The seal of the Office of the Special Inspector General for Iraq Reconstruction is a large, circular emblem in the background. It features an eagle with its wings spread, perched on a shield with vertical stripes. Above the eagle's head is a sunburst with stars. The seal is surrounded by text in both English and Arabic. The English text reads "INSPECTOR GENERAL" at the top and "RECONSTRUCTION" at the bottom. The Arabic text reads "مفتش العام" at the top and "إعادة إعمار العراق" at the bottom.

OUTCOME, COST, AND OVERSIGHT OF  
WATER SECTOR RECONSTRUCTION  
CONTRACT WITH FLUORAMEC, LLC

**SIGIR-08-018**  
**JULY 15, 2008**

July 15, 2008

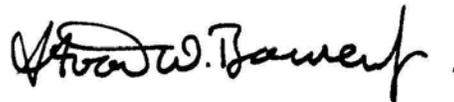
MEMORANDUM FOR U.S. AMBASSADOR TO IRAQ  
DIRECTOR, IRAQ TRANSITION ASSISTANCE OFFICE  
COMMANDING GENERAL, U.S. CENTRAL COMMAND  
COMMANDING GENERAL, MULTI-NATIONAL FORCE-IRAQ  
COMMANDING GENERAL, U.S. ARMY CORPS OF ENGINEERS  
COMMANDER, JOINT CONTRACTING COMMAND-  
IRAQ/AFGHANISTAN  
COMMANDING GENERAL, GULF REGION DIVISION, U.S.  
ARMY CORPS OF ENGINEERS

SUBJECT: Review of Outcome, Cost, and Oversight of Water Sector Reconstruction  
Contract with FluorAMEC, LLC (SIGIR-08-018)

This report is provided for your information and use. It includes the results of the Special Inspector General for Iraq Reconstruction (SIGIR) audit of FluorAMEC, LLC contract W914NS-04-D-0022 for water sector reconstruction projects. The report is part of a series of focused contract audits conducted to comply with a December 2006 amendment to SIGIR's enabling legislation that requires SIGIR to prepare a report "on all amounts appropriated or otherwise made available for the reconstruction of Iraq." The objective of these audits is to examine contract outcome, cost, and management oversight, emphasizing issues related to vulnerabilities to fraud, waste, and abuse. This report also addresses issues associated with transferring completed projects to the Government of Iraq. This audit was conducted as project 7022.

We considered written comments from the Multi-National Force-Iraq and the U.S. Army Corps of Engineers, Gulf Region Division, when preparing this report. The comments are addressed in the report, where applicable, and a copy is included in the Management Comments section of this report.

We appreciate the courtesies extended to our staff. For additional information on this report, please contact Glenn Furbish (703-428-1058) ([glenn.furbish@sigir.mil](mailto:glenn.furbish@sigir.mil)).



Stuart W. Bowen, Jr.  
Inspector General

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## **Outcome, Cost, and Oversight of Water Sector Reconstruction Contract with FluorAMEC, LLC**

**SIGIR-08-018**

**July 15, 2008**

# **Executive Summary**

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## **Introduction**

Public Law 108-106, as amended, requires that the Special Inspector General for Iraq Reconstruction (SIGIR) prepare a final forensic audit report “on all amounts appropriated or otherwise made available for the reconstruction of Iraq.” To fulfill this requirement, SIGIR has undertaken a series of audits examining major Iraq reconstruction contracts. The objective of these audits is to examine contract outcome, cost, and management oversight, emphasizing issues related to vulnerabilities to fraud, waste, and abuse. This report also focuses on the problems associated with the transfer of completed projects to the Government of Iraq (GOI).

This report, the sixth in the series of focused contract audits, examines reconstruction work contracted by the U.S. government and performed by FluorAMEC, LLC. In March 2004, at the request of the Coalition Provisional Authority (CPA), the Naval Facilities Engineering Command awarded FluorAMEC a cost-plus award-fee indefinite-delivery/indefinite-quantity contract (W914NS-04-D-0022) to provide design-build projects in the water sector in southern Iraq. In addition to a task order for mobilization into Iraq, FluorAMEC was issued four construction-project task orders:

- Nassriya Water Supply (Nassriya Project)
- Basrah Sewage (Basrah Project)
- Diwaniya and Daghara Water Supply Project (Diwaniya Project)
- Najaf and Kufa Water Supply Project (Najaf Project)

Initially, the CPA’s Program Management Office (PMO) had program management responsibilities; in May 2004, the Project and Contracting Office replaced the PMO and assumed program management responsibilities. The U.S. Army Corps of Engineers, Gulf Region Division, assumed the Project and Contracting Office’s responsibilities in October 2006. In November 2004, the Joint Contracting Command-Iraq/Afghanistan (JCC-I/A) assumed contract management responsibilities.

## **Results**

Work on this contract was deemed generally successful; however, less was accomplished under the contract than expected for two reasons. First, the funding planned for water-sector projects was reduced. Second, water-sector projects proved to be significantly more costly than initially estimated. More than \$2 billion of the \$4.2 billion originally allocated for the water sector

projects was redirected to other sectors. Of four construction task orders issued, two were completed (Nassriya and Basrah), and two were terminated for the convenience of the government because of funding constraints (Diwaniya and Najaf). SIGIR identified these key facts and issues related to contract outcome and cost:

- As of May 5, 2008, \$318.51 million had been disbursed against the contract's \$500 million ceiling—97% of these expenditures was associated with the two completed task orders. Most of the funds were spent on the expanded Nassriya Project.
- A number of factors negatively impacted work on the two completed construction task orders: funding constraints, increased costs, schedule slippages related to the unstable security environment, and changes in the planned scope of work.
- Of the two completed task orders, the Nassriya water-treatment facility was the largest and most ambitious project. The project ultimately consolidating planned water treatment facilities at three towns into one larger capacity facility and also extended pipelines to the two other towns. SIGIR identified deficiencies in cost estimates as a significant factor in the U.S. government's inability to predict the 51% cost increase for the Nassriya Project after definitization.
- The Basrah Project included multiple tasks related to upgrading the wastewater collection and treatment system, but numerous design and scope changes were made over the first months of the project to reflect evolving priorities and budget constraints.
- Task orders for water supply projects at Diwaniya and Najaf were terminated at the 60% design stage, about six months after the task orders were issued because of water sector funding constraints. As of May 2008, \$6.89 million had been spent on these two projects. Funds expended on such terminated projects could be viewed as wasted if the designs are not used.

SIGIR's review identified extensive efforts on the part of U.S. government organizations to carry out contract management tasks, including oversight, quality assurance, contract administration, and reporting. The U.S. government substantially relied on a contractor to provide assistance in managing and overseeing the projects. SIGIR noted the following management issues that adversely affected the projects:

- *Inappropriate payment of award fees:* Paying \$1.24 million in award fees on the terminated task orders—including \$573,605 that was inappropriately paid for a period after termination, an action contrary to the award fee plan. On the completed task orders, the award fees were structured and administered to provide an incentive for improved contractor performance.
- *Insufficiently defined scope of work:* The initial contract specified the broad mission to restore, rebuild, and develop water, wastewater, and solid waste projects, and the subsequent task orders did little to define the required work. The Nassriya Project task order required a preliminary technical study of alternatives, and the Basrah Project task order required an assessment and coordination study.
- *Inadequate preparation of detailed and independent estimates:* For the Nassriya Project, the initial estimate and the definitized estimate were both considered unrealistic and the

required independent government estimate was not a good predictor of future costs. Realistic estimates are needed for effective management and oversight and to minimize the potential for fraud, waste, and abuse.

- *Not initiating timely action to close out task orders:* Failing to close out task orders resulted in increased costs and administrative burdens. This is most evident with Task Orders 4 and 5; which were terminated in July 2005, but only recently submitted to a termination contracting officer for closeout.

SIGIR has previously reported<sup>1</sup> on difficulties in transferring completed U.S.-funded projects to the GOI, along with concerns about the long-term sustainment of transferred facilities. The completed Nassriya and Basrah Projects were examples of that problem, despite contract tasks to help ensure successful transfer and operation. For example, the Nassriya task order required FluorAMEC to provide classroom and hands-on training for Iraqi plant operators and staff. However, a lack of qualified trainees severely hampered training progress, and the GOI was reluctant to assume responsibility for the completed plant. Since the transfer, the plant has operated below capacity. SIGIR identified these problems in an April 2008 Inspection Report<sup>2</sup> and recommended actions to increase operational output and avert further deterioration. The GOI's current and anticipated lack of capacity to operate and maintain the plant raises serious concerns about its long-term sustainability and places the investment at risk of being wasted.

Because SIGIR's reports on transferring completed projects and the SIGIR Inspection Report on Nassriya contained recommendations, this report makes no recommendations on these issues.

## **Recommendation**

SIGIR recommends that JCC-I/A establish timeframes for closing task orders to minimize costs and administrative expenses. As Task Orders 4 and 5 are closed out, JCC-I/A should ensure that excessive award fees paid are recovered.

## **Lessons Learned**

U.S. reconstruction projects in Iraq were hampered by the unstable security environment, funding uncertainties, and time constraints. These conditions created difficulties in accomplishing pre-award planning, defining project requirements, and overseeing contractor performance. Nevertheless, fundamental elements of contract and project management and oversight should be accomplished to the extent possible. SIGIR identified a number of lessons that U.S. government organizations could apply to future reconstruction projects in a contingency environment. They include the need to:

- Recognize in planning assumptions and budget estimates that undertaking reconstruction activities before security conditions have been stabilized will increase the cost of security and decrease the likelihood that cost, schedule, and performance goals will be met.

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<sup>1</sup> *Transferring Reconstruction Projects to the Government of Iraq: Some Progress Made but Further Improvements Needed to Avoid Waste.* SIGIR Audit 08-017, April 28, 2008

<sup>2</sup> *Sustainment of the Nassriya Water Plant, Nassriya, Iraq.* SIGIR PA 07-116, April 28, 2008

- Complete comprehensive pre-award planning, including realistic and well-defined work scopes and estimates of costs and schedules. These are needed for effective government management and oversight of reconstruction projects and to minimize the potential for fraud, waste, and abuse.
- To the extent possible, ensure that needed funds will be available to complete projects before awarding contracts/task orders. This will reduce the likelihood of potentially wasteful terminations caused by funding reductions.
- Definitize contracts/task orders after complete and supportable cost and schedule information is available. Premature definitization based on limited design and construction information, especially in a contingency environment, can result in unanticipated project cost increases, schedule delays, and potential waste.
- Prepare independent and comprehensive government cost and schedule estimates before major contract actions such as definitization. Without such estimates to evaluate contractor proposals, unanticipated costs increases, schedule delays, and potential waste can result.
- Take early action to address project transfer and sustainment issues with the host government. Expectations of future project performance could be overstated unless long-term operation and maintenance issues are resolved.
- Take timely actions to close out task orders to help reduce costs and avoid administrative burdens.

## **Management Comments and Audit Response**

In preparing this report, SIGIR considered written comments from the Multi-National Force-Iraq and the U.S. Army Corps of Engineers, Gulf Region Division. Their complete comments are included in the Management Comments section of this report.

Multi-National Force-Iraq responded that JCC-I/A concurs with the recommendation and the specific findings supporting it. To address that portion of the recommendation related to contract closeout timeframes, JCC-I/A plans to examine personnel constraints and the potential for additional resources. To address that portion of the recommendation related to excessive award fees, JCC-I/A will use final closeout audits through the Defense Contract Audit Agency to resolve award-fee discrepancies. SIGIR supports the plans and will follow up on the progress made to complete these actions at the appropriate time.

U.S. Army Corps of Engineers, Gulf Region Division, comments correctly cite a paragraph in SIGIR's draft report that raised questions about the adequacy of the independent government estimate for the Nassriya Project. However, the comments then stated that SIGIR's position is that using any materials provided by the design-build contractor is not appropriate when developing an independent government estimate. This is not correct. As noted in this report, SIGIR's position is that the independent government estimate for this project—based largely on the same limited design information as the FluorAMEC proposal—was neither comprehensive nor independent. As a result, it was not a good predictor of the growth in costs that occurred over the next few months.

# Introduction

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Public Law 108-106, as amended, requires that the Special Inspector General for Iraq Reconstruction (SIGIR) prepare a final forensic audit report “on all amounts appropriated or otherwise made available for the reconstruction of Iraq.” To help meet this requirement, we are undertaking a series of audits of major Iraq reconstruction contracts. These audits include contract cost and outcome and the U.S. government’s program and contract management and oversight, with emphasis on issues related to fraud, waste, and abuse. This report, the sixth in the series of such reviews, examines reconstruction work contracted by the U.S. government and performed by FluorAMEC, LLC.

## Background

In March 2004, at the request of the Coalition Provisional Authority (CPA), which was initially responsible for overseeing, directing, and coordinating the Iraq reconstruction effort, the Naval Facilities Engineering Command awarded FluorAMEC, LLC, a cost-plus award-fee indefinite delivery/indefinite quantity (IDIQ) contract<sup>3</sup> (W914NS-04-D-0022). The contract was for design-build construction services for projects associated with the rehabilitation of existing and construction of new potable water distribution and treatment systems, municipal sewer collection and treatment systems, and solid-waste management systems in the southern region of Iraq. This was one of 12 design-build construction contracts approved by the Deputy Assistant Secretary of the Army (Policy and Procurement) to provide an overarching framework of construction projects to restore the Iraqi infrastructure. The contracts were issued in defined work sectors, such as water, oil, transportation, and electricity.

