

REVIEW OF BECHTEL'S SPENDING
UNDER ITS PHASE II IRAQ
RECONSTRUCTION CONTRACT

SIGIR-07-009
JULY 24, 2007



SPECIAL INSPECTOR GENERAL FOR IRAQ RECONSTRUCTION

July 24, 2007

MEMORANDUM FOR U.S. AMBASSADOR TO IRAQ
DIRECTOR, IRAQ TRANSITION ASSISTANCE OFFICE
MISSION DIRECTOR-IRAQ, U.S. AGENCY FOR INTERNATIONAL
DEVELOPMENT

SUBJECT: Review of Bechtel's Spending under Its Phase II Iraq Reconstruction Contract (SIGIR-07-009)

We are providing this audit report for your information and use. This audit is a first in a series of focused financial reviews of the Iraq Relief and Reconstruction Fund (IRRF). Our intent is to perform individual contract reviews of the larger contractors and, at the end of the series, identify lessons learned and any leading practices for future reference. This audit specifically sought to identify the costs incurred and the results of the work performed by Bechtel that was funded by the IRRF under the direction of the U.S. Agency for International Development. We also identified the methods used to record and report associated costs.

This report identifies lessons learned but does not contain any recommendations. We considered technical comments received from the U.S. Agency for International Development and the Iraq Transition Assistance Office on the draft of this report when preparing the final report. Written responses received are included in the Management Comments section of this report.

We appreciate the courtesies extended to the staff. For additional information on this report, please contact Mr. James Pollard (james.pollard@iraq.centcom.mil or 703-343-7923) in Baghdad, Iraq; or Mr. Glenn Furbish (glenn.furbish@sigir.mil or 703-428-1058) in Arlington, Virginia. For the report distribution, see Appendix E.

A handwritten signature in black ink that reads "Stuart W. Bowen, Jr." followed by a period.

Stuart W. Bowen, Jr.
Special Inspector General for Iraq Reconstruction

cc: See Distribution

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Review of Bechtel's Spending under Its Phase II Iraq Reconstruction Contract

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July 24, 2007

Executive Summary

Introduction

One of the principal U.S. government agencies involved in Iraq reconstruction is the U.S. Agency for International Development (USAID), which received \$4.6 billion of the funds that the Congress appropriated for Iraq relief and reconstruction. Under its Iraq Infrastructure Reconstruction Program, USAID awarded two successive Iraq reconstruction contracts—referred to as Phase I and Phase II—to Bechtel National, Inc. (Bechtel). The Phase I contract (EEE-C-00-03-00018-00) was designed to repair, rehabilitate, or rebuild vital elements of Iraq's infrastructure. This contract was funded with part of the \$2.5 billion that the Congress appropriated in the *Emergency Wartime Supplemental Appropriations Act*, Public Law 108-11, which created the Iraq Relief and Reconstruction Fund (referred to as IRRF I) to be used for a broad range of humanitarian and reconstruction activities in Iraq. On April 17, 2003, the contract was awarded for \$680 million; on September 30, 2003, it was modified and increased, to approximately \$1.03 billion. The contract ended on February 28, 2006.

To expand the reconstruction effort, USAID awarded to Bechtel the competitively bid Phase II contract (SPU-C-00-04-00001-00). This contract was funded with part of the \$18.4 billion appropriated in the *Emergency Supplemental Appropriations Act for Defense and for the Reconstruction of Iraq and Afghanistan*, Public Law 108-106, for security, relief, rehabilitation, and reconstruction of Iraq (IRRF 2). Under the cost-plus fixed-fee Phase II contract, Bechtel was to provide engineering, procurement, and construction services. To obtain technical expertise, USAID and the U.S. Army Corps of Engineers (USACE) signed a Participating Agency Service Agreement to have USACE provide construction oversight of Bechtel.

The Phase II contract was awarded on January 5, 2004, for \$1.8 billion. On March 31, 2007, the contract ended, and the total estimated cost reported was \$1.33 billion¹. This report focuses on the Phase II contract and the 24 job orders through which the contracted work was accomplished. The 24 job orders were allocated to sectors as follows: 14 in water and sanitation, 8 in power, 1 in telecommunications, and 1 in buildings.

¹ On July 20, 2007, USAID told us that they cannot determine the final cost of the contract at this time, as Bechtel has not yet submitted its final invoice and the contract costs have not been audited.

Objectives

This is the first in a series of focused financial reviews of large contractors funded by IRRF. The objectives of this audit were to determine the costs that Bechtel incurred performing work funded by the IRRF, as well as the methods used to record and report associated costs. Specifically, we addressed these questions:

- What cost detail is contained in the invoices and supporting documentation submitted to the government by Bechtel?
- What costs did Bechtel incur in carrying out its contracted tasks, including cost of material, labor, overhead, security, subcontracts, and all other costs?
- How many layers of subcontracts did Bechtel have in performing the contracted work?
- What types of contracts (firm-fixed-price, cost-plus, or other arrangement) were used for subcontracts; at each layer of subcontracting, what costs were billed to the next level of subcontractor?
- What were USAID's administrative fees?

Subsequently, in the January 30, 2007 Quarterly Report and Semiannual Report, SIGIR further elaborated on the objectives to include a discussion of contract outcomes, contract administration, and other items. For more details, see Appendix A.

To cover all of the objectives, we organized the report into four sections:

- the contractual arrangement between USAID and Bechtel pertaining to this contract and its outcomes
- contract administration
- Bechtel's costs
- USAID's cost in managing Bechtel's work

Results

Overall, the Phase II contract accomplished a substantial amount of work that contributed to the reconstruction of Iraq, particularly in the electricity and water and sanitation sectors. However, the results on individual projects were mixed: some were completed as originally envisioned, others were cancelled, and still others were partially completed and were transferred to other organizations for completion.

We analyzed the 24 job orders to determine if the original objectives were achieved, and determined that:

- 11 of the job orders clearly met their original objectives.

- 10 did not achieve their original objectives as stated in the original scope of work.
- For 3 job orders, we were either unable to determine what their original objectives were or the achievements were unclear.

We believe that the experience gained in the course of the Phase II contract provides important insights into Iraq reconstruction and lessons for future reconstruction in Iraq and elsewhere.

We encountered many obstacles in trying to measure the relationship between requirements, cost, and output/outcomes, including these:

- The requirements or deliverables were not always specific in the job orders.
- The scope of work and funds available changed over time.
- The budget estimates in the job orders did not include all costs.
- Unanticipated delays, such as land ownership issues, delayed schedules.
- The ever-changing security situation in Iraq caused schedule delays, resulting in increases to support and direct construction costs.

We also determined that USAID and USACE staffing was considerably below authorized levels. As of April 5, 2006, in the middle of contract execution, USAID Mission-Iraq had filled only 170 of 251 total authorized positions, and USACE had filled only 18 of 37 authorized positions to provide the agreed-on assistance to USAID.

More specifically, USAID had only two people directly involved in the contract administration of the Phase II contract—the administrative contracting officer and the cognizant technical officer. According to USAID’s July 20, 2007 response to our draft of this report, others also provided contract management assistance, including U.S. contractors and locally engaged engineers. However, during our review, USAID officials also told us that contract administration was under-staffed, which limited site visits to corroborate conditions claimed by contractors. USAID contract administration officials in Iraq stated that they would have preferred to have two full-time contracting officers, supported by two seasoned negotiators—one for document control, one for administration.

Another factor that limited USAID’s oversight was that USAID had agreed in its contract with Bechtel to review and pay Bechtel’s vouchers within 10 days of submittal. Based on our discussions with USAID comptroller officials involved in the voucher review process, it appeared that USAID did not perform a detailed analysis of the costs being incurred because of the limited time available for review. Also, under the Phase II contract, cost analysis was not a task specifically assigned to the administrative contracting officer or the cognizant technical officer. Furthermore, the task of thoroughly examining Bechtel’s summary cost schedules—which sometimes comprised hundreds of pages of documentation—would have required a significant amount of time.

However, to balance the limited review time and staff shortage, USAID also had an agreement with the Defense Contract Audit Agency (DCAA) to conduct reimbursable cost incurred audits of Bechtel's contract costs to determine their reasonableness, allowability, and allocability. DCAA audited Bechtel's accounting system and reported that Bechtel had in place adequate systems and controls to accurately capture costs. As of March 2007, DCAA reviewed about \$1 billion in Bechtel's recorded costs incurred from January 5, 2004, through October 31, 2006, and questioned less than 1% of the costs claimed. The purpose of the DCAA incurred cost audits are to determine whether costs claimed are allowable, allocable, and reasonable in accordance with the contract and applicable government acquisition regulations.

Bechtel's direct physical reconstruction costs were about 59% of overall costs; as a result, the remainder would be support costs of about 41%. According to reporting by SIGIR and the U.S. Government Accountability Office (GAO), this support-cost percentage is in line with the support costs incurred by other major contractors—both in Iraq and in the United States. We determined that support costs are important to reconstruction, as are the direct physical reconstruction costs, because they provide the management framework and life support within which reconstruction occurs. However, all costs should be incurred in an efficient and effective manner.

Bechtel's contract was geared toward the use of subcontractors as indicated in its USAID-approved subcontracting plan, which stated that Bechtel would subcontract approximately 90% of the direct reconstruction costs. Of Bechtel's subcontracts, 39% were awarded to Iraqi firms. We identified a total of 168 subcontracts—66 awarded by Bechtel and 102 awarded in turn by some of Bechtel's subcontractors. All but two of these subcontracts were fixed-price contracts. Bechtel had procedures that it used to manage its subcontractors, but multiple layers of subcontract management made oversight complex, and neither USAID nor Bechtel had information on all subcontracts down to the lowest tier.

USAID's administrative costs were funded directly from IRRF, not taken from Bechtel contract funds. According to the agency's accounting records, USAID has obligated \$157 million from IRRF 2 to fund its overall administrative expenses for the entire USAID Mission-Iraq. USAID did not segregate its overall administrative costs by individual contract. Further, through November 30, 2006, USAID paid \$23.5 million to the USACE for assistance in managing the Bechtel contract.

Lessons Learned

This report contains no recommendations, but we have identified three important lessons to be learned from the contracting, execution, and oversight of the Phase II contract for future reconstruction in Iraq and elsewhere.

- *Strong contract administration and adequate staffing are critical to success.* In the Phase II contract, the clarity of job orders was mixed: some were clearly

written, and others were vague, potentially causing costs to rise. USAID had a relatively small contract administration staff—two full-time, in-country staff—to oversee a contract valued at more than \$1 billion, with 24 job orders throughout Iraq. Bechtel provided USAID with voluminous detailed information on the status of work, but USAID and USACE were staffed substantially below authorized levels. We have previously reported in a review of one of the projects under the Phase II contract that although USAID had an effective process in place for tracking the project, the information it received was not adequately analyzed and reported. It is essential that agencies provide enough staff to monitor contracts commensurate with their size and complexity and to ensure that there is strong contract administration and project management.

- *A clear understanding and review of costs is also important to contract management.* USAID contractually committed itself to processing invoices within 10 days of receipt, which limited its ability to thoroughly review them before payment. Although Bechtel captured detailed cost data in its accounting system and provided it to USAID, there was still a large miscellaneous category, amounting to \$250 million, categorized as *Other* within the largest cost category. *Other* was for subcontracts and other services. Miscellaneous or other costs should not be allowed to exceed a contractually defined ceiling—such as 10% of costs—to prevent the loss of visibility that accompanies large miscellaneous categories, and contractors should be directed to develop additional cost categories to capture costs in accounting systems when miscellaneous costs exceed that set ceiling.
- *Minimizing support costs makes more money available for reconstruction.* In future contracts, managers need to determine how heavily to rely on primes or subcontractors that do little of the actual work but represent more than a quarter of the costs. Also, it is important to achieve a clear understanding of how they add to costs and what is the value-added. Government contract managers and program/project managers need to be attentive to the support-costs aspects of any contract and to remain vigilant for opportunities to reduce this cost.

Management Comments and Audit Response

This report contained no recommendations; therefore no written response was required. We provided a draft of this report to DoS and USAID. Each provided technical comments, which were considered and addressed, where appropriate, in the final report.

Future SIGIR Work

We plan to conduct a series of focused financial reviews of contractors receiving funds for Iraq relief and reconstruction. Consequently, we plan to identify systemic issues and report at the end of the series on the challenges of relief and reconstruction in Iraq and lessons learned that address systemic issues and leading practices across these multiple contracts.

Introduction

Background

The Congress appropriated \$20.9 billion for security, relief, rehabilitation, and reconstruction of Iraq in two separate appropriations:

- April 2003, IRRF 1: \$2.5 billion in the *Emergency Wartime Supplemental Appropriations Act*, Public Law 108-11, for the Iraq Relief and Reconstruction Fund 1
- November 2003, IRRF 2: an additional \$18.4 billion in the *Emergency Supplemental Appropriations Act for Defense and for the Reconstruction of Iraq and Afghanistan*, Public Law 108-106

USAID is one of the principal U.S. government agencies involved in Iraq reconstruction. Established on July 27, 2003 to oversee the agency's efforts in Iraq, the USAID Mission-Iraq carries out programs in education, health care, food security, infrastructure reconstruction, airport and seaport management, economic growth community development, local governance, and transition initiatives. USAID has received \$4.6 billion in IRRF funds for Iraq relief and reconstruction.

Within ten months, Bechtel was competitively awarded two successive Iraq reconstruction contracts—Phase I and Phase II—under USAID's Iraq Infrastructure Reconstruction Program. The Phase I contract (EEE-C-00-03-00018-00) was awarded on April 17, 2003, for \$680 million (increased on September 30, 2003, to approximately \$1.03 billion) to repair, rehabilitate, and rebuild vital elements of Iraq's infrastructure. The Phase I contract ended on February 28, 2006.

To expand the reconstruction effort, USAID awarded to Bechtel the competitively bid Phase II contract (SPU-C-00-04-00001-00) on January 5, 2004, for \$1.8 billion. Under this cost-plus fixed-fee contract funded by IRRF 2, Bechtel was responsible for the design, rehabilitation, reconstruction, and construction of infrastructure projects in support of U.S. assistance to Iraq in electric power, water and sanitation services, telecommunications, and selected public buildings. USAID provided the oversight of this contract, and also signed a Participating Agency Service Agreement with the U.S. Army Corps of Engineers (USACE) to obtain additional support to provide construction oversight of Bechtel. This report focuses on the Phase II contract. On March 31, 2007, the contract ended and the total estimated cost reported was \$1.33 billion².

² On July 20, 2007, USAID told us that they cannot determine the final cost of the contract at this time, as Bechtel has not yet submitted its final invoice and the contract costs have not been audited.

Phase II Job Orders

For the Phase II contract, USAID issued 24 job orders, which had actual job order costs of \$761,272,537, exclusive of fees and indirect costs, as of January 5, 2007. A job order is a written contractual agreement between USAID and Bechtel concerning work to be accomplished for a given amount of money. As shown in Table 1, Bechtel's job orders covered a wide array of projects including new and rehabilitated electric power facilities, irrigation, water supply, sewage lines, and health care.

Table 1: Phase II Job Orders

#	Job Order	Start Date	Description	Actual Job Order Costs
1	04-501	02/12/04	Baghdad South New Generation, Equipment	\$173,551,845
2	04-502	02/22/04	Baghdad Governorate Municipal Solid Waste Landfill Facility	\$3,764,850
3	04-503	03/04/04	Power Plant Maintenance Program	\$88,403,052
4	04-504	03/05/04	Mussayib Thermal Power Station	\$6,060,422
5	04-505	03/04/04	Conceptual Design for Rural Water Supply Project	\$259,123
6	04-506	03/01/04	Baghdad Distribution Substations	\$126,538,218
7	04-507	05/30/04	Irrigation and Drainage Pump Station Rehabilitation	\$5,107,136
8	04-508	06/06/04	Wadha No. 1, 2, & 3 Pump Station Restoration	\$5,918,317
9	04-509	06/13/04	Rural Water Supply Project Implementation	\$57,641,731
10	04-510	06/21/04	Sadr City Treatment Plant	\$24,495,838
11	04-511	08/03/04	Basrah Children's Hospital	\$20,725,168
12	04-512	06/26/04	Bayji Thermal Power Station	\$2,021,904
13	04-513	06/23/04	Mansuria Natural Gas Development Power Generation	\$62,056,137
14	04-514	06/21/04	Shark Diljah Water Treatment Plant Expansion	\$20,901,013
15	04-515	06/12/04	Zafaranyah Sewer Trunk Line	\$20,715,864
16	04-516	06/08/04	Kadhamiya Sewage Collection System Cleaning & Refurbishment	\$4,480,476
17	04-517	06/08/04	Rehabilitation of Baghdad Potable Water Distribution Mains & Hydraulic Modeling & Monitoring	\$14,184,995
18	04-518	09/30/04	Karbala Wastewater Treatment Plant Refurbishment	\$7,388,818
19	04-519	09/30/04	Karbala Al Hussien Water Treatment Plant Refurbishment	\$3,769,458
20	04-520	08/27/04	North East Sewer Trunk Line Study	\$828,721
21	04-521	01/15/05	Consolidated Fiber Network	\$29,714,725
22	04-522	04/01/05	Start Up Services for Daura Thermal Units 5 & 6 Rehabilitation	\$33,917,587
23	04-523	05/30/05	Kirkuk Power Station	\$28,710,579
			No job order 524, numbering skipped to 525	
24	04-525	05/05/05	Water Sector Institutional Strengthening	\$20,116,561
			Total	\$761,272,537

Source: SIGIR analysis of Bechtel's Phase II submitted invoices (Cost Vouchers) 1-69, through January 5, 2007.

Reconstruction Costs

Contractors incur both direct and indirect costs. The *Federal Acquisition Regulation* (FAR) does not specifically define direct and indirect costs. The FAR states that after direct costs have been determined and charged directly to the contract, indirect costs are those remaining costs to be allocated to intermediate or two or more final cost objectives. (See FAR, *Part 31, Contract Costs Principles and Procedures, section 31.203, Indirect Costs*). The FAR directs the contractor to accumulate indirect costs by logical cost groupings.

Because the FAR does not clearly define job costs, we used the Internal Revenue Service's (IRS) definitions of job costs as direct and indirect costs:

Direct job costs—such as labor, materials, and subcontractors' expenses—can be traced directly to the construction project.

Indirect job costs are all of the costs necessary for the performance of the contract other than direct costs.

Indirect costs often involve expenses that benefit more than one job and must be allocated among all the jobs that received benefit. Indirect costs are as important to reconstruction as the direct costs because they provide the overall management framework and life support within which reconstruction occurs. At the same time, by minimizing indirect costs, more money is made available for reconstruction.

