

July 2005

# REBUILDING IRAQ

## Status of Funding and Reconstruction Efforts



G A O

Accountability \* Integrity \* Reliability



Highlights of [GAO-05-876](#), a report to congressional committees

### Why GAO Did This Study

Rebuilding Iraq is a U.S. national security and foreign policy priority and constitutes the largest U.S. assistance program since World War II. Billions of dollars in grants, loans, assets, and revenues from various sources have been made available or pledged to the reconstruction of Iraq. The United States, along with its coalition partners and various international organizations and donors, has embarked on a significant effort to rebuild Iraq following multiple wars and decades of neglect by the former regime. The U.S. effort to restore Iraq's basic infrastructure and essential services is important to attaining U.S. military and political objectives in Iraq and helping Iraq achieve democracy and freedom.

This report provides information on (1) the funding applied to the reconstruction effort and (2) U.S. activities and progress made in the oil, power, water, and health sectors and key challenges that these sectors face.

## REBUILDING IRAQ

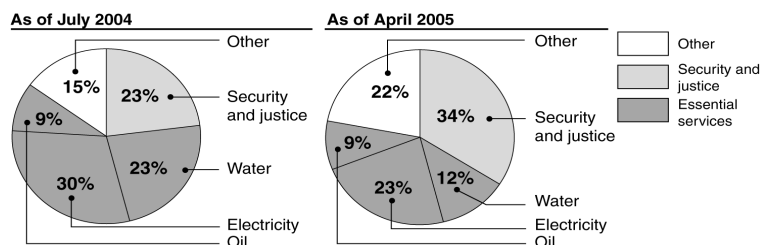
### Status of Funding and Reconstruction Efforts

#### What GAO Found

As of March 2005, the United States, Iraq, and international donors had pledged or made available more than \$60 billion for security, governance, and reconstruction efforts in Iraq. The United States provided about \$24 billion (for fiscal years 2003 through 2005) largely for security and reconstruction activities. Of this amount, about \$18 billion had been obligated and about \$9 billion disbursed. The State department has reported that since July 2004, about \$4.7 billion of \$18.4 billion in fiscal year 2004 funding has been realigned from large electricity and water projects to security, economic development, and smaller immediate impact projects. From May 2003 through June 2004, the Coalition Provisional Authority (CPA) controlled \$23 billion in Iraqi revenues and assets, which was used primarily to fund the operations of the Iraqi government. The CPA allocated a smaller portion of these funds—about \$7 billion—for relief and reconstruction projects. Finally, international donors pledged \$13.6 billion over 4 years (2004 through 2007) for reconstruction activities, about \$10 billion in the form of loans and \$3.6 billion in the form of grants. Iraq had accessed \$436 million of the available loans as of March 2005. As of the same date, donors had deposited more than \$1 billion into funds for multilateral grant assistance, which disbursed about \$167 million for the Iraqi elections and other activities, such as education and health projects.

The U.S. reconstruction effort in Iraq has undertaken many activities in the oil, power, water, and health sectors and has made some progress, although multiple challenges confront each sector. The U.S. has completed projects in Iraq that have helped to restore basic services, such as rehabilitating oil wells and refineries, increasing electrical generation capacity, restoring water treatment plants, and reestablishing Iraqi basic health care services. However, as of May 2005, Iraq's crude oil production and overall power generation were lower than before the 2003 conflict, although power levels have increased recently; some completed water projects were not functioning as intended; and construction at hospital and clinics is under way. Reconstruction efforts continue to face challenges such as rebuilding in an insecure environment, ensuring the sustainability of completed projects, and measuring program results.

**Funding Distribution by Sector of \$18.4 Billion for Iraq Relief and Reconstruction**



Source: GAO analysis of State Department data.

Note: Other includes democracy, education, governance, agriculture, transportation, telecommunications, health, employment, privatization, and administrative costs.

[www.gao.gov/cgi-bin/getrpt?GAO-05-876](http://www.gao.gov/cgi-bin/getrpt?GAO-05-876).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Joseph Christoff at (202) 512-8979 or christoffj@gao.gov.

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**Abbreviations**

bpd	barrels per day
CERP	Commander's Emergency Response Program
CPA	Coalition Provisional Authority
DFI	Development Fund for Iraq
DOD	Department of Defense
IAMB	International Advisory and Monitoring Board
IMF	International Monetary Fund
IRFFI	International Reconstruction Fund Facility for Iraq
IRMO	Iraq Reconstruction and Management Office
PCO	Project Contracting Office
PMO	Project Management Office
UN	United Nations
USACE	U.S. Army Corps of Engineers
USAID	U.S. Agency for International Development

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Washington, D.C. 20548

July 28, 2005

### Congressional Committees

Rebuilding Iraq is a U.S. national security and foreign policy priority and constitutes the largest U.S. assistance program since World War II. In October 2003, the World Bank and United Nations reported that in the summer of 2003 most Iraqis had limited or no access to essential services, that water supplies were contaminated, and that the health system was overburdened. In addition, the lack of basic infrastructure and services, particularly in the electricity sector, had contributed to a lack of security in various parts of the country.<sup>1</sup> As of March 31, 2005, billions of dollars in grants, loans, assets, and revenues from various sources had been made available or pledged to the reconstruction of Iraq. The U.S. effort to restore these services is important to attaining U.S. military and political objectives in Iraq and helping Iraq achieve democracy and freedom.

The reconstruction of Iraq is occurring in a difficult environment. Looting and sabotage of many infrastructure facilities and offices were pervasive after Operation Iraqi Freedom and have continued to varying degrees. In addition, according to senior military officials, the insurgency in Iraq has grown in size, complexity, and intensity and has affected reconstruction priorities. Infrastructure in such areas as the oil, water, and electricity sectors has been subject to attacks. In addition, workers have been threatened, the ability to safely transport materials has been compromised, and access to work sites has been hindered. Another complicating factor in the reconstruction effort, according to Coalition Provisional Authority (CPA) and U.S. officials, has been the state of some Iraqi infrastructure, which was more severely degraded than officials anticipated or initial assessments indicated and was exacerbated by post-2003 conflict looting and sabotage.

This report is part of our effort under the Comptroller General's authority to monitor Iraq reconstruction and is being addressed to you because of your committee's jurisdictions. It provides a broad overview of funding made available for the relief and reconstruction of Iraq, U.S. relief and reconstruction activities for select sectors in Iraq, and challenges associated with these sectors. This report does not link the funding to

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<sup>1</sup>United Nations/World Bank, *Joint Iraq Needs Assessment* (New York, October 2003).

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program results, nor does it evaluate the quality of program results. Specifically, this report provides information on (1) the funding applied to the reconstruction effort and (2) U.S. activities and progress made in the oil, power, water, and health sectors and key challenges that these sectors face.

To address these objectives, we obtained and analyzed records, reports, and data from government officials and contractors, as well as multiple funding databases. We also examined reports of other oversight entities that performed reviews related to contract management, internal controls, and oversight of some CPA and U.S. relief and reconstruction activities. We interviewed U.S. government and former CPA officials and contract personnel in the United States and Iraq. Although we did not travel to Iraq to make project site visits during this period due to security concerns, we interviewed U.S. and Iraqi officials via teleconference and, when possible, in person when these officials traveled to the United States. (See app. 1 for details on our scope and methodology.) We conducted this part of our review from September 2004 through May 2005 in accordance with generally accepted government auditing standards.

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## Results in Brief

As of March 2005, more than \$60 billion had been pledged or made available from U.S. appropriations, Iraqi resources, and international sources for Iraq's reconstruction and government operations. Of this amount, the United States provided about \$24 billion from fiscal year 2003 through 2005, largely for reconstruction activities in security and essential services. As of March 2005, about \$18 billion of this amount provided by the United States had been obligated and about \$9 billion disbursed for activities including infrastructure repair of the electricity and oil sectors; infrastructure repair, training, and equipping of the security and law enforcement sector; and CPA and U.S. administrative expenses. Over the course of the reconstruction effort, this funding has been realigned several times from large-scale infrastructure projects in electricity and water to meet immediate needs in security and economic development and to fund smaller, more visible reconstruction projects. Since July 2004, the United States has reportedly reallocated about \$4.7 billion of the \$18.4 billion fiscal year 2004 emergency supplemental among the various sectors, as priorities have changed. Iraqi revenues and assets—which totaled about \$23 billion in cumulative deposits from May 2003 through June 2004—have largely funded Iraqi government operations. A smaller portion of these funds, approximately \$7 billion, was allocated for relief and reconstruction projects, primarily for the import of refined fuel products, security, regional

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programs, and oil and power projects. Finally, most of the \$13.6 billion pledged by international donors for reconstruction assistance from 2004 through 2007 is in the form of loans—about \$10 billion. The remainder is in the form of grants to be provided multilaterally or bilaterally. As of March 2005, Iraq had accessed \$436 million of the available amount pledged in loans. Donors have deposited grants of more than \$1 billion into a funding mechanism for multilateral assistance to Iraq, which had obligated \$683 million and disbursed about \$167 million to individual projects as of March 2005. These funds were used primarily for reconstruction activities in public and essential services, including support for the Iraqi elections and infrastructure rehabilitation, capacity building, and governance and public sector reform projects.

The United States has undertaken many relief and reconstruction activities in the oil, power, water, and health sectors in Iraq and has made some progress; however, multiple challenges confront each sector. The U.S. program has accomplished activities focused on restoring basic essential services, such as rehabilitating oil wells and refineries to restart Iraq's oil production and export, increasing electrical generating capacity by reportedly adding about 1900 megawatts of generation capacity to Iraq's power grid, restoring some water treatment plants, and reestablishing Iraqi health services by providing vaccines and completing initial health clinic rehabilitation and training projects. However, restoring and sustaining Iraq's crude oil production and export capacity have been slower than originally planned, and these levels were lower in May 2005 than in March 2003. Similarly, Iraq's overall power generation through May 2005 was lower than before the 2003 conflict, although power generation exceeded this level in the latter part of June 2005. Progress in the water sector is difficult to measure, and some completed water construction projects are not functioning as intended. Finally, health care projects to expand the availability of basic health care, such as constructing facilities and providing medical equipment, are under way as of May 2005. Reconstruction efforts continue to face challenges, such as rebuilding in an insecure environment, ensuring the sustainability of projects to be turned over to the Iraqis, and measuring program results.

In commenting on a draft of this report, the U.S. Agency for International Development (USAID) disagreed with our statement that agency metrics for tracking water projects do not show how the U.S. program affects the Iraqi people. USAID stated that the agency tracks increases in the amount of water treated and estimates increases in beneficiary numbers. However, these metrics do not address the quality of water and sanitation services in

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Iraq, which may hinder the U.S. ability to gauge progress toward its goal of providing essential services. The Departments of Defense and State and USAID also provided technical comments.