FluorAMEC, a limited liability company comprised of Fluor Middle East, LLC, and AMEC Holdings, Incorporated, was formed in April 2003, specifically to bid on these contracts. The company was awarded three reconstruction contracts: two in the water sector—one for northern Iraq and one for southern Iraq—and one in the electricity sector. Under the water sector contract for southern Iraq, which is the subject of this report, five task orders were issued. The first was to mobilize the resources necessary to begin to restore, rebuild, and develop water, wastewater, and solid waste plants. The statement of work called for the contractor to provide the Iraqi people with (1) necessary basic public facilities and infrastructure that would be easy to maintain, upgrade, and repair and (2) employment opportunities and important skills, as well as instill personal pride. After the mobilization task order, four construction project task orders were issued: Nassriya Water Supply (Nassriya Project); Basrah Sewage (Basrah Project); Diwaniya and Daghara Water Supply Project (Diwaniya Project); and Najaf and Kufa Water Supply Project (Najaf Project). Key dates and events for the contract are listed in Table 1.

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<sup>3</sup> In an IDIQ contract, a base contract containing the key clauses and overall requirements is awarded. Subsequently, task orders are issued under the base contract for the performance of services during the contract period.

**Table 1—Key Dates and Events for Contract W914NS-04-D-0022**

<b>Date</b>	<b>Contract Event</b>
<b>2004</b>	
March	Contract awarded and Task Order 1 issued for mobilization.
April	Task Order 2 issued for Nassriya Project.
June	Task Order 3 issued for Basrah Project.
September	Department of State (DoS) shifted \$1.9 billion from the funds allocated to water sector to other sectors.
<b>2005</b>	
January	Task Order 4 issued for Diwaniya Project.
January	Task Order 5 issued for Najaf Project.
January	Task Order 2 definitized.
February	Task Order 3 definitized.
March	DoS shifted additional funds from the water sector to other sectors.
July	Task Orders 4 and 5 terminated for convenience of the U.S. government because of reduced water sector funding.
October	Task Order 2—Cure Notice issued to FluorAMEC for failure to perform contractual requirements.
<b>2006</b>	
September	Task Order 3—Basrah Project turned over to Iraq ministry.
December	Task Order 2—Nassriya plant construction substantially completed.
<b>2007</b>	
September	Task Order 2—Nassriya Project turned over to Iraq ministry.
December	Task Order 2—Nassriya Project operational monitoring completed.

*Source: SIGIR analysis of contract documents.*

## **Responsible Organizations**

From May 2003 through June 2004, CPA was responsible for overseeing, directing, and coordinating the relief and reconstruction effort in Iraq. In early 2004, when FluorAMEC was awarded contract W914NS-04-D-0022, CPA had a two-tier process in place to manage and implement the Iraq reconstruction program. To administer the program, CPA established the Program Management Office (PMO) to prioritize and manage projects and provide contract support. To assist in managing projects, PMO established six sector program management offices (SPMO) organized by work sector, such as electricity and public works/water. These offices were staffed by U.S. government employees or military personnel. However, to provide

program-management support services for the offices, seven contractors were selected in March 2004—one for PMO and one for each sector office. These contractors were known as Sector Program Management Office Contractors.

When the CPA was dissolved in June 2004, two new offices were created. The PMO was replaced by the supplanted by two organizations, the Project and Contracting Office (PCO)—responsible for project construction/execution responsibilities—and the Iraq Reconstruction Management Office (IRMO)—responsible for coordinating the reconstruction effort. As a result, SPMO became the Sector Project and Contracting Office (SPCO) and the supporting contractors became known as Sector Project and Contracting Office Contractors (SPCOC). The SPCOC for water sector contracts was CH2M Hill/Parsons, a joint venture between CH2M Hill International Services and Parsons Delaware, Inc. SPCOC provided planning, oversight, requirements definition, construction expertise, contract administration, and reporting throughout the term of its contract.<sup>4</sup> This report refers to the U.S. government offices responsible for contract management and administration as SPCO, and the contractor as SPCOC, regardless of the timeframe.

Over the next three years, there were additional changes in the organizations responsible for project management and contract administration. In November 2004, the Joint Contracting Command-Iraq/Afghanistan (JCC-I/A) was created. It provided contracting support and the contracting officer—the U.S. government’s authorized agent for dealing with FluorAMEC on the contract and for soliciting change proposals and negotiating, awarding, and modifying the contract. In October 2006, U.S. Army Corps of Engineers (USACE) Gulf Region Division (GRD) replaced PCO as the sector lead and project manager, and it managed projects from headquarters in Baghdad and three district offices—Gulf Region North, Central, and South. The Gulf Region South (GRS) provided construction management direction and quality assurance for the projects under this contract. Also, in May 2007 the Iraq Transition Assistance Office (ITAO) was created as the successor organization to IRMO. In this report, we refer to the office responsible for coordinating the reconstruction effort as ITAO, regardless of the timeframe.

Other U.S. government organizations having responsibilities over contract W914NS-04-D-0022 include the Naval Facilities Engineering Command, which was responsible for soliciting and evaluating proposals and awarding the contract, and the Defense Contract Audit Agency (DCAA), which provided support in auditing proposals and other contract actions.

## **Objective**

Our reporting objective for this audit was to examine contract outcome, cost, and management oversight, with an emphasis on vulnerabilities to fraud, waste, and abuse. This report also addresses issues associated with transfer of completed projects to the Government of Iraq (GOI).

For a discussion of the audit scope and methodology and a summary of prior coverage, see Appendix A. For a detailed summary of the Nassriya and Basrah task orders, see Appendix B. For acronyms used, see Appendix C. For the audit team members, see Appendix D.

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<sup>4</sup>A SIGIR report, *Use of Contractors in Managing Iraq Relief and Reconstruction Projects*, SIGIR Audit 08-003, October 29, 2007, includes an assessment of these contractors’ performance.

## Contract Outcome and Cost

In March 2004, FluorAMEC was awarded contract W914NS-04-D-0022, with a \$500 million ceiling for reconstruction of water projects in the south of Iraq. Over the next ten months, FluorAMEC was issued five separate task orders under the contract, an initial mobilization task order and task orders for four construction projects: (1) the Nassriya Project, (2) the Basrah Project, (3) the Diwaniya Project, and (4) the Najaf Project. The first two construction task orders were completed and the last two were terminated for the convenience of the government. From most accounts, the completed projects were considered successful, and the U.S. government's overall evaluations of the contractor were generally positive—although as discussed more fully later, we identified management issues impacting the projects. However, the Nassriya Project cost significantly more than planned and took longer than expected. Under the Basrah Project, the scope of work was reduced to what could be done within the existing budget because of funding constraints in the water sector. Delays on the completed projects were the result of security problems, scope changes, and the GOI's lack of preparation and reluctance to assume control of the completed projects.

As of May 5, 2008, \$318.51 million had been disbursed against the contract's \$500 million ceiling. Table 2 shows the estimated costs of the task orders at definitization, disbursements, and status. Final contract costs are pending required incurred cost audits of the contractor's work by DCAA and settlement of the contractor's claims.

**Table 2—Task Order Definitized Cost Estimates, Disbursements, and Status as of May 5, 2008 (\$ millions)**

Task Order	Project	Definitized Cost Estimates	Disbursements	Status
1	Mobilization	\$1.53	\$1.60	Completed
2	Nassriya Project	\$172.39	\$259.51	Completed
3	Basrah Project	\$53.11	\$50.51	Completed
4	Diwaniya Project	Not definitized	\$3.63	Terminated
5	Najaf Project	Not definitized	\$3.26	Terminated
<b>Total</b>			<b>\$318.51</b>	

*Source: SIGIR analysis of USACE and contract file documents.*

The Nassriya Project had the highest disbursements, accounting for about 81% of the total. As shown, Task Orders 4 and 5 were never officially definitized and were terminated for the convenience of the government. When the first three task orders were issued, about \$4.2 billion of Iraq Relief and Reconstruction Funds were allocated for Iraq water sector reconstruction projects that would have been accomplished under this and other water sector contracts. However, in September 2004, DoS shifted \$1.9 billion away from water sector projects for higher priority projects in other sectors, especially those in security and law enforcement. With

this shift, controlling costs on ongoing water projects became a critical concern. Despite these recognized funding problems, in January 2005, Task Orders 4 and 5 were issued. Funding pressures continued and DoS took additional funds from the water sector. By July 2005, only about \$2.2 billion of the original \$4.2 billion remained. As a result of these funding changes and increasing costs for water sector projects, Task Orders 4 and 5 were terminated in July 2005 for the convenience of the government.

## Task Orders Completed

**Task Order 1—Mobilization:** FluorAMEC was issued this task order in March 2004 to mobilize all necessary supplies, services, transportation, security, and staff to cover the first 60 days of operations as described in its final revised proposal submitted just prior to contract award. The objective of this task order was for the contractor to be in a position to start work immediately as construction tasks orders were issued. As shown in Table 3, the amount disbursed is slightly more than the definitized amount.

**Table 3—Financial and Schedule Summary of Task Order 1 (\$ millions)**

Initial Funding	Definitization Date	Definitized Cost Estimate	Definitized Completion Date	Actual Completion Date	Disbursements (as of 05/05/08)
\$1.53	March 2004	\$1.53	N/A	February 2006	\$1.60

*Source: SIGIR analysis of USACE and contract file documents.*

In February 2006, FluorAMEC informed the contracting officer that the task order had been physically completed. It also requested timely closeout of the task order to avoid costs required to keep the task order active. However, as of June 2008, this task order had not been closed out.

**Task Order 2—Nassriya Project:** In April 2004, one month after contract award, FluorAMEC was issued this task order to design and construct a water supply system consisting of a new water treatment plant capable of producing a current constructed flow of 5,000 cubic meters per hour of treated water and to place approximately 55 kilometers of transmission piping. The products the contractor was tasked to produce included: a technical study of alternatives; a draft and final report; a site survey; and preliminary designs for Phase 1 of the water project.

The project was divided into several phases in order to supply the main population of the city first and the outlying area as funds became available. The project design was to allow future expansion of the new water treatment plant and transmission pipeline. Under the task order, FluorAMEC was also to provide a logistical plan for key project supplies and materials. The initial estimated cost of services to be provided under the task order was between \$90 million and \$120 million, but the not-to-exceed limit placed on the task order at issuance was \$42.81 million.

In July 2004, FluorAMEC was given notice to proceed with the 30% design package and directed to submit the design and updated cost estimates by September 2004. Construction on

the Nassriya Project started in early August 2004. That same month, however, SPCO recognized that the cost estimate for the project would exceed the available project budget and recommended combining the Nassriya water plant and two other proposed smaller water plants into one larger project. This would make additional funds available for the Nassriya Project, but would require increasing the capacity of the new plant to 10,000 cubic meters per hour and extending pipelines to the other two towns.

In September 2004, FluorAMEC submitted its 30% design package and the next month submitted a contract cost proposal for the combined Nassriya Project. In January 2005, the task order for the combined project was definitized at \$172.39 million. This included \$155.05 million for the Nassriya plant and pipelines to four towns (with a completion date of February 27, 2007) and an optional \$17.34 million for pipelines to a fifth town, Suq Al-Shoyokh (with a completion date of August 27, 2007). Over the next year, five separate financial modifications increased funding for the project to \$244.83 million.

On September 11, 2007, FluorAMEC and GRD signed completion documents certifying that all work required by the task order (1) had been performed and (2) had been inspected and was in accordance with contract requirements. Turnover of the plant to the Iraqi Ministry occurred on September 12, 2007, and FluorAMEC’s work was finished on December 10, 2007, when it completed plant oversight responsibilities. Although the construction project was successfully completed, it cost more and took longer than expected. As of May 5, 2008, \$259.51 million—about \$87.12 million (51%) more than the definitized cost estimate—had been expended for the project. Also, completion took about 36 months from the definitization date, four months longer than planned, mostly due to security issues, scope changes, and project transfer problems. This task order is awaiting closeout. Table 4 provides summary data on the task order.

**Table 4—Financial and Schedule Summary of Task Order 2 (\$ millions)**

<b>Initial Funding</b>	<b>Definitization Date</b>	<b>Definitized Cost Estimate</b>	<b>Definitized Completion Date</b>	<b>Actual Completion Date</b>	<b>Disbursements (as of 05/05/08)</b>
\$42.81	January 2005	\$172.39	August 2007	December 2007	\$259.51

**Note:** Definitized and actual completion dates refer to the completion of operation and oversight.

*Source:* SIGIR analysis of USACE and contract file documents.

