments to the draft report are included in their entirety in Appendix II.

In its comments to the draft report, the Mission agreed with each of the recommendations presented.

In response to Recommendation No. 1, the Mission stated that by the end of Calendar Year 2007, it plans to have a contractor conduct an assessment of the operators' training needs and provide the necessary training and/or technical support to the water system distribution staff in Gardez and Ghazni. Based on the Mission's response, we consider that a management decision has been reached.

In response to Recommendation No. 2, the Mission provided additional information further explaining that the issue with the user fees by itself was not the underlying reason why the GOA might not be able to financially sustain the water operations in Karte Se. We edited portions of the report accordingly to reflect the Mission's comments. Furthermore, the Mission stated that the Central Authority for Water Supply and Sanitation has also taken measures to require potential beneficiaries in Karte Se to use the water resources available through the city water supply system. The Mission also stated that by the end of Calendar Year 2007, it planned to have an assessment conducted and provide technical assistance to the GOA as needed. Based on the steps already taken and those in process, we consider that a management decision has been reached on this recommendation.

In response to Recommendation No. 3, the Mission stated that it has institutionalized a practice whereby all newly assigned cognizant technical officers (CTOs) are fully aware of their responsibilities. The Mission's Office of Acquisition and Assistance hand-delivers all CTO designation letters and explains/discusses salient points in the document. All newly assigned CTOs are fully briefed on their duties and responsibilities and the limits of their authorities by the Contracting Officer. Along with the CTO designation letter, the Mission also provides the CTO three Mission Notices, addressing the Roles and Responsibilities of the CTO, Funds Control Violations, and Unauthorized Commitments. We reviewed the Mission's new procedures and documents and found them to be sufficient to address the recommendation. Therefore, we consider that final action has been taken on this recommendation.

In response to Recommendation No. 4, the Mission stated that by the end of July 2007, it planned to issue a Mission Order, which will provide for quarterly reporting by CTOs and require confirmation by CTOs that contractors are complying with specific reporting requirements, or if not, why. The Mission stated that if the Office of Acquisitions and Assistance (OAA) determines that the CTO is not fulfilling contract administration responsibilities, it is within the OAA's purview to relieve them of their responsibilities. Based on the Mission's response, we consider that a management decision has been reached.

In response to Recommendation No. 5, the Mission stated that it is now requesting contractors to submit summary invoices to include columns for the budget (ceiling price), remaining budget balance and percentage billed to date. In addition, the Mission provided additional information supporting the fact that it was aware of a potential cost overrun, however, its system for controlling, projecting and monitoring contract costs did not provide for the necessary information to foresee the contractor's request for an additional \$1.6 million in funds one month prior to the end of the contract. We have corrected the report to accurately reflect the impact of this finding. We reviewed the Mission's new procedures and documents and found them to be sufficient to address the recommendation. Therefore, we consider that final action has been taken on this recommendation.

A determination of final action with regard to the measures taken by the Mission to address Recommendation Nos. 1, 2, and 4 will be made by the Audit Performance and Compliance Division (M/CFO/APC) upon completion of the proposed corrective actions.

# SCOPE AND METHODOLOGY

## Scope

The Regional Inspector General/Manila audited USAID/Afghanistan's urban water and sanitation program in accordance with generally accepted government auditing standards. The purpose of the audit was to determine whether selected activities under the program were on schedule to achieve planned results (contract deliverables).

Specifically, the audit covered the Afghanistan Urban Water and Sanitation Project (AUWSP)—the largest project under USAID/Afghanistan's \$60 million urban water and sanitation program. The AUWSP was implemented on behalf of the Mission by Camp Dresser McKee Inc. (CDM). The audit covered activities under the AUWSP for the period from September 30, 2004, through December 20, 2006. We performed audit fieldwork from November 28, 2006, through December 20, 2006, at USAID/Afghanistan, which is located in Kabul. Additionally, we visited AUWSP construction sites at Karte Se, an area within the city of Kabul, and the cities of Gardez and Ghazni. By the time our fieldwork started, CDM had closed its Kabul office and shipped all its employees and records out of Afghanistan and only its chief of party remained in Kabul.