Our review of Bechtel's invoices and accounting system identified examples of direct and indirect costs. Bechtel's direct costs included construction materials and supplies and subcontracts (Bechtel subcontracted almost all direct physical reconstruction). Bechtel's indirect costs included security, facilities, communications, life support, and such administrative expenses as accounting, human resources management, and information technology.

Objectives

The audit was announced on July 24, 2006. The objectives were to determine, in detail, the costs incurred by Bechtel in performing work under its Phase II USAID contract as well as the methods used to record and report associated costs. Specifically, we addressed these questions:

- What cost detail is contained in the invoices and supporting documentation that Bechtel submitted to the government?
- What costs did Bechtel incur in carrying out its contracted tasks, including cost of material, labor, overhead, security, subcontracts, and all other costs?
- How many layers of subcontracts did Bechtel have in performing the contracted work?

- What types of contracts (firm-fixed-price, cost-plus, or other arrangement) were used for subcontracts; at each layer of subcontracting, what costs were billed to the next level of subcontractor?
- What were USAID's administrative fees?

Subsequently, in the January 30, 2007 Quarterly Report and Semiannual Report, we further expanded our objectives to include contract outcomes and contract administration, and other items. (For details, see Appendix A.)

To cover all of the objectives, we organized the report into four sections:

- the contractual arrangement between USAID and Bechtel pertaining to this contract and its outcomes
- contract administration
- Bechtel's costs
- USAID's cost in managing Bechtel's work

Further Reference

For a discussion of the audit scope and methodology, and a summary of prior coverage, see Appendix A.

For a summary of the work to be done under each of the 24 job orders and the results achieved, see Appendix B.

For a sample of the U.S. government form for invoicing, see Appendix C.

For a list of acronyms and abbreviations, see Appendix D.

For the report distribution, see Appendix E.

For the audit team members, see Appendix F.

Contractual Arrangement Between USAID and Bechtel

On January 5, 2004, USAID awarded to Bechtel the competitively bid Phase II contract for \$1.8 billion for engineering, procurement, and construction services. Work under the Phase II contract was accomplished through a series of 24 job orders—14 in the water and sanitation sector, 8 in the power sector, 1 in telecommunications, and 1 in the buildings sector. We analyzed the 24 job orders in an effort to determine if they achieved their original objectives and determined that:

- 11 of the job orders clearly met their original objectives.
- 10 did not achieve their original objectives as stated in the original scope of work.
- For 3 job orders, we were either unable to determine what their original objectives were or the achievements were unclear.

In some instances, millions of dollars were spent for seemingly little results. For example, one job order to design and construct a regional municipal solid waste landfill was ultimately cancelled after no acceptable sites could be found. Expenditures totaled \$3.8 million, of which approximately \$2.6 million in equipment was transferred to another landfill operation at the Kirkuk Air Force Base.

However, we did find it challenging to form an opinion on the value of the work accomplished for several reasons, including a challenging operating environment, infrastructure challenges, and limited documentation supporting changes in the scope of work, budget, and project delays.

Bechtel's Phase II Contract

According to the USAID Principal Contracting Officer, USAID received three proposals for the Phase II contract in response to its Request for Proposals, as amended. Under the FAR Section 305(1), competition normally establishes price reasonableness. When contracting on a cost-reimbursement basis, evaluations shall include a cost-realism analysis to determine how much the Government should realistically expect to pay for the proposed effort, the offeror's understanding of the work, and the offeror's ability to perform the contract. USAID performed the cost realism analysis for all three of the proposals.

Under this cost-plus fixed-fee contract, Bechtel was responsible for the design, rehabilitation, reconstruction, and construction of infrastructure projects in support of U.S. assistance to Iraq in a number of areas, including electric power, water and sanitation services, telecommunications, and selected public buildings. A secondary objective of this contract was to provide employment opportunities for Iraqis and Iraqi firms, thereby injecting much-needed capital into the economy. The contract ended on March 31, 2007. As of February 28, 2007, contract Modification 32 showed the total estimated cost to be \$1.33 billion.

Specific Work Was Directed Through a Series of Job Orders

The Phase II contract called for engineering, procurement, and construction services and did not specify projects. Work was accomplished through a series of 24 job orders—14 in water and sanitation sector, 8 in the power sector, 1 in telecommunications, and 1 in the buildings sector. These job orders were written communications signed by the warranted Administrative Contracting Officer, with the technical concurrence of the Cognizant Technical Officer, which contractually authorized Bechtel to undertake the specified work. The job order is not an obligating document and therefore does not add funding to the contract, but it does budget the funds from the overall Phase II contract obligations for a particular infrastructure project. Each job order was required to include among other things a job description, benchmarks, a detailed budget, anticipated subcontracts, and level of technical capacity building. USAID told us that the budgets for job orders are stated in terms of rough orders of magnitude and are USAID’s best estimates at a given point of time.

The scope of the job orders varied: some were defined very specifically although others were somewhat vague. For example, Job Order 04-515 specifically directed the rehabilitation of the sewer collection system for the Zafaranyah District of Baghdad, Iraq. The job order specified the construction of approximately 5.7 miles of new gravity and pressurized sewage trunk lines and a minimum of two pump stations. Another Job Order 04-509, lacked specifics; it included conducting site assessments and assisting USAID and the Ministry of Municipalities and Public Works in selecting sites to build new potable water supply facilities in rural areas throughout Iraq. Insight into the scope of work disappeared when the deliverables for the job order were modified from a specific number of plants and facilities to a single “Lot” of facilities, which was not defined. This change potentially obscured the cost per facility because one lot did not necessarily equate to the specified plants and facilities in the original scope of work.

There were wide swings in job order budgets that formed the basis for authorized spending amounts. (For details, see Table 2.) Specifically, 10 job orders had direct cost increases (exclusive of support costs and fee) totaling in excess of \$273 million, and 14 job orders (including cancelled projects) had direct cost decreases totaling \$190 million. For example, the budget for Job Order 04-501 increased six-fold, from \$31 million to \$189.4 million, because of changes in the scope of work, as shown in Table 2.

Table 2: Phase II Job Order Budget Analysis

Job Order	Original Budget	Number of Contract Amendments	Difference Between Original and Final Budget	Final Approved Budget	Original Objective Achieved
04-501	\$31,000,000	7	\$158,380,788	\$189,380,788	Yes
04-502	\$14,200,000	2	(10,092,593)	\$4,107,407	No
04-503	\$80,000,000	12	\$12,704,533	\$92,704,533	Yes
04-504	\$22,857,000	4	(\$16,243,319)	\$6,613,681	Unknown
04-505	\$390,000	2	(\$128,923)	\$261,077	Yes
04-506	\$64,632,000	5	\$72,565,000	\$137,197,000	Yes
04-507	\$10,406,000	3	(\$5,019,000)	\$5,387,000	No
04-508	\$5,948,000	4	\$96,000	\$6,044,000	No
04-509	\$84,735,000	6	(\$22,751,598)	\$61,983,402	No
04-510	\$14,087,546	3	\$15,313,454	\$29,401,000	No
04-511	\$37,000,000	2	(\$10,590,000)	\$26,410,000	No
04-512	\$100,640,000	2	(\$98,551,283)	\$2,088,717	No
04-513	\$78,363,000	3	(\$8,921,000)	\$69,442,000	Yes
04-514	\$26,674,000	3	(\$3,984,000)	\$22,690,000	Yes
04-515	\$21,288,000	2	\$1,000,000	\$22,288,000	Yes
04-516	\$3,272,000	3	\$1,370,000	\$4,642,000	Yes
04-517	\$19,812,000	2	(\$5,462,000)	\$14,350,000	Unknown
04-518	\$6,260,000	1	\$2,350,000	\$8,610,000	Unclear
04-519	\$4,800,000	1	(\$869,000)	\$3,931,000	Yes
04-520	\$2,000,000	None	(\$1,162,000)	\$838,000	Yes
05-521	\$51,851,852	2	(\$4,891,852)	\$46,960,000	No
05-522	\$30,315,000	2	\$4,685,000	\$35,000,000	No
05-523	\$21,400,000	2	\$4,916,000	\$29,316,000	Yes
05-525	\$23,100,000	3	(\$2,724,067)	\$20,375,933	No

Source: SIGIR analysis of job orders and job order amendments as of March 2007.

Although most were direct costs, millions of dollars in indirect costs allocable to the individual job orders were not visible to USAID at this level because each job order contained only limited information on indirect costs. Separate from the job orders, Bechtel provided USAID with data on indirect costs through a subsector total burdened cost allocation and further identified which indirect costs were allocable to individual job orders when this could be done. In July 2006, 30 months after the contract award, Modification 26 to the Phase II contract directed Bechtel to develop a sub sector total burdened cost-allocation model. Bechtel's cost-allocation data show that allocated indirect costs raised some job order costs by tens of millions of dollars. Bechtel identifies the specifics as business sensitive; therefore, they are not discussed in this report.

Job Order Outcomes Were Mixed

The outcomes on individual projects were mixed: some were completed as originally envisioned, others were cancelled, and still others were partially completed and transferred to other organizations for completion. We analyzed the 24 job orders to determine if they achieved their original objectives. Our analysis showed mixed results:

- 11 of the job orders clearly met their original requirements.
- 10 did not achieve their original objectives as stated in the original scope of work.
- For 3 job orders, we were either unable to determine what their original objectives were or the achievements were unclear.

Further, for the job orders that met their original requirements, 6 exceeded (ranging between \$1 million to \$158 million), and 5 were below (ranging \$.128 million to \$3.9 million) anticipated cost. For example, two that exceeded were:

- Job Order 04-501, which was created to increase electrical generation capacity to the electrical grid by adding a 106 megawatt combustion turbine to the existing Baghdad South power plant, a mid-sized thermal power plant. The turbine was added and additional work transferred from Bechtel's Phase I contract was completed, but at a much higher cost than originally expected—\$173.6 million versus the original budget estimate of \$31 million. Based on USACE estimates that 1 MW of electricity can power 3,000 homes in Iraq, we estimate that the turbines provided under Job Order 04-501 should be able to power 636,000 homes. This outcome, however, was not defined in the job order.
- Job Order, 04-515, which was created to rehabilitate the sewer collection system for the Zafaranyah District of Baghdad, was also substantially completed as originally defined at a cost of \$20.7 million—an increase of \$1 million above the original budget estimate.

An example of one that was completed below cost estimate was Job Order 04-514, which was for the refurbishment of the Shark Diljah Water Treatment Plant Expansion. This job was amended three times. Although Amendment 1 (April 28, 2005) reduced the scope of the job, it appears from the paperwork and the two additional amendments that the

project was completed \$3.9 million below its rough order of magnitude estimate of \$26.7 million.

In other instances, however, millions of dollars were spent and requirements were not met, reduced, or clearly established. For example, under Job Order 04-504, much of the original work requirements of assessing, providing parts and specialty technical services, and providing outage management support for the Mussayib Thermal Power Station were subsequently changed to supplying materials to support work by the Iraqi Ministry of Electricity. Of the \$6.1 million final cost, about half was for jobsite camps and offices. Three other job orders had significant scope reductions. For example, Job Order 04-502 initially was issued to design and construct a regional municipal solid waste landfill for Baghdad and the surrounding area. This job order was ultimately cancelled after the contractor investigated three sites for the landfill and found none acceptable because of land ownership issues and security concerns. Expenditures totaled \$3.8 million, of which approximately \$2.6 million in equipment was transferred to a landfill operation in Kirkuk. Three other job orders were not completed as originally established; one was cancelled outright, and the other two were partially completed and subsequently transferred to the USACE Gulf Region Division (GRD) for completion.

For a description of each job order's results and our assessment of whether it met its original objective, see Table 3. The actual job order costs in this table are based on Bechtel's invoiced costs; they differ from the budgeted costs in Table 2. For SIGIR's detailed analyses of the individual job orders, see Appendix B.

Table 3: Phase II Job Order Results

#	Job Order	Description	Actual Job Order Costs	Results	Original Objective Achieved
1	04-501	Baghdad South New Generation Equipment	\$173,551,845	Increased electrical generation capacity by 106 megawatts, enough to power 636,000 homes	Yes
2	04-502	Baghdad Governorate Municipal Solid Waste Landfill Facility	\$3,764,850	Cancelled, acquired \$2.6 million in equipment that was transferred to another landfill	No
3	04-503	Power Plant Maintenance Program	\$88,403,052	Completed six assessments and provided spare parts as needed	Yes
4	04-504	Mussayib Thermal Power Station	\$6,060,422	Supplied indeterminate amount of materials	Unknown
5	04-505	Conceptual Design for Rural Water Supply Project	\$259,123	Completed sample designs	Yes
6	04-506	Baghdad Distribution Substations	\$126,538,218	Constructed 12 electrical substations and refurbished 13 existing substations	Yes
7	04-507	Irrigation and Drainage Pump Station Rehabilitation	\$5,107,136	Supplied materials and equipment	No
8	04-508	Wadha No. 1, 2, & 3 Pump Station Restoration	\$5,918,317	Prepared site assessments of 3 irrigation pumps stations and provided equipment for their refurbishment	No
9	04-509	Rural Water Supply Project Implementation	\$57,641,731	Conducted site assessments and built an indeterminate number of potable water supply facilities	No
10	04-510	Sadr City Treatment Plant	\$24,495,838	Transferred construction of a new water treatment plant that was 88% complete to USACE for completion	No
11	04-511	Basrah Children's Hospital	\$20,725,168	Transferred construction of a hospital that was 45% complete to USACE for completion	No
12	04-512	Bayji Thermal Power Station	\$2,021,904	Assessed thermal power station and acquired specified equipment and material	No
13	04-513	Mansuria Natural Gas Development Power Generation	\$62,056,137	Assessed 3 natural gas fields to support power generation and procured 2 large turbines	Yes
14	04-514	Shark Diljah Water Treatment Plant Expansion	\$20,901,013	Refurbished water treatment plant and added additional capacity	Yes
15	04-515	Zafaranyah Sewer Trunk Line	\$20,715,864	Rehabilitated 5.7 miles of sewage trunk lines and added 2 pump stations	Yes
16	04-516	Kadhmiya Sewage Collection System Cleaning & Refurbishment	\$4,480,476	Cleaned and replaced existing sewage lines and refurbished 11 pump stations	Yes
17	04-517	Rehabilitation of Baghdad Potable Water Distribution Mains & Hydraulic Modeling & Monitoring	\$14,184,995	Refurbished or replaced unspecified amount of water distribution lines and developed a hydraulic model of Baghdad Water Authority's transmission and distribution system	Unknown
18	04-518	Karbala Wastewater Treatment Plant Refurbishment	\$7,388,818	Refurbished wastewater treatment plant to the extent possible with funds provided	Unclear

#	Job Order	Description	Actual Job Order Costs	Results	Original Objective Achieved
19	04-519	Karbala Al Hussien Water Treatment Plant Refurbishment	\$3,769,458	Completed plant refurbishment using equipment purchased under an earlier contract	Yes
20	04-520	North East Sewer Trunk Line Study	\$828,721	Prepared design report	Yes
21	04-521	Consolidated Fiber Network	\$29,714,725	Provided fiber-optic equipment to the Ministry of Communication and Ministry of Electricity and provided, installed and tested equipment at 42 Ministry of Electricity sites	No
22	04-522	Start Up Services for Daura Thermal Units 5 & 6 Rehabilitation	\$33,917,587	Provided management services, technical support, and procured parts and equipment critical to power generation startup	No
23	04-523	Kirkuk Power Station	\$28,710,579	Completed construction, commissioning, and startup of a large turbine at the Kirkuk Power Station	Yes
		No Job Order 524, numbering skipped to 525			
24	04-525	Water Sector Institutional Strengthening	\$20,116,561	Provided startup, commissioning, decommissioning, O&M, essential inventory, and training at 11 facilities	No
		Total	\$761,272,537		

Source: Bechtel Phase II Cost Vouchers 1-69, through January 5, 2007 and SIGIR Analysis of USAID Job Orders and Amendments.

Contract Administration

USAID was provided voluminous information on the status of Bechtel's work on a continuing basis. However, USAID did not have enough staff to adequately administer a contract the size of the Phase II contract, which entailed more than \$1 billion in work in 24 job orders and projects throughout Iraq. Further, USAID contractually committed itself to process invoices within 10 days of receipt, which limited its ability to thoroughly review the invoices before payment or to corroborate conditions claimed by the contractors.

Although it had little time to review Bechtel's vouchers before payment as a result of time limits imposed in the contract, USAID had an agreement with the Defense Contract Audit Agency (DCAA) to conduct reimbursable cost incurred audits of Bechtel's contract costs. The purpose of the DCAA incurred cost audits were to determine whether costs claimed are allowable, allocable, and reasonable in accordance with the contract and applicable government acquisition regulations. DCAA reviewed about \$1 billion in Bechtel's recorded costs and questioned less than 1%.

Information Provided USAID on the Status of Bechtel's Work

Throughout the life of the contract, Bechtel provided USAID with detailed information on the status of work and related financial information. The contract required that Bechtel provide USAID with weekly and monthly reports on job status. These reports contained detailed information on the status of work under each job order, including job order status, significant events, and financial information—such as current budget and forecast costs. USAID and Bechtel held weekly sector meetings followed by the “Sunday meetings” to discuss overall work status. Consequently, USAID was kept informed on the work status under each job order.

However, in an earlier audit of Job Order 04-511 for the Basrah Children's Hospital, we reported that although USAID had an effective process in place for tracking the project, USAID did not adequately analyze and report the information it received to either the U.S. Ambassador to Iraq or the Congress.³ Since our report, USAID officials indicated that they use weekly, monthly, and trend reports to monitor and manage job order completion, budget, and schedule. In our review of USAID's database, the Iraq Reconstruction Tracking System, we found examples in which USAID provided guidance to Bechtel based on these reports.

Adequacy of Staffing Levels

We believe neither USAID nor USACE, which assisted USAID with the Bechtel contract, had sufficient personnel in Iraq. USAID is responsible and accountable for the

³ *Review of the U.S. Agency for International Development's Management of the Basrah Children's Hospital Project*, SIGIR-06-026 (July 31, 2006).

overall implementation of all of its reconstruction activities and for providing technical and management oversight of the work to be performed by Bechtel. To help accomplish these responsibilities, USAID and USACE signed a Participating Agency Service Agreement for USACE to provide construction oversight of Bechtel. Through November 30, 2006, USAID had obligated \$28.1 million to fund the agreement and subsequently deobligated \$4 million on January 8, 2007. Under the agreement, USACE was to provide technical assistance to USAID and be responsible for monitoring the quality control, quality assurance, schedule, performance, environmental issues, de-mining unexploded ordnance, and safety programs of Bechtel, and report exceptions or problems to the USAID contracting officer and cognizant technical officer. Correspondence among USAID officials makes it clear that USACE charter was technical oversight—not management—of the contract. According to the USAID April 5, 2006 roster, just under half—18 of 37—of USACE’s authorized positions were filled at about the mid-point of contract execution.