**Task Order 3—Basrah Project:** In June 2004, FluorAMEC was issued this task order to improve the wastewater collection and treatment system in the city of Basrah. The contractor was to (1) investigate and assess the existing conditions of the sewage system and ongoing work, (2) recommend repairs and new installations that could be completed within the task order budget, and (3) complete the repairs and installations. The initial project description was very general, calling for the contractor to study existing treatment facilities, define city needs, purchase new equipment, and begin repair of the partially built sewer system. The first detailed statement of work specified:

- purchasing sewer operation and maintenance equipment

- cleaning and rehabilitating sewers in 13 neighborhoods
- refurbishing five existing pump stations
- constructing sewer collection systems and pump stations in six areas without service

The statement of work indicated a projected start date of July 1, 2004, and a “desired completion date” within one year. Over the following months, numerous scope and design changes were made to reflect budget and schedule constraints and changing project priorities on the part of SPCO, ITAO, and the GOI. Table 5, which provides summary data on the task order, shows that the project was not completed until September 2006. This task order is awaiting closeout.

**Table 5—Financial and Schedule Summary of Task Order 3 (\$ millions)**

<b>Initial Funding</b>	<b>Definitization Date</b>	<b>Definitized Cost Estimate</b>	<b>Definitized Completion Date</b>	<b>Actual Completion Date</b>	<b>Disbursements (as of 05/05/08)</b>
\$51.49	February 2005	\$53.11	March 2006	September 2006	\$50.51

*Source: SIGIR analysis of USACE and contract file documents.*

As shown above, work under Task Order 3 cost \$2.60 million less than the final definitized cost estimate but took about six months longer than planned. While the cost was under the definitized estimate, this was due, in large part, to the changed scope of work. For example, rather than constructing eight new pump stations as originally planned, five were completed with additional work beyond the original requirement. Also, the planned installation of some sewer lines was removed from the statement of work. Sector budget constraints and transfer problems also impacted the timely delivery. According to SPCOC, the lack of a clearly defined scope of work for the Basrah Project precluded an independent government estimate (IGE).<sup>5</sup>

## **Task Orders Terminated**

**Task Order 4—Diwaniya Project:** In January 2005, FluorAMEC was issued a task order to increase the quantity and quality of potable water available to the towns of Diwaniya, Daghara, Shafeeya, and Sunyah through the construction of a new water treatment plant and transmission system. The new system, estimated to cost \$68 million and to be completed by January 2007, was to be capable of pumping 4,000 cubic meters per hour of treated water to an additional 270,000 people. Before issuing the task order, U.S. government officials, as a part of their evaluation of the priorities of projects, weighed whether sufficient funds would be available for the project; they did not want to start an effort that could not be completed.

Although the task order called for the contractor to begin work as soon as possible, subsequent site visits and discussions with the local officials resulted in a new location for the proposed plant and some minor schedule delays. In February 2005, FluorAMEC was directed to proceed

<sup>5</sup> An IGE is an estimate of labor, equipment, materials, and subcontractor costs prepared independent of a contractor’s proposal to the U.S. government.

with the 30% design for the project and authorized a not-to-exceed amount of \$3.50 million. By the end of March, FluorAMEC submitted its cost proposal, and in April 2005, the task order was modified to increase the total funding to \$68.26 million. In May 2005, FluorAMEC requested authorization to proceed with mobilization, subcontracting, and equipment purchases, and asked for increased funding. At this time, JCC-I/A directed that the design be developed to the 90% stage but limited funding to \$6.50 million. However, in July 2005, six months after issuance, the U.S. government terminated the task order for convenience because of water sector funding constraints, instructing the contractor to terminate all activity at the 60% design stage. Prior to the termination, the U.S. government and FluorAMEC had been negotiating to definitize the costs and schedules, but a modification to definitize cost and schedule was not issued. Table 6 provides summary data on the task order.

**Table 6—Financial and Schedule Summary of Task Order 4 (\$ millions)**

<b>Initial Funding</b>	<b>Definitization Date</b>	<b>Definitized Cost Estimate</b>	<b>Definitized Completion Date</b>	<b>Actual Completion Date</b>	<b>Disbursements (as of 05/05/08)</b>
\$4.02	Not Done	Not Done	Not Done	Terminated in July 2005	\$3.63

*Source: SIGIR analysis of USACE and contract file documents.*

In February 2006, FluorAMEC informed the government that its work on the task order was complete, and it requested “the timely close-out of this task order to reduce costs required to keep the task order active resulting in cost avoidance to the government.” According to a June 2007 GRD memorandum, this project was deemed closed out for all intents and purposes in that it had been completed for some time, the majority of obligated funds had been expended, and no actions were outstanding. In March 2008, FluorAMEC submitted a closeout proposal on this task order, which is undergoing review; however, as of June 2008, it had not been closed out.

Subsequent to the termination of this task order with FluorAMEC, a contract was awarded to another company to complete project design. According to GRD and ITAO officials, the project design was completed and turned over to the GOI for future use. In May 2008, these officials stated that they did not know whether GOI had used the design. If the design is not used, the funds and associated efforts could be considered wasted.

**Task Order 5—Najaf Project:** In January 2005, FluorAMEC was issued a task order to increase the quantity and quality of potable water available to the cities of Najaf and Kufa through the construction of a new water treatment plant and major transmission system to complement the existing system. It was expected that the new system—capable of producing a flow of 2,000 cubic meters per hour of treated water and including about 10 kilometers of transmission piping—would provide potable water to an additional 120,000 people in the area. When the task order was issued, the estimated project cost was \$47 million and completion was expected by January 2007. As with Task Order 4, U.S. government officials deliberated whether sufficient funds would be available for the project before issuing the task order.

In February 2005, JCC-I/A issued a notice to proceed with a not-to-exceed amount of \$3.5 million. The task order called for FluorAMEC to begin work as soon as possible and to prepare a cost proposal and definitization plan through the 30% design stage. The design was to allow for future expansion of the water treatment plant and transmission pipeline. In March, FluorAMEC submitted a cost estimate totaling \$66.50 million (including award fees), and in May, it was authorized to develop the design to the 90% stage. However, in July, six months after issuance, the U.S. government terminated the task order for convenience because of water sector funding constraints, instructing the contractor to terminate all activity at the 60% design stage. As with Task Order 4, the U.S. government and FluorAMEC, prior to the termination, had been negotiating to definitize the costs and schedules, but a modification to definitize cost and schedule was not issued. Table 7 provides summary data on the task order.

**Table 7—Financial and Schedule Summary of Task Order 5 (\$ in millions)**

<b>Initial Funding</b>	<b>Definitization Date</b>	<b>Definitized Cost Estimate</b>	<b>Definitized Completion Date</b>	<b>Actual Completion Date</b>	<b>Disbursements (as of 05/05/08)</b>
\$4.02	Not Done	Not Done	Not Done	Terminated in July 2005	\$3.26

*Source: SIGIR analysis of USACE and contract file documents.*

In October 2005, FluorAMEC submitted a firm-fixed-price proposal for final settlement, including termination and closeout. It stated that this settlement would eliminate additional costs that would result if the task order remained open. However, JCC-I/A rejected this proposal. In April 2008, FluorAMEC submitted a revised closeout proposal on this task order, and the revision is undergoing review; however, as of June 2008, this task order had not been closed out.

Subsequent to the termination of this task order with FluorAMEC, a contract was awarded to another company to complete project design. According to GRD and ITAO officials, the project design was completed and turned over to the GOI for future use. In May 2008, these officials stated they did not know whether the GOI had used the design. If the design is not used, the funds and associated efforts could be considered wasted.

## **Cost Growth for Nassriya Project**

As noted on Task Order 2, significant cost growth occurred on the Nassriya Project. Our analysis below shows that the project’s cost estimates were not realistic predictors of final cost, even while project costs were being definitized. Various factors resulted in the cost increases.

### ***Analysis of Cost Estimates***

The first estimate, prepared before task order issuance, projected costs to be between \$90 million and \$120 million. We found no documentation that described either the basis for this estimate or the required scope of work. Additionally, U.S. government, FluorAMEC, and SPCOC officials did not believe that the estimate had much credibility. Officials stated that this estimate was developed by a contractor who prepared initial budget planning estimates for a wide range of

projects within a short time period. One government official referred to it as “pie in the sky.” A September 2005 Government Accountability Office (GAO) report<sup>6</sup> stated that PCO officials found the initial estimates for water sector projects to be 25% to 50% below actual cost.

One certainty is that this first estimate did not accurately capture the project transferred to the GOI in September 2007. The estimate was for a water supply project with a capacity to primarily serve Nassriya as opposed to the completed project that is to serve four additional towns in the region. Soon after the task order was issued, PCO recognized that the cost estimate for the project would exceed the available budget and recommended combining the proposed water projects for Nassriya, Al-Shatra, and Dawayah. The combined budgets for those three was \$173 million—\$105 million for Nassriya, \$48 million for Al-Shatra, and \$20 million for Dawayah. Eventually, the Nassriya Project was expanded to serve five towns, but the funds needed for connections to those towns were not identified until October 2006.

The second significant cost estimate for the project was \$172.39 million agreed to by the U.S. government and FluorAMEC in January 2005 at definitization. This estimate was based on the 30% design completed by FluorAMEC and reviewed by the SPCO and SPCOC. However, concerns related to this estimate were raised at an August 2004 meeting in which definitization plans were presented. According to the meeting minutes, SPCO stated that (1) task orders needed to be finalized as soon as possible, (2) rough-order-of-magnitude estimates were to be submitted within 45 days, and (3) cost proposals were due in 60 days. The decision to definitize the task order at the 30% design phase was apparently driven by Defense Federal Acquisition Regulation (DFAR) Supplement, Subpart 217.74, which calls for definitization within 180 days. With definitization at 30% design, meeting participants expressed concern that insufficient design and engineering data would be available to provide support for cost and schedule estimates. The contracting officer acknowledged this concern but stated that with cost-plus contracts, the contractor would be reimbursed for costs, which would not be known until contract completion.

According to FluorAMEC, the 30% design was preliminary, conceptual, and largely incomplete, and the pricing proposal based on it was accordingly flawed. It stated there was simply not enough information to produce an accurate contract pricing proposal, and it requested that definitization be based on the 90% design. FluorAMEC further noted that by definitizing at 30% design with a limited work statement, an unstable security environment, and rapidly changing and perilous work conditions in Iraq, any expectation that costs would not change during the project was “a wholly unrealistic and untenable expectation.”

An IGE was prepared for this project to provide additional insight into expected costs to be incurred. PCO Standard Operating Procedure PR-105 required that the contracting officer request an IGE prior to contract negotiations. Although SPCOC prepared an IGE for this project, it was neither comprehensive nor independent of the contractor’s proposal. SPCOC officials stated that the IGE used FluorAMEC’s 30% design drawings, took the majority of the material quantities from them, used SPCOC templates for items such as security and travel, and used FluorAMEC labor and associated general and administrative expense rates. The IGE was

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<sup>6</sup> *U.S. Water and Sanitation Efforts Need Improved Measures for Assessing Impact and Sustained Resources for Maintaining Facilities*, GAO-05-872, September 7, 2005.

based on the same limited design information as the FluorAMEC proposal and did not identify areas of cost growth that were encountered over the next few months. The IGE documents in the contract files are better described as analyses of the contractor's proposal.

### *Analysis of Cost Increases*

While the prepared cost estimates were poor predictors of the final project costs, a FluorAMEC analysis, prepared in response to the contract officer's request, provides additional insights into the reasons for cost increases. In November 2005, FluorAMEC identified nine cost categories that represented about \$51 million of a \$53 million cost increase (excluding general and administrative expenses and fees). According to FluorAMEC, the two contributing factors that led to the cost increase are as follows:

- Definitization based on 30% design that resulted in an incomplete list of needed bulk materials and optimistic assumptions on (1) subcontractors' capabilities and (2) skilled labor available in the vicinity. According to FluorAMEC, in the normal cycle, such assumptions would have become more firm with development of detailed execution plans.
- A shift in execution strategy precipitated by the multitude of risks inherent in executing work in Iraq's contingency environment. More direct control over the work elements was required because of (1) a lack of qualified subcontractors, (2) a lack of skilled labor, (3) tribal influences, (4) inflated subcontractor bids, and (5) reliance on remote management.

Table 8 summarizes FluorAMEC's analysis of increase in nine cost elements.

**Table 8—Analysis of Nassriya Project Cost Increases (\$ millions)**

<b>Cost Element</b>	<b>Reason for increase</b>	<b>Amount</b>
Freight	Material not available regionally plus freight cost increases	\$24.5
Subcontracts	Underestimation of subcontractors' costs	\$5.3
Affiliate labor	Schedule extension, added resources for procurement, and unit rate increases resulting from reduced workload	\$4.0
Concrete	Quality problems plus poor subcontractor performance	\$3.6
Materials	Quantities underestimated plus cost increases caused by subcontractors' inability to procure	\$3.5
G&A	Same as affiliate labor	\$2.9
Equipment	Higher costs for gravity filters and other items	\$2.8
Elevated	Unavailable in the region	\$2.5
Procurement	Inability of subcontractors to procure equipment and materials	\$1.9
<b>Total</b>		<b>\$51.0</b>

*Source: SIGIR synopsis of FluorAMEC provided data*

FluorAMEC provided details related to the increases in each element. For example, it reported that freight costs were understated because the 30% design budget assumed that (1) most process equipment would be procured regionally, (2) pipe valves and fittings would be shipped from India and the United States, and (3) other items such as fabricated pipe spools and bulk material would be purchased locally. However, only 1 of 22 equipment packages was assembled and tested in the region (resulting in a cost increase of more than \$2 million), a significant amount of pipe procurement was shifted from India to China to better meet construction schedules (an increase of more than \$14 million), and the items anticipated from Iraq subcontractors were not available (an increase of more than \$7 million).

