

PRIMARY HEALTH CARE CENTERS
NUMBERED KE-01, KE-02,
KE-03, KE-04, AND KE-05
KIRKUK, IRAQ

SIGIR PA-06-042
SIGIR PA-06-043
SIGIR PA-06-044
SIGIR PA-06-045
SIGIR PA-06-046

APRIL 25, 2006



SPECIAL INSPECTOR GENERAL FOR IRAQ RECONSTRUCTION

April 25, 2006

MEMORANDUM FOR COMMANDING GENERAL, MULTI-NATIONAL FORCES -
IRAQ
COMMANDING GENERAL, GULF REGION DIVISION,
U.S. ARMY CORPS OF ENGINEERS
DIRECTOR, IRAQ RECONSTRUCTION MANAGEMENT
OFFICE

SUBJECT: Report on Project Assessments of Primary Health Care Centers Numbered
KE-01, KE-02, KE-03, KE-04, and KE-05 in Kirkuk, Iraq (Report Numbers
SIGIR-PA-06-042, PA-06-043, PA-06-044, PA-06-045, and PA-06-046)

We are providing this project assessment report for your information and use. We assessed the in-process construction work being performed on Primary Health Care Centers Numbered KE-01, KE-02, KE-03, KE-04, and KE-05 in Kirkuk, Iraq to determine their status. These assessments were made to provide you and other interested parties with real-time information on relief and reconstruction projects underway and in order to enable appropriate action to be taken if warranted. The assessment team included an engineer and an auditor.

The Gulf Region Division, responding to a draft of this report, did not concur with our recommendations because they addressed the entire Primary Health Care Program. In view of the termination of the task orders for the construction of 141 PHC with only 20 completed, we continue to believe that recommendations which address the entire PHC Program are appropriate and we will work with the Gulf Region Division to reach a mutually satisfactory resolution.

We appreciate the courtesies extended to our staff. Questions should be directed to Mr. Brian Flynn at (703) 343-9149 or brian.flynn@iraq.centcom.mil or Mr. Kevin O'Connor, at (703) 343-9149 or kevin.oconnor@iraq.centcom.mil.

A handwritten signature in black ink that reads "Stuart W. Bowen, Jr." with a period at the end.

Stuart W. Bowen, Jr.
Inspector General

Special Inspector General for Iraq Reconstruction

SIGIR PA-06-042
SIGIR PA-06-043
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SIGIR PA-06-045
SIGIR PA-06-046

April 25, 2006

Primary Health Care Centers Numbered KE-01, KE-02, KE-03, KE-04, and KE-05 Kirkuk, Iraq

Synopsis

Introduction. This project assessment was initiated as part of our continuing assessments of selected sector reconstruction activities for Buildings, Health and Education. The overall objectives were to determine whether selected sector reconstruction contractors were complying with the terms of their contracts or task orders, and to evaluate the effectiveness of the monitoring and controls exercised by administrative quality assurance and contract officers. We conducted this project assessment in accordance with the Quality Standards for Inspections issued by the President's Council on Integrity and Efficiency. The assessment team included an engineer and an auditor.

Project Assessment Objectives. The objective of this project assessment was to provide real-time information on relief and reconstruction projects to interested parties in order to enable appropriate action, when warranted. Specifically, we determined whether:

1. Project results were consistent with original objectives;
2. Project components were adequately designed prior to construction or installation;
3. Construction or rehabilitation met the standards of the design;
4. The Contractor's Quality Control plan and the U.S. Government's Quality Assurance program were adequate; and
5. Project sustainability was addressed.

Conclusions. This assessment determined that:

1. According to the contract, the overall objective was to improve the health care of the Iraqis by designing and constructing 49 Primary Health Care Centers in northern Iraq and supplying associated medical equipment. We concluded that project results were not consistent with original objectives in view of the facts that:
 - a) The five Primary Health Care Centers that we assessed were found to be far from complete and were poorly constructed.
 - b) Construction deficiencies raise questions as to the safety of occupancy of the structures.

- c) We were informed that the contract for Primary Health Care Center construction was to be modified and that only 20 of 141 Primary Health Care Centers were to be completed under the contract¹.
 - d) The five Primary Health Care Centers that we assessed were not to be included in the 20 Primary Health Care Centers to be completed under the modified contract.
2. This project consisted of new construction of five Primary Health Care Centers. The contract was a design-build contract requiring submission and approval of design drawings and specifications for the new construction. Based on the review of the United States Army Corps of Engineers project files and the Parsons' submittals, the design package appeared to be complete and sufficiently specific to construct the Primary Health Care Centers. These projects were effectively designed in accordance with the contract's Scope of Work. As a result, these projects, if completed in accordance with the approved design and specifications, should produce usable Primary Health Care Centers.
 3. Construction of each of the five Primary Health Care Centers that we assessed was at different stages of completion; therefore, different activities were occurring at each site. The construction did not meet the international standards required by the contract. We documented several areas of inferior quality construction during the on-site inspections. Inadequate quality control and quality assurance on the part of the contractor and the U.S. Government, respectively, resulted in not properly identifying and correcting construction deficiencies. At the time of our inspection, the projects consisted of concrete columns, beams, ceiling slabs, x-ray room walls, and stairwells. Reinforced concrete did not appear to be constructed according to contract specifications and needed to be evaluated to determine if corrective actions were required. Corrective action procedures have not been submitted or completed, even though the United States Army Corps of Engineers' Quality Assurance Representative documented concrete deficiencies.
 4. The Contractor Quality Control program was not adequate. The contract specified requirements for Contractor Quality Control plan and procedures, which the contractor submitted. However, the Quality Control daily reports were generic, lacked any site or task specific details, did not include test plans, did not contain a subcontractor organizational chart, and lacked subcontractors' job qualifications. The Quality Control daily reports were inadequate and did not disclose concrete issues that could require corrective actions. Additionally, the contractor did not have Quality Control deficiency logs for four of the five Primary Health Care Centers; the one deficiency log that was available did not provide sufficient information to ensure that potential construction deficiencies were detected, evaluated, and properly corrected in a timely manner.