While USAID had the agreement with USACE to provide on-site monitoring, its contract administration team was largely understaffed. In fact, within USAID-Mission-Iraq, as of April 5, 2006, or about the mid-point in contract execution, 170 of the 251 total authorized positions were filled, leaving 81 vacancies across the total Mission.

During a previous SIGIR review⁴, USAID contracting officials in Iraq stated that USAID construction contracting staff was limited at the time to 3 people for the Phase II contract. They further stated that they would have preferred to have two full time contracting officers, supported by 2 seasoned negotiators—1 for document control, and 1 for administration. The USAID officials commented that contract administration was understaffed and had limited ability to conduct site visits to corroborate conditions claimed by contractors.

To administer the Phase II contract, the contracting officer, who is not in Iraq, appointed 1 administrative contracting officer in Baghdad to oversee the contract. The administrative contracting officer was assisted in Baghdad by 1 cognizant technical officer. It should be noted that USAID had the same administrative contracting officer appointed to the Bechtel contract since it was awarded in January 2004. We believe this added important continuity of control; nevertheless, these 2 individuals were responsible for the in country contract oversight of this very large, complex contract with construction projects covering facilities and subprojects located throughout Iraq. The team was assisted by a Senior Contract Specialist, a trainee Contract Specialist, USAID’s Sector Managers, and the USAID-Iraq Financial Management Office. However, based on the job responsibilities of the administrative contracting officer and cognizant technical officer that are partially described below, we do not believe USAID had sufficient staff to oversee and monitor a construction program of this magnitude.

⁴ Ibid.

Administrative Contracting Officer: Job Responsibilities

- Determine the allowability of costs suspended or disapproved, direct the suspension or disapproval of costs when there is reason to believe they should be suspended or disapproved, and approve final vouchers.
- Review and approve or disapprove the contractor's request for payments.
- Ensure timely notification by the contractor of any anticipated overrun or under-run of the estimated cost under cost reimbursement contracts.
- Negotiate prices and execute supplemental agreements for spare parts and other items.
- Perform property administration.
- Perform necessary screening, redistribution, and disposal of contractor inventory.
- Ensure contractor compliance with quality assurance requirements.
- Ensure contractor compliance with contractual safety requirements.
- Perform engineering surveillance to assess compliance with contractual terms for schedule, cost, and technical performance in the areas of design, development, and production.

Cognizant Technical Officer: Job Responsibilities

- Assure that the contractor performs the technical requirements of the contract in accordance with the contract terms, conditions, and specifications.
- Perform, or cause to be performed, inspections necessary to ensure the contractor performs the technical requirements of the contract.
- Issue written interpretation of technical requirements of government drawings, designs, and specifications.
- Monitor the contractor's production or performance progress and notify the contractor in writing of deficiencies observed during surveillance, and direct appropriate action to effect correction.

In February 2007 testimony before the House Committee on Government Oversight and Reform, the U.S. Comptroller General testified that among the conditions conducive for success in using contractors was the capacity to manage and assess contractor performance.⁵ Both SIGIR⁶ and the Comptroller General have reported on the adverse impact of inadequate numbers of properly trained acquisition personnel and high turnover rates on reconstruction efforts. We believe that the limited number of USAID personnel available to manage the Bechtel Phase II contract was illustrative of these problems.

⁵ U.S. Government Accountability Office, *Rebuilding Iraq: Reconstruction Progress Hindered by Contracting, Security, and Capacity Challenges*, GAO-07-426T (February 15, 2007).

⁶ Special Inspector General for Iraq Reconstruction, *Iraq Reconstruction: Lessons in Human Capital Management*, January 2006 and *Lessons in Contracting and Procurement*, July 2006.

Review of Bechtel Payment Vouchers

USAID personnel had little time to review Bechtel’s vouchers because the contract states that Bechtel is to be paid within 10 days after the designated billing office receives a proper billing request. USAID voucher examiners reviewed the vouchers and validated totals to the detailed information included with the voucher. As of January 31, 2007, USAID had processed 70 voucher payments to Bechtel. Of these vouchers, 61 (87%) were processed for payment within 10 days or less. Table 4 contains examples of vouchers valued in the tens of millions of dollars that were received by USAID and paid within the 10 days.

Table 4: Examples of USAID Processing Time of Bechtel Vouchers

Voucher #	Date Received or Prepared	Date Paid (Check or Certification Date)	No. of Days Elapsed	Amount Paid
24964-0016	October 20, 2004	October 22, 2004	2	\$11,386,237.27
24964-0022	January 18, 2005	January 24, 2005	6	\$55,469,238.17
24964-0026	May 20, 2005	March 25, 2005	5	\$38,428,651.11
24964-0033	July 10, 2005	July 14, 2005	4	\$25,344,336.15
24964-0037	September 7, 2005	September 13, 2005	6	\$40,747,483.30
24964-0041	November 7, 2005	November 7, 2005	0	\$22,058,346.38
24964-0062	September 20, 2006	September 27, 2006	7	\$47,387,009.23
24964-0067	December 10, 2006	December 13, 2006	3	\$27,330,432.95

Source: SIGIR analysis of USAID data, March 2007.

USAID had an agreement with DCAA to provide contract audit services. DCAA is responsible for performing all contract audits for the Department of Defense (DoD), and providing accounting and financial advisory services on contracts and subcontracts to all DoD components responsible for procurement and contract administration. These services are provided in connection with negotiation, administration, and settlement of contracts and subcontracts. DCAA also provides contract audit services to some other government agencies. At the request of USAID, DCAA has performed several audits of the Bechtel Phase II contract.

Between 2000 and 2005, DCAA issued a series of audit reports on Bechtel Systems & Infrastructure, Inc. and its subsidiary, Bechtel National, Inc. In 2000, 2002, and 2004, DCAA reported that Bechtel had an adequate accounting system. (For a list of these reports, see Appendix A.) In these audits of the various facets of Bechtel’s accounting system, DCAA found that Bechtel had in place adequate systems and controls to

accurately capture costs.⁷ In reviewing Bechtel's recorded reimbursable direct costs for, allocability, allowability, and reasonableness, DCAA questioned less than 1% of Bechtel's costs. DCAA questioned:

- \$34,000 of \$71 million in costs recorded between January 5, 2004, and September 30, 2004.
- \$140,000 of \$464 million in costs recorded between October 1, 2004, and September 30, 2005.
- \$75,000 of \$463 million in costs recorded between October 1, 2005 and October 31, 2006.

While DCAA conducted audits of Bechtel's costs, USAID appeared to have little insight into the costs being incurred by Bechtel. Based on our discussions with USAID comptroller officials involved in the voucher review process, it did not appear to us that USAID performed much analysis of the costs being incurred, nor was there much time to do so. Cost analysis was not a task specifically assigned to the administrative contracting officer or the cognizant technical officer under the Phase II contract. Furthermore, it would have required considerable time to thoroughly examine Bechtel's summary cost schedules, sub-codes, and natural accounting classifications. We examined 4 of the 70 vouchers submitted for payment, which were supported with hundreds of pages of documentation. For example, one voucher we examined comprised more than 300 pages of supporting material. Further, we were told by USAID officials that because of the limitations of time and staff that they were limited in performing site visits to corroborate conditions claimed by contractors. DCAA also does not review costs to corroborate conditions claimed by contractors. The purpose of the DCAA incurred cost audits are to determine whether costs claimed are allowable, allocable, and reasonable in accordance with the contract and applicable government acquisition regulations. DCAA does not review performance or assess the value of quality versus cost.

⁷DCAA reviewed the control environment and overall accounting controls, labor accounting system and related internal controls, and indirect and other direct costs system and related internal control policies, procedures, and practices.

Bechtel's Costs

Through January 5, 2007, Bechtel submitted invoices to USAID for \$1.15 billion, including direct and indirect costs. We calculated Bechtel's direct and indirect costs to be about 97% and 3%, respectively, of its overall costs. We also determined that the direct physical reconstruction costs are only about 59% of its overall costs. As a result, we calculated that about 41% of its overall costs represent support costs. However, these support costs are in line with the support costs incurred by other major contractors—both in Iraq and in the United States.

Bechtel subcontracted most of the work according to its USAID-approved subcontracting plan, which stated that Bechtel would subcontract approximately 90% of the direct reconstruction costs. Bechtel used a “modified” full and open process in awarding subcontracts, which restricted competition to pre-qualified bidders. We identified a total of 168 subcontracts—66 awarded by Bechtel and 102 awarded in turn by Bechtel's subcontractors. Bechtel had procedures that it used to manage its subcontractors, but multiple layers of subcontract management made oversight complex.

Bechtel's Accounting System Captures Costs in Detail

As required under its Phase II contract, Bechtel submitted invoices to USAID for expenses incurred by contract line item number (CLIN), as well as submitting both summary schedules and detailed invoices as supporting documentation. The CLINs under the Bechtel contract were:

- CLIN 0001: program and construction management services not associated with a specific job order
- CLIN 0002: fixed fee on CLIN 0001
- CLIN 0003: program management costs associated with specific job orders for design, rehabilitation, upgrading, reconstruction, and construction projects
- CLIN 0004: fixed fee on CLIN 0003

Bechtel's accounting system reported costs in great detail in 84 “natural classes,” which are in turn aggregated into the following summary groups:

- salaries
- payroll additives
- materials, supplies, tools, and office expenses
- equipment and facilities
- communications
- travel, subsistence, and entertainment

- other employee-related expenses
- subcontract and outside services
- data processing and other costs
- allowance for indirect costs

The Phase II contract specified how Bechtel was to submit invoices and to report costs. According to the contract, claims for reimbursement or payment had to be submitted to the office indicated on the contract schedule. Invoices were to be submitted on a standard U.S. government form—Standard Form 1034: Public Voucher for Purchases and Services Other Than Personal—on paper or faxed, giving the appropriate USAID contract number and the amount of dollar expenditures made during the period covered, by CLIN. For a sample Standard Form 1034, see Appendix C.

Within the largest summary group—subcontracts and other services—there is a substantial amount of costs in the natural class, *Other*. We identified more than \$250 million in *Other* in this summary group. When we asked senior Bechtel officials responsible for the Phase II contract on whether it was possible to obtain more detail on the makeup of costs in the *Other* natural class, they told us it would take considerable review of the underlying cost data to do so. Therefore, we did not ask Bechtel for these details.

Bechtel incurred both direct and indirect costs as do all contractors. Through January 5, 2007, Bechtel has submitted invoices totaling \$1.15 billion, including direct and indirect costs. We considered direct costs to be those invoiced against specific job orders. Indirect costs are important because they provide the management framework and life support within which reconstruction occurs.

In further analysis, we determined that of the \$1.15 billion of Bechtel's Phase II contract costs about 59% or \$683.1 million were direct physical construction costs and about 41% or \$470.6 million were support costs, including fees and all security costs. We previously reported that for several major reconstruction contracts, support costs represented as much as 55% of overall contract costs.⁸ In September 2002, GAO reported that between fiscal years 1999 and 2002 the Department of Energy's major contractors spent about \$6 billion per year on what GAO termed support-related costs, which represented about 40% of all these contractors' annual costs.⁹ In December 2006,¹⁰ GAO also reported that the average support costs incurred by design-build contractors for DoD construction programs in Iraq was 33% of estimated completion costs. GAO defined support costs to include transportation and mobilization, life support, management, administration, and

⁸ *Review of Administrative Task Orders for Iraq Reconstruction Contracts*, SIGIR-06-028 (October 23, 2006).

⁹ *DOE Contractor Management: Opportunities to Promote Initiatives That Could Reduce Support-Related Costs*, GAO-02-1000 (September 20, 2002)

¹⁰ *Rebuilding Iraq: Status of DoD's Reconstruction Program*, GAO-07-30R (December 15, 2006).

security. Based on these analyses, we determined that Bechtel’s support costs were in line with the support-related costs incurred by major contractors in Iraq and the United States.

Although in line with other contractors’ cost, minimizing support costs makes more money available for reconstruction. To determine how Bechtel captured and reported its costs, we examined the Phase II costs by CLIN and by the Bechtel accounting system’s natural classes.

CLIN Analysis

We analyzed the invoices by CLIN and determined for each the total invoice cost in dollars and percentage. As shown in Table 5, CLIN 0003 contained most of the costs. For reporting as opposed to invoicing purposes, USAID split CLIN 0003 into two parts— 0003A and 0003B. Thirty months into the contract, USAID directed Bechtel to retroactively apportion its CLIN 0003 costs between CLINs 0003A and 0003B. CLIN 0003A was to include Bechtel’s project management costs that can be attributed to a job order; CLIN 0003B was to include direct job order costs that relate to physical reconstruction. Security costs were to be charged to both CLIN 0003A and 0003B, depending on the specific cost.

Table 5: Direct and Indirect Costs through January 5, 2007

CLIN	Dollars	Percent
Direct Costs		
0003A project management costs exclusive of security costs	\$187,553,824	16%
0003A security costs	\$60,600,000	5%
0003B physical construction costs exclusive of security costs	\$683,117,537	59%
0003B security costs	\$78,155,000	7%
0004 fixed-fee for CLIN 0003	\$105,677,876	9%
Subtotal	1,115,104,237	97%
Indirect Costs		
0001 program management cost	\$36,430,143	3%
0002 fixed-fee for CLIN 0001	\$2,182,233	<1%
Subtotal	\$38,612,376	3%^a
Grand Total	\$1,153,716,613	100%

Source: SIGIR analysis of Bechtel invoices

Notes

^aTotals do not add due to rounding

Security costs accounted for a significant portion of Bechtel’s support costs. As Table 5 shows, the security costs included in CLIN 0003A were about \$60.6 million and in CLIN 0003B were \$78.2 million; for a total of \$138.7 million,¹¹ or 12% of Bechtel’s total costs. In July 2005, GAO reported and in June 2006 testified that before the war in Iraq, the

¹¹ Totals do not add because of rounding.

DoD and other U.S. government agencies in Iraq believed that reconstruction would not be threatened by insurgents or terrorists.¹² GAO further reported that the use of private security providers reflected the uncertain security environment that was, and is still being encountered in Iraq, as well as the fact that providing security for reconstruction contractors is not part of the military's stated mission.

Security was just one cause of the increase in overall costs of projects. As we reported in our March 2007 report on *Lessons in Program and Project Management*, USAID's delay in issuing job orders was another factor that affected Bechtel's costs.¹³ We reported that when the Phase II contract was awarded, Bechtel established its organization and mobilized its staff to begin work on the \$1.8 billion contract, but Bechtel's work was delayed because job orders were not issued as quickly as Bechtel anticipated. These delays increased Bechtel's overhead costs and reduced the dollars available for actual construction. USAID officials told us, and the USAID Office of Inspector General confirmed in its June 29, 2005 report,¹⁴ that some of the delay to direct Bechtel to start selected work was caused by the failure of IRMO to provide adequate and timely funds at the time of the award and to release funds during 2004.

Costs by Natural Classes

To gain greater insight into the types of costs that Bechtel incurred under the Phase II contract, we further analyzed CLINs 0003A (support) and 0003B (physical reconstruction) costs by natural class summary groups. Bechtel's accounting system used 84 natural classes, which were aggregated into 10 summary groups. We discussed the results of our analysis with senior Bechtel officials in November 2006, and they agreed that it accurately depicted their direct physical reconstruction and support costs.

As shown in Table 6, almost two-thirds of the costs under CLIN 0003A were recorded in Bechtel's subcontract and outside services natural class summary group. We then performed a more detailed analysis of the natural class data within this summary group and determined that 97% of the expenses were recorded in the Other natural class. This class included the cost of operating the work camps (life support) and a portion of security costs.

¹² *Rebuilding Iraq: Actions Still Needed to Improve the Use of Private Security Providers*, GAO-06-865T, (June 13, 2006); and *Rebuilding Iraq: Actions Needed to Improve Use of Private Security Providers*, GAO-05-737 (July 28, 2005).

¹³ Special Inspector General for Iraq Reconstruction, *Lessons In Program And Project Management*, March 2007.

¹⁴ USAID Audit Report: *Audit of USAID/Iraq's Electrical Power Sector Activities*, E-267-05-003-P, (June 29, 2005).

Table 6: Analysis of CLIN 0003A Costs by Natural Class Summary Group Through January 5, 2007

Natural Class Summary Group	Dollars	Percent
Salaries	\$30,741,030	12.4%
Payroll Additives	\$9,637,493	3.9%
Materials, Supplies, Tools, Office Expenses	\$5,890,356	2.4%
Equipment & Facilities	\$5,109,628	2.1%
Communications	\$834,255	0.3%
Travel, Subsistence, Entertainment	\$13,467,480	5.4%
Other Employee-related Expenses	\$48,306	<0.1%
Subcontract & Outside Services	\$161,718,705	65.2%
Data Processing & Other Costs	\$4,933,350	2.0%
Allowance for Indirect Costs	\$15,773,222	6.4%
Total	\$248,153,825	100.0%

Source: SIGIR analysis of Bechtel invoices

As shown in Table 7, most of Bechtel’s costs for CLIN 0003B—82.5%—were recorded in Bechtel’s subcontract and other services natural class summary group.

Table 7: CLIN 0003B Costs Through January 5, 2007

Natural Class Summary Group	Dollars	Percent
Salaries	\$6,881,049.07	0.9%
Payroll Additives	\$2,305,849.38	0.3%
Materials, Supplies, Tools, Office Expenses	\$113,436,539.07	14.9%
Equipment & Facilities	\$1,480,710.88	0.2%
Communications	\$69,746.09	<0.1%
Travel, Subsistence, Entertainment	\$1,914,018.57	0.3
Other Employee-related Expenses	\$6,031.06	<0.1%
Subcontract & Outside Services	\$627,770,922.64	82.5%
Data Processing & Other Costs	\$3,218,967.60	0.4%
Allowance for Indirect Costs	\$4,188,702.41	0.6%
Total	\$761,272,536.77	100.0%

Source: Bechtel accounting system data

The costs recorded in the Subcontract and Outside Services summary group are large because Bechtel subcontracted almost all its physical reconstruction work in Iraq. Bechtel invited firms selected on the basis of past performance to bid on the job orders and awarded the subcontract based on its evaluation of the bids. A secondary objective of Bechtel's contract was to provide employment opportunities for Iraqis and Iraqi firms, thereby injecting much-needed capital into the economy. Of Bechtel's subcontracts, 39% were awarded to Iraqi firms. Bechtel provided us with information showing that it directly employed 536 Iraqis under its Phase II contract and paid them for a total of 1.5 million hours of work. In addition, its subcontractors had a maximum Iraqi employee head count of between 5,183 in June 2004 and 3,309 in May 2006 comprising both its Phase I and II contracts and under its Phase II contract Bechtel's subcontractors paid their Iraqi employees for a total of 15.2 million hours.