SPCO and SPCOC examined the information provided and concluded that no costs or cost increases appeared to be unreasonable. At this time in December 2005, SPCO recommended increasing project funding to \$252.8 million, including the contractor's estimate at completion of \$229.1 million, the contractor's identified risks of \$15.7 million, and SPCO's own probable case for additional risks of \$8 million. Accordingly, most of the cost increases on the Nassriya Project were recognized during 2005.

In June 2007, FluorAMEC submitted a request for equitable adjustment (REA) that it claimed was the direct result of the U.S. government's requirement for early definitization and its failure to act on a number of earlier requests for contract change orders. The request was for an increase in the base fee of \$1.54 million and in the award fee of \$5.07 million due to added work, different site conditions, and higher costs. As a result of negotiations, the U.S. government and FluorAMEC agreed in April 2008 on a payment of \$3.39 million as full satisfaction of all claims under the task order.

## **Schedule Slippages for Nassriya and Basrah Projects**

In addition to the significant Nassriya Project cost increases, SIGIR noted schedule slippages on the Nassriya and Basrah Projects. Our analysis of these slippages shows that they were caused mostly by security problems, scope changes, and the GOI's reluctance to assume operational responsibility for the completed projects.

### ***Nassriya Project Schedule Changes***

The Nassriya task order issued in April 2004 called for the system to be "fully operational, including all construction, testing and commissioning with operator training completed by 1 October 05." When the task order was definitized in January 2005, the construction completion date was moved to February 2007 and project transfer to the GOI was moved to August 2007. By the end of 2005, SPCOC reported that FluorAMEC planned to "complete construction by March 2006 and commission in June 2006." FluorAMEC concluded its oversight at the plant in December 2007.

The Nassriya Project delays occurred most notably during the first year and, according to contract file documents, were principally due to interruptions caused by conflict with the local tribe, criminal activities, the national election, and holidays. Other causes of delays included the GOI's difficulties in removing squatters from the work site due to land disputes, Iraqi subcontractors' inability to perform, and project scope changes.

### ***Basrah Project Schedule Changes***

The Basrah Project was completed in September 2006 and turned over to the GOI in the next month, about six months later than the definitized estimated completion date of March 2006; the project took about 29 months from task order issuance to completion. According to contract documents, delays in official completion resulted mostly because the GOI (1) did not start the agreed-on preliminary work and (2) delayed acceptance of the completed project because the pump stations did not have permanent power. Scope changes also impacted the schedule of work. In July 2005, SPCO raised concerns about the lack of progress and the commensurate level of incurred costs. FluorAMEC addressed these concerns, and in June 2006, SPCO's final progress review determined that all work was essentially complete, with only some limited additional efforts needed.

At project commencement, the GOI had agreed that installation of mechanical and electrical equipment on the pumping stations would be completed by its own contractor before FluorAMEC started work. This was not done, however, and FluorAMEC was authorized to complete this work. When the project work was completed, SPCOC correspondence noted difficulties in getting the GOI to take on responsibility for operating and maintaining the facilities that were constructed or rehabilitated. According to GRD, the GOI would not fully accept the electrical installation until the connections to the main power supply were made. FluorAMEC believed that the Iraqi authorities were withholding acceptance as leverage to extract more work from the U.S. government. To allow project turnover, the U.S. government contracted with an Iraqi firm to complete the permanent power work at a cost of \$13,376.

# Contract Management and Oversight

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The U.S. government's responsibilities for this design-build contract included establishing a contractor competition process and selecting a contractor; defining work to be performed through statements of work and task orders; and managing cost, schedule, and performance throughout the contract period. Our review of the U.S. government's oversight and management of these task orders showed that a number of organizations—primarily SPCO, GRS, SPCOC and JCC-I/A—were actively involved in day-to-day oversight of contractor performance. Although these organizations were often not on site because of security concerns, extensive documentary evidence shows that they were involved in quality control and quality assurance efforts. We also noted considerable correspondence and frequent negotiations with the contractor on performance and cost issues. In addition, DCAA audits were a key element in contract oversight.

Notwithstanding the extensive contract management efforts, our review identified a number of problems significantly impacting cost and schedule. The contract's scope of work was not well defined and the task orders, as initially issued, did little to further identify the work to be completed. Deficiencies in initial CPA cost estimates also led to unrealistic expectations of what could be done within existing budgets. The required IGE for the Basrah Project was not prepared, and the one prepared for the Nassriya Project was a poor predictor of costs. The definitization of costs and schedules based on 30% design proved to be inadequate in Iraq's unstable security environment. On the Nassriya Project, early definitization was a factor in the U.S. government's inability to predict and define significant cost and schedule changes. Also, while award fees were used to incentivize contractor performance, we identified inappropriately paid award fees.

## Full Benefits of Competition Not Achieved

The selection of FluorAMEC as the contractor for water sector projects in southern Iraq was carried out according to the plan established by the Deputy Assistant Secretary of the Army (Policy and Procurement) for selecting design-build contractors for Iraq reconstruction. Before the selection, the Army determined that an IDIQ contract was most appropriate as it provided for issuing task orders on either a cost-reimbursement or fixed-price basis. Technical and schedule risks were considered to be moderate, while cost risk was considered to be high. It was anticipated that task orders would initially be issued on a cost-plus award-fee basis.

In awarding contract W914NS-04-D-0022 to FluorAMEC, the U.S. government used competitive procedures as required by the Federal Acquisition Regulation (FAR).<sup>7</sup> We determined that the U.S. government properly advertised the requirements, developed source selection plans, and had sufficient controls to ensure the plans were followed. In addition, the 12 on-time proposals received for this contract were evaluated according to the established evaluation factors, and the source selection authority decided on the best value to the

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<sup>7</sup> *Award of Sector Design-Build Construction Contracts*, SIGIR-04-005, July 23, 2004, addresses the procedures used to award this and other sector contracts.

government. The evaluation factors included compliance with solicitation requirements, past performance, technical excellence, management capability, personnel qualifications, prior experience, and cost.

Although competitive procedures were used to award this contract, the U.S. government could not obtain the full benefits of competitive contracting, including timely delivery of quality products and services at reasonable cost. As discussed more fully below, the contract statement of work lacked specificity, and as a result, FluorAMEC and the other offerors did not compete to construct or repair specific facilities or to complete specific tasks. Without such specificity, the full benefits of competition could not be achieved. PCO acknowledged this and said that the strategy to meet the challenges included

- using award fee contracts to motivate contractor performance,
- using contractors to assist in monitoring the design-build construction contractors,
- monitoring and controlling costs and schedule performance by using earned value management systems.<sup>8</sup>

Throughout the contract performance period, award fees were used to motivate FluorAMEC. Also, SPCOC assisted in monitoring and overseeing the contract. However, earned value management systems were not used. According to FluorAMEC, the contracting officer requested a cost analysis during the summer of 2004 to implement a planning and scheduling and earned value management system. FluorAMEC submitted a cost proposal, and the government determined that a changeover would not be cost-effective and shelved the proposal. In a letter discussing cost and schedule reporting, the contracting officer recognized that earned value reporting was not required.

## **Work To Be Performed Not Well Defined**

The scope of work in this contract did not identify the specific projects or tasks to be completed, and the subsequent issuance of individual task orders did little to further define the work that would be performed. The stated scope of work was the broad mission to restore, rebuild, and develop water, wastewater, and solid waste projects to support the CPA's mission. It added that the contractor must be capable of providing a full range of services and support to include study, inspection, design, demolition, remediation, renovation, rehabilitation, construction, warranty service, and operations and maintenance training.

For the mobilization effort, the contract did require specificity. The contractor's proposals were to include a plan for providing the management staff and necessary resources to initiate operations. The mobilization plan was to cover the initial 60 calendar days of contractor operations. The objective defined for the mobilization plan was for the contractor to be in a position to start work on construction tasks when issued. Task Order 1, the mobilization task order, was issued on March 23, 2004, the same day the contract was awarded.

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<sup>8</sup> A management system for measuring project progress, including technical, schedule, and cost performance and providing early warning of potential problems.

The task order for the Nassriya Project was issued about one month later. While the project was specific, the work to be performed was not. The notice to proceed directed such efforts as (1) a technical study of alternatives, (2) a site survey, (3) site preparation, (4) security preparations, and (5) preliminary designs. A modification three months after the task order was issued highlighted the undefined work scope. The modification added a new contract option to combine the Nassriya Project with two other planned projects—Al-Shatra and Dawayah. The option was to construct a larger Nassriya plant, eliminating plans for separate plants at Al-Shatra and Dawayah and connecting these cities by pipelines to the Nassriya plant. While FluorAMEC was authorized in July 2004 to proceed with a 30% design package, its cost proposal submitted in October 2004 outlined plans for a base project and two additional options. In December 2004, SPCO, SPCOC, and others were still considering options to reduce potential costs by descoping the project or reducing the amount of transmission pipelines. Accordingly, the scope of work was not yet defined.

Task Order 3 for the Basrah Project, issued in June 2004, was even less specific as to the expected work. It directed FluorAMEC to (1) perform an assessment and coordination study and (2) identify and recommend any immediate work to be performed. The SPCOC, in response to a request for an IGE on the task order, stated that the lack of defined scope made it impossible to produce a meaningful IGE. FluorAMEC, in an October 2004 assessment, noted that proposed work items and priorities were substantially different from those originally specified, but the proposed program had been agreed to by the SPCOC and accepted by the contracting officer. In February 2005, the task order was definitized in a contract modification and nine work packages were identified. However, in April 2005, the scope of work was further revised by deleting planned work on three pumping stations—not needed because sewers were not connected—and adding the mechanical and electrical work on five other pumping stations—work that was to be done by a GOI contractor but was not being performed. According to FluorAMEC, throughout the summer of 2005, FluorAMEC, SPCOC, GRS, and the GOI staff identified more fully the sewage pipe areas to be cleaned and repaired, and design work progressed for the new sewage collection areas. A September 2006 FluorAMEC report noted, “The undefined, fluid scope, as well as security issues, made it difficult to plan construction and maintain a schedule.” It reported that the general scope of work set forth was accomplished, but more was accomplished under certain work elements than planned, with less accomplished under others.

As previously stated, Task Orders 4 and 5 were terminated at the 60% design phase about six months after issuance.

## **Oversight of Contractor Performance Shared by the U.S. Government and Contractor**

U.S. government oversight of FluorAMEC’s performance on contract W914NS-04-D-0022 was primarily performed by three U.S. government organizations—SPCO, GRS, and JCC-I/A—and by the SPCOC, a contractor. The concept was that these primary implementing organizations would work as an integrated team in a seamless manner to deliver high quality reconstruction projects.

- SPCO, staffed by U.S. government employees or military personnel, was responsible for program management, including the overall program cost, scope, and schedule; program reviews; liaison with ITAO and the GOI; and oversight and evaluation of SPCOC.
- SPCOC, staffed by CH2M Hill/Parsons employees, supported SPCO in overseeing contractor performance, monitoring compliance and performance reviews, managing project schedules, developing cost estimates for budgets and negotiations, and serving as the contact point for the contracting officer. The U.S. government placed substantial reliance on SPCOC, but inherently governmental functions were to be accomplished by SPCO or the contracting officer.
- GRS was the U.S. government representative on site at the construction project and provided quality assurance support and other project execution responsibilities such as property management, safety, and construction progress reporting.
- JCC-I/A provided contracting support. The contracting officer was responsible for contract administration, including issuing task orders, definitizing task orders, issuing modifications, and implementing the award fee plan.

Our examination of contract files, including contract modifications, project scope changes, invoices, and other documents provided extensive evidence of how involved the organizations were in carrying out their contract responsibilities. The following sections discuss two areas of management and oversight.

### ***Providing Quality Control and Quality Assurance in an Unstable Security Environment***

Our review identified quality control and quality assurance efforts from all involved organizations. Contractually, FluorAMEC was responsible for quality control from design and construction through commissioning and for establishing and maintaining plans, procedures, and organizational capacity to ensure that work complied with construction requirements. Documents show that FluorAMEC prepared the (1) general Site Quality Control Plan; (2) Iraq Reconstruction—Weekly Report; (3) Monthly Task Order Status Report, which included work activities completed, site and progress photographs, and construction and testing inspection reports; (4) Interim Assessment Reports, which included program execution and quality management assessments; and (5) daily reports on all major construction activities and changes. However, because of security concerns that limited non-Iraqi access to work sites (especially on the Basrah Project), FluorAMEC officials depended on on-site, Iraqi engineers to provide most daily assessment reports. Because quality assurance and other management functions were mostly done remotely, cell phones, photographs, and subcontractor meetings were the primary means of overseeing, assessing, and reporting on construction status and subcontractors' work.

Ultimately, GRS was responsible for U.S. government quality assurance, including property management and safety. While this function would normally have been done on site, GRS officials also had limited access to the work area. As a result, GRS' Daily Inspection Quality Assurance Reports were prepared by Iraqi engineers, who served as its quality assurance representatives. These multi-page documents identified the subcontractors and engineers doing the work and included information on the construction done, tests performed, security and safety issues, and progress and problems. Site engineers also prepared weekly reports that included summaries of significant accomplishments and problems.