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## Background

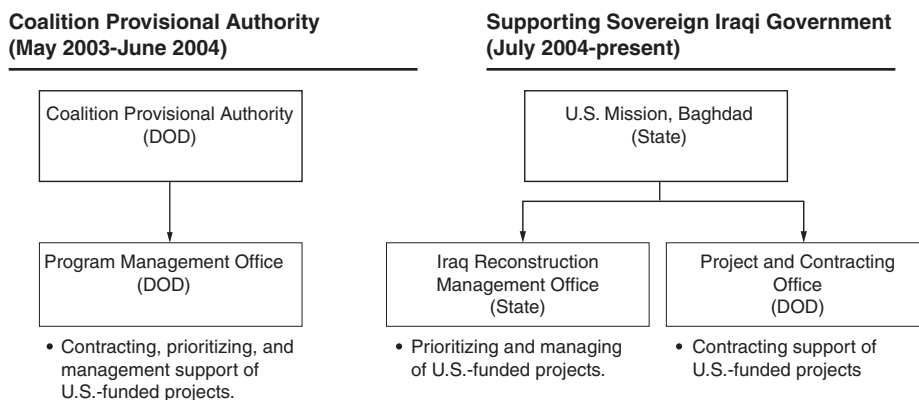
From May 2003 through June 2004, the CPA was the UN-recognized coalition authority led by the United States and the United Kingdom that was responsible for the temporary governance of Iraq and for overseeing, directing, and coordinating the reconstruction effort. Within the CPA, the Project Management Office (PMO) was established to provide prioritization and management of projects and contract support of U.S.-funded reconstruction projects. In May 2004, the President issued a National Security Presidential Directive, which stated that after the transition of power to the Iraqi government, the Department of State (State) through its ambassador to Iraq would be responsible for all U.S. activities in Iraq, with the exception of U.S. efforts relating to security and military operations, which would be the responsibility of the Department of Defense (DOD). On June 28, 2004, the CPA transferred power to a sovereign Iraqi interim government, and the CPA was officially dissolved. At that time, the U.S. role—under DOD leadership—changed from being part of the coalition-recognized authority for temporary governance of Iraq to supporting the sovereign Iraqi government as an ally and friend, under State leadership. Management authority and responsibility of the U.S. reconstruction program also transitioned at that time from DOD to State.

The Presidential Directive also established two temporary offices: the Iraq Reconstruction and Management Office (IRMO) to facilitate transition of reconstruction efforts to Iraq; and the Project and Contracting Office (PCO) to facilitate acquisition and project management support for U.S.-funded reconstruction projects. Iraq-based personnel from both offices are under U.S. chief of mission authority in Baghdad, although the U.S. Department of the Army funds, staffs, and oversees the operations of the PCO. IRMO is a State Department organization and its responsibilities include strategic planning, prioritizing requirements, monitoring spending, and coordinating with the military commander. Under the authority of the U.S. Chief of Mission in Baghdad, the PCO's responsibilities include contracting for and delivering services, supplies, and infrastructure funded



by \$12.4 billion of the \$18.4 billion for Iraq relief and reconstruction in the fiscal year 2004 emergency supplemental passed by the Congress.<sup>2</sup> (See fig. 1.)

**Figure 1: Transition of Reconstruction Management from DOD Authority to State Authority**



Sources: Departments of Defense and State; GAO (analysis).

Other U.S. government agencies also play significant roles in the reconstruction effort. For example, USAID is responsible for projects to restore Iraq's infrastructure, support healthcare and education initiatives, expand economic opportunities for Iraqis, and foster improved governance. The U.S. Army Corps of Engineers (USACE) provides engineering and technical services to the PCO, USAID, and military forces in Iraq, including planning, design, and construction management support for military and civil infrastructure construction.

<sup>2</sup>This was the amount apportioned to PCO as of April 2005. See Emergency Supplemental Appropriations Act for Defense and for the Reconstruction of Iraq and Afghanistan, 2004, P.L. 108-106.

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## Multiple and Diverse Funding Sources Support Iraq Reconstruction and Government Operations

As of March 2005, U.S. appropriations, Iraqi revenues and assets, and international donor pledges totaling about \$60 billion had been made available to support the relief and reconstruction and government operations of Iraq. U.S. appropriations of more than \$24 billion for relief and reconstruction activities have been used largely for security and essential services—including the repair of infrastructure, procurement of equipment, and training of Iraqis—and have been reallocated over time as priorities have changed.<sup>3</sup> Iraqi revenues and assets, which totaled about \$23 billion in cumulative deposits, were turned over to the new Iraqi government in June 2004 and have largely funded the operating expenses of the Iraqi government. International donor funds have been primarily used for public and essential service reconstruction activities; however, most of about \$13.6 billion pledged over a 4-year period is in the form of potential loans that have not been accessed by the Iraqis.<sup>4</sup>

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## U.S. Appropriated Funding Focused on Infrastructure Repair and Training of Forces; Funding Has Been Reallocated as Priorities Changed

As of March 2005, of the \$24 billion in appropriated U.S. funds made available for relief and reconstruction in Iraq from fiscal years 2003 through 2005, about \$18 billion had been obligated and about \$9 billion had been disbursed.<sup>5</sup> These funds were disbursed for activities that include infrastructure repair of the electricity and oil sectors; infrastructure repair, training, and equipping of the security and law enforcement sector; and CPA and U.S. administrative expenses. Many current U.S. reconstruction efforts are consistent with initial efforts the CPA developed before June 2004. As priorities changed, particularly since the transition of power to the Iraqi Interim Government, the U.S. administration reported that it had

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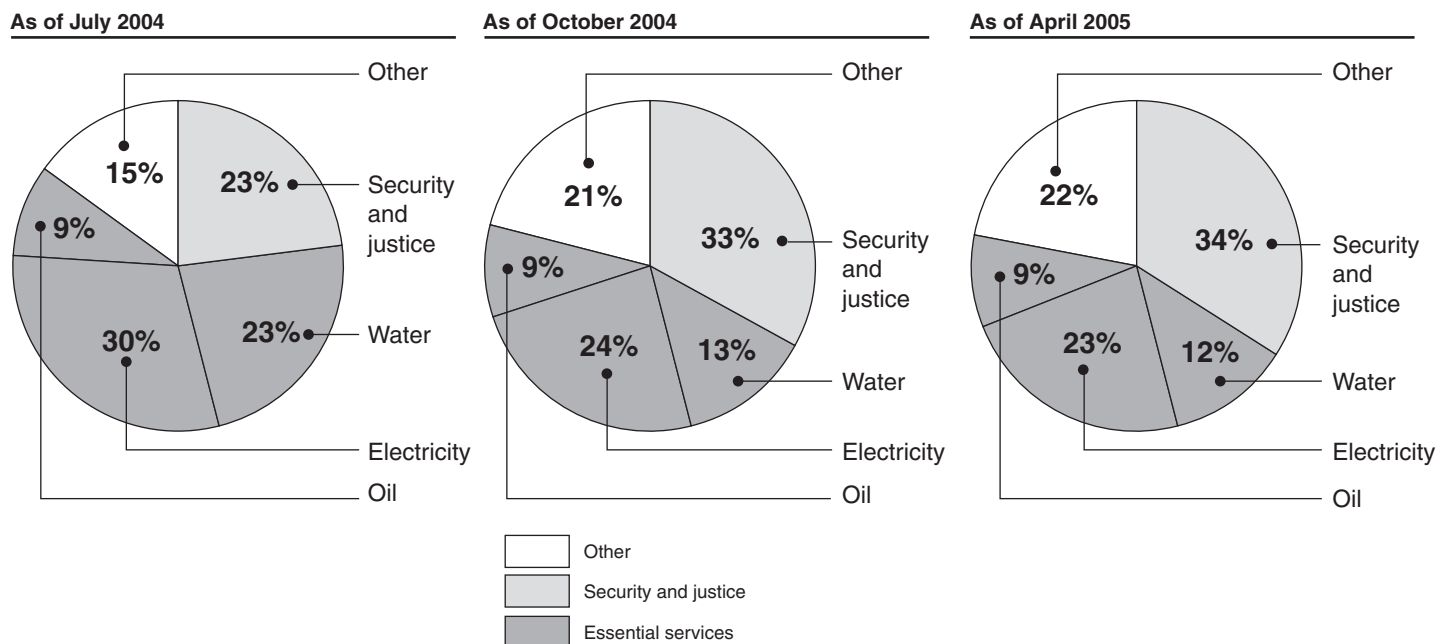
<sup>3</sup>Reconstruction activities include infrastructure rehabilitation and construction, equipment procurement, operations and maintenance training, and capacity building.

<sup>4</sup>The World Bank Group defines a pledge as an indication of intent to mobilize funds for which an approximate sum of contribution is specified. International donor pledges for Iraq range from \$13.6 billion to \$17.3 billion, reflecting the range of loans pledged by the World Bank and International Monetary Fund (IMF). This amount does not include identified humanitarian assistance or export credits and guarantees. Given the uncertainty of the ultimate amount of loans to be provided by the World Bank and IMF, we have used the lower pledge amount in this report.

<sup>5</sup>This amount does not include \$5.7 billion appropriated in May 2005 for assistance to the Iraqi security forces in the Emergency Supplemental Appropriations Act for Defense, the Global War on Terror and Tsunami Relief, 2005, P.L. 109-13. In addition, it does not include \$325 million from the same Act, which according to DOD, was released for the Commander's Emergency Response Program in Iraq.

reallocated about \$4.7 billion of the \$18.4 billion fiscal year 2004 emergency supplemental among the various sectors. (See fig. 2.) These reallocations were reported in October 2004, January 2005, and April 2005. As of May 2005, the administration was assessing whether additional reallocations would be needed for short-term reconstruction efforts.

**Figure 2: Funding Distribution by Sector of the \$18.4 Billion for Iraq Relief and Reconstruction in the Fiscal Year 2004 Emergency Supplemental**



Source: GAO analysis of State Department data.

Note: Other includes democracy, education, governance, agriculture, transportation, telecommunications, health, employment, privatization, and administrative costs.

In October 2004, the administration reported that it had reallocated appropriated funds from the \$18.4 billion fiscal year 2004 emergency supplemental based on a review of all U.S. reconstruction funding priorities. The administration reported that it had reprogrammed about \$1.8 billion to security and law enforcement and about \$1.2 billion to economic and private sector development and governance activities. These funds were reallocated from future water and electricity infrastructure projects. In addition, about \$450 million in the oil sector had been reprogrammed from refined fuel imports to oil reconstruction projects.

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This review, prompted by both the transition from the CPA to a new State Department-led mission and a significant increase in insurgent activity in mid-2004, determined that the deteriorating security situation, the desire of the interim Iraqi government to quickly expand its security forces, and the need to create more jobs for the Iraqi people demanded a significant reallocation of funding.

In January 2005, the administration reported that it had reallocated \$457 million. The administration reported that \$246 million of this amount was for smaller projects to provide immediate and visible essential services in four cities—Fallujah, Samarra, Najaf, and Sadr City—affected by coalition battles with the insurgents. According to agency documents and officials, these services included critical health needs, power distribution, and potable water projects. This funding was shifted from longer term power generation, transmission, water, and hospital projects. The remaining \$211 million of the reallocated funds was redistributed within the electricity sector from longer range transmission projects to more immediate needs, such as spare parts procurements, turbine upgrades, and repair and maintenance programs.

In April 2005, the administration reported that it had reallocated \$832 million—\$225 million for job creation activities and \$607 million for essential services projects and programs. To fund these efforts, the embassy cancelled five longer term potable water projects and future energy projects. The \$225 million reallocation for job creation activities primarily includes activities in targeted Baghdad neighborhoods and through USAID's Community Action Program throughout Iraq.<sup>6</sup> Of the \$607 million reallocation for essential services, \$444 million is for the electricity sector, including operations and maintenance projects at a number of strategic power plants to reportedly enhance the sustainability of ongoing projects, the completion of several electricity generation and rehabilitation projects, and the coverage of cost growth due to increased security costs in the electricity sector. The remaining funds allocated for essential services programs include funds for gas/oil separation plants, operations and maintenance projects for water treatment plants recently turned over to the Iraqis, and prison and courthouse security projects.