The Government's Quality Assurance program was inadequate. The United States Army Corps of Engineers did not provide adequate oversight that resulted in deficiencies which included insufficient daily quality assurance reports that did

¹ In addition to 49 Primary Health Care Centers in the northern region of Iraq under Task Order 0011, the Primary Health Care Center contract included Task Orders 0004 and 0012, which authorized the construction of 41 Primary Health Care Centers in the central region of Iraq, and 60 Primary Health Care Centers in the southern region of Iraq, respectively. Therefore, the original total number of Primary Health Care Centers to be completed under Contract W914NS-04-D-0006 was 150. The task orders were subsequently modified to provide for only 141 Primary Health Care Centers.

not document the identification and correction of concrete issues; a lack of independence; and insufficient review of contractor invoices prior to payment.

5. The contract adequately addressed sustainability, which should result in operational Primary Health Care Centers if they are completed in accordance with contract specifications. The contract included providing an assortment of medical equipment with each health care center, operation and maintenance manuals, as-built drawings, a commissioning plan, manufacturers' warranties for all equipment, a 12-month operations warranty, and training. The contract also stated that a principle objective was the swift transition of the reconstruction efforts to Iraqi management and control.

Recommendations. We recommend that the Commanding General, Gulf Region Division:

1. Perform a critical evaluation of the needs for the remaining Primary Health Care Centers to identify:
 - a. The Primary Health Care Centers to be completed.
 - b. The work remaining to enable the Primary Health Care Centers to meet the original project objectives of improving the health care of the local Iraqi population and supplying associated medical equipment.
 - c. Remedial action for construction deficiencies in completed or to be completed Primary Health Care Centers that do not meet international standards or render them unsafe for occupancy.
 - d. The funding needed to complete each Primary Health Care Center and the funding needed to bring completed Primary Health Care Centers to the standards of the original contract objectives.
2. Identify the funding needed to complete the Primary Health Care Centers to the Director, Iraq Reconstruction Management Office.
3. Establish an effective Quality Assurance program for oversight of contractor performance and to ensure effective contractor Quality Control programs.

Management Comments. The Gulf Region Division, in responding to our draft report, noted that the objectives, conclusions, and recommendations were inconsistent. While disagreeing with statements made in the draft report and opining that we had not adequately considered the security situation in Iraq, the Gulf Region Division allowed that the report contained some valid points, but that recommendations should only be directed to the five Primary Health Care Centers assessed. The Gulf Region Division did not concur with our recommendations because they addressed the entire Primary Health Care Program.

The Joint Contracting Command – Iraq/Afghanistan responded to recommendations addressed to it in a draft of this report pointing out to us that Joint Contracting Command – Iraq/Afghanistan will not be the construction agent for completion of the Primary Health Care Centers. Gulf Region Division will be the construction agent; therefore, Joint Contracting Command – Iraq/Afghanistan was not in a position to provide responses regarding future construction planning for Primary Health Care Centers.

Evaluation of Management Comments. We stand by the accuracy of our report. In view of the termination of the task orders for the construction of 141 PHCs with only 20 to be completed, we continue to believe that recommendations which address the entire

PHC Program are appropriate and we will work with the Gulf Region Division to reach a mutually satisfactory resolution.

In view of the response from the Joint Contracting Command – Iraq/Afghanistan that it will not be the construction agent for the completion of the Primary Health Care Centers, we eliminated the recommendations made to the Joint Contracting Command – Iraq/Afghanistan.

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Introduction

Objective of the Project Assessment

The objective of this project assessment was to provide real-time information on relief and reconstruction projects to interested parties in order to enable appropriate action, when warranted. Specifically, we determined whether:

1. Project results were consistent with original objectives;
2. Project components were adequately designed prior to construction or installation;
3. Construction or rehabilitation met the standards of the design;
4. The Contractor's Quality Control (CQC) Plan and the U.S. Government's Quality Assurance (QA) Program were adequate; and
5. Sustainability was addressed.

Pre-Site Assessment Background

Contract, Task Order, and Costs

The Primary Health Care Center (PHC) projects in northern Iraq are being constructed under Contract W914NS-04-D-0006, Task Order (TO) 0011. Contract W914NS-04-D-0006, awarded 25 March 2004, was a design build, cost plus award fee, indefinite delivery/indefinite quantity (IDIQ) contract awarded with U.S. appropriated Iraq Relief and Reconstruction Funding (IRRF). The contract called for a base fee of 3% and an award fee pool of 12% of the estimated cost of each TO. The contract was between the Coalition Provisional Authority (CPA) and Parsons Delaware Inc (Parsons). There are currently twelve modifications to the original contract.

- Modification #01, dated 20 April 2004, designated a Successor Contracting Officer under contract W914NS-04-D-0006 for the design-build IDIQ contract to perform work associated with Buildings, Housing, and Health projects. All other terms and conditions remain unchanged.
- Modification #02, issued 25 May 2004, stated the Project and Contracting Office (PCO) will be the Baghdad Contracting Office. All warranted contracting officers within the Baghdad Contracting Office with the appropriate level of authority and dollar threshold limitations may execute contractual documents related to this contract and its associated TOs. All other terms and conditions remain unchanged.
- Modification #03, dated 2 June 2004, supplemented existing contract language by adding that invoices/vouchers shall be submitted directly to the Defense Contracting Audit Agency (DCAA) offices for review and provisional approval and to the Contracting Officer and to the United States Army Corps of Engineers (USACE) Finance Center Millington, TN. If the contractor meets certain criteria, DCAA may advise and the Contracting Officer may approve invoice/voucher submission directly to the USACE Finance Center Millington for interim payments only. All other terms and conditions remain unchanged.
- Modification #04, issued 4 July 2004, was an administrative modification to document the change from the CPA Contracting Office to the PCO. All other terms and conditions remain unchanged.