SPCOC also played a role in overseeing quality assurance and quality control by providing expertise regarding program risks, contractor quality, and performance. Although not maintaining an on-site presence, it was responsible for the Sector Consolidated Results Update Meetings, which included discussion of the status of all public works and water sector projects.

Security conditions limited on-site presence by U.S. government and SPCOC officials at project sites. However, according to officials interviewed and documents reviewed, the use of Iraqi engineers to add an on-site element to the quality control system provided an acceptable level of quality assurance under the circumstances.

### ***Definitizing Task Order for Nassriya Project***

Extensive documentation showed that SPCOC exercised oversight of the contractor's activities and performance and worked directly with the contracting officer, who authorized and approved contract changes. The following discussion illustrates their respective roles and responsibilities in definitizing the Nassriya Project task order. Definitization is the process by which the U.S. government and contractor reach agreement on the terms, specifications, and price of the task order. Through definitization, the government attempts to control contract results by formalizing key terms and conditions, including the estimated cost, duration, and scope of work.

The task order for the Nassriya Project was issued in April 2004 and definitized in January 2005—about 280 days later. As previously stated, the DFAR Supplement generally provides for definitization within the earlier of these dates: 180 days after the issuance of an undefinitized contract action, or the date on which the amount of funds obligated under the contract action is equal to more than 50% of the not-to-exceed price. While this task order was not definitized within 180 days, definitization was initiated in July 2004 when the contracting officer required the submission of design packages and cost estimates. At a subsequent meeting, SPCO and the contracting officer notified FluorAMEC of the need to definitize the task order as soon as possible. Even as definitization was starting, SPCO, SPCOC, and the contracting officer were considering for the Nassriya Project a changed scope that would combine the original plan for three water plants into one large plant at Nassriya.

In September 2004, FluorAMEC submitted its 30% design package for the project and a month later submitted its pricing proposal, steps in definitizing the project's scope of work and costs. It identified the proposal's scope of work as that identified by the contracting officer in consultation with SPCOC and the GOI. Before these submissions, SPCOC had been reviewing and commenting on FluorAMEC estimates and other cost information. In October, SPCOC provided detailed comments on the design package, and FluorAMEC responded. In November, SPCO and SPCOC officials met to consider options for addressing the shortfall between the available budget and the FluorAMEC price proposal. Three options for solving the shortfall were discussed: providing additional funds, descopeing the project to fit existing budget, and using an alternative procurement for part of the project.

In December, the contracting officer and SPCOC began fact-finding discussions to clarify questions with respect to the FluorAMEC pricing proposal. These discussions provided the basis for the U.S. government's position as SPCO, SPCOC, and the contracting officer joined with FluorAMEC for definitization negotiations in January 2005. The government's position in the negotiations was based on SPCOC's technical analysis of FluorAMEC's proposal. In its

analysis, SPCOC had identified an opportunity to address funding constraints by reducing funds for FluorAMEC's operations and oversight training. The contracting officer accepted this recommendation, and the contracting officer and FluorAMEC negotiated a \$652,345 reduction in estimated costs. According to the contracting officer's memorandum, all parties reached agreement on the revised baseline scope for the project, and estimated costs, fixed fees, and the maximum award fee were negotiated.

## **Contractor's Accounting, Purchasing, and Billing Systems Were Adequate**

A key step in ensuring that a contractor is reimbursed only for costs incurred under a contract is determining the adequacy of the contractor's accounting, purchasing, and billing systems. For FluorAMEC, DCAA examined these systems and determined that they were adequate. In addition, DCAA performed semiannual verifications of a sample of vouchers of direct cost submitted by FluorAMEC under its Iraq reconstruction contracts, including contract W914-04-D-0022. The following sections further discuss these areas.

**Accounting System:** FluorAMEC used the Fluor Corporate accounting system for its Iraq reconstruction contracts. In a July 2003 audit, DCAA examined this accounting system and related internal controls and procedures and found them to be adequate. DCAA reported that (1) the FluorAMEC accounting system was maintained on the job order basis in accordance with generally accepted accounting principles; (2) the cost accounting system was fully integrated in the overall accounting system with contracts assigned individual project numbers and direct costs identified and charged to those project numbers; (3) indirect costs were identified and accumulated under individual departments, which in turn were related to indirect cost pools with indirect costs being billed to projects using predetermined rates; and (4) the predetermined rates were adjusted to actual rates at year end.

**Purchasing System:** FluorAMEC's purchasing system was determined to be adequate by DCAA in September 2005. DCAA found that Fluor and AMEC dedicated certain employees to the FluorAMEC system for issuing purchasing orders and subcontracts for task orders and billed FluorAMEC for these employees at government-approved rates. The purchasing organization reported to a Fluor executive to help ensure organizational independence and objectivity in making purchasing decisions. Also, an internal self-assessment program reviewed and monitored the degree to which purchasing and contracting actions complied with established policies and procedures.

**Billing System:** FluorAMEC's billing system was determined to be adequate by DCAA in March 2005. As with the purchasing system, Fluor and AMEC dedicated certain employees to FluorAMEC and billed the company for these employees at government-approved rates. DCAA had previously examined both the Fluor and AMEC billing systems and found them to be adequate.

In addition to these system reviews, DCAA performed audits of the direct costs billed to the government by FluorAMEC under its Iraq reconstruction contracts. The purpose of the audits was to determine whether the billed amounts were allowable, allocable, and reasonable and in accordance with contract terms and conditions. For FluorAMEC, DCAA performed audits for

three different periods—from contract award through October 30, 2004; November 1, 2004, through January 31, 2005; and January 1, 2005, through July 3, 2005. Each audit included a review of randomly selected vouchers. In all three audits, DCAA concluded that the direct costs submitted under contract billings were allowable, allocable, and reasonable.

In March 2007, DCAA also performed a review to determine whether the vouchers submitted to the government under FluorAMEC’s Iraq reconstruction contracts were current, accurate, and complete. The process in each case included verifying the indirect rates used, verifying mathematical accuracy, and determining compliance with contract terms. Based upon its review of a randomly selected sample of vouchers submitted from February 2006 to February 2007, DCAA determined that (1) the vouchers were current, accurate, and complete; (2) continued reliance could be placed on FluorAMEC’s procedures for the preparation of interim vouchers; and (3) FluorAMEC had met the criteria for continued participation in the direct submittal program.

Our review of contract files showed that, as authorized, FluorAMEC was submitting vouchers for payments without DCAA’s advance approval. DCAA had authorized this direct submission because FluorAMEC maintained an adequate billing system and submitted its incurred cost vouchers in accordance with the FAR requirement. Also, the files showed that FluorAMEC vouchers and U.S. Government receiving reports (DD Form 250) were being reviewed by the SPCOC before submittal. That review was to ensure that the vouchers and receiving reports were for the correct contract and payment period and that they related to ongoing work and activities involving contract projects.

## **Award Fees Used as Incentives but Some Award Fees Not Appropriate**

The U.S. government used award fees to provide FluorAMEC with incentives for high quality performance; the contractor received excellent or above average ratings and was paid \$22.12 million in award fees throughout the contract period. According to government and contract officials involved in evaluating the contractor and administering the award fees, the process was complicated and laborious but did result in improved contractor performance. Our review of the award fee documentation corroborated these observations but identified the inappropriate payment of award fees on the two terminated task orders.

The contract provided for a base fee of 3% (the maximum allowable amount) and an award fee of up to 12% of the amount of the “negotiated, estimated costs” of the task orders issued. Award fee plans and other provisions of the contract were intended to motivate the contractor toward superior performance and provide the U.S. government the flexibility needed to evaluate both the contractor’s performance and the conditions under which it was achieved. The award fees were governed by the contract plan, which provided for judging contractor performance based on a set of factors (metrics) including program and technical management; capacity development; schedule adherence and cost control; promotion of health and safety; and participation of small businesses, coalition partners, Iraqi companies, and Iraqi women-owned businesses. The total award fee was divided into amounts for evaluation periods covering the period of performance.

Award fee determinations were based on subjective performance evaluations made by an Award Fee Determination Official, supported by an Award Fee Evaluation Board. The evaluations were of FluorAMEC performance on both water sector contracts.<sup>9</sup> Evaluations of performance levels and allocations of award fee rating percentages were based on the following criteria:

<b>Performance Level</b>	<b>Evaluation Rating<sup>10</sup></b>
Excellent	90% - 100%
Above Average	75% - 89%
Average	50% - 74%
Below Average / Unsatisfactory	0% - 49%

FluorAMEC received the following percentage ratings during the evaluation periods. As can be seen, the ratings were either excellent or above average.

<b>Evaluation Period</b>	<b>Evaluation Rating</b>
1 <sup>st</sup> March 2004 – September 2004	93.8%
2 <sup>nd</sup> September 2004 – March 2005	93.8%
3 <sup>rd</sup> March 2005 – September 2005	80.2%
4 <sup>th</sup> September 2005 – March 2006	84.6%
5 <sup>th</sup> March 2006 – September 2006	86.2%
6 <sup>th</sup> September 2006 – March 2007	94.1%

The contract and award fee plan did not specify an allocation of award fees among the individual task orders. For most evaluation periods, the total earned award fee was allocated by applying the same percentage rating to each individual task order. Only during the third period did the Board evaluate and assign different rates to individual task orders. During this period, FluorAMEC received its lowest rating (but still above average) when it was issued a cure notice (citing failures to perform in accordance with contract requirements) on the Nassriya Project. In addition to the lower rating, award fees were adjusted on individual projects so that no award fee was provided for the Nassriya Project during that period. JCC-I/A officials believe that this lower rating served as a catalyst for improved performance.

From contract award in March 2004 through May 2008, the U.S. government paid about \$22.12 million in award fees. This amount includes an award of \$3.39 million for the Nassriya Project made in April 2008 as a result of a negotiated settlement of a FluorAMEC request for equitable adjustment. Table 9 shows the estimated budget on which award fee pools were calculated and the amount paid under each task order.

<sup>9</sup> FluorAMEC was also awarded contract W914NS-04-D-0008 for water sector projects in the north of Iraq.

<sup>10</sup> Award fees were calculated by multiplying the percentage rating times the amount of the award pool. However, if the contractor received a rating of less than 50%, it would receive no award fee.

**Table 9—Estimated Budget and Award Fees Paid Under Each Task Order (\$ millions)**

	Estimated Budget	Award Fees Paid
<b>Completed Task Orders</b>		
TO 1 - Mobilization	\$1.53	\$0.11
TO 2 - Nassriya Project	\$172.39	\$16.38
TO 3 - Basrah Project	\$53.11	\$4.39
<b>Subtotal</b>	<b>\$227.03</b>	<b>\$20.88</b>
<b>Terminated Task Orders</b>		
TO 4 - Diwaniya Project	\$5.65	\$0.62
TO 5 - Najaf Project	\$5.65	\$0.62
<b>Subtotal</b>	<b>\$11.30</b>	<b>\$1.24</b>
<b>Total Award Fees Paid</b>		<b>\$22.12</b>

*Source: SIGIR analysis of contract file documents.*

We identified issues related to the award fees paid for Task Orders 4 and 5, which were terminated for convenience of the government. According to the contract award fee plan, if a task order is terminated after the start of an award fee period, the contractor is entitled to a fee based on the established evaluation process. However, after termination, the remaining award fee pool cannot be earned by the contractor. When Task Orders 4 and 5 were terminated—during the contract’s third award period—an official definitized cost estimate had not been established. While FluorAMEC, SPCO, and the contracting officer held definitization discussions, modifications definitizing cost estimates and schedules were not issued. According to contract documents, for each project, the not-to-exceed estimate of \$6.50 million was used to calculate estimated costs of \$5.65 million and a maximum award fee pool. The pool was divided between two evaluation periods—Period 3, when the contract was terminated, and Period 4, after termination.

FluorAMEC was paid an award fee of \$619,960 for each project—\$333,157 for Period 3 and \$286,803 for Period 4. For these projects, FluorAMEC received \$573,605 in award fees for Period 4—payments that are not appropriate based on the award fee plan. Also, actual costs incurred on the projects were significantly less than the costs used in calculating the award fee pools. As of May 5, 2008, actual project costs (excluding award fees) were only \$3.01 million for the Diwaniya Project and \$2.64 million for the Najaf Project, instead of the \$5.65 million used to calculate the award fee pools. Accordingly, the \$1.24 million in award fees for these two terminated projects was 22% of project costs, contrasted with the maximum of 12% authorized under the award fee plan.

## Task Orders Not Closed Out

All work on the five task orders under contract W914NS-04-D-0022 has been completed, but none of the task orders have been officially closed out. While closeout is not a high priority, both JCC-I/A and contractor officials agree that timely closeout can save the government money. JCC-I/A has not taken timely actions to close out the task orders. Task Orders 4 and 5, which were terminated for the convenience of the government in July 2005, could have been closed out years ago. Task Order 1 for mobilization—work completed in February 2006—and Task Order 3 for the Basrah Project—work completed and the project turned over to the GOI in October 2006—could also have been closed out. On Task Order 2, the Nassriya Project, FluorAMEC submitted in June 2007 a request for equitable adjustment that was not settled until April 2008. The following section provides additional details on the closeout status of Task Orders 4 and 5.