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<sup>6</sup>Subsequently, in July 2005, the administration reported that in response to congressional action it intended to reallocate \$20 million of this amount to democracy-building activities.

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## Iraqi Revenues and Assets Funded Iraqi Government Operations with Limited Focus on Reconstruction

Iraqi funds, which totaled about \$23 billion in cumulative deposits from May 2003 through June 2004, are a mix of revenues and assets that the CPA used primarily to support the Iraqi budget for operating expenses, such as salary payments and ministry operations. A smaller portion of the \$23 billion—approximately \$7 billion—was allocated for relief and reconstruction projects, primarily for the import of refined fuel products, security, regional programs, and oil and power projects. These Iraqi funds came from revenues in the Development Fund for Iraq (DFI)<sup>7</sup> and vested and seized assets from the previous Iraqi regime. Of the \$23 billion, nearly \$17 billion had been disbursed as of June 28, 2004.

The DFI was initially comprised of Iraqi oil proceeds, UN Oil for Food program surplus funds, and returned Iraqi government and regime financial assets.<sup>8</sup> From May 2003 to June 2004, nearly \$21 billion had been deposited, \$17 billion allocated, and \$14 billion disbursed. The CPA turned DFI stewardship over to the new Iraqi government in June 2004.<sup>9</sup> The majority of the funding had been used for Iraqi ministry operations, including salaries and other Iraqi budget support. Iraqi oil revenues continued to be deposited into the DFI after June 28, 2004. According to State Department estimates, about \$18 billion in oil revenues had been deposited into the DFI since the transition from the CPA to the interim Iraqi government, as of May 31, 2005.

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<sup>7</sup>According to U.N. Security Council Resolution 1483, the funds deposited into the DFI were to be used to meet the costs of Iraqi civilian administration, humanitarian needs, infrastructure repairs, economic reconstruction, and other purposes benefiting the people of Iraq. The resolution also noted that independent public accountants, approved by the International Advisory and Monitoring Board (IAMB), are to audit the DFI. The IAMB's terms of reference define its oversight responsibilities, which include evaluating the public accountant's reports, monitoring internal controls and financial reporting, and directing special audits.

<sup>8</sup>As directed under U.N. Security Council Resolution 1483, 95 percent of oil proceeds are to be deposited into the DFI. The remaining 5 percent of oil proceeds are to be deposited into a U.N. Compensation Fund account to process and pay claims for losses resulting from Iraq's invasion and occupation of Kuwait.

<sup>9</sup>According to agency documents and officials, after the transition, the Iraqis approved the transfer of about \$3 billion in funds for remaining obligations that had been made by the CPA before June 28, 2004. As of April 30, 2005, about \$1 billion of this \$3 billion remained to be disbursed.

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The vested assets were former Iraqi regime funds frozen and held in U.S. financial institutions after the first Persian Gulf War and subsequently vested by the President in the U.S. Treasury in March 2003.<sup>10</sup> In addition, assets of the former regime were seized by coalition forces within Iraq. These combined vested and seized assets totaled about \$2.65 billion and had largely been obligated and disbursed by the time the CPA transferred authority to the Iraqi Interim Government.<sup>11</sup> The vested and seized assets were used primarily on ministry operations, salaries, and regional programs, such as the Commander's Emergency Response Program.<sup>12</sup>

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**International Reconstruction Assistance Supports Public and Essential Service Reconstruction Activities, but Pledges Are Mostly Loans**

International donors' funds have been largely used to support public and essential service reconstruction activities; however, most of donors' pledges are in the form of loans that have not been accessed by the Iraqis. International donors have pledged about \$13.6 billion in support of Iraq reconstruction over a 4-year period from 2004 through 2007. Of this amount, about \$10 billion, or 70 percent, is in the form of loans, primarily from the World Bank and International Monetary Fund (IMF). Donors have pledged the remaining \$3.6 billion as grants, to be provided multilaterally or bilaterally.

Of the \$10 billion in loans pledged over the 4-year period, about \$1 billion was pledged to be provided to Iraq in 2004. As of March 31, 2005, Iraq had accessed \$436 million of the available amount. The IMF provided a \$436 million emergency post-conflict assistance loan to Iraq in September 2004 to facilitate Iraqi debt relief. According to a State Department official, the Iraqi government is currently in discussions with the World Bank and the government of Japan about lending programs, which total \$6.5 billion.

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<sup>10</sup>In March 2003, the President used authorities in the International Emergency Economic Powers Act (50 USC § 1701 et seq.), as amended by provisions in the USA PATRIOT Act of 2001 (P.L. 107-56), to confiscate the property of the former Iraqi regime under U.S. jurisdiction and vest the assets in the U.S. Treasury.

<sup>11</sup>As of April 30, 2005, about \$145 million remained to be paid against liabilities incurred using these assets, according to agency documents and officials.

<sup>12</sup>As of June 2005, the Commander's Emergency Response Program (CERP) has received about \$1.4 billion, which includes DFI, Iraqi seized assets, and appropriated funds, according to DOD. According to agency documents and officials, these funds are disbursed in the form of small grants to military commanders to support a range of local relief, reconstruction, and rule of law activities.

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Of the \$3.6 billion in grants pledged over the 4-year period, about \$700 million was pledged to be provided to Iraq in 2004, some of which would be provided multilaterally and some bilaterally. The established mechanism for channeling multilateral assistance to Iraq is the International Reconstruction Fund Facility for Iraq (IRFFI), which is composed of two trust funds, one run by the United Nations Development Group and the other by the World Bank Group. As of March 31, 2005, more than \$1 billion had been deposited into these funds; the largest deposits were made by Japan (\$491 million), the European Commission (\$227 million), and the United Kingdom (\$127 million). Of that amount, about \$683 million had been obligated and about \$167 million had been disbursed to individual projects.

Of the \$167 million disbursed by the IRFFI, the UN trust fund had disbursed about \$155 million for projects in 11 categories, as of March 2005. Currently, the largest portion of UN trust fund disbursements has been made to activities that support the electoral process (about \$87 million), education and culture (about \$25 million), health (about \$13 million), and infrastructure and housing (about \$12 million). The remaining disbursements have supported activities in refugee assistance; agriculture, water resources, and the environment; food security; governance and civil society; water and sanitation; poverty reduction and human development; and mine action. Funds for projects are disbursed to participating UN agencies for implementation. The World Bank trust fund has disbursed \$12 million for projects that include capacity building, textbooks, school and health rehabilitation, water and sanitation projects, and private sector development. The World Bank is implementing a capacity-building project, and the Iraqi ministries are implementing the remaining projects.

Donors have also provided bilateral assistance for Iraq reconstruction activities; however, complete information on this assistance is not readily available. As of April 6, 2005, the State Department had been able to identify about \$1.3 billion—of the \$13.6 billion pledged—in funding that donors had provided as bilateral grants directly to Iraqi institutions, implementing contractors, and non-governmental organizations for reconstruction projects outside the International Reconstruction Fund Facility for Iraq. As we reported in June 2004, the United States was working with the Iraqis to develop a database for tracking all bilateral commitments made to reconstruction activities in Iraq. One year later, this database for tracking all donor assistance projects in Iraq remained under

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development with assistance from the United States and the UN.<sup>13</sup> In March 2005, the UN gave Iraqi staff of the Ministry of Planning and Development Cooperation a 7-day training session in the use and management of this database. The UN plans to provide technical and management support to the ministry and additional training over the next year. According to a State Department official, the database was planned to be operational in time for the IRFFI Donor Committee meeting in Amman, Jordan, which was held July 18-19, 2005.

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## Some Progress Achieved in Select Sectors While Facing Significant Challenges

The U.S. efforts to reconstruct Iraq's essential services sectors have shown some progress to date yet continue to face significant challenges. Of the approximately \$9 billion of appropriated funds the United States had disbursed for reconstruction, as of March 31, 2005, approximately \$3.1 billion had been spent on restoring Iraq's oil, electricity, water and health sectors.<sup>14</sup> Overall, the U.S. program in these sectors has accomplished activities that focused on essential services restoration, such as refurbishing and repairing oil facilities, increasing electrical generating capacity, restoring water treatment plants, and expanding the availability of basic health care. Initial activities to restart the oil infrastructure have largely been completed; however, activities to sustain production and export levels have been slower than originally planned and these levels remained below pre- March 2003 conflict capacity, as of May 2005. Progress has been made in rehabilitating electric facilities and generation capacity has been increased. Overall production levels for the electricity sector were lower in May 2005 than before the March 2003 conflict, although power generation exceeded this level for the latter part of June 2005. While the water and sanitation program has made some progress toward completing a reduced scope of activities, this progress has been difficult to measure and some completed projects have not functioned as intended. The U.S. program to expand basic health care has made progress in helping reestablish health services in Iraq, but larger health infrastructure projects remained under way as of May 2005. Implementation of the U.S.

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<sup>13</sup>In response to our draft report, the State Department told us that this database had been transferred to the Iraqis.

<sup>14</sup>This amount does not include appropriated funding for reconstruction activities in these sectors under the Commander's Humanitarian Relief and Reconstruction Program, Commander's Emergency Response Program, USAID's Community Action Program, USAID's Office of Transition Initiatives, or Office of Foreign Disaster Assistance programs.



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reconstruction program in these sectors continues to face challenges, such as security, sustainability, and the measurement of program results.

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## Restoring and Sustaining Iraq's Crude Oil Production and Export Have Been Slower Than Originally Planned

U.S. efforts in the oil sector have focused largely on (1) restoring Iraq's oil infrastructure to prewar production and export capacity, (2) delivering refined fuels for domestic consumption, and (3) developing oil security and pipeline repair teams. More than \$5 billion in U.S. and Iraqi funds has been made available for these efforts. Progress to date on U.S. activities has been slower than planned due to a number of factors, including the security environment and difficulties associated with funding, project prioritization, contractor reporting, the contract management processes, and Iraq's political transitions. The oil sector faces challenges that include establishing effective infrastructure security forces and pipeline repair teams; addressing issues related to domestic refined fuel supply and consumption; and defining the oil sector's organizational structure, foreign investment framework, and energy priorities.

## Background

Iraq's economy is highly dependent on revenues from crude oil export, and its population is dependent on having sufficient refined fuels for power generation, cooking, heating, and transport. According to the State Department, Iraq's oil export revenues are expected to account for at least 90 percent of Iraq's projected 2005 budget revenues. This revenue is essential to Iraq's ability to provide for its own needs, including reconstruction. Iraq's oil infrastructure is an integrated network that includes oil fields and wells, pipelines, pump stations, refineries, gas/oil separation plants, gas processing plants, and export terminals and ports. This infrastructure has deteriorated significantly over past decades due to war damage, inadequate maintenance, and the limited availability of spare parts, equipment, new technology, and financing. U.S. agency documents estimated Iraq's 2003 actual pre war crude oil production at 2.6 million barrels per day (bpd) and export levels at 2.1 million bpd.<sup>15</sup> Considerable looting after Operation Iraqi Freedom and continued attacks on crude and refined product pipelines have contributed to Iraq's reduced oil production and export capacities.

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<sup>15</sup>According to Iraqi estimates, 2002 production and export levels averaged about 2.2 million bpd and 1.5 million bpd, respectively, and 2003 crude production levels reached 2.8 million bpd.