- Modification #05, issued 12 October 2004, was an administrative modification transferring administrative responsibility for task orders issued for this contract to the USACE Gulf Region Division (GRD) in accordance with an attached pre and post definitization matrix. The Contracting Officer reserves the right to modify this delegation for specific task orders.
- Modification #06, issued 16 November 2004, was an administrative modification dealing with the base period of performance. In addition, the Federal Acquisition Regulation clause regarding the option to extend the term of the contract was added. All other terms and conditions remain unchanged.
- Modification #07, issued 2 March 2005, clarified the invoicing process and defined what was considered a proper invoice for payment purposes. This clarification was considered to be within the scope of the contract. All other terms and conditions remain unchanged.
- Modification #08, issued 3 March 2005, constituted formal Notice to Proceed (NTP) for the contractor's use of transponders on security vehicles used to accompany what the contractors deem to be high value cargo convoys and critical personnel moving into and throughout Iraq. Contractors that currently possess compatible equipment will be reimbursed on an individual basis, while purchases of new units will be coordinated through PCO Logistics. All other terms and conditions remain unchanged.
- Modification #09, issued 1 June 2005, rescinded Modification #07. All other terms and conditions remain unchanged.
- Modification #10, issued 4 August 2005, incorporated Contract Clause 252-245.7001 of the Defense Federal Acquisition regulation Supplement into the contract. All other terms and conditions remain unchanged.
- Modification #11, issued 8 August 2005, was an administrative modification, which transferred administrative responsibility for task orders issued for this contract to USACE GRD District offices directly. The Contracting Officer reserved the rights to modify or terminate delegation for specific task orders at any time. All other terms and conditions remain unchanged.
- Modification #12, issued 25 August 2005, amended the Award Fee Plan, Attachment 5 of the Base Contract. The changes were unilateral and made effective for the Award Fee Period commencing after 25 September 2005.

The TO 0011, issued 20 October 2004, included the definitization of the construction estimated costs and fees for 49 PHCs in northern Iraq for the total amount of \$33,983,771. The total construction costs and fees for the 49 PHCs were separated into the following:

- CLIN 0001 – \$29,551,105 – construction costs
- CLIN 0002 – cost To Be Determined – cost of equipment list
- CLIN 0003 – cost To Be Determined – cost of additional equipment list
- CLIN 0004 – \$886,533 – base fee
- CLIN 0005 – \$3,546,133 – award fee

Contract Line Item Number (CLIN) 0001 was subdivided into CLINS 0006 through 0054, corresponding to each individual clinic. Although TO 0011 included the construction of all 49 PHCs, this assessment specifically addresses the following five PHCs clinics (and respective construction costs):

- Shiqaq Hai Musalla Clinic KE02 – CLIN 0026- \$533,447
- Hai Alhijaj Clinic KE01 – CLIN 0025 - \$533,447
- Hai Alasra Wa Al Mafqoodeen Clinic KE05 – CLIN 0029 - \$533,447
- Hai Al Wasity Clinic KE04 – CLIN 0028 - \$533,447
- Hai Tis'een Clinic KE03 – CLIN 0027 - \$612,885

The issuance of TO 0011 constituted a full NTP for CLINS 0001 and 0006 thru 0054. The modifications to TO 0011 are the following:

- Modification 01, issued 26 December 2004, included the definitization of CLINS 0002 and 0003 for the equipment for the 49 PHCs located in northern Iraq. The issuance of this Modification constituted full NTP on CLINS 0002 and 0003. The total definitized amount for CLINS 0002 and 0003 equals \$23,289,823. The definitized amount for CLINS 0002 and 0003 included estimated costs and fees associated with the purchase, logistics effort, installation and testing of the equipment, training of the clinic personnel, and a 12-month warranty. The Not to Exceed (NTE) for CLIN 0001 and CLINS 0006 thru 0054 remained unchanged at \$29,551,105. The completion date for all CLINS under this TO is 26 December 2005.
- Modification 01A, issued 25 March 2005, required the contractor to provide termite control services for the PHCs awarded in TO 0011. The termite control services are NTE \$100,000. The contractor must notify the Contracting Officer if the total cost reaches \$85,000.
- Modification 02, issued 8 September 2005, removed four primary healthcare clinics from the Statement of Work (SOW). The four PHCs identified were CLINS 0016, 0033, 0043, and 0049. There were no changes to funding or TO price.
- Modification 03, issued 13 November 2005, changed the invoice and payment amount to \$0.00 for the Award Fee for the period 25 March 2005 through 24 September 2005. The purpose of this modification was to de-obligate \$1,773,067 from the Award Fee pool.
- Modification 04, issued 17 January 2006, increased the SOW to follow on a separate modification and increased the estimated funding amount on CLIN 0001. The estimated cost on CLIN 0001 was increased by a NTE amount of \$3,650,000.

The Statement of Requirements and Specifications (SORS) stated that it was the intent of the PCO to negotiate a fixed price for this TO after completion of the 65% design; however, this did not occur.