Role of Subcontractors

The Bechtel Phase II contract was geared toward the use of subcontractors according to its USAID-approved subcontracting plan, which stated that Bechtel would subcontract approximately 90% of the direct reconstruction costs. Bechtel as discussed earlier used a "modified" full and open process, which restricted competition to prequalified bidders. According to firm officials, Bechtel made a combined technical and commercial evaluation of received proposals Bechtel typically made the award to the bidder offering the lowest-priced technically acceptable offer. Under fixed pricing, the contractor relies on the competitive process to obtain a fair price and does not have access to bidders' pricing information.

Bechtel awarded 66 subcontracts—64 fixed price and 2 cost-plus fixed-fee. Of the 66 subcontracts, 11 were further subcontracted to 102 lower-tier subcontractors. Thus, we were able to identify a total of 168 subcontractors. Bechtel officials also told us that there were probably other subcontractors that were not specifically identified. This practice is part of the normal business of construction trade. Construction companies normally contract for specially skills, such as carpenters, bricklayers, plumbers, etc. The control of the costs of these additional workers is included in the negotiated firm-fixed-price contract with the contractor they are working for.

Subcontracts were used to provide a variety of support, including construction, security, and life support: Details on Bechtel's subcontractors and their subcontracts follow:

- *Parsons Global Services*, Bechtel's teaming partner in the Phase II contract, awarded 36 subcontracts for a wide range of water and sanitation services, such as civil/mechanical/electrical work, pipeline replacement, well drilling, and construction.
- *MID-Contracting*, a subcontractor for the Basrah Children's Hospital, awarded 11 subcontracts for civil/structural work, concrete supply, and security

- *General Electric International*, a subcontractor for the Baghdad South Power Station, awarded 16 subcontracts for the main power transformer, water treatment, fuel treatment, and storage tanks.
- *General Electric Company*, another subcontractor for the Baghdad South Power Station (separate from General Electric International), awarded 10 subcontracts for mechanical/electrical/tank fabrication and erection services, piling and civil work, security, and camp catering services.
- *Kuehne and Nagel*, a freight forwarding subcontractor, awarded 11 subcontracts for inland transportation and security.
- *Asea Brown Boveri*, a subcontractor for the Baghdad Karkh Districts substations, awarded 5 subcontracts for site electrical work and security services.
- *Schneider Electric-Square D*, a subcontractor for the Baghdad Rusafa Districts substations, also awarded 5 subcontracts for site electrical work, transformer work, and security services.
- *Al-Bahar and Bardawil Specialties*, a subcontractor for Basrah camp services, awarded 3 subcontracts, for catering, security services, and garbage disposal.
- *General Electric International*, a subcontractor on another subcontract for operations and maintenance (O&M) assessment and training for power stations awarded 3 subcontracts, for security, local labor supply, and medical services.
- *Weir Engineering Services*, a subcontractor for general pump and valve refurbishment, awarded one subcontract for security.
- *Applied Control System*, a subcontractor for technical support, awarded one subcontract for design and engineering consulting.

There were additional tiers of subcontractors below the subcontracts discussed above. However, neither USAID nor Bechtel had information on all subcontracts down to the lowest tier. We sought to ascertain if there were lower-tier subcontractors for one of Bechtel's major subcontractors, Parsons Global Services (Parsons), Bechtel's teaming subcontractor. Parsons had a contractual requirement with its subcontractors that they provide Parsons with a list of all lower-tier subcontracts down to the lowest tier. According to a Parsons official involved in contracting in Iraq, just one Parsons subcontractor formally identified a lower-tier subcontractor. According to this official, who had three years experience in subcontracting in Iraq, many subcontractors do not perform 100% of the work themselves unless the job is very small. They seem to have loosely organized cooperatives that perform the work because there are few large construction companies in Iraq. They also do not disclose who they are partnering with or where their workforce is from for a variety of reasons, particularly security. According to Parsons, monitoring of the subcontractors was very challenging because of the difficulty visiting the work sites.

Subcontractors Added Layers of Support Costs

As stated earlier, 64 of 66 Bechtel subcontracts were for fixed prices. As a result, Bechtel had no detailed information on the 64 subcontractors' costs because there is no requirement under fixed-price contracts for a contractor or subcontractor to provide detailed cost data. Bechtel estimated that support costs for its non-Iraqi subcontractors were probably less than 20%; for its Iraqi subcontractors, less than 10%. Lower-tier subcontractors would have added further layers of support costs.

Bechtel had a cost-plus fixed-fee contract with Parsons and, therefore, more detailed cost data is available. Parsons provided us with a copy of their cumulative invoices submitted to Bechtel through September 29, 2006, which we were able to review to gain some insight into its costs.¹⁵ Parsons officials told us that it subcontracted all the physical reconstruction work under its Bechtel contract. Based on our analysis of costs billed by Parsons, we estimated that about 27% of its costs were for support. Parsons' support costs were lower than Bechtel's: (1) at least partly because Parsons' fee was a portion of the fee USAID paid Bechtel, and (2) because Bechtel paid for some of Parsons' life support costs and provided security for Parsons in Iraq.

Subcontractor Management

Bechtel took a variety of steps to manage its subcontracts. Upon awarding subcontracts, Bechtel officials held kick-off meetings with key subcontractor personnel. The agenda for the meetings was specific to meet subcontract requirements, but always included safety, quality, technical and commercial items. Before a subcontractor mobilized to a specific site, it had to provide all pre-mobilization deliverables identified in the contract such as insurances, performance bank guarantee, environmental safety and health plan, and a quality plan.

Bechtel also exercised jobsite oversight. Bechtel officials told us that its subcontract technical representative was either an expatriate or Iraqi national depending on complexity of the subcontract. Bechtel used its own criteria to determine the complexity factor. If an expatriate technical representative was assigned, there were generally 1 or 2 full-time Iraqi national engineers to monitor progress at the site. Depending on the complexity of the subcontract, weekly progress meetings occurred with subcontractors to discuss technical issues—such as safety, quality, schedule, progress, and others—and commercial issues. Subcontractors and Bechtel technical representatives independently prepared daily reports as project records. Finally, Bechtel followed a documented job order closeout procedure at the completion of the job order.

Multiple layers of subcontracts, however, made subcontract management complex. In SIGIR's previously cited March 2007 report on *Lessons in Program and Project Management*, we also discussed how the layered structure typical of design-build

¹⁵ The other cost-plus contract was with Horne Engineering Services and was much smaller than the Parsons contract.

contractors in Iraq affected oversight. For Bechtel's Job Order 04-511, the Basrah Children's Hospital, Bechtel hired a consortium of three contractors to design and build the hospital. These subcontractors were responsible for providing on-site project management and supervision but hired additional local subcontractors and laborers to complete the work. In this instance, there were at least four layers of management, and each relied on the next to provide appropriate oversight.

USAID Costs in Managing Bechtel's Work

We could not determine the USAID costs of managing Bechtel's work. However, we did determine selected aspects of costs and the overall administrative costs of the USAID Mission-Iraq.

On May 25, 2003, USAID and USACE signed a Participating Agency Service Agreement, to have USACE provide construction oversight of Bechtel. USAID had obligated \$28.1 million to fund the agreement through November 30, 2006, and had paid \$23.5 million to USACE as of the same date. Subsequently, on January 8, 2007, USAID deobligated \$4 million. Under the agreement, USACE was to provide technical assistance to USAID and was to be responsible for monitoring the quality control, quality assurance, schedule, performance monitoring, safety, environmental issues, de-mining/unexploded ordnance, and safety programs of Bechtel, and report exceptions or problems to the USAID contracting officer and cognizant technical officer. Correspondence among USAID officials makes it clear that the USACE's charter was technical oversight—not management—of the contract.

USAID did not segregate its overall administrative costs by contract or job order because it did not allocate or capture its overall administrative costs in this manner. Therefore, we can not report on USAID's cost to administer the Bechtel contracts and specifically by job order. USAID's administrative costs, including funds paid to USACE, were funded directly from IRRF, and were not charged against the Bechtel contract funds. The Congress authorized agencies administering IRRF funds to use up to 10% of those funds to pay for its administrative expenses. According to its accounting records, USAID has obligated \$157 million in IRRF 2 funds for IRRF-related administrative expenses for the entire USAID Mission-Iraq.

Conclusion and Lessons Learned

Conclusion

Overall, the Phase II contract accomplished a substantial amount of work that contributed to the reconstruction of Iraq, particularly in the electricity and water and sanitation sectors. However, the outcomes on individual projects were mixed: some were completed as originally envisioned, others were cancelled, and still others were partially completed and transferred to other organizations for completion. We found that it was difficult to measure the relationship between cost and output/outcomes because of these and other factors:

- The deliverables were not always specific in the job orders
- The scope of work in the job orders changed over time
- The budget estimates in the job orders did not include all costs
- The budgeted amounts of the job orders changed over time
- The ever-changing security situation in Iraq caused schedule delays resulting in increases to support costs.

We conducted an analysis of the 24 job orders in an effort to determine if the original objectives were achieved. We determined that the original objectives were achieved for 11 job orders; the original objectives were not achieved as stated in the original scope of work for 10 job orders; and for 3 job orders, we were either unable to determine what their original objectives were or the achievements were unclear. We believe that the experience gained in the course of the Phase II contract provides important insights into Iraq reconstruction and lessons for future reconstruction in Iraq and elsewhere.

Bechtel provided USAID voluminous amounts of information on the status of the projects on a continuing basis. However, we believe, USAID did not have enough contract administration staff to adequately administer a contract the size of the Phase II contract, which entailed more than \$1 billion and over 150 contractors performing work on 24 job orders and projects throughout Iraq. Further, USACE—which had an agreement to assist USAID—had substantial shortfalls in authorized manning levels that also impacted government oversight.

Bechtel's accounting system provides considerable detail on the types of costs that were incurred. Bechtel reported detailed cost data in its accounting system for most expenses and provided it to USAID. However, at the same time, it categorized approximately \$250 million in expenses (about 20%) as *Other* with little detail as to what these costs entailed.

We determined that Bechtel's support costs are in line with the support costs incurred by other major contractors in the United States and Iraq. Bechtel's contract was geared toward the use of subcontractors according to its USAID-approved subcontracting plan, which stated that Bechtel would subcontract approximately 90% of the direct reconstruction costs. We identified a total of 168 subcontracts—66 awarded by Bechtel and 102 awarded by some of Bechtel's subcontractors. All but two of these were fixed-price contracts, which did not require detailed cost data.

Lessons Learned

Based on our review, we are not making recommendations, but have identified three important lessons to be learned from the contracting, execution, and oversight of the Phase II contract for future reconstruction in Iraq and elsewhere.

- *Strong contract administration and adequate staffing are critical to success.* In the Phase II contract, the clarity of job orders was mixed; some were clearly written, and others were vague, potentially causing costs to rise. USAID had a relatively small contract administration staff—two full-time, in-country staff—to oversee a contract valued at more than \$1 billion, with 24 job orders throughout Iraq. Bechtel provided USAID with voluminous detailed information on the status of work, but USAID and USACE were staffed substantially below authorized Manning levels. We have previously reported in a review of one of the projects under the Phase II contract that although USAID had an effective process in place for tracking the project, the information it received was not adequately analyzed and reported. It is essential that agencies provide enough staff to monitor contracts commensurate with their size and complexity and to ensure that there is strong contract administration and project management.
- *A clear understanding and review of costs is also important to contract management.* USAID contractually committed itself to processing invoices within 10 days of receipt, which limited its ability to thoroughly review them before payment. Although Bechtel captured detailed cost data in its accounting system and provided it to USAID, there was still a large miscellaneous category, amounting to \$250 million, categorized as *Other* within the largest cost category. *Other* was for subcontracts and other services. Miscellaneous or other costs should not be allowed to exceed a contractually defined ceiling—such as 10% of costs—to prevent the loss of visibility that accompanies large miscellaneous categories, and contractors should be directed to develop additional cost categories to capture costs in accounting systems when miscellaneous costs exceed that set ceiling.
- *Minimizing support costs makes more money available for reconstruction.* In future contracts, managers need to determine how heavily to rely on primes or subcontractors that do little of the actual work but represent more than a quarter of the costs. Also, it is important to achieve a clear understanding of how they add to costs and what is the value-added. Government contract managers and

program/project managers need to be attentive to the support-costs aspects of any contract and to remain vigilant for opportunities to reduce this cost.

Management Comments and Audit Response

This report contains no recommendations; therefore no written response was required. We provided a draft of this report to DoS and USAID. Each provided technical comments, which were considered and addressed, where appropriate, in the final report.

During the review, USAID stated that competition was relied upon to establish price reasonableness and the Phase II contract was competed, with Bechtel being low bidder. USAID further stated that this complied with the intent of the FAR. In responding to the draft of this report, USAID and Bechtel officials noted that in Iraq's challenging operational environment, it is difficult to judge the value provided through the work accomplished under individual job orders, and that the value provided should be measured against the work accomplished by the total contract. We measured accomplishments by individual job orders because that was how USAID communicated with Bechtel on what the overall contract was to achieve.

Future SIGIR Work

We plan to conduct a series of focused financial reviews of contractors receiving funds for Iraq relief and reconstruction. Consequently, we plan to identify systemic issues and report at the end of the series on the challenges of relief and reconstruction in Iraq and lessons learned that address systemic issues and leading practices across these multiple contracts.

Appendix A—Scope and Methodology

On July 24, 2006, SIGIR initiated this audit (Project No. 6028) to determine, in detail, the costs incurred by Bechtel in performing work under its USAID Phase II contract (SPU-C-00-04-00001-00), as well as the methods used to record and report associated costs. Specifically, we addressed these questions:

- What cost detail is contained in the invoices and supporting documentation that Bechtel submitted to the government?
- What costs did Bechtel incur in carrying out its contracted tasks, including the cost of material, labor, overhead, security, subcontracts, and all other costs?
- How many layers of subcontracts did Bechtel have in performing the contracted work?
- What types of contracts (firm-fixed-price, cost-plus, or other arrangement) were used for subcontracts; at each layer of subcontracting, what costs were billed to the next level of subcontractor?
- What were USAID's administrative fees?

Subsequently, in the January 30, 2007 Quarterly Report and Semiannual Report to the Congress, we expanded our objectives to include contract outcomes and contract administration, and other areas:

- What was the original objective of the contract?
- What was accomplished? Were projects completed or changed?
- Was each project completed within its original budget estimate?
- What controls were established to monitor the contractor and the execution of the contract?
- What reports were used to monitor the contract, and what reports were required by the contract?
- Is there visibility over costs incurred—by task order, job order, project, etc.?
- What review process is in place by the government to ensure accuracy of billings?
- What are the subcontracting provisions in the contract and to what extent was the work subcontracted?
- What cost detail is contained in the invoices and supporting documentation that Bechtel submitted to the government?

In accordance with generally accepted government auditing standards, we conducted this audit from July 2006 to June 2007 in Baghdad, Iraq; Kuwait City, Kuwait; Arlington, Virginia; and San Francisco and Pasadena, California. To cover our objectives, we

organized the report into four sections: the contractual arrangement between USAID and Bechtel pertaining to this contract and its outcomes, contract administration, Bechtel's costs, and, USAID's cost in managing Bechtel's work.

To describe the contractual arrangement between USAID and Bechtel pertaining to this contract and contract outcomes:

- We reviewed the history of the contract as well as the Phase I contract.
- We read the contract and related documents.
- We reviewed each of the 24 job orders, prepared summaries of each job order documenting the original objective and cost and how it was modified by amendments, and compared the final outcome with the original stated objective.

To assess contract administration:

- We reviewed the kinds of documentation available to USAID on Bechtel's activities under the contract and discussed with USAID and Bechtel officials how work under the contract was monitored.
- We reviewed the contract requirements for invoicing, the invoices submitted by Bechtel, and USAID's processing of the invoices.
- We reviewed the terms, cost, and contract line item number requirements of the contract.
- We developed spreadsheets and charts to determine job order projects, project status, and spending and recording of cost.
- Because USAID had an agreement with the Defense Contract Audit Agency (DCAA) to audit Bechtel's incurred costs, we reviewed the DCAA audits of Bechtel's FY 2004 through FY 2007 incurred costs (the latest completed), as well as DCAA reports on Bechtel's accounting system and internal controls.

We met with DCAA officials at Bechtel's headquarters in San Francisco, California, for Bechtel's contract; we met with DCAA officials in Pasadena, California, for Bechtel's subcontractor Parsons Global Services. We met with Parsons officials in Baghdad, Iraq, and California. We also met with Bechtel officials in California and Maryland.

To assess whether USAID had adequate staff to administer the contract, we reviewed its staffing roster to ascertain whether it had vacant positions and discussed with USAID officials what an adequate staffing level should be.

To analyze costs incurred by Bechtel for the Phase II contract, we obtained and reviewed Bechtel's invoices for the period between February 24, 2004 (invoice 1) and January 5, 2007, (invoice 69), totaling \$1.15 billion. Of this amount, we divided the invoiced costs by contract line item number into those that we categorized by the terms *physical reconstruction costs* and *support costs*. To determine criteria on how to characterize job

costs as direct, indirect, and support costs, we reviewed the applicable sections of the FAR, prior SIGIR and GAO reports, and the IRS definitions. We also discussed our categorization with Bechtel officials, who agreed that it was reasonable as long as we were clear as to what we considered to be direct and support costs. Because the contract line item numbers alone provide little insight into the costs incurred under the contract, we also analyzed Bechtel's costs by their placement in Bechtel's accounting system's natural classes and summary natural classes. Bechtel used 84 natural classes, which in turn aggregate into 10 summary classes. To understand how Bechtel records costs, we held discussions with Bechtel officials and reviewed material provided us. This facilitated our understanding of how Bechtel captures its cost information in its accounting system and the accounting codes used to identify the type of cost.

Because subcontractors performed almost all of the reconstruction work under the Phase II contract, Bechtel provided us with a list of its subcontracts—all but two were fixed price contracts—and any information it had on the subcontractors' subcontracts with others. We then tallied the number of subcontracts. To better understand costs incurred by the subcontractors, we obtained information on the costs incurred by one of Bechtel's subcontractors, Parsons Global Services in Pasadena, California, which had a cost-plus fixed-fee subcontract with Bechtel. We also discussed subcontract administration with Bechtel officials and reviewed relevant documents.