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## U.S. Activities and Projects

About \$2.7 billion of U.S. appropriated funds and \$2.7 billion in Iraqi funds have been made available for U.S. efforts to support Iraq's oil sector.<sup>16</sup> These efforts focus largely on (1) restoring Iraq's oil infrastructure to sustainable prewar crude oil production and export capacity, (2) delivering and distributing refined fuels for domestic consumption, (3) developing oil security and pipeline repair teams, and (4) providing technical assistance for organizing and sustaining Iraq's oil industry. Specific U.S. activities and projects for the restoration of Iraq's oil production and export capacity include restoring the Qarmat Ali water reinjection and treatment plant to create and maintain sufficient oil field pressure in the Rumailah oil field; repairing the Al-Fathah oil pipeline crossing; restoring several gas and/or oil separation plants near Kirkuk and Basrah; and repairing natural gas and liquefied petroleum gas plant facilities in southern Iraq.<sup>17</sup> U.S. activities also include the restoration of wells, pump stations, compressor stations, export terminals, and refineries, and providing electrical power to many of these oil facilities.<sup>18</sup> According to agency and contracting officials, the United States provides primarily procurement, engineering, technical expertise and some construction services for these projects. Iraq oil company employees conduct some repair operations and construction.

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<sup>16</sup>Iraqi fund amounts are based on reporting by U.S. government officials and KPMG, the external auditor for the International Advisory and Monitoring Board, and are as of December 31, 2004.

<sup>17</sup>According to USACE documents, Iraq's gas/oil separation plants, or GOSPs, separate crude from natural gas liquids and serve approximately 12 to 50 oil wells. Processing some of these liquids results in the production of liquefied petroleum gas, which is used primarily in Iraq for cooking and heating.

<sup>18</sup>The electrical power element of this activity is specifically dedicated to oil production, pumping, refining, and other oil sector operations separate from the national electricity system.

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In addition to infrastructure restoration activities, the United States facilitated and oversaw the purchase, delivery, and distribution of refined fuels throughout Iraq, primarily using DFI funds from late May 2003 through August 2004. Used for cooking, heating, personal transportation, and private power generation, these imports were required to supplement domestic production due to increased demand and Iraq's limited refining capacity.<sup>19</sup> The responsibility for this effort was transferred to Iraq's State Oil Marketing Organization after August 2004. The United States also assisted in developing an oil security force and pipeline repair teams to respond to looting, sabotage, and sustained attacks, primarily on oil pipelines. Finally, the United States also provided technical assistance and support to the Iraqi Ministry of Oil to define Iraq's operational, legal, policy, and investment frameworks for the industry.

## Assessment

Although some activities to restart Iraq's oil production and export have been completed, the implementation of the U.S. program to assist in restoring and sustaining Iraq's crude oil production and export levels to pre-March 2003 capacity has been slower than originally planned. Of the \$2.7 billion in appropriated funds for the oil sector, the United States had obligated about \$2 billion and disbursed \$1.1 billion, as of March 31, 2005. In addition, of the \$2.7 billion in Iraqi funds, about \$215 million had been spent on these infrastructure restoration efforts. Initial production and export targets were reached in 2003 and early 2004 as U.S. efforts were made to complete assessments and quick repair projects, provide dedicated power, and procure spare parts and equipment.<sup>20</sup> Since November 2004, however, crude oil production and export levels have not been sustained primarily due to pipeline attacks and a natural decline in production resulting from years of improper reservoir management, according to U.S. and former CPA officials. From December 2004 through May 2005, estimated production and export levels remained relatively constant at about 2.1 million bpd and 1.4 to 1.6 million bpd, respectively.

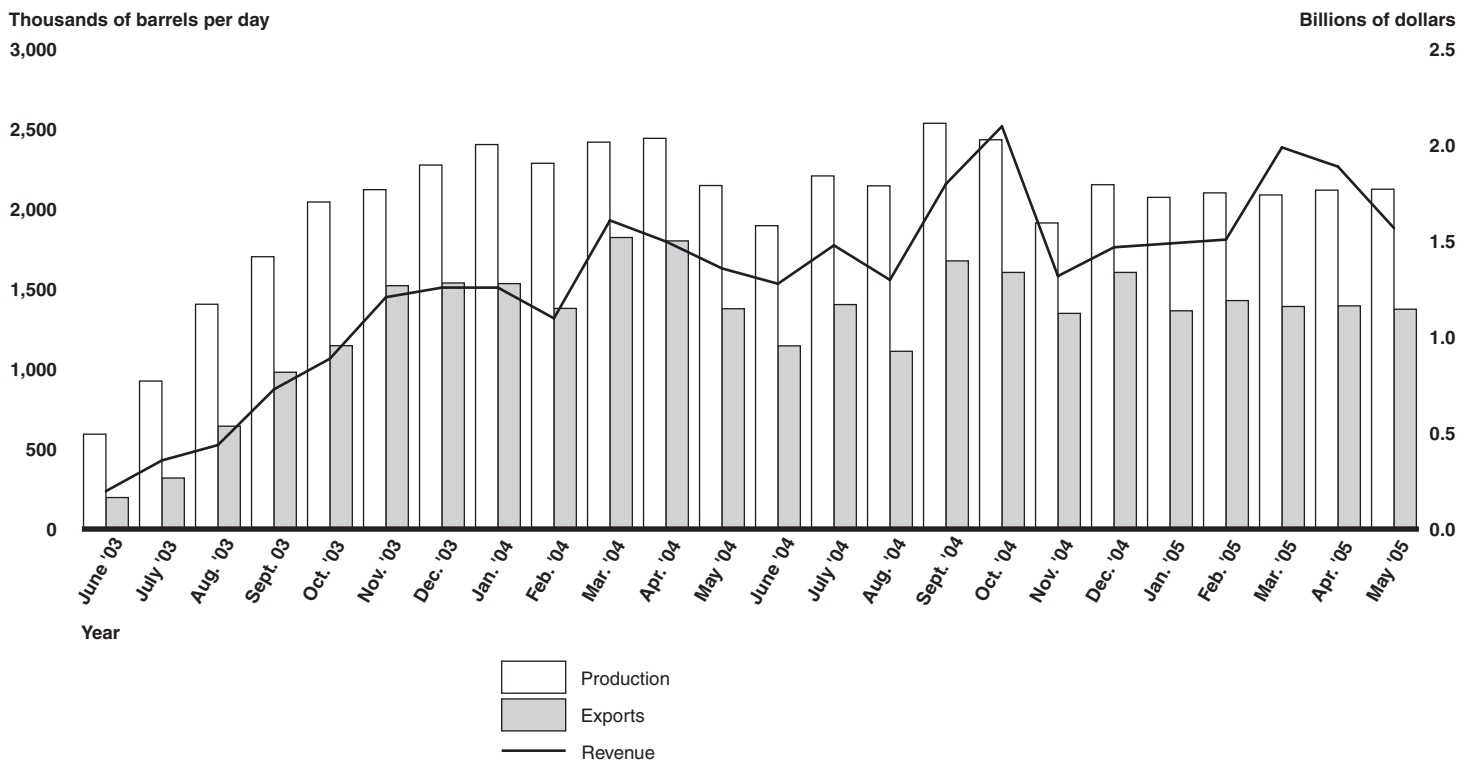
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<sup>19</sup>U.S. activities to improve refineries have focused on assisting the Iraqis in improving the reliability and capacity of existing refineries. According to agency officials, this included providing expertise to help identify key areas for project improvements and procuring associated spare parts, materials, and equipment to operate the refineries at levels close to maximum capacity.

<sup>20</sup>As of June 2005, DOD and the contractor were reaching agreement on the number and final cost of these oil restoration projects, including the expected price of the work completed.

(See fig. 3.) Targets for December 2005 are to reach 2.8 million bpd in production and 1.8 million bpd in exports.<sup>21</sup>

**Figure 3: Iraqi Oil Production, Export, and Revenue, June 2003 through May 2005**



Source: Department of State estimates.

<sup>21</sup>A large portion of the crude oil that is not exported is used to create refined fuels for domestic use, such as liquefied petroleum gas for cooking. According to a UN document, 600,000 bpd of crude oil is needed to meet the domestic requirement. Iraq's 2005-2007 National Development Strategy stated that Iraq's refining capacity is approximately 550,000 bpd. In commenting on our draft report, State noted that actual performance of the refining sector has been less than 500,000 bpd.

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Several U.S. government, former CPA, and contractor officials stated that funding uncertainties, project reprioritizations, inadequate contractor reporting,<sup>22</sup> and frequent changes in contract management procedures or processes have impeded progress. In addition, some officials stated that the overall security environment has slowed their ability to obtain or move equipment, materials, and personnel, in some cases delaying project progress. Some officials estimated that a combination of these factors have contributed to delays of 2 to 6 months at different points in the oil sector program's overall implementation. Some significant projects experienced further delays from late 2004 to early 2005 due to security, technical, or legal problems that over the past several months, according to agency officials, resulted in lower crude oil production or export. For example, one significant project to provide water and field pressure maintenance in southern Iraq could not be fully utilized, primarily due to associated infrastructure degradation, thus limiting the facility's operations and Iraq's level of crude oil production. In general, most larger scale, higher dollar projects are either under way or scheduled to begin by August 2005, and IRMO officials stated that sector efforts are focused on a defined set of projects that the Ministry of Oil agreed to in November 2004. As of May 2005, U.S. officials and reporting indicated that the overall program is scheduled to be completed by mid- to late-2006.

U.S. efforts directly facilitated the CPA's purchase and delivery of imported gasoline, liquefied petroleum gas, kerosene, and diesel for domestic use in Iraq. About \$2.3 billion of the \$2.7 billion in Iraqi funds was used to purchase, supply, and distribute these refined fuel products. These efforts required the coordination of significant trucking operations and military convoys to move considerable quantities of fuels and to increase the capacity to download these fuels at several supply points throughout Iraq. Although no longer responsible for the purchase and delivery of these refined fuels, U.S. agencies continue to monitor Iraq's efforts to maintain a 15-day supply of refined fuel stocks. Although estimated national supply levels were low from November 2004 to March 2005, U.S. agency documents report that levels of these products improved and, as of May

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<sup>22</sup>U.S. officials and documents reported that a prime contractor's inadequate reporting of costs has been detrimental to the oil sector program's ability to accurately assess project progress and associated costs. According to U.S. officials and documents, primarily due to this issue, some remaining unawarded work was moved from this contractor to another contractor. According to agency and contractor officials and documents as of June 30, 2005, the action taken by the contractor to improve its reporting had been determined to meet government requirements.

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2005, only diesel stocks remained significantly below the 15-day supply targets. However, agency reporting also noted distribution problems such as criminal attacks on delivery trucks, sabotage to domestic product lines, and black market activity related to the sale of these products. These problems continue to negatively affect the population's access to these fuels for their daily needs.

Of the \$2.7 billion of Iraqi funds made available for the oil sector, about \$170 million was used to develop oil security and pipeline repair teams.<sup>23</sup> CPA oil security efforts included the establishment of a U.S. task force to manage the training and equipping of an oil security force. This effort began in late 2003 and focused primarily on guarding fixed facilities and, to a lesser extent, patrolling pipelines. The oil security force numbers reached over 14,000 as of June 2004, according to agency officials; however, in responding to our draft report State indicated that this force was not staffed, trained, or equipped to patrol pipelines. Because the number and intensity of pipeline attacks increased during the summer and fall of 2004, the overall effectiveness of this force has been difficult to gauge. In responding to our draft report, State indicated that this level of attacks demonstrates the effectiveness of the insurgency in Iraq and the inability of coalition forces to register the security of the oil infrastructure as a high priority. According to agency documents, the Ministry of Oil assumed responsibility for these security personnel in December 2004.