During the course of our assessment of the five Kirkuk area PHCs, GRD/PCO representatives informed us that the contract for PHC construction was to be modified and that only 20 of the original 150 PHCs were to be completed under the contract. (Note: In addition to TO 0011, the PHC contract included TOs 0004 and 0012, which authorized the construction of 41 PHCs in the central region of Iraq, and 60 PHCs in the southern region of Iraq, respectively. Therefore, the total number of PHCs to be completed under Contract W914NS-04-D-0006 is 150 PHCs.) We were also told by GRD/PCO and Parsons personnel that the five PHCs included in our assessments were not to be included in the 20 PHCs to be completed under the modified contract.

Project Objective

According to the contract, the Iraqi health care system has been systematically under-funded over the last fifteen years. This under-funding has led to severe declines in the health status of the population, the most vulnerable being children. The overall objective of this task order was to improve the health care of the Iraqis by designing and constructing 49 PHCs in northern Iraq and the supply and installation of associated medical equipment.

Description of the Site (pre-construction)

The description of the site (pre-construction) is based on information obtained from the contract, USACE personnel, and the USACE project file. The Kirkuk area PHCs were new construction projects located within the Tameem Governorate area approximately 240 kilometers north of Baghdad, Iraq. The five PHCs assessed were located throughout the city of Kirkuk. The USACE Project Engineer stated that the U.S. Army, in coordination with the Iraqi Ministry of Health (MoH), selected the locations with the intention of selecting sites in different ethnic communities. The project sites selected were open and level properties in residential communities with no existing structures. Municipal water and electricity were assumed to be available nearby at the five sites selected. Coordination with the local community for these services was expected. Each PHC required the fabrication and installation of an on-site septic tank since a municipal wastewater collection and treatment system was not available for use. Since local power was not reliable to support the PHCs, primary and backup power was also required.

Scope of Work of the Task Order

The general SOW was included in TO 0011. The SOW covered all labor, equipment, materials, security, housing, travel, testing, and inspection to perform the design and construction of the PHCs. TO 0011, dated 20 October 2004, included the design and construction of 49 PHCs and the supply and installation of associated medical equipment throughout northern Iraq. The SORS required a property survey, a design of civil work and utilities, including architectural, structural, mechanical, plumbing, electrical (including backup generator power), life safety, communications and medical equipment design. This specific assessment addressed the design and construction of the five PHCs located throughout the city of Kirkuk, Iraq. Significant work items required for construction of the facilities included:

- Earthwork and structural systems
- Electrical / communication systems
- Mechanical systems (heating, ventilation and air conditioning)
- Water/sewer systems
- Interior finishing (windows/doors/tile/paint/ceilings)

At the time of the assessment, all five work items listed above were underway.

Current Project Design and Specifications

The TO 0011 required three distinct designs. Parsons submitted Types “A”, “B”, and “C” as variations on the PHC design. We assessed four Type “A” and one Type “B” PHC clinics. The PHC designs required the use of commercial-grade quality materials available in the local region with a life expectancy of 40 years.

The TO’s SOW included a requirement for the submittal and approval of all project designs and specifications. The SOW required submission of conceptual design submittals (10%), schematic design submittals (30%), design development (65%), and construction documents (95%) for review and approval from the Sector Program Contracting Office.

The SORS required construction submittals and design changes to the construction manager. The SORS required that construction submittals include the following: equipment, fixture, finishing and hardware submittals, progress and construction schedules, QCP, commissioning plan, environmental protection procedures, safety plan,

security plan, preventive maintenance plan, and training plan. Requirements for all construction and rehabilitation work included the use of the applicable International Building Code, International Electrotechnical Commission, National Fire Protection Association, Sheet Metal and Air Conditioning Contractor's National Association, International Mechanics Code, International Plumbing Code, and International Health Code Standards.

Deliverables also required by SORS included, security, logistics, operations and maintenance manuals, warranties and a spare parts list.

Parsons submitted 30%, 65%, 95%, and 100% design drawings and specifications for review and approval. The assessment team reviewed the electronic and hard copies of the 100% design and specifications. The design drawings and specifications appeared complete and consistent with the contract's requirements.

Site Assessment

On 13 February 2006, we performed on-site assessments of the following five PHCs: Hai Alhajjaj, Shiqaq Hai Musalla, Hai Tis'een, Hai Al Wasily, and Hai Alasra Wa Al Mafqoodeen. At the request of the USACE Kirkuk Area Office, we performed an expedited assessment due to security concerns. The time allotted at each PHC site was limited to approximately 15 minutes; therefore, a complete review of the construction quality was not possible.

The USACE Project Engineer and local national (LN) quality assurance (QA) personnel stated that each PHC was identified to the local communities as an Iraqi MoH funded project with no mention of U.S. funding or support. The USACE Project Engineer stated that there would be additional security concerns if the local community knew that the U.S. Government was responsible for funding and constructing the PHCs.

Our on-site inspection included an assessment of completed work and work in progress. On the day of the site visit, work was in progress by Parsons and its subcontractors at each of the five PHC locations. During the on-site inspection, we observed workers mixing concrete and filling rebar reinforced concrete forms, installing interior tiling, plastering interior walls and installing roofing material. Construction of the PHCs was at different stages of completion; therefore, different activities were occurring at each site. USACE Project Engineer and contractor representatives accompanied us on our inspections.

We identified the following common issues with each PHC.

- Concrete work
- Stairwell quality
- Construction behind schedule
- USACE Kirkuk Area Office not reviewing contractor invoices
- PCO and RMS Databases
- Management and Oversight (this will be addressed in the Project Quality Management section)

The site assessment will summarize the common issues for the five PHCs followed by individual assessments in Appendices A, B, C, D, and E.