Task Orders 4 and 5—Diwaniya and Najaf Projects: In July 2005, the contracting officer specified in the termination notice for these task orders that final cost proposals were to be submitted with 30 days. FluorAMEC responded that more time was required to accumulate outstanding costs against an ongoing construction project and that the FAR allows up to one year for submission of a certified final settlement proposal.

On Task Order 5, FluorAMEC submitted a firm fixed-price proposal for final settlement in October 2005. FluorAMEC proposed a settlement of \$3.93 million, including a profit of \$0.51 million, and requested the earliest possible settlement to avoid additional costs. It stated that negotiating a timely fixed-price settlement would avoid the administrative costs associated with continued reporting as well as the delay of settling final overhead rates. On Task Order 4, FluorAMEC notified the contracting officer in February 2006 that all contract performance was completed and requested the timely closeout of the task order.

JCC-I/A made no significant effort to close out these two task orders until early 2008, when FluorAMEC questioned why they had not been assigned to a termination contracting officer (TCO) at the Defense Contract Management Agency (DCMA) Terminations Center. DCMA maintains a cadre of TCOs whose only mission is to settle contracts terminated for the convenience of the government. The Terminations Center provides “cradle to grave” service after the termination notice is issued. Not until February 2008 did JCC-I/A assign the task orders to the Terminations Center. In March and April, FluorAMEC submitted its settlement proposals for the task orders—\$3.65 million to settle Task Order 4 and \$3.26 million to settle Task Order 5. The TCO reported to SIGIR that these proposals were undergoing DCAA audit and that final settlement and closeout could occur in June 2008.

In response to our questions as to why timely actions had not been taken to close out these task orders, a former contracting officer stated that JCC-I/A had “marked time” rather than moving aggressively on closing these projects because the projects could have been reinstated. He also stated that the terminated task orders were not assigned to DCMA because that agency was scheduled to leave Iraq. According to this official, the closeouts were given a low priority.

# Transferring Projects to the Government of Iraq

When the water sector design-build contracts were awarded in 2004, the U.S. government recognized the need to prepare for eventual transfer to the GOI responsibility for the projects' operations, security, and sustainability. This was to be accomplished by having the ITAO and GRD work with the appropriate Iraqi ministries to prepare for the transfers and by having contractors include training and capacity development requirements in their contracts. However, the transfer of the Nassriya water treatment plant to the GOI was plagued with problems, and as a result, the long-term maintenance and sustainability of the plant remains in jeopardy. Also, problems were encountered in transferring the Basrah Project.

**Nassriya Project:** ITAO and GRD experienced difficulties in transferring the Nassriya plant and facilities to the GOI, which according to contract file documents was unprepared and reluctant to assume responsibility. Specifically, the GOI did not (1) provide the agreed-to permanent power for the pump stations, (2) make needed repairs to the distribution systems, and (3) provide qualified staff to operate and maintain the plant. While progress had been made in some areas, a SIGIR Inspections Report<sup>11</sup> in April 2008 identified continuing maintenance and operational problems, especially a lack of qualified Iraqi staff to operate the plant.

According to the task order, FluorAMEC was to provide three sessions of classroom and hands-on training for Iraqi operators and plant staff. Because about 100 skilled staff were needed to operate and maintain the plant, both FluorAMEC and ITAO, beginning in mid-2006, worked with the GOI to identify and train the required number of staff. A lack of qualified trainees severely hampered progress. According to FluorAMEC, many of those who attended the training were not motivated to participate in actual operations and refused to take part in any hands-on activities. April 2007 ITAO documents cite frustration with the lack of progress on training and an apparent lack of interest on the part of the GOI in taking over the treatment plant. In late June, SPCOC reported that to operate the plant "for short-operating periods," a minimum of 32 qualified operators would be required, but at that time, only nine individuals were independently functioning as operators. The government clearly recognized that the final success of the plant depended on the GOI's ability to provide qualified and motivated staff for plant operation and maintenance.

In August 2007, ITAO informed the GOI that the U.S. government would transfer responsibility for the Nassriya plant on September 12, 2007. It also noted that FluorAMEC would complete its training requirements by December and that the U.S. government would then no longer provide any operation and maintenance workers. Thus, the GOI would need to have in place a cadre of trained workers capable of during the required work with limited guidance.

The SIGIR Inspection Report, based on plant inspections in December 2007 and February 2008, noted that steps necessary to run the plant had not been taken, and as a result, the plant was operating only one eight-hour shift per day and pumping water at significantly less than capacity.

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<sup>11</sup> *Sustainment of the Nassriya Water Plant, Nassriya, Iraq*, SIGIR PA -07-116, April 28, 2008.

The report also noted that the plant did not function on some days due to lack of fuel, the old distribution system was in disrepair, and the large number of illegal taps into the system had not been dealt with. An ITAO briefing memorandum to the U.S. Ambassador in May 2008 reported the following:

- The treatment plant was operating 24 hours per day, 7 days per week, at a capacity of 4,000 cubic meters per hour instead of the designed 10,000 cubic meters.
- Water was being delivered to Nassriya every day, but two other towns were being served on an intermittent basis due to excessive leakage in their distribution networks. One town was not being served at all due to illegal connections to its water main, and the fifth town had never been served due to the very poor condition of its distribution network.

The memorandum noted that unless steps were taken to improve the operations and maintenance practices, the project would continue to deteriorate. In its Inspection Report, SIGIR recommended that the U.S. government act to avert further deterioration of plant equipment.

**Basrah Project** — While construction on the Basrah Project was mostly completed in August 2006, serious problems surfaced in getting the Iraqi Basrah Sewerage Directorate to accept responsibility for the completed facilities and to take on required operation and maintenance. A September 2006 SPCOC memo stated that all construction activities had been substantially completed with the exception of final asphalt repairs but that the GOI would not sign the acceptance letters for significant work elements because of the power supply issue noted earlier. During this period, the transfer was plagued by the lack of a permanent power supply, generator and other equipment failures, and the inability of the Sewage Directorate to provide needed corrections. To allow for full acceptance by the Sewage Directorate, GRD descope the work and issued a separate contract for \$13,376 to provide electrical service to the pumping stations. In October 2006, the GOI accepted control of the Basrah project.

**Overall Transfer Concerns** — Both SIGIR and the GAO have addressed systemic issues in transferring projects to the GOI. Our most recent report<sup>12</sup> on transferring assets indicates the need for an effective capital project transfer process to ensure that the billions of dollars in U.S. reconstruction assistance is ultimately not wasted because capital assets are not adequately maintained and utilized. A 2005 GAO report<sup>13</sup> noted that the outlook for sustaining facilities was unclear and that the lack of Iraqi ministerial capacity remained an obstacle to program success. It also noted that poor security conditions and management challenges—including problematic staffing, unreliable power to run treatment plants, insufficient spare parts, and poor operating procedures—had resulted in many projects’ failure to operate as intended. Because the report on transferring reconstruction projects and the Nassriya inspection report contain recommendations, this report makes no further recommendations on this issue.

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<sup>12</sup> *Transferring Reconstruction Projects to the Government of Iraq: Some Progress Made but Further Improvements Needed to Avoid Waste*, SIGIR Audit 08-017, April 28, 2008.

<sup>13</sup> *U.S. Water and Sanitation Efforts Need Improved Measures for Assessing Impact and Sustained Resources for Maintaining Facilities*, GAO-05-872, September 7, 2005.

# **Conclusions, Recommendation, and Lessons Learned**

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## **Conclusions**

The two completed projects—Nassriya and Basrah—are generally considered successful, although the Nassriya Project cost more and took longer than expected and the scope of the Basrah Project was reduced to match the available budget. Overall, U.S. government organizations and selected contractors were actively carrying out management and oversight responsibilities for the work performed under this contract, which was done under exceedingly difficult conditions, included funding uncertainties, time constraints, and security problems. All adversely affected the government's ability to do preconstruction planning, define project requirements, and provide quality assurance.

While the completed projects are considered successful, less was accomplished under the contract than expected because planned funding for water projects was reduced. Also, water sector projects proved to be significantly more costly than estimated. The underestimation of costs resulted from not fully defining the required work and not preparing independent and comprehensive cost estimates. Furthermore, the lack of up-front management planning led to higher than anticipated costs, schedule delays, and potentially wasteful project terminations. Despite concerns about changing funding priorities and escalating costs, additional task orders were issued on this contract and then terminated shortly thereafter. The issuance, design start-up, and sudden termination resulted in unnecessary project costs.

JCC-I/A has not taken timely action to close out task orders, and as a result has incurred additional costs and administrative burdens. While closeout is not a high priority, delay only adds to the eventual costs and can result in additional administrative issues as events become further removed. In closing out the terminated task orders under this contract, the U.S. government can reexamine excessive award fees made contrary to the plan.

Obtaining full benefit and value from the U.S. investment in reconstruction projects in Iraq remains problematic. In undertaking these water sector projects, the U.S. government was alert to the need to prepare for the eventual transfer of completed projects to the GOI. Throughout the Nassriya Project, efforts were taken to address possible transfer issues. However, the GOI's current and anticipated lack of capacity to operate and maintain the plant raises serious concerns about its long-term sustainability and places the investment at risk of being wasted. There is a demonstrated, continuing need for U.S. government attention to obtain the maximum benefit and value from its reconstruction investments.

## **Recommendation**

SIGIR recommends that JCC-I/A establish timeframes for closing task orders to minimize costs and administrative expenses. As Task Orders 4 and 5 are closed out, JCC-I/A should ensure that excessive award fees paid are recovered.

## **Lessons Learned**

U.S. reconstruction projects in Iraq were undertaken in an unstable security environment, with funding uncertainties and time constraints. These conditions created difficulties in accomplishing pre-award planning, defining project requirements, and overseeing contractor performance. Nevertheless, fundamental elements of contract and project management and oversight should be accomplished to the extent possible. SIGIR identified a number of lessons that U.S. government organizations could apply to future reconstruction projects in a contingency environment. They include the need to:

- Recognize in planning assumptions and budget estimates that undertaking reconstruction activities before security conditions have been stabilized will increase the cost of security and decrease the likelihood that cost, schedule, and performance goals will be met.
- Complete comprehensive pre-award planning, including realistic and well-defined work scopes and cost and schedule estimates. These are needed for effective government management and oversight of reconstruction projects and to minimize the potential for fraud, waste, and abuse.
- Ensure, to the extent possible, that needed funds will be available to complete projects before awarding contracts/task orders. This will reduce the likelihood of potentially wasteful terminations due to funding reductions.
- Definitize contracts/task orders after complete and supportable cost and schedule information is available. Premature definitization based on limited design and construction information, especially in a contingency environment, can result in unanticipated project cost increases, schedule delays, and potential waste.
- Prepare independent and comprehensive government cost and schedule estimates prior to major contract actions such as definitization. Without such estimates to evaluate contractor proposals, unanticipated costs increases, schedule delays, and potential waste can result.
- Take early actions to address project transfer and sustainment issues with the host government. Expectations of future project performance could be overstated unless long-term operation and maintenance issues are resolved.
- Take timely actions to close out task orders to help reduce costs and avoid administrative burdens.

## **Management Comments and Audit Response**

In preparing this report, SIGIR considered written comments from the Multi-National Force-Iraq and the U.S. Army Corps of Engineers, Gulf Region Division. Their complete comments are included in the Management Comments section of this report.

Multi-National Force-Iraq responded that JCC-I/A concurs with the recommendation and the specific findings supporting it. To address that portion of the recommendation related to contract closeout timeframes, JCC-I/A plans to examine personnel constraints and the potential for additional resources. To address that portion of the recommendation related to excessive award

fees, JCC-I/A will use final closeout audits through the Defense Contract Audit Agency to resolve award-fee discrepancies. SIGIR supports the plans and will follow up on the progress made to complete these actions at the appropriate time.

U.S. Army Corps of Engineers, Gulf Region Division, comments correctly cite a paragraph in SIGIR's draft report that raised questions about the adequacy of the independent government estimate for the Nassriya Project. However, the comments then stated that SIGIR's position is that using any materials provided by the design-build contractor is not appropriate when developing an independent government estimate. This is not correct. As noted in this report, SIGIR's position is that the independent government estimate for this project—based largely on the same limited design information as the FluorAMEC proposal—was neither comprehensive nor independent. As a result, it was not a good predictor of the growth in costs that occurred over the next few months.

## **Appendix A—Scope and Methodology**

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In January 2008, SIGIR initiated the audit (Project No. 7022) to determine the outcomes, costs, and the U.S. government’s oversight of the contract awarded to FluorAMEC, W914NS-04-D-0022, for reconstruction efforts in southern Iraq. FluorAMEC was awarded three reconstruction contracts: two in the water sector—one for northern Iraq and one for southern Iraq—and one in the electricity sector.<sup>14</sup> This report is limited to our audit of the FluorAMEC contract for water projects in southern Iraq.