In a related effort, the CPA established an emergency response organization in early 2004 to rapidly return damaged pipelines to service. The primary contractor was responsible for a certain number of repairs; it was also responsible for training repair crews and providing new tools and techniques to sustain this effort after its August 2004 contract expiration. In July 2004, the U.S. government indicated that the contractor's performance was unsatisfactory and withheld funds. According to U.S. officials and documents, in August 2004 IRMO mobilized an emergency repair team; in February 2005, the Ministry of Oil mobilized a second emergency repair team; and responsibilities for these efforts were being transitional to the Iraqis as of June 2005.

## Challenges

Iraq's economy relies on oil revenues to support its budget. In the near term, Iraq is dependent on the completion of several of the U.S. program's

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<sup>23</sup>According to agency documents and officials, \$9 million of U.S. appropriated funds were also set aside for emergency pipeline response repair.

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infrastructure projects, whose successful operations are expected to generate revenues to support Iraq's 2005 budget. In addition to this challenge, the Iraqis face shorter and longer term oil sector challenges that include training, equipping, and funding effective infrastructure security forces and pipeline repair teams; addressing issues related to domestic refined fuel supply and consumption; and defining the oil sector's organizational structure, foreign investment framework, and energy priorities, among others.

- Attacks against the oil infrastructure continue and limit Iraq's ability to export crude oil and distribute refined products domestically. The United States and Iraq have attempted to establish infrastructure security forces as well as emergency response teams to address this issue. However, difficulties in determining organizational responsibility and funding for such efforts have impeded their completion and contributed to insufficient protection of oil infrastructure, particularly pipelines. According to agency reporting in April 2005, plans were being discussed to provide mobile security for pipelines. In addition, in response to our draft report DOD told us in July 2005 that the Iraqi government, with Coalition support, is leading an effort to enhance oil infrastructure security.
- CPA and U.S. officials have emphasized the importance of restoring Iraq's refinery capacity to increase the supply of refined fuel products for domestic use and to decrease the amount spent on refined product imports. According to a former agency official, replacing existing refineries with modern technology facilities may require \$6 to \$7 billion over a 10-year period, while fuel imports cost over \$2 billion annually. Iraq subsidizes the refined fuels it imports and produces, and the price of these fuels is less than a few cents per liter. U.S. officials have reported that low prices also encourage black market activity such as smuggling or the purchase and resale of refined products, both of which can ultimately result in local distribution shortages and insufficient access to these needed fuels. CPA and U.S. officials have provided assistance to the Iraqis in developing refined fuel pricing reform strategies. Iraq committed to increase the domestic prices of refined products to generate an estimated \$1 billion in revenues in 2005, according to IMF and agency documents. However, potentially negative popular reaction may make it difficult for the Iraqis to implement any repricing strategies at this time.

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- Iraq's framework for managing its oil industry and the use of its energy resources is not yet defined. Decisions by Iraq's new government may alter how the country runs its oil operations and may also influence the amount and type of capital investment that Iraqis and foreigners are willing to provide. In addition, establishing regulations for resource management and revenue distribution are part of the Iraqi government's current effort to draft a constitution. Outcomes of these activities will affect Iraq's overall economic goals and priorities.

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## Electricity Production Lower in May 2005 Than before the March 2003 Conflict

U.S. efforts in the electricity sector have focused on restoration and construction of Iraq's electrical system. As of March 31, 2005, about \$5.7 billion—about \$4.9 billion in appropriated funds and \$816 million in Iraqi funds—had been made available to provide electricity services that meet Iraq's national needs. Some progress was made in restoring Iraq's electricity infrastructure, reportedly adding about 1900 megawatts<sup>24</sup> of generating capacity to Iraq's power grid between March 2003 and May 2005. Iraq's overall power generation was lower through May 2005 than before the 2003 conflict, although power generation exceeded this level for the latter part of June 2005. The causes for lower overall power generation included planned and unplanned maintenance needs for power stations and fuel shortages. The electricity sector faces a number of challenges to meeting Iraq's electricity needs, including the lack of appropriate fuel supplies, Iraqi operation and maintenance capacity, the unstable security environment, financing needs for distribution projects, and effective management of electricity generation and distribution.

## Background

According to senior U.S. agency officials, Iraq's electricity infrastructure was in worse condition following the 2003 conflict than initially anticipated or reported in the 2003 UN/World Bank needs assessment. The report noted the severe degradation of Iraq's generating capacity—from about 5,100 megawatts in 1990 to about 2,300 megawatts post-1991 Gulf War—largely due to war damage to generation stations. Although the report notes that production was restored to about 4,500 megawatts before the 2003 conflict, U.S. officials said that Iraq's electrical infrastructure had experienced significant deterioration due to the war and years of neglect under Saddam's regime. Spare parts were largely unavailable when UN sanctions

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<sup>24</sup>A megawatt is a measurement of the rate at which electric energy can be transferred and is used as a measure of electric generation capacity.



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were in place between 1991 and 2003. Equipment and facilities had not been maintained and required significant overhauls. In addition, some facilities and transmission lines were damaged by U.S. forces during the 1991 Gulf War or by the looting and vandalism of facilities following the 2003 conflict.

#### U.S. Activities and Projects

About \$4.9 billion in appropriated and \$816 million in Iraqi funds from the DFI have been made available for U.S. reconstruction efforts in the electricity sector. These efforts focus on restoring or constructing generation, transmission, distribution, and automated monitoring and control systems in Iraq's electrical system. Other projects have included capacity building<sup>25</sup> and training security forces to protect the electrical infrastructure. According to agency documentation, the majority of financial assistance in this sector has focused on generation projects, such as rehabilitating and repairing existing equipment or procuring and installing new turbines and generators. Transmission projects, such as erecting transmission towers and stringing transmission lines, have been another significant focus.

#### Assessment

Although some progress has been made in rehabilitating many Iraqi electric facilities as of May 2005, electricity production in Iraq was lower than before the March 2003 conflict. However, for the latter part of 2005 power generation exceeded this level. Of the \$4.9 billion appropriated as of March 31, 2005, the United States had obligated \$3.7 billion and disbursed \$1.7 billion, mostly for generation projects to repair existing equipment or procure new turbines and generators for power plants.<sup>26</sup> In addition, of the \$816 million in Iraqi funds authorized for U.S. activities in the electricity sector, about \$758 million had been disbursed as of March 31, 2005.

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<sup>25</sup>Capacity building includes training to build management capability within the ministry and operations and maintenance capability at the power stations.

<sup>26</sup>This amount does not include appropriated or Iraqi funding disbursed for electricity sector activities from the Commander's Humanitarian Relief and Reconstruction Program, Commander's Emergency Response Program, Rapid Regional Response Program, Accelerated Iraqi Reconstruction Program, or USAID's Community Action Program, Office of Transition Initiatives programs, or Office of Foreign Disaster Assistance programs.

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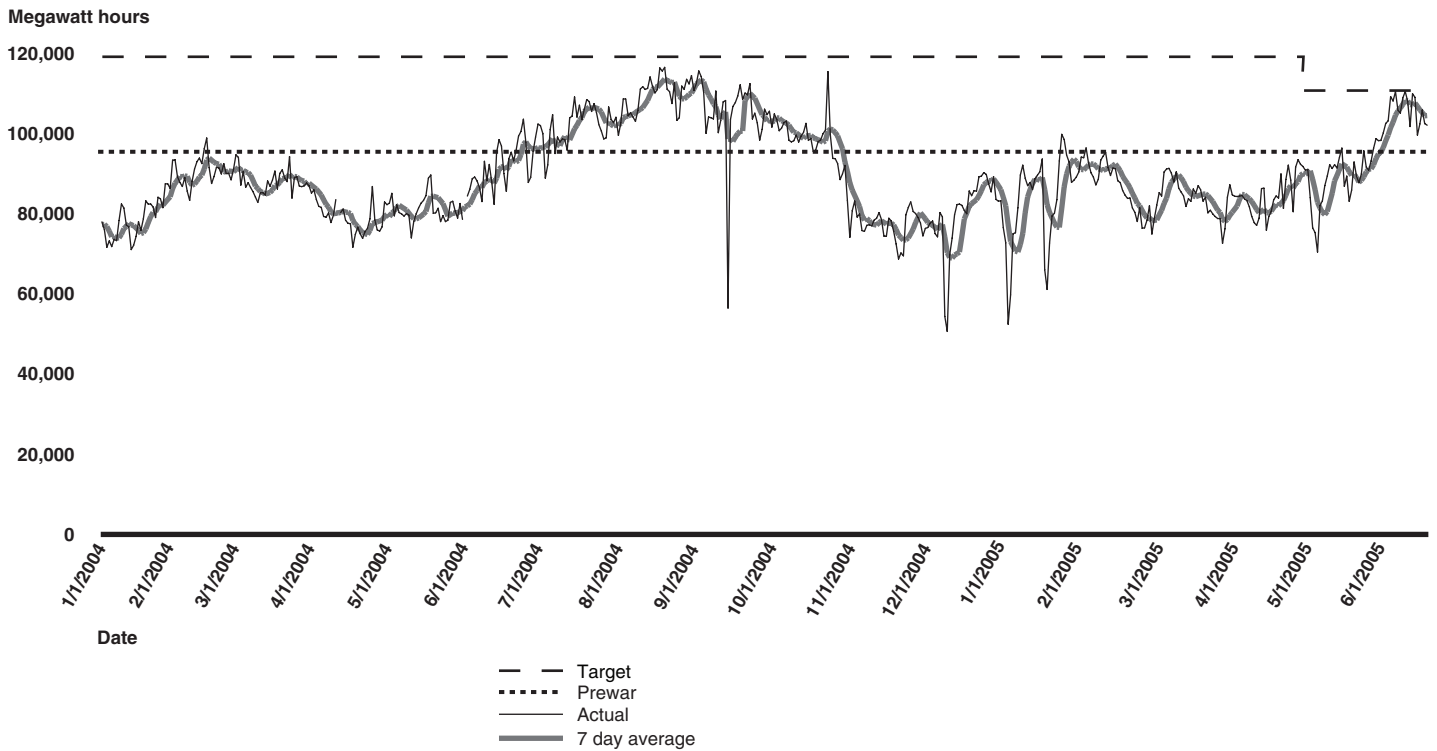
Two key targets of the U.S. reconstruction effort are increasing total generating capacity and daily megawatt hours of electricity produced. The first key target is to increase Iraq's total generating capacity by 3,100 megawatts by June 2005.<sup>27</sup> As of May 2005, U.S.-funded projects reportedly had added or restored about 1900 megawatts of generating capacity to Iraq's power grid. However, U.S. program and contracting officials have raised concerns about the ability of the Ministry of Electricity and local power plant operators to sustain the added generation capacity.

The other key target has been to help Iraq produce 120,000 megawatt-hours of electricity per day by June 2005. In May 2005, agency reports show this target was revised to producing 110,000 megawatt-hours by December 2005. As shown in figure 4, Iraq produced more than 100,000 megawatt-hours of electricity most days between July and November 2004; however, production dropped below prewar production levels through May 2005, varying between 51,000 and 99,800 megawatt-hours daily. Agency reports attribute the decreased production figures to several causes, including planned and unplanned maintenance on power stations, fuel shortages due to insurgent attacks on oil pipelines that provide fuel to the power plants, and limited supply of fuels allocated by the Ministry of Oil. In commenting on our draft report, State noted that planned outages are necessary operational procedures to ensure reliable and sustainable operations at the plants and that the central reason for high unplanned outages is that Ministry of Electricity workers do not yet have the necessary skills to ensure adequate operations and maintenance practices. As of June 2005, Iraq's electricity production was increasing to meet greater summer demand and exceeded 100,000 megawatts in the latter half of the month. U.S. officials attributed the increased production to (1) power plants that were returned to service after maintenance was completed, (2) imported power and fuel supply from neighboring countries, and (3) activation of U.S. funded power projects.