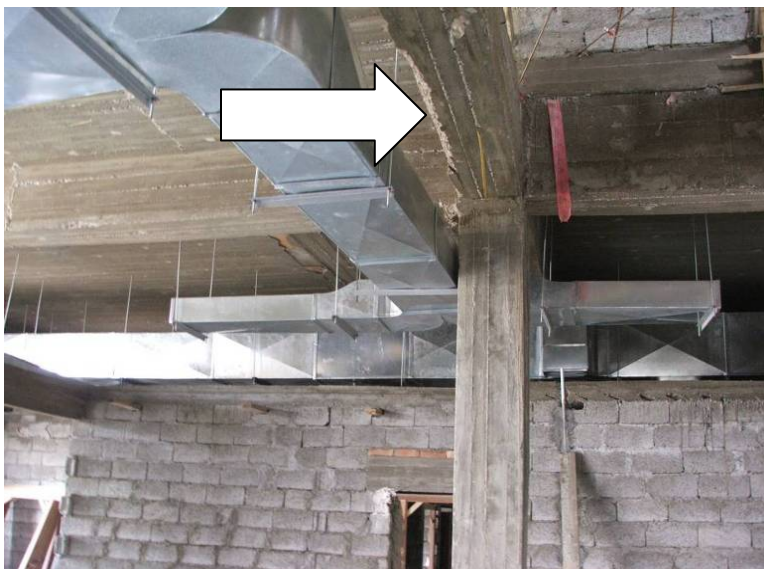
Concrete Work

We identified what appeared to be concrete segregation, honeycombs, and reinforcement bar exposure on the surface of the load-bearing reinforced concrete ceiling beams (Site Photo 1 and Site Photo 2). We observed some significant discrepancies with the columns, such as columns with chipped concrete (Site Photo 3) and a column that was not plumb (Site Photo 4).

At the time of the assessment, some cinder block walls had been constructed and then plastered with gypsum. We identified numerous defects in workmanship of the nonload-bearing walls such as gaps in the walls, the use of broken blocks or other materials, and improper and uneven block placement. For an illustration of poor workmanship with block work, see Site Photo 5. From the contractor and USACE documentation available, it appears the poor block workmanship was not corrected before the walls were plastered over with gypsum. The gaps in the wall of Site Photo 6 are apparent by the sunlight shining through the pieces of the far wall. Site Photo 1 is also an example of gypsum plasterwork applied to a block wall with unfilled gaps in between the blocks.



Site Photo 1. Load-bearing ceiling beam (PHC Hai Alasra Wa Al Mafqoodeen)



Site Photo 2. Honeycombing on ceiling beam (PHC Hai Alasra Wa Al Mafqoodeen)



Site Photo 3. Honeycombing of concrete column (PHC Hai Alhajjaj)



Site Photo 4. Column that is not plumb (PHC Hai Alasra Wa Al Mafqoodeen)



Site Photo 5. Example of poor block laying (PHC Hai Tis'een) (Photo courtesy of the USACE)



Site Photo 6. Sunlight through gaps in walls (PHC Hai Tis'een)

Interior ground floor to first floor stairwell

The project design required the construction of one stairwell from the interior ground floor to the first floor, consisting of “cast in-place” reinforced concrete. During our site visit, we verified that in each PHC the concrete stairwells were in-place, although the workmanship of the concrete placement was poor. We identified the following: uneven surfaces (Site Photo 7), small pieces of the stair steps were chipped (Site Photo 8), the appearance of concrete segregation on the side and underneath the stairwell (Site Photos 9 and 10, respectively). Site Photos 11 and 12 show a stairwell and the poor quality of the concrete mixture. During its construction, each PHC’s stairwell appears to have been utilized by the construction crews to move equipment from the ground floor to the first floor. While some of the damage may be attributed to construction activities, the majority of the deficiencies appeared to be due to poor concrete workmanship.



Site Photo 7. Uneven steps (PHC Hai Tis'een)



Site Photo 8. Chipped steps (PHC Hai Alhajjaj)



Site Photo 9. Concrete honeycombing on side of stairwell (PHC Hai Tis'een)



Site Photo 10. Concrete segregation underneath stairwell (PHC Hai Al Wasily)



Site Photo 11. View of stairwell (PHC Hai Al Wasily)



Site Photo 12. Close-up view of concrete segregation on stairwell (PHC Hai Al Wasity)

Construction Behind Schedule

TO 0011 set the completion date of 6 January 2006 for CLINS 0001 and 0006 thru 0054, which included the five Kirkuk area PHCs. At the time of the assessment, 13 February 2006, the five PHCs were each approximately 50% complete. The contractor provided a Notice of Excusable Delay to the USACE on 5 May 2005, which documented reasons the contractor would not be able to complete the PHCs by the contractual deadline. The contractor cited serious incidents such as violence at sites, local work stoppages, squatters at PHCs, national/regional events such as the Iraqi election holiday period, and site adaptation issues as reasons for construction delays. However, with the exception of the Iraqi election holiday period, none of the other reasons for the construction delays occurred at the five PHCs in Kirkuk.

According to the primary contractor and the USACE Project Engineer, the principal reason for construction falling behind schedule was that the primary contractor, Parsons, subcontracted the work to an Iraqi firm that subsequently subcontracted the work to local Iraqi companies. Arguments resulted between the subcontractor and the local Iraqi companies regarding payment for work performed. The local Iraqi companies accused the subcontractor of not paying for materials and work performed and refused to continue working. Parsons, the subcontractor, the local Iraqi companies and the USACE did not expeditiously resolve this issue, which resulted in numerous delays.

However, Parsons and the subcontractor were also responsible for project delays. For instance, on 13 March 2005, Parsons and the subcontractor were still discussing details concerning the design drawings for the Shiqaq Hai Musalla PHC.