To determine the administrative expenses incurred by USAID, we reviewed USAID's accounting records to document the funds obligated and disbursed to fund its agreement with USACE for assistance in monitoring work under the contract. We also analyzed USAID's accounting records to determine the IRRF funds used for its administrative support. In the course of our work, we interviewed the USAID Comptroller and contracting officials, as well as the Iraq Reconstruction Management Office (IRMO) budget officer, legal advisers, and senior consultants.

Use of Computer-processed Data

We analyzed various computer-generated database reports to verify cost. We did not review the controls over the Bechtel accounting systems, but relied on DCAA's reports.

Iraq Reconstruction Tracking System

The Iraq Reconstruction Tracking System, developed and maintained by USACE based on its interagency agreement with USAID, is an archival data system that records individual job orders for the Phase II contract under USAID's Iraq Infrastructure Reconstruction Program. Although the Iraq Reconstruction Tracking System contains some Bechtel contract and job order data, it is not part of an official USAID database or repository for contract and/or financial data. Because USAID's contracting and financial management offices are not involved in data processing operations, neither is responsible for the accuracy of data that USACE inputs into the system.

USAID Phoenix Accounting System

We reviewed Bechtel invoices as entered for payment into the USAID Phoenix Accounting System to determine the actual payments made to Bechtel. We also reviewed cost-to-complete reports compiled by USAID cognizant technical officer, as well as various funds status reports provided by the IRMO budget team and USAID financial management office.

We did not audit the controls of these systems, but recognize that USAID and IRMO relied on the same information to provide oversight of the Bechtel work.

Prior Coverage

We reviewed applicable reports issued by SIGIR, USAID Office of Inspector General, DCAA, and GAO.

Special Inspector General for Iraq Reconstruction

Management of the Mansuria Electrical Reconstruction Project, SIGIR-05-024 (January 23, 2006)

Review of the U.S. Agency for International Development's Management of the Basrah Children's Hospital Project, SIGIR-06-026 (July 31, 2006)

Review of Administrative Task Orders for Iraq Reconstruction Contracts, SIGIR-06-028 (October 23, 2006)

Iraq Reconstruction: Lessons in Program and Project Management (March 2007)

U.S. Agency for International Development Office of Inspector General

Audit of USAID/Iraq's Electrical Power Sector Activities, E-267-05-003-P (June 29, 2005)

Audit of USAID/Iraq's Water and Sanitation Rehabilitation Activities, E-267-05-004-P (June 30, 2005)

Defense Contract Audit Agency

Report on Audit of Incurred Direct Costs Under Iraq Infrastructure Reconstruction Phase I and Phase II Contracts From October 1, 2005 through October 31, 2006, 4281-2007D10180001 (February 28, 2007)

Report on Audit of PGSI Subcontractors Costs Billed Under Subcontract No. 24964-000-ESU-W000-001, 4901-2006B17900036 (August 11, 2006)

Report on Audit of Incurred Direct Costs Under Iraq Infrastructure Reconstruction Phase I and Phase II Contracts From October 1, 2004 through September 30, 2005, 4281-2006D10180001 (September 1, 2006)

Report on Audit of Incurred Direct Costs Under Iraq Infrastructure Reconstruction Phase I and Phase II Contracts From March 1, 2004 and January 5, 2004, to September 30, 2004, Respectively, 4281-2005D17900001 (Revised, June 16, 2005)

Bechtel Systems and Infrastructure, Inc. (Functions & Services) Accounting System Audit, 4281-2001D11070001 (January 29, 2004)

Report on Audit of Labor Accounting Internal Controls 4281-2001D13010001 (December 11, 2002)

Report on Indirect and Other Direct Costs System Follow-up Review 4281-1999D14980001 (August 28, 2000)

U.S. Government Accountability Office

Rebuilding Iraq: Reconstruction Progress Hindered by Contracting, Security, and Capacity Challenges, GAO-07-426T (February 15, 2007)

Rebuilding Iraq: Status of DoD's Reconstruction Program, GAO-07-30R (December 15, 2006)

Rebuilding Iraq: Actions Still Needed to Improve the Use of Private Security Providers, GAO-06-865T (June 13, 2006)

Rebuilding Iraq: Actions Needed to Improve Use of Private Security Providers, GAO-05-737 (July 28, 2005)

DOE Contractor Management: Opportunities to Promote Initiatives That Could Reduce Support-Related Costs, GAO-02-1000 (September 20, 2002)

Future Coverage

This audit is a first in a series of focused financial reviews of the Iraq Relief and Reconstruction Fund. Our intent is to perform individual contract reviews of the larger contractors. We plan to issue a final report next year identifying any lessons learned and leading practices for future reference.

Appendix B—Job Order Summaries

Job Order Number: 04-501

Description: Baghdad South New Generation Equipment

Start Date: February 12, 2004

Original Planned Completion Date: October 1, 2004

Date Completed: August 14, 2006

Original Budget: \$31,000,000

Final Budget: \$189,380,788 (based on Bechtel's October 25, 2006 Subcontractor's Request for Equitable Adjustments)

Job Order Objective: This job order continued work that began under Bechtel Phase I contract Job Order 04-005 to increase electrical generation capacity to the electrical grid by adding two combustion turbines (Frame 9E GE gas turbines) to the existing Baghdad South power plant, a mid-sized thermal power plant. This job order provided for the second gas turbine; the first turbine was acquired under the Phase I contract.

Changes to the Job Order: Work was expanded through seven job order amendments:

- Amendment 1 (April 7, 2004) transferred work from the Phase I contract to this Phase II job order and added materials and transfers of service to the second 105-MW combustion turbine. Funding was increased by \$32,620,000 to \$63,620,000.
- Amendment 2 (September 29, 2004) incorporated costs relating to additional security requirements, implementing an accelerated schedule, removing hazardous materials and underground concrete, and costs for Risk of Loss Insurance. Funding was increased by \$54,329,000 to \$117,949,000.
- Amendment 3 (November 12, 2004) incorporated additional costs for camp hardening and increased transportation, insurance and storage costs for equipment. No funding adjustments were made.
- Amendment 4 (May 1, 2005) added additional security costs, revised major milestone dates, and deleted the Baghdad South camp budget. Funding was increased by \$83,161,000 to \$137,490,000.
- Amendment 5 (August 30, 2005) covered additional costs caused by impacts upon construction productivity, switchyard changed conditions, filtered water system interface connections, and other activities. Funding was increased by \$21,445,134 to \$158,935,134.

- Amendment 6 (February 14, 2006) covered the design, supply, shipping and installation of Heavy Fuel Oil (HFO) pre-treatment skid and all associated civil, electrical, mechanical and piping work for the Baghdad South Power Station, and the purchase of two crude oil neutralizing chemical pumps for the Daura refinery. It also extended the completion date to June 30, 2006 and increased funding by \$822,326 to \$159,757,460.
- Amendment 7 (March 30, 2006) covered the removal of the extended warranty options for several activities. Funding was increased by \$4,720,000 to \$164,477,460.

Final Job Order Outcome: Bechtel added the combustion turbine to the existing Baghdad South power plant as called for in the original job order. On September 25, 2006, USAID issued Bechtel a letter confirming that Bechtel had met the contract deliverables and that the job order was considered closed out with the exception of Bechtel providing the Final Cost Summary and any adjustments to it. On October 25, 2006, Bechtel notified USAID of a New Forecast Job Order budget increase of \$24,903,328 to \$189,380,788, attributed to final settlement of outstanding subcontractor Request for Equitable Adjustments.

Job Order Number: 04-502

Description: Baghdad Governate Municipal Solid Waste Landfill Facility

Start Date: February 22, 2004

Original Planned Completion Date: January 1, 2005

Date Completed: July 30, 2005

Original Budget: \$14,200,000

Final Budget: \$4,107,407

Job Order Objective: This job order was to (1) design and construct a regional solid waste landfill (2) provide Iraqi personnel with management and operations training, and (3) design an operation plan for an initial 3-5 year capacity landfill and a master plan for a 20-year landfill.

Changes to the Job Order: Work was altered through two job order amendments:

- Amendment 1 (May 4, 2004) changed operational equipment to support the landfill operation. The type and quantities of equipment had been optimized for the original landfill design and had to be changed when the landfill site changed. In addition, the amendment addressed the changes in landfill site and associated assessments, design rework, and unexploded ordnance survey and assessments. The job order budget did not change, but the period of performance was modified to March 23, 2005.
- Amendment 2 (May 19, 2005) extended the schedule to July 30, 2005, and deleted the items that were not completed before the job order was cancelled. Land ownership problems and severe security concerns caused Bechtel and its subcontractor to relocate the landfill to two new sites and start work all over each time. The job order was rescoped after the investigation of a third site. On April 9, 2005, the USAID cognizant technical officer received direction by email to perform this job order amendment. Bechtel demobilized from the site on March 19, 2005. As requested by U.S. and Iraqi officials in Kirkuk, \$2.6 million in operating equipment from this job order was transferred to support a landfill operation in Kirkuk. The job order budget was decreased by \$10,092,593 to \$4,107,407.

Final Job Order Outcome: The job order was cancelled after the contractor investigated three sites for the landfill and found none acceptable because of land ownership issues and security concerns. The final revised completion date was July 30, 2005.

Job Order Number: 04-503

Description: Power Plant Maintenance Program

Start Date: March 4, 2004

Original Planned Completion Date: December 31, 2004

Date Completed: March 22, 2007

Original Budget: \$80,000,000

Final Budget: \$92,704,533

Job Order Objective: This job order comprised facility condition assessments, preparation and supervision of an O&M plan to improve plant output availability and reliability, and the provision of O&M training for thermal and combustion turbine power plants throughout Iraq. A total of 109 thermal and combustion turbine power plant units located at 19 different sites (facilities) were included in this Power Plant O&M Program. The job order also included the implementation of a computerized Maintenance Management System, O&M training for Ministry of Electricity staff, and an allowance for other materials and services to address critical maintenance needs identified in the assessments.

Changes to the Job Order: Work was changed through 12 job order amendments:

- Amendment 1 (October 24, 2004) extended the completion date to coincide with providing support for the Spring 2005 maintenance outages, revised the scope of the assessments, modified the training program, and increased the allocation for parts and services to be provided. The job order budget did not change, but the period-of-performance was amended to May 31, 2005.
- Amendment 2 (February 3, 2005) extended the schedule to August 31, 2005 to accommodate revisions to the training schedule.
- Amendments 3 (July 3, 2005), 4 (December 21, 2005), 5 (April 4, 2006), and 6 (August 11, 2006) extended the schedule to purchase and deliver required spare parts.
- Amendments 7 (September 27, 2006), 9 (December 16, 2006), 10 (January 1, 2007), 11 (February 1, 2007), and 12 (March 7, 2007) extended the schedule to perform needed work on the Kirkuk V.94 generator, including final resolution of the Root Cause Analysis.
- Amendment 8 (October 3, 2006) reduced the number of planned assessments from the originally planned 19 facilities down to 6 facilities, as directed by USAID. The remaining 6 facilities were reduced to supply of spare parts on an as-needed basis. As of Amendment 12, the completion date was March 31, 2007, and the job order budget was \$92,704,533.

Final Job Order Outcome: The scope of the Job Order was reduced from 19 to 6 facilities; the scheduled completion date slipped by 27 months from December 31, 2004, to March 31, 2007; and the job order budget increased \$12,704, 533. A Substantial Completion Letter was signed on March 22, 2007.

Job Order Number: 04-504

Description: Mussayib Thermal Power Station

Start Date: March 5, 2004

Original Planned Completion Date: August 31, 2004

Date Completed: February 28, 2006

Original Budget: \$22,857,000

Final Budget: \$6,613,681

Job Order Objective: This job order provided technical and management oversight and assistance to the Ministry of Electricity and provided parts, equipment, and specialty technical services for the partial rehabilitation of the Mussayib Thermal Power Station with a targeted increase of 240 MW of electrical output by May 15, 2004.

Changes to the Job Order: Work was changed through four job order amendments.

- Amendment 1 (June 15, 2004) extended the completion date to February 1, 2005, because of the time period required to re-blade two low-pressure steam turbines.
- Amendment 2 (October 23, 2004) extended the completion date to May 31, 2005, to continue plant refurbishment support through the Spring 2005 outage.
- Amendment 3 (March 15, 2005) reduced the scope of the work. The reductions included refurbishment of steam turbine generator rotors, water treatment systems, fire and cooling water processes, and boiler elevators. Also deleted were additional plant outage support services for the Spring 2005 maintenance outage. Added was the requirement to supply materials to support the work of others. The job order budget was decreased by \$16,243,319 to \$6,613,681.
- Amendment 4 (April 28, 2005) deleted the installation of the boiler feed water pump recirculation valves. According to USAID documentation (April 22, 2005), there was no change in the job order budget “because this scope was not previously included”.

Final Job Order Outcome: Over the lifecycle of this job order, the scope was increased through Amendments 1 and 2 and then decreased in Amendments 3 and 4. Because the original scope of work seemed to focus primarily on assessments, it is difficult to determine the product that remained after the descoping actions of Amendments 3 and 4. For example, there is no description of an increase in the electrical output relative to the target of 240 MW. Thus, it is difficult to establish the value of the product received for the \$6.6 million cost of this job order.

Job Order Number: 04-505

Description: Conceptual Design for Rural Water Supply Project

Start Date: March 3, 2004

Original Planned Completion Date: April 17, 2004

Date Completed: July 30, 2005

Original Budget: \$390,000

Final Budget: \$261,077

Job Order Objective: This job order included providing sample designs and a report for the supply of improved potable water systems to serve small rural communities of up to 5,000 people throughout Iraq. It did not include site-specific detailed designs, site selection, or furnishing and installing potable water systems.

Changes to the Job Order: Work was altered through two job order amendments:

- Amendment 1 (May 1, 2004) adjusted the completion date to allow Bechtel to address comments received from the Iraqi Ministry of Municipal Public Works. The job order budget did not change, but the period of performance was extended to April 30, 2004.
- Amendment 2 (September 27, 2005) reflected the final completion date of May 10, 2004, changes in the scope of work, job order budget decreases, and the final inspection and acceptance date of the work. The job order budget was decreased by \$128,923 to \$261,077.

Final Job Order Outcome: The deliverables on this job order comprised of sample designs for potable water systems to service small communities and a report addressing the supply of improved potable water systems. USAID acknowledged final inspection and acceptance of the product.

Job Order Number: 04-506

Description: Baghdad Distribution Substations

Start Date: March 1, 2004

Original Planned Completion Date: June 15, 2005

Date Completed: February 28, 2006

Original Budget: \$64,632,000

Final Budget: \$137,197,000

Job Order Objective: This job order covered performing condition assessments and rehabilitating four existing electrical distribution substations and constructing ten new 33kV–11kV electrical distribution substations in the greater Baghdad area to improve reliability of electrical distribution in Baghdad. Further, as part of this job order, Bechtel was to provide equipment, install, and test, and was also to provide training to the Ministry of Electricity staff.

Changes to the Job Order: Work was changed through five job order Amendments.

- Amendment 1 (June 22, 2004) increased the number of refurbished substations from 4 to 14 and increased the number of new substations from 10 to 24. The job order budget was increased by \$68,069,000 to \$132,701,000, and the completion date was extended to October 15, 2005.
- Amendment 2 (August 10, 2004) decreased the number of distribution substations from 38 to 37 (by deletion of one refurbished substation) and incorporated Ministry of Electricity design preferences. The schedule was revised to reflect a completion date of December 15, 2005, because of security conditions and the revised design of the substations.
- Amendment 3 (November 13, 2004) adjusted the job order budget to re-allocate the approved budget of \$132,701,000 and added a reserve of \$8,000,000. Also, trips outside Iraq for Ministry of Electricity personnel were added so they could witness test substation components. The supply of 33kV and/or 11kV feeder cables and termination materials was included in the scope. This amendment increased the job order budget by \$14,800,000 to \$147,501,000.
- Amendment 4 (April 7, 2005) decreased the construction of new distribution substations from 24 to 12. The job order budget was decreased \$10,304,000 to \$137,197,000. The completion date remained December 15, 2005.
- Amendment 5 (December 24, 2005) revised the completion date to February 28, 2006, to accommodate delays caused by security impacts, late performance by the Ministry of Electricity to include the late identification and subsequent replacement of sites, and scope changes. The job order budget remained at \$137,197,000.

Final Job Order Outcome: Over the lifecycle of this job order:

- The number of new substations increased from 10 to 24, and then decreased to 12.
- The number of refurbished substations increased from 4 to 14 and then decreased to 13.
- The scheduled completion date slipped by 8-1/2 months, from June 15, 2005, to February 28, 2006.
- The job order budget increased by \$72,565,000 for two additional new substations and nine additional refurbished substations.

Job Order Number: 04-507

Description: Irrigation and Drainage Pump Station Rehabilitation

Start Date: May 30, 2004

Original Planned Completion Date: July 24, 2005

Date Completed: January 8, 2006

Original Budget: \$10,406,000

Final Budget: \$5,387,000

Job Order Objective: This job order included conducting site assessments and refurbishing seven existing irrigation and drainage water pumping stations located in various regions of Iraq. The scope also included designing, furnishing, constructing, commissioning, and testing the water pumping stations, as well as, providing training on new equipment.

Changes to the Job Order: Work was altered through three job order amendments:

- Amendment 1 (April 7, 2005) extended the completion date and reduced the number of pump stations from seven to five because of additional work being required that was identified in the assessment report. The scope at the five pump stations was reduced to only supplying materials and equipment. The extension was needed because of delays in the procurement cycle. Design information was received late from the Ministry of Water Resources, which caused delays in preparing a suitable bid package. The lack of technically acceptable bids necessitated a second round of bidding, causing further delay. Security concerns also added to the delay. The job order budget was decreased by \$5,317,000 to \$5,089,000. The period-of performance was amended to December 15, 2005.
- Amendment 2 (August 24, 2005) accounted for increases related to the cost of freight (previously underestimated) and transit security costs (omitted). The job order budget was increased by \$548,000 to \$5,637,000.
- Amendment 3 (May 14, 2006) provided spare parts for two years instead of one year and also decreased the job order budget by \$250,000 to \$5,387,000.