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<sup>27</sup>The date for meeting this target was extended to December 2005.

**Figure 4: Daily Electricity Produced in Iraq, January 1, 2004-June 30, 2005**



Sources: U.S. Department of State and USAID estimates.

## Challenges

The electricity sector faces a number of challenges to meeting Iraq’s electricity needs. These challenges include the lack of appropriate fuel supplies, Iraq’s lack of capacity in operation and maintenance, the unstable security environment, financing needs for distribution projects, and ineffective management of electricity generation and distribution.

- Iraq’s limited accessible supply of natural gas and diesel fuel affects the operation of the new gas combustion turbines provided by the United States<sup>28</sup> and continues to affect the operations and production capacity of Iraq’s electrical power plants. The United States purchased and installed gas combustion turbines to operate several Iraqi power plants, including Bayji and Qudas. These turbines were readily available for

<sup>28</sup>The UN Oil for Food Program also purchased gas combustion turbines for Iraq’s electricity sector.

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purchase, could be installed in less than 1 year, and could also be modified to burn oil-based fuels, although with some negative effect on the turbines' efficiency and operation. Although Iraqi power plants have largely relied on steam turbines that use crude oil or oil-derived fuels, these turbines are less readily available for purchase on the world market and require a longer installation time. Due to limited access to natural gas, some gas combustion turbines at Iraqi power plants are operating on low grade, oil-based fuels. The use of liquid fuels, without adequate equipment modification and fuel treatment, decreases the power output of the turbines by up to 50 percent, requires three times more maintenance, and could result in equipment failure and damage that significantly reduces the life of the equipment, according to U.S. and Iraqi power plant officials.

- U.S. agencies report they have incorporated operations and maintenance training into the reconstruction program. However, the Iraqis' capacity to operate and maintain the power plant infrastructure and equipment provided by the United States remains a challenge. Contractors cited several instances where the Iraqis had significant problems operating and maintaining projects after they were transferred to the government. For example, in December 2004, the Iraqis' inability to operate a recently overhauled plant at Baiji led to a widespread power outage. U.S. officials said that contractors installed the equipment and provided the Iraqis onsite training in operating the new or refurbished equipment. However, Iraqi power plant officials from 13 locations throughout Iraq, including Baiji, indicated that the training did not adequately prepare their staff to operate and maintain the new gas turbine engines. U.S. officials have acknowledged that more needs to be done to train plant operators and ensure that advisory services are provided after the turnover date of the projects. To address this issue, in February 2005, USAID implemented a project to train selected electricity plant officials (plant managers, supervisors, and equipment operators) in various aspects of plant operations and maintenance.<sup>29</sup> According to DOD, PCO also has awarded one contract and is developing another to address operations and maintenance concerns. A June 29, 2005, USAID Inspector General report stated that until the operations and maintenance challenges are addressed at both the Iraqi power plants and ministry levels and practices at the power plants are

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<sup>29</sup>USAID-sponsored training is being provided for select participants in Amman, Jordan, and Atlanta, Georgia.

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significantly improved, reports of damaged equipment and infrastructure will continue and the electrical infrastructure rebuilt and refurbished by USAID's program will remain at risk of sustaining damage following its transfer to the Ministry of Electricity. In comments on our draft report, State department said that there has not been enough focus on strengthening operations and maintenance capacity and that such strengthening had not been a U.S. government priority in the early phases of the reconstruction effort.

- Providing security for power plants, transmission lines, and distribution stations is another key challenge to electricity reconstruction projects and to meeting Iraq's electricity needs. According to U.S. agency officials and contractors, insurgent attacks on people and infrastructure have increased project costs and caused scheduling delays. Our analyses of five U.S.-funded electricity sector contracts indicate that security costs to obtain private security services and security-related equipment as of December 31, 2004, ranged from 10 to 36 percent of project costs.<sup>30</sup> In March 2004, the United States awarded a \$19 million contract to train and equip Iraq's Electrical Power Security Service to protect electrical infrastructure, including power plants, transmission lines, and Ministry of Electricity officials. Although the program was designed to train 6,000 guards over a 2-year period, fewer than 340 guards had been trained when the contract was terminated early. According to agency reporting in April 2005, current plans are for the Iraqi Ministry of Defense to provide mobile security for linear assets such as transmission lines and pipelines.
- The Iraqi electricity sector will require additional financial assistance to restore its infrastructure to meet the national needs. The Ministry of Electricity estimates that Iraq needs about \$20 billion to restore its electricity sector, including over \$3 billion to update the distribution network system, that provides electricity from the distribution station to the end user. The activities of the U.S. assistance program have focused on generation, transmission, and distribution projects to improve the electricity sector and have provided about \$100 million to address the provision of power from the distribution station to the end user.

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<sup>30</sup>Several contractor officials noted the cost of security relative to total contract costs can vary over time. For example, they noted that initial security costs, such as for mobilizing and equipping security personnel and purchasing armored vehicles, can be considerable in relation to the amount of reconstruction work authorized. As additional work is authorized, the relative percentage accounted for by security costs could decrease considerably.

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- Effective management of electricity generation, transmission, and distribution is affected by illegal connections to existing power lines and the lack of metering. According to industry officials, the inability of system operators to balance the amount of electric generation with consumer demand can cause severe failures in both equipment and service, as evidenced in January 2005 when the national grid collapsed following an electrical circuit imbalance near Bayji. Further, limited and inaccurate metering in Iraqi homes precludes the Ministry of Electricity from measuring the amount of electricity that end users consume. Experts indicate that the demand for electricity has increased dramatically since UN sanctions were removed in 2003 and estimate that the demand for electricity will exceed 8,500 megawatts this summer. In commenting on our draft report, the State department stated that the demand had passed 8,500 megawatts and may reach 9,000 megawatts.

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## Progress in the Water Sector Is Difficult to Measure and Some Completed Projects Are Not Functioning

U.S. reconstruction efforts in the water and sanitation sector focus on improving Iraq's potable water, sewage, and sanitation systems. State reallocations have reduced available U.S. funding for improving Iraq's severely degraded water and sanitation sector from a peak of \$4.6 billion to a current level of \$2.4 billion. The United States has made some progress in completing large and small water and sanitation projects, but it is difficult to determine the impact of its reconstruction effort on this sector due to limited performance data and measures. The U.S. reconstruction program has also suffered from delays in completing projects, and some completed projects lack sufficient Iraqi staff and supplies to function properly or are not operating at all due to a lack of electricity and diesel fuel.

### Background

Water and sanitation services in Iraq deteriorated significantly after the 1991 Gulf War due to the lack of maintenance, inadequate skilled manpower, and war damage. In 2003, post war looting destroyed equipment and materials needed to operate treatment and sewerage facilities. Before the 1991 Gulf War, Iraq produced enough water to supply more than 95 percent of urban Iraqis and 75 percent of rural Iraqis, according to the 2003 UN/World Bank needs assessment. Actual access was much lower due to significant losses from leaks in the delivery network. By 2003, these production levels had fallen to 60 percent of urban Iraqis and 50 percent of rural Iraqis. According to the same assessment, the sewage system primarily served Baghdad, where it reached about 80 percent of the population. However, according to the report the sewage system was inadequate for moving and processing waste, leading to backups of raw

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sewage in the streets and treatment plants were not operational. Less than 10 percent of the urban population outside Baghdad was served by sewage systems. The rural areas and northern Iraq—including the cities of Kirkuk and Erbil—had no access to piped sewage systems. According to the UN/World Bank report, some of these areas had access to pour flush latrines.

## U.S. Activities and Projects

U.S. reconstruction efforts in the water and sanitation sector focus on projects to improve Iraq's potable water, sewage, and sanitation systems. Specific activities funded by the U.S. reconstruction program include repairing water and sewage treatment plants, rehabilitating dam facilities, and conducting irrigation projects. Work has been implemented through a combination of longer term, large scale projects and quick impact, smaller scale projects. Agencies are executing most of their largest efforts through five large contracts with three U.S. companies. These efforts include rehabilitation of water and sewage treatment plants, dams, pump station, and irrigation canals, as well as repairs of sewer lines and drinking water canals. Smaller scale projects include neighborhood cleanups, water supply improvements, and the rehabilitation of smaller scale sewage systems and water treatment plants.

## Assessment

The U.S. reconstruction program in Iraq's water and sanitation sector has made some progress toward completing a reduced scope of activities. As of April 5, 2005, the State Department had reallocated funding for water and sanitation to other priorities such as security, thus reducing available funding by 48 percent to about \$2.4 billion.<sup>31</sup> As of the end of March 2005, U.S. agencies had obligated about \$1.2 billion, or 50 percent, and disbursed about \$280 million, or 12 percent, of the U.S. funding to specific projects for the sector.<sup>32</sup> USAID's accomplishments included the repair of six sewage treatment plants, two water treatment plants, and a primary urban water supply in southern Iraq. As of April 3, 2005, State reported that 64 projects were complete and 185 were in progress. However, State was unable to

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<sup>31</sup>As of March 31, 2005, the amount apportioned to U.S. agencies from this total was about \$2 billion.

<sup>32</sup>This disbursement amount is an estimate and does not include appropriated or Iraqi funding disbursed for water sector activities from the Commander's Humanitarian Relief and Reconstruction Program, Commander's Emergency Response Program, Rapid Regional Response Program, Accelerated Iraqi Reconstruction Program, USAID's Community Action Program, or USAID's Office of Transition Initiatives programs, or USAID's Office of Foreign Disaster Assistance programs.

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provide a list of those completed projects, which would enable us to evaluate the significance of the project numbers in terms of scope of work, cost, or size. The United States has also funded a number of smaller scale, quick impact projects. The primary goals of these quick impact projects have been to meet pressing local needs and provide employment for the Iraqi people. Although they are designed to show impact more quickly in some cases small-scale projects do not have the potential long-term effect of the larger projects.

Reduced funding and increased costs have limited the work done in the water and sanitation sector. As of March 2005, PCO had begun 52 projects. Although PCO initially planned to execute 137 projects with fiscal year 2004 appropriated funds, the full list of 137 projects will not be completed using appropriated funds given the funding reallocations and State's focus on completing projects under way and sustaining completed projects. The reduction in the number of planned projects is the result of a more than \$2 billion decrease in program funding and underestimates of the cost of doing business in Iraq. According to PCO, the initial CPA cost estimates for completing projects in Iraq were too low. Increased security requirements, inflation in the cost of construction materials and labor, and the unexpectedly poor condition of Iraqi facilities have all contributed to increases in project cost.

In commenting on the draft of this report, the U.S. Agency for International Development (USAID) disagreed with our statement that agency metrics for tracking water projects do not show how the U.S. program affects the Iraqi people. USAID stated that the agency tracks increases in the amount of water treated and estimates increases in beneficiary numbers. However, these metrics do not address the quality of water and sanitation services in Iraq, which may hinder the U.S. ability to gauge progress toward its goal of providing essential services.