Review of Payment Invoices

The USACE field office stated that they did not review the contractor's invoices prior to payment. Modification 00003 of the contract required the submission of invoices directly to the DCAA offices for review and provisional approval and to the Contracting Officer

and to USACE Finance Center Millington, TN. Neither the DCAA nor the USACE Finance Center Millington requested the USACE Kirkuk Area Office or the on-site Quality Assurance Representative (QAR) responsible for the PHCs to review or approve the invoices to validate the work claimed by the contractor. As a result, the potential existed for payment to the contractor for work not performed or not performed to the contract standards.

Reporting of PHC Construction Progress

The USACE Kirkuk Area Office used a spreadsheet provided by Parsons to determine the completion percentage of each PHC. Parsons' spreadsheet divided the entire project, from clearing and preparing the site to turnover, into 10 sections with each section allocated a specific percentage. For example, Parsons allocated 7.57% for section I, Preliminaries, which included clearing and demolition, site offices, facilities, fences, site layout, excavation, and backfilling. The spreadsheet for the entire country provides an adequate gauge of the percentage of work completed for each PHC; however, for these five particular PHCs, the overall percentage allocated for Section I appeared to be high since the USACE Project Engineer stated that the sites were vacant lots requiring little, if any demolition and/or site clearing. We reviewed the USACE's project files and determined that all five sites appeared to be flat, vacant lots (Site Photos 13, 14, 15, 16, and 17). The USACE uploaded Parsons' spreadsheet information, along with information from the local national QA daily reports, into the Resident Management System (RMS). According to the USACE Project Engineer, the RMS' bases completion percentage for each PHC on the Parsons' spreadsheet.



Site Photo 13. View of construction site (Photo courtesy of USACE)



Site Photo 14. View of construction site (Photo courtesy of USACE)



Site Photo 15. View of construction site (Photo courtesy of USACE)



Site Photo 16. View of construction site (Photo courtesy of USACE)



Site Photo 17. View of construction site (Photo courtesy of USACE)

The PCO construction database contains information extracted from the USACE's RMS. The RMS provides GRN with daily information regarding projects for which it has overall responsibility, while the PCO construction database provides the PCO with daily information regarding the same projects. We reviewed the PCO construction database and the RMS to identify the percentage complete of each PHC. However, the PCO construction database provided different results from the RMS for each PHC.

At the time of the assessment, the PCO construction database and the RMS did not match any of the five PHCs. Table I captures the data of the PCO construction database and the RMS for the five PHCs on 10 December 2005. For two PHCs, the difference between the PCO construction database and the RMS was at least 8%. We reviewed the USACE's project files to determine if either database captured the accurate information for the completion percentage of each PHC. The photos that follow provide a pictorial illustration of the status of each PHC taken on or about 10 December 2005.

Table I. Comparison of completion percentages on 10 December 2005.

PHC	PCO Project Number	PCO Percent Complete	RMS Project Number	RMS Percent Complete
Hai Alhajjaj	11936	56%	KE-01	58%
Shiqaq Hai Musalla	11937	56%	KE-02	52%
Hai Tis'een	11938	46%	KE-03	38%
Hai Al Wasity	11939	50%	KE-04	40%
Hai Alasra Wa Al Mafqoodeen	11940	50%	KE-05	46%



Site Photo 18. View of Hai Alhajjaj on 12 December 2005. According to the PCO construction database, this PHC was 56% complete (Photo courtesy of the USACE)

Based upon Parsons' completion spreadsheet, the PCO construction database, and RMS' completion percentages of 56% and 58%, respectively, for the Hai Alhajjaj PHC (Site Photo 18) appears to be high, considering that the block walls, roofing, utilities and interior finishing work were not complete.



Site Photo 19. View of Shiqaq Hai Musalla on 10 December 2005. According to the PCO construction database, this PHC was 56% complete (Photo courtesy of the USACE)

Based upon Parsons' spreadsheet, the PCO's construction database completion percentage of 56% appears to be high for the Shiqaq Hai Musalla PHC (Site Photo 19). From the available photo and information, the concrete work appears to be completed, which according to Parsons' spreadsheet, puts the PHC at approximately 50% complete.



Site Photo 20. View of Hai Tis'een on 7 December 2005. According to the PCO construction database, this PHC was 46% complete (Photo courtesy of the USACE)

The PCO construction database and RMS' completion percentages of 46% and 38%, respectively, for the Hai Tis'een PHC (Site Photo 20) appears high, considering the block work on the ground floor is not complete and that the reinforced concrete work on the first floor is not complete and the upstairs blocking, roofing, utilities and interior finishing had not commenced.



Site Photo 21. View of Hai Al Wasyt on 7 December 2005. According to the PCO construction database, this PHC was 50% complete (Photo courtesy of the USACE)

The PCO construction database and RMS' completion percentages of 50% and 40%, respectively, for the Hai Al Wasyt PHC (Site Photo 21) appears high, considering that

the reinforced concrete work on the first floor is not complete and the first floor blocking, roofing, utilities and interior finishing work have not commenced.



Site Photo 22. View of Hai Alasra Wa Al Mafqoodeen on 7 December 2005. According to the PCO database, this PHC was 50% complete (Photo courtesy of the USACE)

Based upon Parsons' spreadsheet, the PCO construction database and RMS' completion percentages of 50% and 46%, respectively, for the Hai Alasra Wa Al Mafqoodeen PHC (Site Photo 22) appears high, considering the structural concrete work blocking, roofing, utilities and interior finishing work were not complete.

We reviewed the RMS' completion percentages for the date of our site visit, 13 February 2006, to identify the amount of progress since the 10 December 2005 RMS entry. Table II documents the information taken directly from the RMS on 10 December 2005 and 13 February 2006. Considering the contractor had two months, according to Parsons and the USACE's own measurement system, very little progress was made. For example, one PHC, Hai Alasra Wa Al Mafqoodeen, showed only 1% progress during the two month period; while two PHCs, Shiqaq Hai Musalla and Hai Tis'een, had 3% progress during the two month period. Finally, one PHC, Hai Alhajjaj, showed an unexplained drop in completion percentage of 7% during the same period. It appears that the completion percentages the PCO reported in December 2005 were artificially inflated to show more work completed than was actually done.