This audit was completed during the period January 2008 through May 2008. It was performed under the authority of Public Law 108-106, as amended, which also incorporates the duties and responsibilities of inspectors general under the Inspector General Act of 1978, as amended. We reviewed the contract, task orders, associated modifications, and other relevant documentation from the contract files maintained by JCC-I/A and GRD. For the solicitation and award process for this contract, we did not perform additional audit work but relied on the work that SIGIR had previously performed for its report “Award of Sector Design-Build Construction Contracts,” SIGIR 04-005, issued on July 23, 2004. To determine the cost and funding of the contract, we used data in the contract files and financial data obtained from USACE’s Financial Management System. To determine the outcome and oversight of the contract, we reviewed the relevant task orders, modifications, correspondence; the award-fee plan; award-fee performance evaluations; and other documents relating to award fees, invoices, receiving documents, and pay documents. We also reviewed relevant documents related to transferring projects to the GOI. In addition to reviewing documents, we interviewed ITAO, SPCO/GRD, and JCC-I/A officials as well as officials with FluorAMEC and SPCOC.

We conducted this audit 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. Our assessment was constrained because most U.S. government officials involved with management and oversight of this contract were not readily available for interview and also because we did not visit project sites. Visits to the Nassriya Project were made by SIGIR inspectors, and their report is cited. Despite these constraints, we believe that the work performed and evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

### **Use of Computer-Processed Data**

We reviewed financial data relating to contract costs maintained in the USACE’s Financial Management System. We relied on the financial system as the official source because it is the most complete source for such data. However, almost all of the key financial data used in this report was traced to and validated by supporting documentation in the contract files.

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<sup>14</sup> The other 2 contracts awarded to FluorAMEC were W914NS-04-D-0008 for water projects in northern Iraq and the W914NS-04-D-0003 for electric sector projects.

Accordingly, we determined that performing substantive testing of the reliability of Financial Management System data was not necessary.

## **Internal Controls**

We reviewed the specific controls used in managing and administering the FluorAMEC contract. This included reviewing controls related to contract award, contract oversight, definitization of cost and schedule estimates, DCAA audit support, quality assurance processes, and award-fee decisions.

## **Prior Coverage**

Prior SIGIR reports relevant to this audit are identified below and can be accessed at the SIGIR website <http://www.sigir.mil>. The first five reports identified are the previous reports in this series of focused contract audits.

*Review of Bechtel's Spending Under Its Phase II Iraq Reconstruction Contract, SIGIR Audit 07-009, July 24, 2007.*

*Interim Review of DynCorp International, LLC, Spending Under Its Contract for the Iraqi Police Training Program, SIGIR Audit 07-016, October 23, 2007.*

*Outcome, Cost, and Oversight of Reconstruction of Taji Military Base and Baghdad Recruiting Center, SIGIR Audit 08-004, January 15, 2008.*

*Outcome, Cost, and Oversight of Iraq Reconstruction Contract W914NS-04-D-0006, SIGIR Audit 08-010, January 28, 2008.*

*Outcome, Costs, and Oversight of Electricity-Sector Reconstruction Contract With Perini Corporation, SIGIR Audit 08-011, April 29, 2008.*

*Review of the Use of Contractors in Managing Iraq Relief and Reconstruction Projects, SIGIR Audit 08-003, October 29, 2007.*

*Award of Sector Design-Build Construction Contracts, SIGIR Audit 04-005, July 23, 2004.*

*Iraq Reconstruction: Lessons in Contracting and Procurement, SIGIR, July 2006.*

*Award Fee Process for Contractors Involved in Iraq Reconstruction, SIGIR Audit 05-017, October 25, 2005.*

## **Appendix B—Nassriya and Basrah Task Order Summaries**

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FluorAMEC completed two construction task orders issued under contract W914NS-04-D-0022 for work in Iraq's Public Works and Water Sector. Task Order 2, Nassriya Project, and Task Order 3, Basrah Project, accounted for over 97% of all expenditures under the contract. Following is a detailed summary of these two completed task orders.

### **Task Order 2—Nassriya Project**

The overall objective of the Nassriya Project was to increase the quantity and quality of potable water available to citizens living in Nassriya and the surrounding area through the construction of a new water-supply system. When the task order was issued, FluorAMEC was to construct a new water treatment plant capable of producing 5,000 cubic meters per hour of treated water and install about 55 kilometers of transmission piping. The project was divided into several construction phases to supply the main population of Nassriya first and phase in the outlying area as funds became available. It was expected that the design would allow future expansion of the new plant and pipelines.

The initial estimate for the project included costs between \$90 million and \$120 million. FluorAMEC was given a not-to-exceed amount of \$42.81 million to do a technical study of alternatives, a site survey, and a preliminary design of the project. The requirements on this project were generally undefined.

In July 2004, FluorAMEC was given notice to proceed with the 30% design package and directed to submit design and updated cost estimates by September 2004. However, as early as August 2004, SPCO recognized that the cost estimate for the project would exceed the available budget and recommended combining the proposed water projects for Nassriya and the towns of Al-Shatra and Dawayah. In combining the three projects, a single large treatment plant would be constructed at Nassriya, and pipelines would be laid to supply the other two towns. The combined budget for the three projects—\$105 million for Nassriya, \$48 million for Al-Shatra, and \$20 million for Dawayah—totaled \$173 million. SPCO concluded that there were technical advantages in building and operating a single large facility to supply all three towns rather than constructing three smaller ones.

Construction started in August 2004 at the Nassriya treatment plant site, but work on the pipelines was awaiting completion of the 30% and the 60% designs. In October 2004, FluorAMEC, based on its 30% design package, prepared its contract cost-proposal estimates for a water treatment plant twice the size as the one originally planned and with a revised completion date of August 2006. It also identified potential cost reductions. During the following months, the design package was reviewed by SPCOC and others. In December, FluorAMEC's cost proposal increased to \$214 million, \$41 million over the budget, and discussions were underway on how to descope the project and/or provide additional funds.

In January 2005, the task order was definitized. Costs for the Nassriya project were \$155.05 million (with completion in February 2007), plus \$17.34 million for pipelines to Suq Al-

Shoyokh (with completion in August 2007). In the following months, FluorAMEC noted that work was delayed on the project. FluorAMEC notified the contracting officer that, from January through March 2005, construction work and contracting activities were interrupted and delayed due to tribal conflicts, criminal activities, the national election, and unexpected holidays. It noted that armed squatters, who were to be cleared the previous summer by the GOI, were still in houses within the work site perimeter. Also, because of security problems, a subcontractor was unable to complete a portion of the project, and the start of work was further delayed. In response to the subcontractor's inability to complete the work, FluorAMEC awarded a contract to the second lowest bidder; this award resulted in increased costs, but was deemed necessary for the project.

While FluorAMEC continued to report increases in its estimate at completion, SPCOC noted that these increases were still within the 10% contingency amount reflected in government estimates. However, SPCOC also noted that the provision of power supply was not included in these project estimates and held meetings to identify options for cost reductions. The power supply situation was the subject of a July 2005 meeting because despite assurances that the GOI would provide power, no confirmation was received and mitigation actions were agreed to.

Additional cost increases that occurred during the summer of 2005 became a matter of increasing concerns to U.S. government officials. In September, FluorAMEC, in response to the contracting officer's request, provided clarifications of its estimated costs. It also notified the contracting officer that the current budget of \$151.81 million would be exceeded by October 15 and that without additional funding, it would have to begin demobilization and shut down. In October, SPCOC noted that a revised estimated cost at completion was the fourth increase since definitization. At an October meeting of SPCO, SPCOC, and FluorAMEC officials, the cost increases, project status, and options for moving forward were discussed. One option considered was notifying FluorAMEC that its work was complete.

On October 21, 2005, the contracting officer issued FluorAMEC a "Cure Notice for Failure to Perform IAW Referenced Contractual Requirements." Specific items noted were failure to

- provide timely and usable cost/schedule data in the level of detail required,
- provide timely estimates-at-completion with sufficiently detailed cost data and adequate basis for estimates,
- execute the Contract Management Plan in an acceptable manner, and
- adequately conduct and react to quality inspections.

FluorAMEC was directed to submit a plan to cure the deficiencies within four days. To comply, the company provided a quick response and followed up with additional responses. In December, SPCO documented its complete analysis of the FluorAMEC response to the cure notice, the estimate at completion, and the project schedule. Options considered at this time included (1) stopping work, (2) reducing the project scope, (3) transferring responsibility for the work to GRD or the GOI, and (4) increasing funding for FluorAMEC. An increase in funding was the selected option. From November 2005 to February 2006, five separate modifications increased funding for the project by \$72.44 million (42%), from \$172.39 million to \$244.83

million. However, as a strategy to control costs, the not-to-exceed amount was increased in several increments averaging about \$15 million over a period of months.

Earlier, when the task order was definitized in January 2005, sufficient information was not available to define the technical requirements for the new pipeline connections to the towns being served by the Nassriya plant. As a result, these connections were not included in contract work requirements and the GOI agreed to assume responsibility for making the connections. Unfortunately, the GOI's plans did not provide for completing these critical connections prior to commissioning. SPCO, of necessity, prepared another scope change to address the problem, and the contracting officer authorized FluorAMEC in July 2006 to proceed with the needed work.

In September 2006, an additional project scope change was issued to address problems related to the power supply for the water treatment plant. SPCO noted that the task order was definitized without funding for the power supply connections to the plant or the booster stations in the surrounding towns. According to SPCO, the GOI had contracted for the work, but funding was not provided and the work had not progressed. SPCO recognized that the lack of power at plant commissioning would result in partial commissioning and operating with diesel generators at significant additional cost. In October, the task order was further modified to make the required city connections and provide generators to start precommissioning activities and operate processing equipment. The estimated cost of the modification was \$18.04 million, including about \$1.71 million for base and award fees.

In early 2007, SPCOC again addressed problems resulting from the lack of a permanent power supply at the planned April completion of the treatment plant. Because of continual slippages in Iraqi projects to provide power, SPCOC recognized that the plant would have to run on backup diesel-powered generators, which could operate the plant at only 50% capacity. Also, it was recognized that the generators were not designed for continuous operations, and their continuous operation would result in frequent outages and overhauls.

In April 2007, another modification increased the scope of the project by authorizing FluorAMEC to procure the necessary parts, small tools, and material and consumables, with enough consumables to be purchased for an additional three months of operations after the contracted operations and maintenance period ended. While this unilateral contract modification stated that funding would not increase for this effort, FluorAMEC responded that the additional scope would increase costs by about \$3.2 million.

At the same time, training and staffing issues at the Nassriya plant were becoming a more critical issue. Since mid-2006, the U.S. government, through ITAO, SPCO, GRD, and their contractors, worked with the GOI to identify and train the required number of staff. However, in an April 2007 meeting with GOI officials, ITAO noted frustration over the lack of progress on training and GOI's apparent lack of interest in taking over the treatment plant.

FluorAMEC reported submitting in mid-2007 requests for task order modification totaling over \$64 million for additional cost. Those included about \$30 million for additional freight, \$9 million for construction quality increases, \$7 million for forward-site camp establishment/extension, and \$2 million for additional procurement support. In June 2007, FluorAMEC submitted a Request for Equitable Adjustment (REA), which it claimed was the

direct result of the U.S. government's requirement for early definitization and its failure to act on a number of earlier requests for contract change orders. The request was for an adjustment of base fee by \$1.54 million and an increase in award fee by \$5.07 million due to added work, different site conditions, and increased costs. As a result of negotiations, the U.S. government and FluorAMEC agreed in April 2008 on a payment of \$3.39 million as full satisfaction of any and all claims under the task order.

In June and July 2007, GRD, SPCOC, and FluorAMEC officials met to discuss the transition of the treatment plant to the GOI, including matters of site security, plant operations training, construction schedule, and status of consumables. Concerns were raised about the GOI's capacity to operate and maintain the plant after the FluorAMEC contract expired (in September 2007) without permanent power and a sufficient number of trained operators. Despite these concerns, requests for additional operation and training were not approved, and FluorAMEC's efforts were limited to a mentoring and advisory role for 90 days after the contract expired.

In an August 2, 2007, letter ITAO notified the GOI that on September 12, 2007, the U.S. government would transfer responsibility for operations and security at the Nassriya plant. On September 11, FluorAMEC and GRD signed completion documents certifying that all work had been inspected and accepted as being in accordance with contract requirements and that all work required by the task order had been performed except for identified punch-list items. Turnover of the plant to the Iraqi Ministry was finalized on December 10, 2007, when FluorAMEC completed its mentoring and advisory role.

### **Task Order 3–Basrah Project**

In June 2004, FluorAMEC was awarded a task order totaling \$51.49 million to improve the wastewater collection and treatment system in Basrah and was initially given authorization to incur obligations up to \$1.00 million. The statement of work indicated a projected start date of July 1, 2004, and a “desired completion date” within one year. The city of Basrah suffered from a very poor sewer collection and treatment facilities. A study reported that large areas of the city were not served by any sewage collection system and that the existing wastewater treatment facilities were beyond economic repair. Also, most of the existing network was not connected to the treatment facility and had major leakage throughout the city. The SPCOC had been requested to prepare an IGE for this task order. In June, the SPCOC reported that it was “finding it impossible to produce a meaningful IGE for the Basrah Sewerage Project” because of the way it was defined and recommended that the government “issue the Task Order to the Contractor without a full IGE.”