Final Job Order Outcome: The scope of work was changed to reflect up to five sites instead of seven, and the deliverables shifted from designing, furnishing, constructing, commissioning, testing, and providing training for new equipment and other refurbishment of these facilities to only supplying materials and equipment. The period of performance was extended by just more than 5 months. According to a USAID audit¹⁶ in January 2005, Bechtel reported that the construction sites at four of the seven pump stations were deemed non-permissive for security reasons. A USACE report confirmed that security conditions at the project sites have made them non-permissive areas. Consequently, USAID Mission-Iraq directed Bechtel to discontinue work at those sites.

¹⁶ *Audit of USAID/Iraq's Water and Sanitation Rehabilitation Activities* (E-267-05-004-P) June 30, 2005.

Job Order Number: 04-508

Description: Wadha Number 1, 2, and 3 Pump Station Restoration

Start Date: June 6, 2004

Original Planned Completion Date: July 30, 2005

Date Completed: January 8, 2006

Original Budget: \$5,948,000

Final Budget: \$6,044,000

Job Order Objective: This job order included conducting site assessments, submitting an assessment report, and rehabilitating 3 irrigation water-pumping stations in the Wadha Irrigation Project area. Existing equipment and materials were to be replaced as necessary to restore proper operation and pumping capacity of the pumping stations. New equipment was to be furnished, installed, and tested, and training was to be provided for the Ministry of Water Resources staff.

Changes to the Job Order: Work was altered through four job order amendments:

- Amendment 1 (December 11, 2004) increased the budget for rehabilitating the three pump stations, decreased the budget for the vertical turbine pumps, included the actual cost of line items, and also included additional mechanical, electrical, civil, and structural scope. The amendment extended the completion date to include actual fabrication and delivery schedules for the vertical turbine pumps. The period of performance was amended to November 15, 2005.
- Amendment 2 (April 19, 2005) extended the completion date to December 15, 2005, removed the installation scope and included additional mechanical and electrical equipment based on assessment information. The job order budget was decreased by \$620,000 to \$5,328,000.
- Amendment 3 (August 24, 2005) increased the job order budget to account for increases related to the cost of freight, which had been previously underestimated, and transit security costs, which had been omitted. The amendment also required testing and materials beyond the amount budgeted in the original job order. Under the original job order, one rotor dynamic test and one set of O&M manuals were required for two similar pumps. Because of differing site conditions, pump specifications were revised to procure two pumps of different capacities. This job order amendment accounted for one additional rotor test and one additional set of O&M manuals which were now required for each of two different pumps. The job order budget was increased by \$716,000 to \$6,044,000.
- Amendment 4 (June 1, 2006) increased the supply of operational spare parts from one to two years and updated the Statement of Work accordingly. The final completion date was noted as January 8, 2006.

Final Job Order Outcome: The scope of work was changed to remove the installation of equipment, to increase the amount of mechanical and electrical equipment based on the

assessment, and to increase the supply of spare parts from one to two years. The net increase in the job order budget was \$96,000. The period of performance was extended by just more than five months. According to a USAID audit¹⁷, in January 2005, Bechtel reported that a number of factors were causing performance delays including security conditions. This caused delays in traveling to and from the sites for the Bechtel staff. USAID and USACE officials added that, because of precarious security conditions, the project sites were deemed dangerous. In addition, at times, the local ministry did not allow access to the sites, thus hindering the completion of the civil work on site. Consequently, in April 2005, the USAID contracting officer approved an amendment to the job order reducing the scope of work to include site assessments, development of an assessment report, and procurement of equipment and their delivery to the Ministry of Water Resources, which would then be responsible for their installation. The project failed to restore the three irrigation pump stations in the Wadha region.

¹⁷ *Audit of USAID/Iraq's Water and Sanitation Rehabilitation Activities* (E-267-05-004-P) June 30, 2005.

Job Order Number: 04-509

Description: Rural Water Supply Project Implementation

Start Date: June 13, 2004

Original Planned Completion Date: November 1, 2005

Date Completed: September 15, 2006

Original Budget: \$84,735,000

Final Budget: \$61,983,402

Job Order Objective: This job order included conducting site assessments and assisting USAID and the Ministry of Municipalities and Public Works in selecting sites to build new potable water supply facilities in rural areas throughout Iraq. The scope also included designing, furnishing, constructing, commissioning, testing, and providing training for the new facilities.

Changes to the Job Order: Work was altered through six job order amendments:

- Amendment 1 (February 5, 2005) extended the completion date to March 31, 2006, and included a Hygiene Training Program. The amendment also included increased camp and unexploded ordinance survey costs and a reduction in the estimated number of water treatment facilities to be constructed to an undefined number. The completion date was extended because of delays in completing negotiations between USAID and the various governorates to obtain approved sites. The job order budget was decreased by \$11,701,000 to \$73,034,000.
- Amendment 2 (April 4, 2005) extended the completion date to April 30, 2006, added a fully staffed Kuwait warehouse to manage the free-issue materials to the various job sites, revised the base design to provide 35-110 liters of potable water per day per person, added testing of the source water for chlorinated hydrocarbons, added miscellaneous equipment needed because of the geographically dispersed nature of this project, and transferred savings from reducing the required equipment to Allocated Reserves. The job order budget was unchanged.
- Amendment 3 (January 19, 2006) addressed changes to the rural water project including allocation of budget, number and location of sites. The original table in the job order showed numbers of sites and plants; this amendment reduced the sites and plants to one per lot, design and constructability of sites, treatment unit type, project milestones, and O&M sustainability. The amendment did not detail the adjustments and, as a result, we were unable to quantify the reduced number and location of sites.
- Amendment 4 (June 8, 2006) extended the completion date to June 20, 2006, changed the number of sites being constructed, and incorporated shifts in line items to reflect actual project implementation. The amendment did not contain any detail about the changes. As a result, we were unable to quantify the reduced number and location of sites. The job order budget was decreased by \$5,000,000 to \$68,034,000.

- Amendment 5 (August 11, 2006) extended the completion date to September 15, 2006, to allow USAID adequate time to approve remaining field close-out items (Pre-final Inspections and Partial Substantial Completions). The job order budget was decreased by \$4,892,000 to \$63,142,000.
- Amendment 6 (January 31, 2007) modified the list of sites found in the original job order documentation, which outlined the types and numbers of facilities to be built. It also reduced the job order budget by \$1,158,598 by releasing allocated reserve, which decreased the total job order budget to \$61,983,402.

Final Job Order Outcome: Insight into sites and plants delivered disappeared when the job order was modified from a specific number of plants and facilities to be delivered to a count of one lot per facility type. This change potentially obscured the cost per facility, as it should not be assumed that the cost per original unit remained constant when the count changed to one lot. Amendment 6 attempted to re-introduce the ability to track facilities to the job order, but because it was in a different format from the original information in the baseline job order, we found it difficult to understand what was delivered versus what was descoped. Net decrease in the job order budget was \$22,751,598. The period of performance was extended by 9-1/2 months, with concurrent increases in life-support costs. According to a USAID audit¹⁸, in May 2005, USAID informed Bechtel that of the 69 sites that were considered active, only 35 sites were actually providing water through wells. Of the remaining 34 sites, according to USACE personnel, the contractor was working in only 22. Consequently, on May 24, 2005, the USAID contracting officer officially directed Bechtel to suspend work until further directed by USAID and requested Bechtel to develop alternatives that would put the project back on track.

¹⁸ *Audit of USAID/Iraq's Water and Sanitation Rehabilitation Activities* (E-267-05-004-P) June 30, 2005.

Job Order Number: 04-510

Description: Sadr City Treatment Plant

Start Date: June 21, 2004

Original Planned Completion Date: February 26, 2006

Date Completed: October 6, 2006

Original Budget: \$14,087,546

Final Budget: \$29,401,400

Job Order Objective: This job order was to supply a new potable water treatment plant with tie-ins to existing raw water supply (inlet to water treatment plant) and treated water discharge line to an existing distribution system to Sadr City and surrounding areas of Baghdad.

Changes to the Job Order: Work was altered through three job order amendments:

- Amendment 1 (July 31, 2004) tripled the capacity of the equipment from 1000 cubic meters per hour to 3000 cubic meters per hour. The scope, completion date, and job order budget were revised to reflect this change. The job order budget was increased by \$16,893,854 to \$30,981,400. The period of performance was extended to March 22, 2006.
- Amendment 2 (April 4, 2005) added the cost of pilings required at the new site. The length of the raw-water transmission pipe was increased from 1,200 to 2,200 meters, and the treated water storage volume was reduced from 24,000 cubic meters to 8,000 cubic meters. The cost savings from decreasing the tank volume and the chlorine contact tank was included in the job order budget as a separate line item—"Gaseous Chlorine Disinfection," which increased the plant capacity to 4,000 cubic meters per hour. It deleted the on-site solids processing, deleted the use of sodium hypochlorite and replaced it with chlorine gas for disinfection, and included the cost of an unexploded ordnance survey and the Allocated Reserves as a separate line item. Amendment 2 extended the completion date to August 22, 2006.
- Amendment 3 (October 13, 2006) addressed changes to the Sadr City Water Treatment Plant scope of work, project schedule, and job order budget to reflect work completed and the transfer of the balance of work to the USACE for completion. This revision was in accordance with direction received from USAID on July 30, 2006. This amendment included specific changes in the scope of work, including de-scoping remaining activities and providing for development of a transition package, changing the project schedule to reflect transfer of the balance of work, and updating line items in the job order budget to align with the actual cost incurred to perform the revised scope of work. The total budget of the job order was also decreased to reflect the combination of scope reductions and the higher cost of pilings (higher than anticipated in Amendment 2). The completion date was revised to October 6, 2006, and the job order budget was decreased by \$1,580,000 to \$29,401,400.

Final Job Order Outcome: The project was transferred to another agency for completion. Net increase in the job order budget was \$15,313,854. The period-of-performance was extended by just more than seven months. USAID contract documents show the project was 88% complete when transferred to the USACE for completion.

Job Order Number: 04-511

Description: Basrah Children's Hospital

Start Date: August 3, 2004

Original Planned Completion Date: December 31, 2005

Date Completed: October 31, 2006

Original Budget: \$37,000,000

Final Budget: \$26,410,000

Job Order Objective: This job order included the design and construction of a pediatric teaching hospital in the city of Basrah.

Changes to the Job Order: Work was expanded through two job order amendments:

- Amendment 1 (July 7, 2005) extended the completion date and included additional costs caused by revised design and schedule requirements. The completion date was extended to October 31, 2006 and the job order budget was increased by \$4,050,000 to \$41,050,000.
- Amendment 2 (October 9, 2006) clarified that a total of \$49 million had been made available by USAID for construction of the hospital. This amendment further terminated the design-build subcontract and cancelled the services, materials, and equipment that cannot be delivered and accepted before the job order completion date. Although the amendment identified that \$49 million had been made available, the job order budget was decreased by \$14,640,000 to \$26,410,000.

Final Job Order Outcome: This project suffered from numerous schedule changes and project management issues including security. It was transferred to the USACE Gulf Region Division (GRD) for completion. According to USAID documents, the project was 45% complete when transferred.

<p>Job Order Number: 04-512 Description: Bayji Thermal Power Station Start Date: June 26,, 2004 Original Planned Completion Date: December 15, 2005 Date Completed: December 12, 2004 Original Budget: \$100,640,000 Final Budget: \$2,088,717</p>

Job Order Objective: This job order comprised a detailed assessment of the existing condition of Units 4 and 5 at the Bayji Thermal Power Station and, as necessary, the refurbishment or replacement of components to maximize the output and reliability of the units.

Changes to the Job Order: Work was modified through two job order amendments:

- Amendment 1 (December 19, 2004) deleted scope items that were not completed before the job order was cancelled. Bechtel withdrew from the site on October 24, 2004. The completion date was modified to October 24, 2004, and the job order budget was decreased by \$98,741,590 to \$1,898,410.
- Amendment 2 (February 16, 2006) increased the job order budget to include the increased cost of the jobsite camp. USAID accepted the as-built conditions at final inspection. The job order budget increased by \$190,307 to \$2,088,717.

Final Job Order Outcome: This project was descoped and the original objective was not achieved because of the security situation in the area. Assessments were completed September 12, 2004; assessment reports were submitted December 15, 2004.

Job Order Number: 04-513

Description: Mansuria Natural Gas Development Power Generation

Start Date: June 23, 2004

Original Planned Completion Date: July 6, 2005

Date Completed: January 31, 2006

Original Budget: \$78,363,000

Final Budget: \$62,669,959

Job Order Objective: This job order was to study the development of the natural gas resources of the Mansuria, Baghdad East, and Naft Khaneh gas fields to support power generation.

Changes to the Job Order: Work was modified through three job order amendments:

- Amendment 1 (November 27, 2004) extended the completion date and incorporated the cost of rework on the existing gas wells and the procurement and construction of gas-gathering and processing facilities, power-generation facilities, and switchyards. The completion date was extended to December 31, 2005, and the job order budget increased by \$303,000,000 to \$381,363,000.
- Amendment 2 (March 31, 2005) deleted all work associated with the gas-field development and any further design and procurement work on the gas-gathering system, gas-treatment plant, and power plant. The job order budget was decreased by \$311,921,000 to \$69,442,000, and the completion date was reduced to November 15, 2005.
- Amendment 3 (January 12, 2006) extended the scheduled completion date to January 31, 2006 because of the delay in delivering two generator step-up transformers. The job order budget was decreased by \$6,772,041 to \$62,669,959.

Final Job Order Outcome: The scope grew from providing assessments of the natural gas fields at three locations to include developing turn-key production and power generation facilities, but was later reduced to the assessment of the three fields and procurement of two 250 MW combustion turbine generators and ancillary equipment. In the end, the original objectives were achieved since the job order outcome reflected the original objective of providing an overall assessment of the three sites.

Job Order Number: 04-514

Description: Shark Diljah Water Treatment Plant Expansion

Start Date: June 21, 2004

Original Planned Completion Date: July 15, 2005

Date Completed: September 10, 2006

Original Budget: \$26,674,000

Final Budget: \$22,690,000

Job Order Objective: This job order was for the refurbishment of the existing Shark Diljah Water Treatment Plant (current capacity of 22,500 cubic meters per hour of throughput) and the addition of new water-treatment capacity, up to a maximum of 7900 cubic meters per hour (depending upon the job order budget), at the existing site.

Changes to the Job Order: Work was modified through three job order amendments:

- Amendment 1 (April 28, 2005) added the unexploded ordinance survey costs, the purchase of two treated water-pump motors, the design of a raw-water intake structure (100 million gallons per day); and the construction of a raw-water intake structure (60 million gallons per day), pump station, and associated water transmission line. The amendment deleted the inspection and overhaul of generators, installation of a new control system, and construction of an expanded plant. It revised the completion date to June 8, 2006, and decreased the job order budget by \$6,448,000 to \$20,226,000.
- Amendment 2 (December 6, 2005) added the purchase and delivery of four magnetic flow meters and the refurbishment of five existing meters. The job order budget was increased by \$2,464,000 to \$22,690,000.
- Amendment 3 (June 5, 2006) revised the job order completion and interim milestone for commissioning the existing treatment plant. It extended the scheduled completion date to September 10, 2006.

Final Job Order Outcome: The completion date slipped 14 months, but the project was completed.

Job Order Number: 04-515

Description: Zafaranyah Sewer Trunk Line

Start Date: June 12, 2004

Original Planned Completion Date: December 10, 2005

Date Completed: August 1, 2006

Original Budget: \$21,288,000

Final Budget: \$22,288,000

Job Order Objective: This job order was for the rehabilitation of the sewer collection system for the Zafaranyah District of Baghdad, Iraq. Approximately 5.7 miles of new gravity and pressurized sewage trunk lines and a minimum of two pump stations were to be constructed.

Changes to the Job Order: Work was changed through two job order amendments:

- Amendment 1 (September 28, 2005) extended the completion date because of delays associated with the relocation of one of the pump stations twice as a result of land ownership issues. The amendment included the cost and schedule impacts for dealing with an underground utility conflict involving two oil lines in the same area as trunk lines and also updated pipe lengths and diameters to reflect actual measurements. Individual line items were adjusted with no change in the overall job order budget. The completion date was extended to February 9, 2006.
- Amendment 2 (February 18, 2006) changed the scope of work to allow for additional construction work needed as a result of unexpected excess ground water encountered at two pump stations and the unexpected conflicts with existing/damaged underground utilities. The job order budget was increased by \$1,000,000 to \$22,288,000. The schedule was revised to reflect a completion date of August 1, 2006.

Final Job Order Outcome: The scope of this job order appears to have been substantially completed as originally defined. The job order budget was increased by \$1,000,000, and the completion date slipped approximately nine months. Reasons cited for the cost increase and slippage included unexpected conflicts with existing/damaged underground utilities.

Job Order Number: 04-516

Description: Kadhamiya Sewage Collection System Cleaning & Refurbishment

Start Date: June 8, 2004

Original Planned Completion Date: June 30, 2005

Date Completed: February 13, 2006

Original Budget: \$3,272,000

Final Budget: \$4,642,000

Job Order Objective: This job order was for cleaning and replacing existing sewage lines and refurbishing pump stations that serve the Kadhamiya area of Baghdad.

Changes to the Job Order: Work was changed through three job order amendments:

- Amendment 1 (April 5, 2005) increased the number of discrete projects from 6 to 12, added refurbishment of 11 existing vertical pump/motor assemblies, and deleted the installation of 11 new vertical pump/motor assemblies that were to be furnished by the U.S. Army, added replacement of a collapsed sewer line, and divided the project into two subcontracts (IA and IB). It further reduced the second subcontract from 10 to 8 projects. The job order budget was increased by \$1,800,000 to \$5,072,000, and the completion date was extended to August 30, 2005.
- Amendment 2 (October 13, 2005) changed the scope of work because of site security and accessibility issues in the Kadhamiya district. The job order budget did not change. The schedule was extended to reflect a completion date of December 30, 2005.
- Amendment 3 (May 9, 2006) accounted for changes in the Statement of Work that took place in the final stages of performance and decreased the previously approved job order estimate based on actual experience to date. The job order budget was decreased by \$430,000 to \$4,642,000. The completion date was extended to February 13, 2006.

Final Job Order Outcome: The scope of this job order increased the number of discrete projects from 6 to 12, substituted refurbishment of 11 new vertical pump/motor assemblies for installation of same, and added replacement of a collapsed sewer line. The job order budget increased \$1,370,000, and the completion date changed from June 30, 2005, to February 13, 2006. The reasons cited for the slippage included site security, accessibility issues, and national matters, such as elections, the trial of Saddam Hussein, and Ramadan.