CDM carried out the AUWSP under a \$37.3 million sole-source, cost-plus-fixed-fee contract. The AUWSP had five programs under which CDM was to design and construct or improve water distribution systems in various cities, extend the distribution networks and provide increased sources of potable water in provincial capital cities, prepare feasibility studies for water distribution systems in other cities, deliver capacity-building assistance to the Afghan ministry responsible for water and sanitation services in urban areas, and provide water and sanitation technical advisory services to the Mission. Our audit covered all five programs. As of December 20, 2006, the Mission had obligated and spent \$37.3 million and \$36.2 million, respectively, for the AUWSP.

As part of the audit, we assessed the significant internal controls used by USAID/Afghanistan to monitor the AUWSP. The assessment included controls related to whether the Mission (1) required and approved an implementation work plan, (2) monitored and evaluated the performance and progress of its contractor, (3) received and reviewed progress reports, (4) reviewed progress reports submitted by its consultant International Relief & Development, Inc. (IRD), (5) conducted and documented site visits to evaluate progress and monitor quality, and (6) properly reviewed the contractor payment process. We also reviewed the Mission's Federal Managers' Financial Integrity Act report for fiscal year 2006 for any issues affecting the audited activities. Finally, we reviewed any relevant prior audit reports.

## Methodology

To answer the audit objective, we interviewed officials and staff from USAID/Afghanistan, CDM's chief of party, and officials from the Afghan government ministry managing their country's water and sanitation programs. Additionally, we interviewed officials from IRD, which was monitoring the AUWSP on behalf of the Mission, and we interviewed officials from CARE International and the United Nations

Development Programme, which were implementing other water and sanitation projects for the Mission. We reviewed applicable USAID and Mission policies and procedures and evaluated the Mission's compliance with relevant Federal Acquisition Regulations. We also analyzed and reviewed relevant documents obtained from the Mission and CDM. This documentation included the CDM contract and its modifications, the AUWSP implementation work plan and related schedules, site visit and other monitoring reports, progress reports, and financial records.

We did not develop materiality thresholds for answering the audit objective because a significant number of the CDM contract planned deliverables were qualitative in nature.

# MANAGEMENT COMMENTS



**USAID**  
FROM THE AMERICAN PEOPLE

**AFGHANISTAN**

## MEMORANDUM

**TO:** Catherine M. Trujillo, RIG/Manila

**FROM:** Carl Abdou Rahmaan, Acting Mission Director /s/

**DATE:** May 22, 2007

**SUBJECT:** Audit of USAID/Afghanistan's Urban Water and Sanitation Program (Audit Report No. 5-306-07-00X-P)

**REFERENCE:** CTrujillo/LWaskin memo dated 04/19/07

Thank you for providing the Mission the opportunity to review the subject draft audit report. We are providing below our comments, other relevant information, and management decisions on the recommendations in the audit report.

### MISSION RESPONSES TO AUDIT RECOMMENDATIONS

***Recommendation No. 1: We recommend that USAID/Afghanistan conduct an assessment at the Gardez and Ghazni sites where a water distribution system was installed and make a determination as to the extent that further training is required, and then provide the training as necessary, for Ministry of Urban Development and Housing operators to operate and maintain the water systems at a sustainable level.***

The Mission agrees with the recommendation.

**Planned Action:** By the end of CY07, the Mission plans to have a contractor conduct an assessment of the operator's training needs and provide the necessary training and/or technical support to the water system distribution staff in Gardez and Ghazni.

The Mission deems that the planned action adequately addresses the recommendation and therefore requests RIG's concurrence to this management decision.

***Recommendation No. 2: We recommend that USAID/Afghanistan assist the relevant Government of Afghanistan ministries with water and sanitation responsibilities in determining the appropriate user fees to be charged to water system clients and how to increase usage of water system services by potential clients.***

Although the Mission agrees with the recommendation to provide Technical Assistance to the Government of Afghanistan (GoA), we would like to make the following comments:

1. The issue of “user fee” as recommended to be addressed is not the actual problem in Karte Se. The fact is that the potential beneficiaries of the water supply system built by CDM in Karte Se area of Kabul are generally high-income Afghans. Most of the houses in Karte Se are either occupied by the rich people or rented by international and/or national NGOs and construction/trace companies who have established their own independent in-house water supply systems, and therefore, they do not need or do not want to be connected to the public system.
2. CAWSS with technical support from USAID and other donors have already analyzed the situation and has adjusted the hook up fee in Karte Se to a reasonable amount, but due to the fact mentioned in No.1 above, CAWSS has not been able to increase the usage of water system services by potential clients to a reasonable number.