## Challenges

The effect of U.S. water and sanitation sector reconstruction is difficult to quantify, and metrics used by U.S. agencies to track progress do not provide a complete picture of results. The program has encountered delays in execution due to security conditions and other factors, and completed projects are at risk of failing due to lack of needed staff and supplies after transfer to the Iraqis.

- Iraq has no comprehensive metering of water usage. Without metering, the ministries lack information on the amount of water consumed or lost. U.S. officials estimate that approximately 60 percent of water



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produced in Iraq is unaccounted for—lost to illegal taps, unmetered usage, and leaking water pipes. Because of water losses and the lack of metering, the extent to which clean potable water from improved facilities is reaching users is unknown.

- Agency metrics for tracking progress in the water and sanitation sector do not show how the U.S. program is affecting the Iraqi people. PCO and State have developed metrics to track the progress of the U.S. water and sanitation reconstruction program in terms of projects completed, treatment capacity, and agricultural area irrigated. While these measures provide some insights on progress, they do not track the contribution of projects toward the overall objective of providing essential services or measure increased access to clean water and improved sanitation in Iraq, as this data from the end user is difficult to gather. In commenting on our draft report, USAID said that the agency tracks increases in the amount of water treated and estimates increases in beneficiary numbers. However, these metrics do not address the quality of water and sanitation services in Iraq, which may hinder the U.S. ability to gauge progress toward its goal of providing essential services. For example, because of problems with the distribution network, water that is potable at the treatment plants may be contaminated by the time it reaches users. According to a senior PCO official in the water sector, potable water and sewage mains in Iraq are sometimes adjacent to each other, allowing leaking sewage to enter the water mains. In response to our draft report, State also noted that there are significant difficulties in accurately measuring water quantity and water quality delivered to Iraqi households and that the measurement of access to potable water and improved sanitation is generally done through the use of surveys. However, State commented that the department has elected not to reallocate funding away from projects to conduct regular surveys on essential services.
- The U.S. effort to rehabilitate Iraq's water and sanitation sector has faced challenges from the insurgency, coordination and management difficulties, and poor onsite conditions. Contractor and agency reporting cite numerous instances of project delays due to unsafe conditions. PCO has estimated that deteriorating security has added an average of about 7 percent to project costs in the water and sanitation sector. Contractors and agency officials also cited difficulties in defining project scope and coordinating with Iraqi ministries as further impeding progress. For example, Iraqi ministry and local officials disagreed on the proper scope of one project, and PCO's resolution of the issue was delayed by security

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conditions limiting its ability to meet with Iraqi officials. Unusable project sites and the unexpectedly poor condition of Iraqi facilities have also contributed to delays and increased costs. USAID abandoned one landfill project, projected to cost \$20 million if completed, because the Iraqi government provided an unusable site. Contractors arriving in the field also found unanticipated conditions, such as sewer blockages and treatment equipment that required repair.

- Both USAID and PCO have incorporated employee and management training efforts into their reconstruction programs. However, the projects completed by USAID and PCO have encountered significant problems in facility operations and maintenance after project handover to Iraqi management. Iraqis lacked adequate resources and personnel to operate these facilities in the long term. To address these issues, in April 2005 State reallocated \$25 million for a USAID pilot project to provide continuing operations, maintenance, and supply acquisition training and support at selected sites after handover. PCO has also developed a risk assessment process designed to anticipate potential sustainability issues by evaluating various factors that contribute to the successful transition of projects to the Iraqis.

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## Progress Made in Expanding Basic Health Care, and Larger Infrastructure Projects Are Under Way

U.S. reconstruction efforts in the health sector focus on restoring and expanding the availability of basic health care in the country. The United States has provided about \$866 million in appropriated funds for health activities to reestablish, restore, and expand the availability of health care in Iraq. The majority of this funding—about \$750 million—is focused on infrastructure projects and medical equipment supplies; the remainder provides for medical staff training and management training for the Ministry of Health. While U.S. agencies have completed initial activities to reestablish Iraqi health services, larger infrastructure, equipment, and training projects to restore and expand the availability of basic health care are still under way. The Iraqi health sector faces a number of challenges in providing basic and preventive health services, including procurement and delivery of medical equipment and supplies and measuring program results. At the same time, long-term technical assistance will be required to build the management and infrastructure capacity needed to provide access to a quality health care system over time.

## Background

More than 30 years ago, Iraq was a regional leader in health care, but years of neglect and mismanagement under Saddam's regime left the Iraqi health system in a deteriorated state and a segment of the Iraqi population and the

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poor with little or no health care. The 2003 UN/World Bank needs assessment described the Iraqi health care system as inefficient and inequitable, noting that health care facilities and equipment were in poor condition. The Iraqi health system was a hospital-oriented model that did not emphasize sustainable health development; care was centralized in urban areas and services only partially matched the needs of the population. The 2003 UN/World Bank needs assessment further noted that the health system did not provide equitable access to basic health services; lacked cost-effective public health interventions; required large-scale imports of medicines, medical equipment, and health workers; and collected little health service data. The 2003 assessment determined that basic health care services needed to be restored and that the system needed to be transformed into a national health care system based on primary care, that provides health services reflecting population needs and priorities with a focus on prevention and treatment.<sup>33</sup>

According to the 2003 UN/World Bank needs assessment, Iraqi health care spending during the 1990s had fallen by as much as 90 percent and Iraq's health outcomes were among the poorest in the region—well below the levels found in comparable income countries. Infant, child, and maternal mortality rates more than doubled from 1990 to 1996 with 65 percent of births occurring outside of health institutions; adult mortality increased, and life expectancy fell to 60 years of age. Widespread looting after Operation Iraqi Freedom, the subsequent unpredictability of electricity and the water supply, and attacks by insurgents further weakened the functional capacity of Iraqi health care services. According to the Iraqi Ministry of Health, about one-third of primary care clinics, more than 12 percent of hospitals, 30 percent of family planning clinics, and 15 percent of child care clinics were looted or damaged or both; two main public health laboratories were destroyed; and four of seven central warehouses for storage of drugs and supplies were partially looted and their vaccine supply was lost.<sup>34</sup>

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<sup>33</sup>The World Health Organization defines primary health care by the principles outlined in the 1978 Declaration of Alma-Ata, which states that primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally available to individuals and families in the community through their full participation and at a cost the community and the country can afford to maintain.

<sup>34</sup>Iraqi Ministry of Health, *Health in Iraq: A Review of the Current Health Situation, Challenges Facing Reconstruction of the Health Sector, and Our Vision for the Immediate Future* (September 2004).

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## Activities and Projects

The U.S. program for the Iraqi health sector is primarily focused on restoring and expanding the availability of basic health care, including maternal and child health care, to the majority of the population. Activities funded by the U.S. reconstruction program (1) address medical facility needs to support an evolving health care model for equitable access to basic health care;<sup>35</sup> (2) provide medical equipment and training of medical staff; and (3) provide training to strengthen management by the Ministry of Health. The majority of U.S. financial assistance in this sector—over 80 percent—is focused on rehabilitating and constructing hospitals and health care centers and supplying medical equipment for hospitals and clinics. The remainder of this assistance provides for the training of medical staff and capacity building within the Ministry of Health, including management training for infectious disease control, national health policy reform, and decentralization of health care activities at the local, governorate, and ministry levels. U.S. activities in the Iraqi health sector fall into four key areas: health phase I (\$80 million<sup>36</sup>), nationwide hospital and clinic improvements (\$439 million), equipment procurement and modernization training (\$297 million), and the construction of the Basrah Pediatric Facility (\$50 million).

## Assessment

The United States has made some progress in its effort to restore and expand the availability of basic health care in Iraq; however, the majority of large-scale infrastructure projects remain under construction. As of March 31, 2005, U.S. agencies had obligated \$533 million and disbursed \$116 million of the \$866 million allocated for health activities in Iraq.<sup>37</sup> According to agency reporting, initial activities to reestablish Iraqi health services

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<sup>35</sup>According to the Iraqi Ministry of Health, the core elements of its health system reform include population empowerment with patient choice, community involvement, integration of health services delivery system with strengthened primary healthcare, financial risk protection, health provider management autonomy, quality improvement, and human resources supply and development.

<sup>36</sup>The Health Phase I program reflected USAID activities funded by fiscal year 2003 appropriated funds for the reestablishment of health services. Activities included the rehabilitation of primary health clinics, a vaccination program for Iraqi children against measles, mumps, rubella and polio, procurement of equipment for primary health clinics, and technical assistance to the Iraqi Ministry of Health.

<sup>37</sup>This amount does not include appropriated or Iraqi funding disbursed for health sector activities from the Commander's Humanitarian Relief and Reconstruction Program, Commander's Emergency Response Program, Rapid Regional Response Program, Accelerated Iraqi Reconstruction Program, or USAID's Community Action Program, Office of Transition Initiatives programs, and Office of Foreign Disaster Assistance programs.

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have been largely completed, including the vaccination of 70 percent of eligible Iraqi children, about 5 million Iraqi children against measles, mumps, and rubella and 3 million children against polio; rehabilitation of 110 health clinics; training of about 700 health care trainers; and the procurement of medical equipment kits for 600 health centers. However, due to the security environment and procurement delays, 37 of 600 medical equipment kits had not been delivered as of May 20, 2005, according to U.S. officials.

Further efforts to improve hospitals and clinics, procure equipment, and provide training are under way. For example, according to IRMO reporting, as of April 6, 2005, of the planned renovations for 20 hospitals and new construction for 1 hospital, the United States had started planned renovations on the 20 hospitals and begun construction of the Basrah Pediatric Facility. According to agency documentation, the execution phase of these health projects took longer than expected to complete due to the complex designs for health care facilities, long lead times for medical equipment manufacturing and delivery, construction delays due to land ownership issues, the poor quality of sites, and security issues related to the contractors and the delivery of construction supplies. In addition, according to U.S. officials, the training program for the medical staff for the new primary health clinics was expected to begin in June 2005.

## Challenges

Iraq's health sector needs long-term financial support for its health care system. In addition, the U.S. program to restore and expand the availability of basic health care faces challenges in the procurement and delivery of medical equipment and supplies and in measuring program results.

- According to the UN/World Bank assessments, Iraqi and agency documents, and U.S. officials, the Iraqi health sector will require continued long-term financial assistance to restore and strengthen its health system to modern day medical levels; support infrastructure maintenance and medical supply requirements; and support management operations—assistance that is not available in the U.S. program or through the international community. The activities of the U.S. assistance program—largely focused on improving the physical infrastructure of the health system—is likely to have a longer term impact on the health sector; however, the impact of these infrastructure improvements is not likely be visible until construction is complete, new equipment is in service, and management capacity of the Iraqi health ministry has been strengthened. U.S. officials acknowledge that additional resources will be needed over the next 3 to 5 years for Iraq to

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address health services and strengthen the delivery of primary health care services, although the continuation of such activities is not an element of the U.S. program in Iraq at this time.