Within 60 days of receiving the notice to proceed, FluorAMEC was to ensure that work under the task order was coordinated with other sewer work in the city and to identify items of work that could be started immediately. Also, it was to submit a report that described the ongoing and planned sewer work and to recommend prioritized alternatives for the project. FluorAMEC proposed first working on projects that were substantially different than those suggested in the notice to proceed. According to a FluorAMEC report, the initial scope of work was very general and spoke only of the purchase of new equipment and replacement and repair of existing infrastructure. The first detailed scope of work was for the purchase of sewer operation and maintenance equipment, cleaning and rehabilitating the sewers in 13 neighborhoods, refurbishing

5 existing pump stations, and constructing sewer collection systems and pump stations in 6 other areas without service. In September 2004, FluorAMEC's recommendations for early works were approved and the contracting officer directed it to proceed. This work included purchasing sewer trucks, redirecting sewage that was being discharged at the site of the future Basrah Children's Hospital, constructing a main sewer line into town, and completing eight unfinished pumping stations. At that time, FluorAMEC began mobilizing staff for the project, and the not-to-exceed amount was increased to \$12 million.

Over the following months, numerous design and scope changes were made to reflect evolving priorities and budget and schedule constraints and the definitized completion date was set for March 2006. In the first phase of the work, to be done in consultation with the Basrah Sewage Directorate, the contractor was to (1) investigate and assess the existing conditions of the sewage system in the city, including the existing waste-collection system, pumping stations, and sewage treatment facilities; (2) prepare a study of the area's existing water treatment system and of ways to rehabilitate the system, whose construction had begun five years earlier; and (3) recommend repairs and new installations that could be completed within the budget.

In December 2004, FluorAMEC requested and received authority to proceed with sewer cleaning and repair, design of the sewer network, and completion of a cost proposal for the full project scope. The not-to-exceed amount was increased to \$17 million, sufficient funding to allow the contractor to definitize the entire project. FluorAMEC submitted its full scope cost proposal. The proposal was reviewed by the SPCOC, which "corrected some errors and omissions" but identified no major concerns. DCAA also reviewed the pricing proposal and "took no exceptions" to any of the proposed costs. FluorAMEC's statement of work, with an estimated cost of \$56.25 million, was for (1) sewer cleaning, inspection, and data gathering and (2) design-build construction of the Phase IV area of the new sewage collection network. At this time, FluorAMEC proposed to build seven new pumping stations and update five others that had been partially constructed; install 50 kilometers of underground pipe; and clean and repair 20 kilometers of existing sewage line.

In early February 2005, the task order cost was first definitized at \$51.10 million, including base and award fees. The negotiations summary shows that while FluorAMEC's proposal was for \$56.25 million, the U.S. government's objective was for \$53.10 million. However, the lower definitized amount was achieved by removing Phase IV—the installation of some new sewer lines—from the required work and making it a separate level-of-effort option. Later in February, Modification 1 redefinitized the task order cost at \$53.10 million—\$2.00 million more than the original amount—to provide additional funding for the installation of the new sewers. According to a subsequent SPCO document, the entire task order was definitized as a level of effort because it was not possible to define the scope of work. However, FluorAMEC officials stated that the work was not considered to be a level of effort requiring merely their best efforts but was considered instead an effort to submit mutually agreed to deliverables to the U.S. government.

Modification 1 also set the completion date for all line items as March 2006. Two months later, however, SPCOC reported that "3 of the 8 pumping stations are not actually needed yet because there are no sewers connected to them." As a result, the contracting officer deleted three pump stations and added structural repairs of the five remaining stations to the scope of work at no

additional cost. During the following months, the U.S. government approved a number of other changes to the scope of work. According to FluorAMEC officials, these changes realigned scope elements and costs but did not materially change the magnitude or direction of the project.

Work on the Basrah Project presented significant challenges, the primary one being a lack of security and its impact on direct oversight. According to a FluorAMEC report, because company officials were unable to oversee the project, local Iraqi engineering personnel were hired for daily work and inspections. The security concerns required employees and subcontractors to avoid being identified with the U.S. company. This lack of on-site presence also made it difficult to instill the desired level of quality control and safety procedures.

Funding, schedule, and scope problems arose throughout the course of the work. In July 2005, for example, JCC-I/A and SPCOC began to raise concerns about the lack of construction progress on the task order. Subsequently, JCC-I/A issued a Letter of Concern to the contractor, noting that the project was behind schedule and that labor costs appeared high. In March 2006, SPCOC commented that the quality of FluorAMEC's schedules is "sub-standard and there is minimal effort to resolve the basic fundamental schedule deficiencies." In April 2006, a project scope change noted that the pumping stations had been equipped with diesel generators but not connected to the main electricity supply. SPCOC advised FluorAMEC that continued operation on diesel generators alone was not acceptable and asked that main power supply connections be included in its scope of work. The project scope change noted that FluorAMEC had not budgeted for this work and that additional funding would therefore be required. GRD cautioned that the GOI had recently advised that it would not agree to full handover of the plant until a connection to the main power supply was made.

In June 2006, the notes of a final task order meeting reported that all work "on the five large pump stations was complete" except that limited efforts remained on the other pump stations. According to GRD, FluorAMEC was unable to complete the remaining 1 percent of work—paving, fence reconstruction, and pipe repair—because its subcontractors were repeatedly threatened while working in the Basrah area and were unable to reach the site to finish the work. One month later, FluorAMEC requested that JCC-I/A provide task order closeout instructions, noting that the construction phase of the project was nearly complete and that all facilities had been turned over to the local Iraqi ministry to operate and maintain. While construction was completed in August 2005, problems surfaced in reaching agreement with the GOI to accept responsibility for the completed facilities and to take on the required operation and maintenance responsibilities.

A September SPCOC memorandum acknowledged that all construction activities were substantially complete, with the exception of final paving work, but that acceptance letters had not been signed for significant work elements. During this period, the closeout was delayed by the lack of a permanent power supply, generator and other equipment failures, and the inability to transfer responsibility to the GOI. To allow for full handover to the GOI, GRD descope the work and issued a separate contract for \$13,376 to provide electrical service to the pumping stations. In October 2006, the GOI accepted control of the Basrah Project.

## Appendix C—Acronyms

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<b>Acronym</b>	<b>Description</b>
CPA	Coalition Provisional Authority
DCAA	Defense Contract Audit Agency
DCMA	Defense Contract Management Agency
DFAR	Defense Federal Acquisition Regulation
FAR	Federal Acquisition Regulation
GAO	Government Accountability Office
GOI	Government of Iraq
GRD	Gulf Region Division
GRS	Gulf Region South
IDIQ	Indefinite Delivery/Indefinite Quantity
IGE	Independent Government Estimate
IRMO	Iraq Reconstruction Management Office
ITAO	Iraq Transition Assistance Office
JCC-I/A	Joint Contracting Command-Iraq/Afghanistan
PCO	Project Contracting Officer
PMO	Program Management Office
REA	Request for Equitable Adjustment
SIGIR	Special Inspector General for Iraq Reconstruction
SPCO	Sector Project and Contracting Office
SPCOC	Sector Project and Contracting Office Contractor
SPMO	Sector Project Management Office
TCO	Termination Contracting Officer
USACE	U.S. Army Corps of Engineers

## **Appendix D—Audit Team Members**

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This report was prepared, and the audit work conducted, under the direction of David R. Warren, Assistant Inspector General for Audit, Office of the Special Inspector General for Iraq Reconstruction. The staff members who contributed to the report include:

David Childress

George Salvatierra

# Management Comments

## Multi-National Force - Iraq

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**MNF-I RESPONSE TO 20080612-019 (MNF-I CT-3015)**  
**SIGIR Draft Report, "Outcome, Cost, and Oversight of Water Sector**  
**Reconstruction Contract with FluorAMEC, LLC" (SIGIR-08-018), dated June 11,**  
**2008**

**BACKGROUND:** SIGIR provided CENTCOM the copy of this draft report so that it could be properly tasked to JCC-I/A through MNF-I RFI Manager. The JCC-I/A response to the draft report recommendation on page 27 and any comments on the accuracy of the report should be provided directly to SIGIR forward office in Baghdad NLT 23 Jun 08 and provide CENTCOM IG a courtesy copy of the JCC-I/A response NLT 26 Jun to close this RFI. To meet the suspense, the response should not come to CENTCOM for distribution to SIGIR - it needs to be sent directly to SIGIR.

**QUESTION:** To provide JCC-I/As response to recommendation on page 27 to SIGIR NLT 23 Jun to meet SIGIR time requirements.

**MNF-I RESPONSE:** MNF-I responds with the following:  
JCC-I/A concurs with the recommendation and the specific findings supporting the recommendation. Specifically, to address the recommendation of establishing close-out timeframes, JCC-I/A plans to address the underlying cause of constrained personnel resources via ongoing Joint Manning Document changes to add personnel, investigation of the use of reach-back resources in CONUS and Europe, and explore the use of additional contractor support. On the second portion of the recommendation concerning recovery of excessive award fees, final close-out audits through DCAA are used to resolve award fee discrepancies as well as other financial matters such as allow ability of reimbursable costs.

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This is an official MNF-I RFI response.

MNF-I CJ3 RFI Manager//DSN 318.239.9865//stratops.soc.rfi@s-iraq.centcom.smil.mil

# Management Comments

## U.S. Army Corps of Engineers - GRD

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REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS  
GULF REGION DIVISION  
BAGHDAD, IRAQ  
APO AE 09348

CEGRD-CG

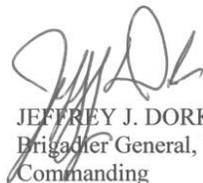
22 June 2008

MEMORANDUM FOR Special Inspector General for Iraq Reconstruction, US Embassy Annex,  
M-202, Old Presidential Palace, APO AE 09316

SUBJECT: Draft SIGIR Audit Report – Outcome, Cost, and Oversight of Water Sector  
Reconstruction Contract with FluorAMEC, LLC (SIGIR 08-018)

1. This memorandum provides the U.S. Army Corps of Engineers, Gulf Region Division response to the subject draft audit report.
2. The Gulf Region Division reviewed the draft report. We have provided comments related to the presentation of the independent government estimate in the report. Our comments are included in the enclosure.
3. Thank you for the opportunity to review the draft report and provide our written comments for incorporation in the final report.
4. If you have any questions, please contact Mr. Robert Donner at (540) 665-5022 or via email [Robert.L.Donner@usace.army.mil](mailto:Robert.L.Donner@usace.army.mil).

Encl  
as



JEFFREY J. DORKO  
Brigadier General, USA  
Commanding

**COMMAND REPLY**  
to  
**SIGIR Draft Audit Report –Outcome, Cost, and Oversight of Water Sector Reconstruction  
Contract with FluorAMEC, LLC  
SIGIR Report Number 08-018  
(Project 7022)**

**Overall Comment.** The Gulf Region Division (GRD) reviewed the report. Although the Sector Project and Contracting Office Contractor (SPCOC) personnel extensively discussed the independent government estimate (IGE) preparation method, with SIGIR auditors, it appears they misinterpreted the method used to prepare the IGE. GRD provides the following comments.

1. **Draft Report, page 11, second paragraph.** An IGE was prepared for this Project to provide additional insight into expected costs to be incurred. PCO Standard Operating Procedure PR-105 required that the contracting officer request an IGE prior to contract negotiations. Although SPCOC prepared an IGE for this project, it was neither comprehensive nor independent of the contractor's proposal. SPCOC officials stated that the IGE used FluorAMEC's 30% design drawings; took the majority of the material quantities from them; used SPCOC templates for items such as security and travel; and used FluorAMEC labor and associated general and administrative expense rates. The IGE was based on the same limited design information as the FluorAMEC proposal and did not identify areas of cost growth that were encountered over the next few months. The IGE documents in the contract files are better described as analyses of the contractor's proposal.

**Command Comment.** GRD disagrees with SIGIR's interpretation of the independent government estimate (IGE). SIGIR takes the position that using any materials provided by the design build contractor is not appropriate when developing an independent government estimate and infers the use of these materials does not make it comprehensive or independent. .

The SPCOC built the IGE using the latest information available. The method used to build the updated IGE is standard industry practice and is the best method to use to build an updated IGE on a design build contract. The GRD Water Sector reviewed the 30% design and concurred with the quantity takeoffs because the use of those quantities leads to the best IGE with the latest quantities expected. Although the IGE may not be the best predictor of the difficulties and costs associated with building in Iraq, it was comprehensive and independent from the contractor's proposal. "

2. **Draft Report, page 27, Conclusion, second paragraph, third sentence.** The underestimation of costs resulted from not fully defining the required work and not preparing independent and comprehensive cost estimates.

**Command Comment.** GRD disagrees with SIGIR's conclusion that it did not prepare independent and comprehensive cost estimates.

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<b>Congressional Affairs</b>	<p>Hillel Weinberg  Assistant Inspector General for Congressional Affairs  Mail: Office of the Special Inspector General for Iraq Reconstruction  400 Army Navy Drive  Arlington, VA 22202-4704  Phone: 703-428-1059  Email: <a href="mailto:hillel.weinberg@sigir.mil">hillel.weinberg@sigir.mil</a></p>
<b>Public Affairs</b>	<p>Kristine Belisle  Director of Public Affairs  Mail: Office of the Special Inspector General for Iraq Reconstruction  400 Army Navy Drive  Arlington, VA 22202-4704  Phone: 703-428-1217  Fax: 703-428-0818  Email: <a href="mailto:PublicAffairs@sigir.mil">PublicAffairs@sigir.mil</a></p>