Job Order Number: 04-517

Description: Rehabilitation of Baghdad Potable Water Distribution Mains and Hydraulic Modeling and Monitoring

Start Date: June 8, 2004

Original Planned Completion Date: December 30, 2005

Date Completed: February 13, 2006

Original Budget: \$19,812,000

Final Budget: \$14,350,000

Job Order Objective: This job order included the replacement of portions of the potable water distribution mains within the city of Baghdad. Hydraulic modeling of the system was also to be completed to help identify priority improvements and increase water pressure within the system.

Changes to the Job Order: Work was changed through two job order amendments:

- Amendment 1 (February 16, 2006) changed the scope of work for the purchase and delivery of four flowmeters and the refurbishment of five flowmeters that were transferred to Job Order 04-514–Shark Diljah Water Treatment Plant Expansion for scope of work execution. The job order budget was decreased by \$3,801,000 to \$16,011,000.
- Amendment 2 (May 29, 2006) clarified the scope of work for providing computers and plotters that were not specifically identified in the previous job order scope of work, but were part of the hydraulic modeling task. The amendment also decreased the job order budget by \$1,661,000 to \$14,350,000, based on experience to date. The schedule was also revised to reflect a completion date of February 13, 2006.

Final Job Order Outcome: The final outcome of this job order is unclear; it seemed to be ancillary to Job Order 04-514 for the Shark Diljah Water Treatment Plant. The job order budget was decreased by \$5,562,000, and the completion date slipped approximately two months.

Job Order Number: 04-518

Description: Karbala Wastewater Treatment Plant Refurbishment

Start Date: September 30, 2004

Original Planned Completion Date: February 15, 2006

Date Completed: February 15, 2006

Original Budget: \$6,260,000

Final Budget: \$8,610,000

Job Order Objective: This job order was to refurbish the Karbala Wastewater Treatment Plant within the limitation of the job order budget. The work to be done was transferred from the Phase I Bechtel contract Job Order 03-029.

Changes to the Job Order: Work was changed through one job order amendment.

- Amendment 1 (April 19, 2005) added cleaning the aeration lagoons and appurtenance piping, and design changes to the sedimentation tanks. It also included additional security and transportation and demurrage costs for equipment that was purchased under the Phase I contract and stored in Kuwait. This amendment also deleted all vehicles and extra tools and/or equipment that were originally to be acquired. The amendment increased the job order budget by \$2,350,000 to \$8,610,000.

Final Job Order Outcome: The final outcome of this project is unclear because this job order was to complete work started under the Bechtel Phase I contract. The job order budget increased \$2,350,000, but we could not identify the results of the work in the USAID files.

Job Order Number: 04-519

Description: Karbala Al Hussien Water Treatment Plant Refurbishment

Start Date: September 30, 2004

Original Planned Completion Date: September 15, 2005

Date Completed: November 9, 2005

Original Budget: \$4,800,000

Final Budget: \$3,931,000

Job Order Objective: This job order was to complete the refurbishment of the Karbala Water Treatment Plant; work started under the Bechtel Phase I contract job order 04-010. The Phase I contract completed only procurement tasks.

Changes to the Job Order: Work was changed through one job order amendment:

- Amendment 1 (May 9, 2006) accounted for the reductions in the scope of work that took place toward the final stages of performance. The amendment also decreased the job order budget by \$869,000 to \$3,931,000, and extended the completion date to November 9, 2005.

Final Job Order Outcome: The refurbishment of the Karbala Al Hussein was completed at less cost than budgeted, but two months later than planned.

Job Order Number: 04-520

Description: North East Sewer Trunk Line Study

Start Date: August 27, 2004

Original Planned Completion Date: February 25, 2005

Date Completed: March 10, 2006

Original Budget: \$2,000,000

Final Budget: \$838,000

Job Order Objective: This job order was to prepare an Alternatives Analysis and Conceptual Design Report and a Basis of Design Report for a new sewer truck line system throughout the northeastern part of Baghdad (Sadr City). The scope of work for the job order was the production of design documentation on the Habibiya Storm Water Detention Basins. The design documents were to be provided to USAID for turnover to the Baghdad Amanat-Baghdad Sewage Board.

Changes to the Job Order: Work was changed through two job order amendments:

- Amendment 1 (April 7, 2005) included the design and construction of two new storm-water detention basins and associated pumping facilities to be installed within or adjacent to the existing Habibiya pump station. The job order budget was increased by \$13,580,000 to \$15,580,000, and the completion date was extended to April 15, 2006.
- Amendment 2 (March 3, 2006) eliminated all construction activities included in Amendment 1 except for site assessment and initiation of site work for new facilities that had been completed before receiving USAID direction. The amendment reduced the job order budget by \$14,742,000 to \$838,000, and extended the completion date to March 10, 2006.

Final Job Order Outcome: The design reports called for in the original job order were delivered to USAID. The scope as revised in Amendment 1 was apparently unachievable and the job order was closed out on March 10, 2006, with the original reports. According to USAID documents, this project as revised in the amendments was descoped by 95%.

Job Order Number: 05-521

Description: Consolidated Fiber Network

Start Date: January 15, 2005

Original Planned Completion Date: March 31, 2006

Date Completed: June 30, 2006

Original Budget: \$51,851,852

Final Budget: \$46,960,000

Job Order Objective: This job order included the design, procurement, installation, and testing of a nationwide fiber-optic telecommunications network that would connect railroad, power, and telecommunications facilities across Iraq. Construction was to be completed to the maximum extent possible based on a list of more than 100 electricity, railroad, and communication sites included in the job order. Actual sites were to be selected from this list based on priorities established and agreed to with USAID.

Changes to the Job Order: Work was changed through two job order amendments:

- Amendment 1 (June 18, 2005) revised the scope to delete the railroad portion of the work, remove the Iraq Telephone Postal Company sites, reduce the number of Ministry of Electricity sites to 73, and evaluate the need for and provide as necessary PBX telephone equipment at 29 Ministry of Electricity sites. It also added items to be procured for the Iraq Telephone Postal Company portion of the work. The job order budget or completion date did not change.
- Amendment 2 (November 22, 2005) included a cost reduction and extended the completion date of the job order. Significant revisions included increasing the number of Ministry of Electricity sites from 46 to 60. The job order history is not clear as to the number of earlier sites selected because the job order contained a list from which sites were to be selected, not the actual selected sites. Regarding the 60 sites, Bechtel would provide equipment for 60 sites but installation and testing for only 42 sites. The 18 sites that received only equipment were examined and judged to be non-accessible according to the overall environment. The amendment reduced the job order budget by \$4,891,852 to \$46,960,000 and extended the completion date to June 30, 2006.

Final Job Order Outcome: Fiber-optic equipment was provided, installed, and tested at 42 Ministry of Electricity sites and equipment was procured for other sites. A nationwide fiber-optic telecommunications network was not put in place. The scope of this job order changed, largely because of input from the Iraqi Ministry of Electricity and the security situation at various proposed sites. These changes affected the choice of sites, equipment used, and the period of performance. The results did not achieve the original objectives.

Job Order Number: 05-522

Description: Start Up Services for Daura Thermal Units 5 & 6 Rehabilitation

Start Date: April 1, 2005

Original Planned Completion Date: November 17, 2005

Date Completed: April 30, 2006

Original Budget: \$30,315,000

Final Budget: \$35,000,000

Job Order Objective: This job order comprised providing managerial assistance and guidance services, technical start up, commissioning support, and parts and equipment required to support the start-up and commissioning of the Daura Power Plant Generating Units 5 and 6. This job order was a follow-on effort to work performed under the Bechtel Phase I contract Job Order 03-037.

Changes to the Job Order: Work was changed through two job order amendments:

- Amendment 1 (August 30, 2005) changed the completion date to February 7, 2006, because of additional work performed by Bechtel on Unit 5 that was originally to be performed by the Ministry of Electricity, lack of access to the work site while other work was being done, lack of sufficient suitably qualified and experienced engineers and technicians to complete the work, and various other challenges ascribed to the Ministry of Electricity. The amendment increased the job order budget by \$4,685,000 to \$35,000,000.
- Amendment 2 (April 26, 2006) extended the completion date of the job order to April 30, 2006, to allow sufficient time to complete the warranty work on the water-intake equipment and to provide advisory technical and operations support for Unit 5 on a level-of-effort basis.

Final Job Order Outcome: The scope of this job order changed largely because of challenges imposed by the Iraqi Ministry of Electricity that affected the job order budget and the period of performance. The results did not achieve the original objectives.

Job Order Number: 05-523

Description: Kirkuk Power Plant

Start Date: May 30, 2005

Original Planned Completion Date: November 15, 2005

Date Completed: April 30, 2006

Original Budget: \$21,400,000

Final Budget: \$29,316,000

Job Order Objective: This job order, follow-on to the Phase I Job Order 03-060, was for completing the construction, commissioning, and startup of a large turbine at the Kirkuk Power Plant.

Changes to the Job Order: Work was changed through two job order amendments:

- Amendment 1 (November 7, 2005) extended the completion date to January 15, 2006 to allow for a delay in the mechanical completion of the turbine, optimization of the turbine, and completion of other items associated with it and the auxiliary systems, and camp and staff mobilization. The amendment increased the job order budget by \$3,921,000 to \$25,321,000.
- Amendment 2 (March 1, 2006) further extended the completion date to April 30, 2006 to accommodate a 100-hour operations test that was terminated because a large amount of contaminated fuel gas reached the combustion turbine burners. Inspection and cleaning activities were required to ensure that no damage had occurred and to allow for unit restart when acceptable quality fuel gas was restored, as well as to allow for the warranty on the gas turbine and fuel gas system components to remain in effect. The schedule extension increased the job order budget by \$3,995,000 to \$29,316,000, to cover labor related costs, camp cost, and security cost.

Final Job Order Outcome: The turbine was ultimately put into operation.

Job Order Number: 05-525

Description: Water Sector Institutional Strengthening

Start Date: May 5, 2005

Original Planned Completion Date: March 30, 2006

Date Completed: April 30, 2006 (Plant Sustainability/Operation and Maintenance Services); September 30, 2006 (Procurement Deliveries)

Original Budget: \$23,100,000

Final Budget: \$20,375,933

Job Order Objective: This job order provided for startup, commissioning, decommissioning, O&M, essential inventory, and training at 11 facilities. These items were to be provided for a period not to exceed March 30, 2006 (subject to extension of the terminal date of the primary contract), or when funds were exhausted, whichever came first.

Changes to the Job Order: Work was changed through three job order amendments:

- Amendment 1 (January 14, 2006) defined the list of facilities and services to be provided at each facility.
- Amendment 2 (March 23, 2006) extended the completion date to April 30, 2006, and increased the job order budget by \$1,800,000 to \$24,900,000.
- Amendment 3 (September 24, 2006) updated the consumables supplied, operational equipment delivered, and training provided for plant sustainability and O&M services. The number of 50-ton mobile cranes to be delivered was reduced from five to one. The completion date for plant sustainability and O&M services remained at April 30, 2006; the completion date for procurement deliveries was extended to September 30, 2006. The amendment decreased the job order budget by \$4,524,067 to \$20,375,933.

Final Job Order Outcome: USAID documents state that this project was 92% complete before descoping. The original job order scope was reduced by four cranes and related work. While this resulted in cost savings, there was a potential for more savings. Amendment 2 specified the number of training hours that would be delivered at each site. Actual hours delivered (as shown in Amendment 3) in many cases were triple the forecasted number. Given the cost-plus nature of the contract, it is reasonable to assume that these additional hours created additional costs.

Appendix C—Sample Invoice Form

Standard Form 1034 Revised October 1987 Department of the Treasury 1 TFM 4-2000		PUBLIC VOUCHER FOR PURCHASES AND SERVICES OTHER THAN PERSONAL				VOUCHER NO.	
U.S. DEPARTMENT, BUREAU, OR ESTABLISHMENT AND LOCATION				DATE VOUCHER PREPARED		SCHEDULE NO.	
				CONTRACT NUMBER AND DATE		PAID BY	
				REQUISITION NUMBER AND DATE			
PAYEE'S NAME AND ADDRESS				DATE INVOICE RECEIVED			
				DISCOUNT TERMS			
				PAYEE'S ACCOUNT NUMBER			
SHIPPED FROM		TO		WEIGHT		GOVERNMENT B/L NUMBER	
NUMBER AND DATE OF ORDER	DATE OF DELIVERY OR SERVICE	ARTICLES OR SERVICES <i>(Enter description, item number of contract or Federal supply schedule, and other information deemed necessary)</i>	QUAN-TITY	UNIT PRICE		AMOUNT	
				COST	PER	(1)	
(Use continuation sheet(s) if necessary) (Payee must NOT use the space below)						TOTAL	
PAYMENT:		APPROVED FOR = \$	EXCHANGE RATE = \$1.00	DIFFERENCES			
<input type="checkbox"/> PROVISIONAL	BY 2						
<input type="checkbox"/> COMPLETE							
<input type="checkbox"/> PARTIAL							
<input type="checkbox"/> FINAL							
<input type="checkbox"/> PROGRESS	TITLE			Amount verified; correct for <i>(Signature or initials)</i>			
<input type="checkbox"/> ADVANCE							
Pursuant to authority vested in me, I certify that this voucher is correct and proper for payment.							
(Date)		(Authorized Certifying Officer) 2		(Title)			
ACCOUNTING CLASSIFICATION							
PAID BY	CHECK NUMBER	ON ACCOUNT OF U.S. TREASURY		CHECK NUMBER	ON (Name of bank)		
	CASH	DATE		PAYEE 3			
1 When stated in foreign currency, insert name of currency.				PER			
2 If the ability to certify and authority to approve are combined in one person, one signature only is necessary; otherwise the approving officer will sign in the space provided, over his official title.				TITLE			
3 When a voucher is receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John"							
Previous edition usable.				NSN 7540-00-900-2234			
PRIVACY ACT STATEMENT							
The information requested on this form is required under the provisions of 31 U.S.C. 82b and 82c, for the purpose of disbursing Federal money. The information requested is to identify the particular creditor and the amounts to be paid. Failure to furnish this information will hinder discharge of the payment obligation.							

Appendix D—Acronyms

ATO	administrative task order
Bechtel	Bechtel National, Inc.
CLIN	contract line item number
CPA	Coalition Provisional Authority
DCAA	Defense Contract Audit Agency
DoD	Department of Defense
FAR	Federal Acquisition Regulation
GAO	Government Accountability Office
GRD	Gulf Region Division
IRRF	Iraq Relief and Reconstruction Fund
IRMO	Iraq Reconstruction Management Office
IRS	Internal Revenue Service
MW	megawatt
O&M	operations and maintenance
Parsons	Parsons Global Services
SIGIR	Special Inspector General for Iraq Reconstruction
USACE	U.S. Army Corps of Engineers
USAID	U.S. Agency for International Development

Appendix E—Report Distribution

Department of State

Secretary of State

Senior Advisor to the Secretary and Coordinator for Iraq

Director of U.S. Foreign Assistance/Administrator, U.S. Agency for
International Development

Director, Office of Iraq Reconstruction

Assistant Secretary for Resource Management/Chief Financial Officer,
Bureau of Resource Management

U.S. Ambassador to Iraq*

Director, Iraq Transition Assistance Office*

Coordinator, Office of Provincial Affairs

Mission Director-Iraq, U.S. Agency for International Development

Inspector General, Department of State

Inspector General, U.S. Agency for International Development*

Regional Inspector General-Iraq, U.S. Agency for International Development

Department of Defense

Secretary of Defense

Deputy Secretary of Defense

Under Secretary of Defense (Comptroller)/Chief Financial Officer

Deputy Chief Financial Officer

Deputy Comptroller (Program/Budget)

Deputy Assistant Secretary of Defense-Middle East, Office of Policy/International
Security Affairs

Inspector General, Department of Defense

Director, Defense Contract Audit Agency

Director, Defense Finance and Accounting Service

Director, Defense Contract Management Agency

Department of the Army

Assistant Secretary of the Army for Acquisition, Logistics, and Technology

Principal Deputy to the Assistant Secretary of the Army for Acquisition,
Logistics, and Technology

Deputy Assistant Secretary of the Army (Policy and Procurement)

Commanding General, Joint Contracting Command-Iraq/Afghanistan

Assistant Secretary of the Army for Financial Management and Comptroller

Chief of Engineers and Commander, U.S. Army Corps of Engineers

Commanding General, Gulf Region Division

Chief Financial Officer, U.S. Army Corps of Engineers

Auditor General of the Army

U.S. Central Command

Commanding General, Multi-National Force-Iraq

Commanding General, Multi-National Corps-Iraq

Commanding General, Multi-National Security Transition Command-Iraq

Commander, Joint Area Support Group-Central

*Recipient of the draft audit report

Other Federal Government Organizations

Director, Office of Management and Budget
Comptroller General of the United States
Inspector General, Department of the Treasury
Inspector General, Department of Commerce
Inspector General, Department of Health and Human Services
President, Overseas Private Investment Corporation
President, U.S. Institute for Peace

Congressional Committees and Subcommittees, Chairman and Ranking Minority Member

Senate Committee on Appropriations
 Subcommittee on Defense
 Subcommittee on State, Foreign Operations, and Related Programs
Senate Committee on Armed Services
Senate Committee on Foreign Relations
 Subcommittee on International Development and Foreign Assistance, Economic Affairs, and International Environmental Protection
 Subcommittee on International Operations and Organizations, Democracy and Human Rights
 Subcommittee on Near Eastern and South and Central Asian Affairs
Senate Committee on Homeland Security and Governmental Affairs
 Subcommittee on Federal Financial Management, Government Information, Federal Services, and International Security
 Subcommittee on Oversight of Government Management, the Federal Workforce, and the District of Columbia
Permanent Subcommittee on Investigations

U.S. House of Representatives

House Committee on Appropriations
 Subcommittee on Defense
 Subcommittee on State, Foreign Operations, and Related Programs
House Committee on Armed Services
House Committee on Oversight and Government Reform
 Subcommittee on Government Management, Organization, and Procurement
 Subcommittee on National Security and Foreign Affairs
House Committee on Foreign Affairs
 Subcommittee on International Organizations, Human Rights, and Oversight
 Subcommittee on the Middle East and South Asia

Appendix F—Audit Team Members

This report was prepared and the review was conducted under the direction of Joseph T. McDermott, Assistant Inspector General for Audit, Office of the Special Inspector General for Iraq Reconstruction.