- The U.S. program to provide medical equipment and supplies to hospitals and health clinics across Iraq is an important element in strengthening Iraqi health service delivery. Delays in the delivery of U.S.-provided equipment may affect the Iraqis' ability to provide primary health care. For example, the completed delivery of USAID-funded health kits, coupled with primary health care provider training, is expected to result in an increase in the capability of primary health care providers to deliver care to the Iraqi population. Although the equipment items for these health kits were received by May 2004, the delivery of these kits to Iraqi health clinics was still incomplete, as of May 2005. Agency documents and officials indicated several reasons why medical equipment had not been delivered, including long lead times for medical equipment manufacturing and delivery, the security environment, the timing of equipment delivery with the completion of infrastructure construction, and the need to obtain agreement on equipment lists from the Ministry of Health. To address the Ministry of Health's limited capacity to accept, store, and distribute large shipments of supplies and equipment, the PCO has developed a revised distribution plan, according to a U.S. official. Further, as of May 2005, the construction plans for 150 primary health clinics did not have an identified procurement plan for backup power generators, furniture, consumable supplies, incinerators, or a security perimeter. According to a U.S. official, without full power supply—by generators or from the power grid—these clinics will be able to provide only the most basic services and limited or no maternal and/or pediatric services. In response to our draft, DOD told us that they plan to build 142 primary health clinics supplied with generators, furniture, and three months of consumables.
- IRMO has developed metrics to track the progress of the U.S. health reconstruction program in Iraq. Limitations to the available metrics and data make it difficult to assess the outcome of U.S. activities in the health sector. For example, IRMO's measurements of progress track the completion of facilities, which is an indicator of increased access to health care. However, the measures available do not indicate how well these facilities are equipped or staffed to provide primary health care services. The measures used by IRMO do not relate the progress of U.S. projects to the overall effort of improving the quality and access of health care in Iraq.

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## Conclusions

The United States, along with its coalition partners and various international organizations and donors, has undertaken a challenging and costly effort to stabilize and rebuild Iraq. Over the past 2 years, the United States, coalition partners, and, more recently the Iraqis have undertaken and accomplished numerous activities to stabilize and rebuild Iraq, including efforts to help restore basic essential and social services. This enormous effort has been undertaken in an unstable security environment, and is concurrent with the institutional development of Iraqis to govern and secure the country. As we reported in June 2004, these challenges continue to affect the pace and cost of reconstruction. A key challenge to the success of the rebuilding effort will be the Iraqis' ability to sustain the rehabilitated and new infrastructure and to address continuing maintenance and basic service needs. U.S. reconstruction efforts include requirements to build operational and ministerial capacity to sustain this infrastructure. As U.S. activities that have already started reach completion by the end of the year, the options and plans developed and actions taken to address this challenge will be critical to the success of the U.S. reconstruction program and the overall reconstruction effort in Iraq.

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## Agency Comments and Our Evaluation

We provided drafts of this report to the Departments of Defense and State and the U.S. Agency for International Development. The Departments of Defense and State did not provide written comments; however, they provided technical comments, which we incorporated where appropriate.

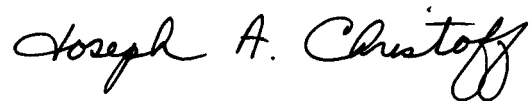
The U.S. Agency for International Development provided written comments, which are reprinted in appendix II. In particular, in response to our statement that agency metrics for tracking water projects do not show how the U.S. program is affecting the Iraqi people, USAID stated that the agency tracks increases in the amount of water treated and estimates increases in beneficiary numbers. However, these metrics do not address the quality of water and sanitation services in Iraq, which may hinder the U.S. ability to gauge progress toward its goal of providing essential services. For example, because of problems with the distribution network, water that is potable at the treatment plants may be contaminated by the time it reaches users.

USAID also provided technical comments, which we incorporated where appropriate.

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We are sending copies of this report to interested congressional committees. We will also make copies available to others on request. In addition, this report is available on GAO's Web site at <http://www.gao.gov>.

If you or your staff have any questions, please contact me at (202) 512-8979 or [christoffj@gao.gov](mailto:christoffj@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix III.

A handwritten signature in black ink that reads "Joseph A. Christoff". The signature is written in a cursive style with a large, stylized 'C' at the end.

Joseph A. Christoff  
Director, International Affairs and Trade



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# Scope and Methodology

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In monitoring resources supporting the reconstruction of Iraq, we focused on the sources and uses of U.S., Iraqi, and international funding. U.S. agencies provided us with electronic data files for appropriated funds, the Development Fund for Iraq (DFI), vested assets, and seized assets. These files generally included objective or project descriptions with allocated, obligated, and disbursed amounts. We assigned each of the funding line items to broad categories based on the descriptive information available in the data files. To assign the data to a category, we relied on project descriptions from agency data files.

In addressing the amount of U.S. funds that have been appropriated, obligated, and disbursed for the Iraq reconstruction effort, we collected funding information from the Department of Defense (DOD), including the Project and Contracting Office (PCO), the U.S. Army Corps of Engineers (USACE), and others; Department of State; the Department of the Treasury; U.S. Agency for International Development (USAID); and the Coalition Provisional Authority (CPA). Data for U.S. appropriated funds are as of March 31, 2005. We also reviewed Defense Contract Audit Agency reports, U.S. agency inspector generals' reports, Special Inspector General for Iraq Reconstruction (SIGIR) reports, other audit agency reports, and Office of Management and Budget (OMB) documents. Although we have not audited the funding data and are not expressing our opinion on them, we discussed the sources and limitations of the data with the appropriate officials and checked them, when possible, with other information sources. We determined that the data were sufficiently reliable for broad comparisons in the aggregate and the category descriptions we have made.

To identify sources and uses of DFI funds, vested assets, and seized assets, we relied on funding data from the CPA and DOD through June 28, 2004. To determine the reliability of these data, we examined the financial files and interviewed CPA officials responsible for the data. Based on these evaluations, we determined the data are sufficiently reliable to describe the major deposits to the DFI and the allocations and disbursements by major categories. We did not audit these data and are not expressing our opinion on them. After June 28, 2004, the stewardship of the DFI was turned over to the Iraqi Interim Government. We continued to obtain data from DOD regarding DFI funds obligated before June 28, 2004, and vested and seized funds balances.

To address international assistance for rebuilding Iraq, we collected and analyzed information provided by the State Department's Bureau of Economic and Business Affairs. We also collected and reviewed reporting

documents from the International Reconstruction Fund Facility for Iraq (IRFFI). To describe the activities of international donors, we reviewed documents pertaining to the international donor conferences and the IRFFI and interviewed U.S. officials. To assess the reliability of the data on the pledges, commitments, and deposits made by international donors, we interviewed officials at State who are responsible for monitoring data provided by the IRFFI and donor nations. We determined that the data on donor commitments and deposits made to the IRFFI were sufficiently reliable for the purposes of reporting at the aggregate level.

For the U.S. reconstruction program, we focused our effort on U.S. activities in the Iraqi oil, electricity, water, and health sectors. Specifically, we focused on the condition of the sectors, the status of the U.S. effort in these sectors, and the challenges affecting overall sector progress. To determine the condition of the sectors, we reviewed assessments made by the United Nations and World Bank, USAID, CPA, and contractors. We also discussed sector conditions with cognizant U.S. agency officials, contractors, and Iraqi officials.

To determine the status of the U.S. effort in the oil, electricity, water, and health sectors, we reviewed documents obtained from the United Nations, World Bank, CPA, State's Iraq Reconstruction Management Office (IRMO), the PCO, USAID, the USACE, agency contractors, and selected Iraqi ministries. We reviewed reports and planning documents prepared by USACE, USAID, CPA, State, PCO, and contractors. We also interviewed U.S. government and former CPA officials and contract personnel in the United States and Iraq and participated in videoconferences between USACE headquarters and Baghdad personnel. Specifically, we interviewed USAID, State, PCO, USACE, and former CPA officials, in Washington, D.C. and Iraq and their contractor representatives in the United States and Iraq.

To determine the challenges affecting sector progress, we reviewed contractor and agency reporting and interviewed agency officials in the United States and Iraq. Specifically, we reviewed CPA, PCO, State, USAID, the USACE, and other reporting. We also interviewed agency officials in Washington, D.C. and Iraq from USAID, State, PCO, USACE, Defense Intelligence Agency, and former CPA officials; their contractor representatives in the United States and Iraq; and Iraqi representatives from the Ministry of Electricity, including Iraqi plant operators.

To assess the reliability of the data in the oil, power, water, and health sectors, we interviewed officials at CPA, DOD, State, and USAID

responsible for gathering and monitoring data on reconstruction efforts. We reviewed the data for discrepancies and checked them against other sources, when available. We determined that the data were sufficiently reliable to report general trends in each sector. Data obtained on crude oil production and refined fuels inventories are based on Iraqi estimates provided to State. Data on exports are based on U.S. agency estimates related to daily export activities at terminals. Data on revenue are based on U.S. agency estimates that use internationally recognized financial sources for pricing calculations, such as Bloomberg and Platts. According to State, the information that it periodically reports on production, export, and revenue represents analysis based on the best available information. Data obtained on daily electricity produced are from Iraqi, USAID, or DOD estimates provided to State.

We conducted this part of our review from September 2004 through May 2005 in accordance with generally accepted government auditing standards. Although we did not travel to Iraq to make project site visits during this period due to security concerns; we interviewed U.S. officials via teleconference and videoconference. In addition, when possible we interviewed Iraqi officials when these officials traveled to the United States.

# Comments from the U.S. Agency for International Development



**USAID**  
FROM THE AMERICAN PEOPLE

JUL 26 2005

Ms. Jacquelyn L. Williams-Bridgers  
Managing Director  
International Affairs and Trade  
U.S. Government Accountability Office  
441 G Street, N.W.  
Washington, D.C. 20548

Dear Ms. Williams-Bridgers:

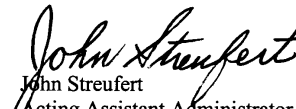
I am pleased to provide the U.S. Agency for International Development's (USAID) formal response on the draft GAO report entitled Rebuilding Iraq: Status of Funding and Reconstruction Efforts [GAO-05-876].

The bullet point at the bottom of page 29 states that, "Agency metrics for tracking projects do not show how the U.S. program is affecting the Iraqi people." USAID tracks both increases in the amount of water treated as well as estimating increases in beneficiary numbers. To date, USAID through its infrastructure contractor, Bechtel National, has completed drinking water projects in Baghdad, Basrah, Najaf, Mosul, Kirkuk and Dujayl. It is estimated that these projects will provide over 350 million gallons per day (MGD) of drinking water per day to an additional 4 million Iraqis. Similarly, USAID has completed sewage projects in Baghdad, Basrah, Najaf, Al Hilla, Ad Diwaniyah, Mosul and Dujayl. These projects are estimated to treat almost 300 MGD of wastewater benefiting over 5 million Iraqis.

USAID also has issues regarding some small technical details that are addressed separately.

Thank you for the opportunity to respond to the GAO draft report and for the courtesies extended by your staff in the conduct of this review.

Sincerely,

  
John Streufert  
Acting Assistant Administrator  
Bureau for Management

U.S. Agency for International Development  
Office of Iraq Reconstruction  
1300 Pennsylvania Ave. N.W.  
Washington DC 20523

Tel: 202-712-0448  
Fax 202-216-3872

# GAO Contact and Staff Acknowledgments

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## GAO Contact

Joseph A. Christoff, (202) 512-8979.

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## Staff Acknowledgments

Key contributors to this report include Monica Brym, Lynn Cothorn, Aniruddha Dasgupta, Muriel Forster, Charles D. Groves, B. Patrick Hickey, John Hutton, Sarah J. Lynch, Jodi Prosser, Michael Simon, and Audrey Solis. Martin de Alteriis, Sharron Candon, Patrick Dickriede, Philip Farah, Hynek Kalkus, Mary Moutsos, Nanette Ryen, Josie Sigl, and George Taylor provided technical assistance.



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