The PCO construction database is very important in helping the PCO and GRD determine which projects are closest to completion. With inaccurate numbers in this database, the PCO could potentially choose the wrong PHC to have Parsons complete. In addition, since the PCO completion percentage numbers are reported to the Congress, it appears that Congress is not being presented with accurate information.

Table II. Comparison of RMS completion percentages on December 10, 2005 and February 13, 2006.

PHC	PCO Project Number	RMS Percentage Complete 12/10/05	RMS Percentage Complete 2/13/06
Hai Alhajjaj	11936	58%	51%
Shiqaq Hai Musalla	11937	52%	55%
Hai Tis'een	11938	38%	41%
Hai Al Wasity	11939	40%	48%
Hai Alasra Wa Al Mafgoodeen	11940	46%	47%

Project Quality Management

Department of the Army Engineering Regulation (ER) 1180-1-6, dated 30 September 1995, provides general policy and guidance for establishing quality management procedures in the execution of construction contracts. According to ER 1180-1-6, “obtaining quality construction is a combined responsibility of the construction contractor and the government.”

The contract for the five Kirkuk PHCs required the contractor to establish and maintain an effective quality control (QC) system. The contract required this system to consist of plans, procedures, and organization necessary to produce products, which comply with the contract requirements.

Parsons developed a Quality Management Plan, which established procedures and practices for effective quality control, included QC requirements for its subcontractors. Parsons’ subcontractor Quality Control Plan is a generic plan lacking any site or task specific details. In an attempt to improve the subcontractor’s QC, Parsons instituted a training program for its subcontractor’s QC representatives. In addition, Parsons requires the use of a three-phase checklist by its subcontractors and daily QC reports. The contractor provided daily QC reports that presented a brief background on the number of workers, the work activities completed, any tests or inspections performed, and a weekly work plan (look ahead), which were accessible through the Parsons’ website.

The QC representatives monitored field activities and completed daily QC reports. The QC reports did not always include sufficiently complete daily observations of what occurred at the site, problems encountered at the site that required corrective actions, or solutions achieved to correct problems at the site. For instance, for the Shiqaq Al Musalla PHC, QC daily reports 14 January 2006 through 16 January 2006 stated that the “work is very weak” without specifically describing why the work was very weak, and what, if anything, was recommended as the solution. The QC daily reports that followed did not document if the contractor made any corrective actions. In addition, a QC deficiency log existed for only one of the five PHCs. We reviewed the QC deficiency log and determined that it lacked sufficient information to ensure that contractor QC representatives detected, evaluated, and corrected potential construction deficiencies in a timely manner.

A significant management tool for QC is presence at the construction site to ensure the quality of the contractor’s work. Parsons relied upon LN QC engineers to visit the construction sites. However, it appears the LN QC engineers were not effective. For example, the Parsons LN QC engineers did not identify poor concrete workmanship as a potential concern. We reviewed the QC daily reports to determine if the reports mentioned any of the examples of poor concrete workmanship identified throughout this

report. The QC daily reports did not document the existence of poor concrete workmanship. It appears the LN QC engineers did not receive proper training to identify poor concrete workmanship issues.

The lack of decision-making representatives on site by Parsons contributed heavily to lost workdays. Disagreements between the subcontractor and local Iraqi subcontractors over payment issues resulted in the subcontractors refusing to work. Parsons needed on-site representatives to resolve these issues in order to have work continue. In addition, Parsons needed on-site representatives to encourage the subcontractors to hire more workers. According to the QC daily reports, a significant reason for the slow progress made at each PHC was the fact that the subcontractor did not have an adequate work force. The QC daily reports documented the need for additional workers, but there is no indication that Parsons directly attempted to have the subcontractor use more workers. Finally, over the last couple of months, the subcontractors reported more workers at each site. During the site visits, we counted the number of workers at the site and compared it to the QC daily report for the day. Our count was substantially lower than the QC daily report's count. The issue of the appropriate number of workers to efficiently complete the PHCs timely appears to never have been adequately addressed by Parsons.

USACE ER 1110-1-12 and the PCO Standard Operating Procedure (SOP) CN-100 specified requirements for a Government QA program. Similar to the QC program, a crucial oversight technique is presence at the construction site. The USACE Kirkuk Area Office relied upon LN QA engineers to visit the construction site. However, it appears the LN QA engineers were not effective. We reviewed the LN QA engineers' daily reports and determined the QA daily reports were vague regarding the work performed ("installing the ducts for the air conditioning system") and provided little insight into the problems encountered at the site. For example, one PHC for 6 weeks had the same General Remarks section comment "work is very slow" without explaining the rationale for this statement or the corrective actions that needed to be taken. In addition, the QA daily reports did not document the existence of poor concrete workmanship as a potential concern. For example, the USACE LN QA took Site Photo 5, and captioned it with: "installing pipe for electrical works." The QA daily report narrative did not mention the existence of obvious poor concrete workmanship, which is in need of corrective action. It appears that the LN QA engineers did not receive proper training to identify poor workmanship issues.