The staff members who conducted the audit and contributed to the report include:

Karen Bell

Mark Comfort

Glenn Furbish

James Pollard

Diane Recio

Steven Sternlieb

Management Technical Comments

U.S. Agency for International Development



USAID
FROM THE AMERICAN PEOPLE

July 20, 2007

Mr. Stuart Bowen
Inspector General
Special Inspector General for Iraq Reconstruction
400 Army Navy Drive
Arlington, VA 22202-4704

Dear Mr. Bowen:

Thank you for the opportunity to provide comments on the draft audit report *Review of Bechtel's Spending Under Its Phase II Iraq Reconstruction Contract* (SIGIR-07-009, July 2, 2009). USAID agrees with SIGIR that there are a number of valuable lessons that can be drawn from USAID's experiences managing the Bechtel Phase II Reconstruction Contract. As SIGIR states them in the report, USAID has no argument, in general principle, with any of the three "Lessons Learned."¹ USAID must disagree, however, with some of the analysis that underlies these otherwise unobjectionable conclusions.

For the sake of clarity, we have organized our comments into six major sections, generally following the structure of the draft report:

- I. Contractual Arrangement between USAID and Bechtel
- II. Contract Management
- III. Bechtel's Costs
- IV. USAID Costs in Managing Bechtel's Work
- V. Audit Process
- VI. Other Clarifications.

¹ See page 29 of the Report. These Lessons Learned are: (1) Strong contract administration and adequate staffing are critical to success; (2) A clear understanding and review of costs is also important to contract management; and (3) Minimizing support costs makes more money available for reconstruction.

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I. Contractual Arrangement between USAID and Bechtel

The Job Order Concept and “Original Objectives”

The draft report attempts to judge the success of the contract by analyzing each of 24 job orders individually. Furthermore, the draft report focuses exclusively on the “original objectives” of each job order. If Bechtel accomplished all of the original objectives, the job order is considered a success. If, for whatever reason, all of the original objectives were not achieved, the job order is treated as unsuccessful. USAID believes that focusing exclusively on the original objectives of individual job orders is not a proper way of determining whether job orders and the contractual requirements were successfully completed, and gives a distorted view of the overall success of the Bechtel contract.

Job orders are written communications by the Contracting Officer to authorize the contractor to start implementing an activity under the terms of the underlying contract and based on what is believed can be accomplished at the time. The requirements in the job order are not set in stone and may change as further investigation and design work is done by the contractor. Job orders are a flexible mechanism through which USAID gives instructions to the contractor. This flexibility proved itself to be very useful as the fluid circumstances in Iraq necessitated frequent changes. Some job orders, for example the Mansuria Electrical Reconstruction effort (JO 04-513), are specifically set up to be phased or modular. In such job orders, an initial amount is committed, primarily to examine possibilities and come up with a plan for further work, and then more funds are added as required to complete the work. The total dollar amount of the job order may be greater or less than the original estimate, but that is because the scope and type of required work may have changed.

The “original objectives” of the 24 job orders on which the draft report places so much weight refer only to USAID’s best estimates at a given moment in time of what work can be achieved. The budgets for job orders are stated in terms of rough orders of magnitude. The requirements in the job order may, over time, be adjusted based on changed conditions and needs. Items may be scoped or de-scoped as strategic reviews occur or changing conditions dictate.

In contrast to the original objectives standard, USAID views the success of the job orders in the context of their objectives *as amended* through the job order amendment process. Such amendments were undertaken with great consideration for effective use of U.S. taxpayer funds and maximal results for the Iraqi people.

For example, SIGIR, in SIGIR-05-024, examined the Mansuria Natural Gas Development Power Generation Project (04-513). The report notes that the initial job order objective was for an assessment and preparation of estimates for natural gas-fueled power generation at three sites. The project was subsequently amended to include construction of facilities at these sites. After a strategic review of the infrastructure portfolio, the decision was made by IRMO to cancel the construction components of this project. The changes in this case were not due to mismanagement by USAID or nonperformance by the contractor, but as the result of monitoring of on-the-ground conditions and prudent management. As noted in SIGIR's report, the final job order outcome reflected the original one of providing assessments of the three sites plus the provision of two 250 MW combustion turbine generators and ancillary equipment. Therefore, this job order can be considered a success since it successfully achieved the objectives as amended.

Focusing solely on the original objectives to assess performance does a disservice to the achievements of Bechtel and USAID infrastructure team in a very difficult situation in Iraq. The true measure of the success of both Bechtel I and II should be whether they proved to be useful, flexible mechanisms to implement a wide-variety of large-scale infrastructure projects throughout Iraq in an extremely dynamic, challenging environment. We strongly believe that USAID and Bechtel performed exemplary work that was responsive and cost-effective to the U.S. Government and the American taxpayer.

Cost Increases over Original Budget Estimates

The draft report highlights that some job orders had actual costs in excess of the estimates present in the original job order (page 7, Table 2, page 9). As some of the above discussion highlights, there are important reasons for actual costs being above the estimates provided in the original job orders (e.g., changes in the security environment, differing site conditions, increases in the cost of goods and services and changes in the scope of work).

Additionally, it should be noted that those estimates are actually called "rough order of magnitude estimates" in the job order documentation. Measuring actual costs against rough order of magnitude estimates, without taking into consideration alterations in scope, seems an unrealistic ideal.

The draft report also implies that cost increases invariably reflect some failure on USAID's or Bechtel's part. USAID disagrees with this perspective. As stated

above, USAID believes that there are valid explanations for cost increases over the original job order estimates. Cost increases above original rough order of magnitude estimates are a part of doing business in the environment faced by Bechtel in Iraq, as the nature of the requirements evolved and changes were deemed necessary by the funding organizations. The job order system enabled USAID the flexibility to respond to such changes quickly.

Results Characterized as Mixed

The draft report presents the results of the job orders as mixed (pages ii, 9, and 28). The examples used on page 9 are of job orders that were judged to have achieved their original objectives, but at higher than anticipated cost when compared to the original estimate. As explained above, there were valid explanations for cost increases above the original job orders. There are also four job orders that achieved their original objectives at a *lower* than anticipated cost, and these should be noted in the report.

II. Contract Management

Contract Management Staffing at the Midpoint

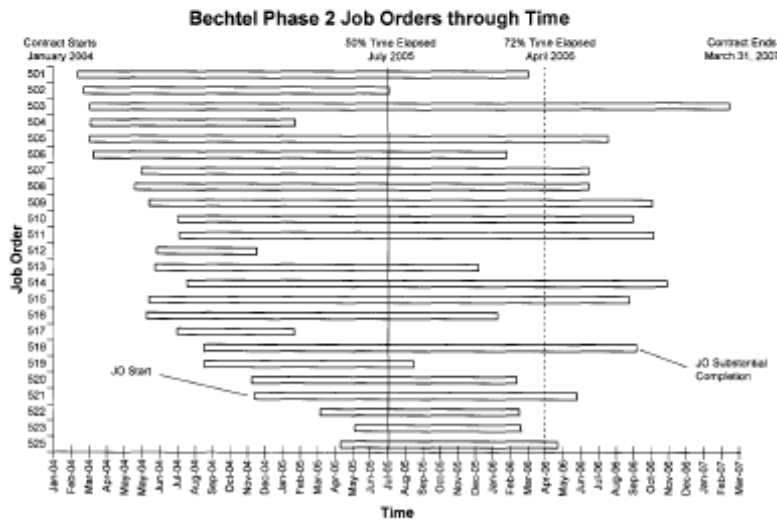
The draft report concludes that “USAID did not have enough staff to adequately administer a contract the size of the Phase II contract...”. Although during the periods in question USAID was by no means overstaffed, USAID believes it had adequate staff to fulfill its responsibilities to manage the contract and ensure accountability, when considering how the total management structure of the contract was set up. USAID staff resources were augmented in this case by the technical construction management expertise of the USACE and the financial and management resources of DCAA.

The fact that far less than 1% of the total costs in this contract were questioned at all indicates that the management structure used for this contract was adequate and, according to SIGIR’s own analysis, was largely successful in managing this contract and keeping costs within ranges experienced in Iraq and elsewhere.

The midpoint chosen by SIGIR to discuss the size of the contract management staff (pages iii and 14) is a point in time at which 72% of the contract timeline had elapsed. During July 2005, the month in which 50% of the contractual timeline had elapsed, USAID had a team of 23 individuals participating in the

management of the contract, made up of U.S. direct hire employees, U.S. contractors, and locally engaged engineers. This team monitored the contractor and provided recommendations for actions to be taken by the contract officer and cognizant technical officer. It is inaccurate to imply that just two individuals managed the contract (pages iii and 14). It is also inaccurate to suggest that the overall Mission staffing vacancies bore any relation to the management of the contract (pages iii and 14). The 251 positions number refers to all types of mission staff – drivers, maintenance people, computer technicians, technical personnel, etc. – the vast majority of which would have had no impact on contract administration.

The following graph shows the job orders over time, with the April 2006 date chosen by SIGIR highlighted (dashed line) and the 50% time point indicated (solid line). In the course of normal job order implementation, activities in the field decrease substantially as the date of substantial completion nears. Therefore the level of activity requiring monitoring in the final months of a job order is much lower than during earlier phases. That staff levels would decrease in the latter parts of the contract is only natural.



At the top of page 14, the draft report implies a negative connection between USACE staffing levels and the deobligation of \$4 million in January 2007. Deobligating \$4 million at a point in time when there was little to no activity on the contract should not be regarded as a negative or a matter of concern. It is prudent management of USG resources to deobligate unnecessary funds so they can be used for other purposes when they are no longer required in an agreement.

USAID Payment Procedures

The draft report's description of the payment procedures used by USAID implies that those procedures were flawed because USAID contractually obligated itself to process invoices within 10 days of receipt. However, as the draft report points out, much less than 1% of the costs incurred were questioned when DCAA performed an audit. The 10 day invoice processing period was a point negotiated between USAID and Bechtel at contract formation due to the urgency of the situation in Iraq. We believe this process worked well considering the magnitude of this contract.

USAID Insight into Costs

The draft report does not explain why the auditors believe that "USAID appeared to have little insight into the kind of costs being incurred by Bechtel." (pages iv and 13). On page 13, the draft report states "...USAID was kept informed on the work status under each job order..." and "...reports contained detailed information on the status of work under each job order, including job order status, significant events, and financial information such as current budget and forecast costs."

In this context, it would be helpful to explain in this report what other kinds of costs SIGIR believes USAID should have reviewed and why that additional review was necessary for proper management of each project and government funds.

III. Bechtel's Costs

USAID Delays in Issuing Job Orders

On page 21, the draft report states that a factor affecting Bechtel's costs was USAID delays in issuing job orders at the outset of the contract. The RIG

electricity audit report² discusses the environment in which USAID operated at the outset of the Phase 2 contract:

In administering the projects under both contracts [Phase 1 and 2], USAID/Iraq has had to operate in a complex environment requiring cooperation between several government entities working inside Iraq. For example, the Mission early on had to obtain prior approval from the CPA's Project Management Office (PMO) before initiating any new reconstruction projects. Following the official transfer of sovereignty back to the Iraqi government in June 2004, the CPA's role in the reconstruction was replaced by the U.S. State Department, which transferred the PMO's oversight role to the newly created Iraq Reconstruction Management Office (IRMO) which was tasked to oversee and allocate the funds used in executing U.S. assistance programs in Iraq. Presently, the Mission relies on IRMO to assign planned infrastructure projects, along with their approved budgets, to the Mission for implementation.

When USAID must rely on other organizations for approval to initiate new reconstruction projects, it is not fair to blame delays on USAID alone. As is apparent from other sections in the same RIG audit report, at least some delays in funding were attributable to IRMO's failure to provide adequate and timely funds at the time of the award and to release funds during 2004. In its report entitled *Lessons Learned in Program and Project Management*, SIGIR itself notes that "Bechtel was fully mobilized and could have moved forward to increase services throughout Iraq, as PMO awarded the other design-build contracts."³

IV. USAID Costs in Managing Bechtel's Work

The draft report uses incorrect financial data to calculate the administrative cost of managing the Bechtel contract (pages iv and 27). The costs quoted are for the entire USAID/Iraq Mission. During the time period in question, USAID managed much more than just the Bechtel Phase II contract. Please add the qualifier that the costs quoted are for the entire USAID Mission, which managed many more contracts.

² USAID Audit Report: *Audit of USAID/Iraq's Electrical Power Sector Activities* (E-267-05-003-P, June 29, 2005)

³ SIGIR: *Iraq Reconstruction: Lessons Learned in Program and Project Management* (March 2007)

V. Audit Process

Audit Scope Evolution

The scope of the audit changed partway through the effort to lend substantially more emphasis on performance. Bechtel has reported to USAID that it was not contacted by SIGIR about the change in scope. USAID recommends that contractors be advised of such changes.

Prior Relevant Audits

USAID infers from their omission in the prior coverage section on page 34, that at least two relevant audit reports were not taken into consideration in this effort:

1. *Management of the Mansuria Electrical Reconstruction Project*, SIGIR-05-024, January 23, 2006.
2. *Audit of USAID/Iraq's Electrical Power Sector Activities*, E-267-05-003-P, June 29, 2005.

These audit reports offer important perspectives on several of the issues covered in this draft report. USAID believes the draft report would be strengthened if they were cited.

VI. Other Clarifications

Contract End Date and Estimated Costs

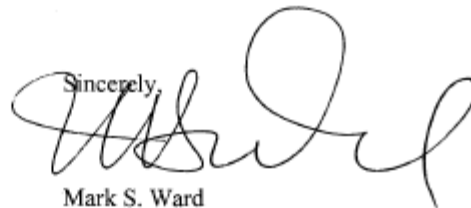
As a simple point for the record, the contract actually ended on March 31, 2007, not February 28 as quoted in the draft report. The total estimated cost (ceiling) was revised to \$1,325,686,817. USAID cannot determine the final total cost of the contract at this point in time, as Bechtel has not yet submitted its final invoice and the contract costs have not been audited.

Statements Regarding the "Value" of Work under the Bechtel Phase II Contract

On page 12, the draft report restates the opinion of "some" U.S. officials engaged in Iraq reconstruction regarding the "value" provided under this contract. As presented the statements imply that the contractor did not deliver value for the

funds provided, but without any factual substantiation either from the persons quoted or the SIGIR audit team. Simple comparisons of the costs between projects are extremely difficult and questionable in an environment such as Iraq. Since the present audit provides ample information on the difficulties working in Iraq, we believe that these unsubstantiated comments should be removed from the report.

Once again, thank you for the opportunity to comment on the draft audit report. USAID hopes that its comments provide SIGIR additional information that can be taken into consideration in the final report.

Sincerely,


Mark S. Ward
Senior Deputy Assistant Administrator
Bureau for Asia and the Near East

Management Technical Comments

Iraq Transition Assistance Office



Embassy of the United States of America
Baghdad, Iraq

July 7, 2007

Mr. Stuart Bowen
Inspector General
Special Inspector General for Iraq Reconstruction
400 Army Navy Drive
Arlington, VA 22202-4704

Dear Mr. Bowen:

Thank you for the opportunity to review the draft audit report SIGIR-07-009 "Review of Bechtel's Spending under its Phase II Iraq Reconstruction Contract" from January 4, 2004 through February 28, 2007, at a total reported cost of \$1.33 billion. In the results section, SIGIR states "Overall, the Phase II contract accomplished a substantial amount of work that contributed to the reconstruction of Iraq...[however], the results on individual projects were mixed." While this report contained no recommendations, and only a "Lessons Learned" section, it raised a number of salient issues:

- The audit report indicates that of the 24 job orders analyzed by SIGIR; original objectives for only 10 job orders were considered as met; original objectives were not considered met for 11; and for the remaining 3 job orders analyzed, SIGIR was unable to determine the original objectives, or the achievements were unclear. This indicates a success rate of less than 42%.
- The audit report states that the Corps of Engineers which was paid \$23.5 million in IRRF II funds by USAID "only had 18 of 37 authorized positions filled to provide the agreed to assistance to USAID" in managing the Bechtel contract. According to the audit, \$157 million was obligated by USAID for its IRRF II administrative expenses. However, "USAID had only two people directly involved in administering the contract—the administrative contracting officer and the cognizant technical officer" for such a large project, which makes up a substantial portion of USAID funding.
- The audit also states that USAID agreed to a 10-day review and payment cycle for Bechtel vouchers, which SIGIR indicates was not adequate. Due to the limited review time agreed to, "USAID did not perform a detailed analysis of the types of costs being incurred." The report indicates that "USAID appeared to have little insight into the kinds of costs being incurred by Bechtel."
- The SIGIR audit further states that physical reconstruction costs comprised only 59% of the total costs with support costs making up 41% of the overall costs, and "...there was still a large miscellaneous category, amounting to \$250 million, categorized as



Embassy of the United States of America
Baghdad, Iraq

“Other” within the largest cost category, which was for subcontracts and other services. This miscellaneous category constitutes 18.8% of the total funding.

- The SIGIR draft audit report makes no recommendations and provides no further analysis of these issues. Instead SIGIR contains a “Lessons Learned” section which makes the following self-evident observations; 1) strong contract administration and adequate staffing are critical to success; 2) a clear understanding and review of costs is also important to contract management; and 3) minimizing support costs makes more money available for reconstruction.

Given the substantial funds involved and apparent deficiencies in management and oversight, ITAO is concerned that the full implications of these findings were not sufficiently addressed in the audit.

ITAO would have preferred the audit to have proceeded further in order to provide more meaningful insights and analysis “...that assess the economy, efficiency, effectiveness and results of Iraq reconstruction programs and operations” as outlined in the SIGIR 2005-2007 Audit Plan, and provide actionable recommendations upon which ITAO can act.

Regards,

A handwritten signature in black ink, appearing to read "Mark A. Tokola".

Mark A. Tokola
Director
Iraq Transition Assistance Office

SIGIR's Mission	<p>Regarding the U.S. reconstruction plans, programs, and operations in Iraq, the Special Inspector General for Iraq Reconstruction provides independent and objective:</p> <ul style="list-style-type: none"> • oversight and review through comprehensive audits, inspections, and investigations • advice and recommendations on policies to promote economy, efficiency, and effectiveness • deterrence of malfeasance through the prevention and detection of fraud, waste, and abuse • information and analysis to the Secretary of State, the Secretary of Defense, the Congress, and the American people through Quarterly Reports
Obtaining Copies of SIGIR Reports and Testimonies	<p>To obtain copies of SIGIR documents at no cost, go to SIGIR's Web site (www.sigir.mil).</p>
To Report Fraud, Waste, and Abuse in Iraq Relief and Reconstruction Programs	<p>Help prevent fraud, waste, and abuse by reporting suspicious or illegal activities to the SIGIR Hotline:</p> <ul style="list-style-type: none"> • Web: www.sigir.mil/submit_fraud.html • Phone: 703-602-4063 • Toll Free: 866-301-2003
Congressional Affairs	<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: hillel.weinberg@sigir.mil</p>
Public Affairs	<p>Denise Burgess Assistant Inspector General for 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: PublicAffairs@sigir.mil</p>