Currently the number of clients connected to the system has increased from 20 houses to around 80 houses, but still it is too low compared to the target number of 1000 potential beneficiaries. To address this problem, CAWSS has sent a letter to the High Commission for Water Resources Management in Afghanistan. The letter requests the High Commission to come up with a law/decreed that do not allow digging of private deep wells and use of underground water resources by those households who are either connected or can be connected to the city water supply system. CAWSS believes that by putting such a restriction enforced on the use of underground water resources in Karte Se, the potential number of beneficiaries of the system will be increased.

**Planned Action:** By the end of CY07, the Mission plans to have a contractor conduct an assessment of the current situation and provide technical assistance to the GOA as needed.

The Mission deems that the planned action adequately addresses the recommendation and therefore requests RIG’s concurrence to this management decision.

***Recommendation 3: We recommend that USAID/Afghanistan establish a practice that all incoming Cognizant Technical Officers attend an incoming briefing given by the Contracts Office to reinforce the knowledge of applicable contractual delegated authorities and limitations for the duration of their stay in Afghanistan.***

The Mission agrees with the recommendation.

**Action taken:** The Mission has institutionalized a practice whereby all newly assigned CTOs are fully aware of their responsibilities. OAA is hand-delivering all CTO designation letters and explaining/discussing salient points in such document. All newly assigned CTOs are fully briefed on their duties and responsibilities and the limits of their authorities by OAA. (See Annex 1)

The Mission requests that the recommendation be closed upon issuance of the final audit report.

***Recommendation 4: We recommend that USAID/Afghanistan require that Cognizant Technical Officers at least quarterly, as applicable, fulfill their contract administration responsibilities by confirming and documenting that contractors are complying with specific contract reporting requirements.***

The Mission agrees with the recommendation.

**Planned Action:** By the end of July 2007, the Mission will draft a Mission Order, which provides for quarterly reporting by CTOs and requires confirmation by CTOs that contractors are complying with specific reporting requirements, or if not, why.

CTOs are required by training and through letters of delegation to establish and maintain familiarity with the requirements of their agreements beginning with their initial assignments, at post award conferences, and in frequent communications with Contracting Officers during contract administration.

Should an implementing partner fail to meet any requirement, CTOs are also instructed to convey such information to OAA. Further, if and when CTOs are judged by OAA not to be fulfilling their contract administration responsibilities, it is within OAA's purview to relieve them of their responsibilities. In summary, the CTO/Contracting Officer team is encouraged to work together collegially to ensure that all reporting requirements are being met.

The Mission deems that the planned action adequately addresses the recommendation and therefore requests RIG's concurrence to this management decision.

**Recommendation 5: We recommend that USAID/Afghanistan strengthen its system for controlling, projecting and monitoring contract costs by:**

- ***Stipulating the specifics of the type of financial reporting information that is required for quarterly and annual reports, and***
- ***Requiring Mission technical offices to use cumulative expenditures against total budget costs by line item and obligations as a management tool for purposes of managing the contractor's performance.***

The Mission agrees with the recommendation, but not the findings.

The Mission does not question its need to strengthen its system for controlling, projecting and monitoring contract costs. However, as a factual matter, the Mission disputes the summary finding, namely, that "... the Mission was not aware that the contractor needed \$1.6 million in additional funds to complete the contract until one month prior to the end of the contract." Further, the contract did, in fact, include several requirements to provide "timely and valid" management information, including FAR 52.232-22, Limitation of Funds.

In essence, as early as August 2006, the Mission was aware that contract costs were running much higher than forecast and that the contractor's reporting of cost projections was suspect. Nevertheless, the Mission's efforts to monitor costs were insufficient even after being informed of a possible costs overrun, partly because the contractor failed to timely provide reliable costs projections as requested by the mission. (See Annex 2)

**Action Taken:** The mission has initiated measures to address this recommendation by requesting contractors to submit summary invoices that include the following columns: budget (ceiling price), remaining budget balance and percentage billed to date (See Annex 3). OFM in coordination with the CTO monitor cumulative expenditures by line item to ensure that budget ceilings are not exceeded and that they are commensurate with physical progress.

The Mission requests that this recommendation be closed upon issuance of the final audit report.

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