The USACE Project Engineer, who also had Quality Assurance Representative (QAR) responsibilities, reviewed the daily LN QC daily reports (via the Parsons' website) and the LN QA daily reports and inputted the information from the daily reports into the RMS. The USACE QAR did not effectively review the daily reports and monitor the performance of the LN QA engineers. The LN QA engineers periodically provided the USACE QAR photographic evidence of poor concrete workmanship, yet there is no indication that the QAR tried to correct this on-going issue. Further, the USACE Resident Engineer and Area Engineer did not effectively monitor performance of the QAR. The Resident Engineer and Area Engineer, at a minimum, should have periodically reviewed the LN QC and LN QA daily reports to determine the progress of the projects and the quality of the contractor's work. It does not appear that either the Resident Engineer or the Area Engineer thoroughly reviewed the daily reports.

The USACE QAR stated that concrete issues have been a constant problem with Iraqi subcontractors. In fact, upon our arrival at the Kirkuk Area Office, the USACE QAR provided us a 21-page document from Parsons dealing with honeycomb and segregation concerns and the need for corrective actions. When the USACE QAR reviewed the daily

QC reports, which did not identify any concrete issues, he should have determined that the LN QC engineers were not effective.

Each LN QA engineer stated that he immediately brings to the subcontractor's attention any deficiencies identified for corrective action; however, the daily QA reports do not document this occurring. The USACE QAR did not effectively supervise the LN QA engineers. The USACE QAR should have determined that neither the LN QC engineers nor the LN QA engineers documented poor performance by the contractor. Consequently, the USACE QAR should have visited the construction sites periodically to gage the performance of the LN QC and LN QA engineers. However, the USACE QAR only visited each PHC site once since construction began in December 2004. The USACE QAR stated that security concerns were the primary reasons for not visiting the construction sites; however, according to the LN QARs and the contractor's QC daily reports, there have been no incidents of violence at any of the five sites since the work started in December 2004.

The USACE Kirkuk Area Office did not have a signed QA plan to outline the roles and responsibilities of the QA personnel. The LN QA engineer was on site during major construction events; however, each LN QA engineer was responsible for several projects, which resulted in daily site visits lasting only a few hours. In addition, the LN QA personnel did not always provide the independent oversight for which they were responsible. For example, each LN QA engineer stated he did not count the number of Iraqis working each day; instead, each relied upon the QC representatives' count.

Further, the daily QA reports were not sufficiently complete and accurate. For example, the LN QA daily reports did not always document the existence of construction concerns. Specifically, one LN QA daily report included a photo of poor concrete quality beneath a lintel (Site Photo 23); however, the narrative daily report did not mention this problem nor does it mention if the LN QA engineer brought this problem to the contractor's attention. From reviewing the LN QA daily reports, we were unable to determine if the contractor corrected this problem.



Site Photo 23. Example of a site photo included with the daily report. Taken by the USACE LN QA for PHC Shiqaq Hai Musalla (Photo courtesy of the USACE)

In the instances in which the LN QA engineer documented construction issues within the QA daily reports, there was no certainty that the contractor took corrective actions. For example, on 22 January 2006, the LN QA daily report and site photo documenting the poor installation of a lintel (Site Photo 24). The QA daily report, in the General Remarks section stated, “Some of the lintels have bad installation.” Yet, there is no mention in the daily report that the LN QA addressed this problem with the contractor. The contractor’s QC daily report did not identify this problem and did not mention any discussions with the LN QA regarding this issue. After reviewing the next few days QC and QA daily reports, there was no documentation that the contractor addressed and corrected this issue.



Site Photo 24. Example of a site photo included with the daily report. Taken by the USACE LN QA (Photo courtesy of the USACE)

It appears that Parsons did not effectively manage, and the USACE did not provide adequate oversight of the construction of the five Kirkuk area PHCs. Parsons was required to manage the construction of the projects and provide QC; while the USACE was responsible for providing QA oversight of the construction for the U.S. Government. Neither the QC nor the QA daily reports identified the concrete and stairwell problems addressed earlier in this report. As a result, ineffective on-site management and the lack of adequate government oversight at the five PHCs may have resulted in construction quality issues, cost overruns, and schedule delays.

Project Sustainability

The contract stated that the contractor shall prepare a preventive maintenance plan to identify the manufacturer’s information and recommendations for preventive maintenance on all installed equipment in coordination with the Iraqi MoH. In addition, the contractor is responsible for providing appropriate training for all operators and technicians to allow the hospital to conduct long-term routine and preventive maintenance. The contractor will provide a comprehensive training manual and the equipment manufacturer’s representatives or technical experts shall conduct training.

For operation and maintenance, the contractor shall provide three copies of legible operation and maintenance manuals for all new equipment, finishes, and fixtures. The contract included providing the PHCs with warranties for all the mechanical, electrical, and/or electronic device equipment. In addition, the contract required certification of all operations for 12 months at the PHCs.

Requirements for operation and maintenance manuals as well as on-site training for the HVAC and medical equipment were included in the contract. The contract also included that medical equipment and its warranties will be provided to the PHCs.

The current contract does not provide for spare parts for the PHCs, purchase of emergency generators or medical consumables, which will affect sustainability if not addressed. Sustainability coverage has been identified through contract requirements and pending items are currently being pursued; therefore, at this time, it appears sustainability coverage, at least for the first 12 months, should be adequate for the operation of the PHCs.

Conclusions

Based upon the results of our site visit, we reached the following conclusions for assessment objectives 1, 2, 3, 4, and 5. Appendix F provides details pertaining to Scope and Methodology.

1. Determine whether project results were consistent with original objectives.

According to the contract, the overall objective was to improve the health care of the Iraqis by designing and constructing 49 Primary Health Care Centers in northern Iraq and supplying associated medical equipment. We conclude that project results were not consistent with original objectives in view of the facts that:

- a) The five Primary Health Care Centers that we assessed were found to be far from complete and were poorly constructed.
- b) The construction deficiencies raise questions as to the safety of occupancy of the structures.
- c) We were informed that the contract for Primary Health Care Centers construction was to be modified and that only 20 of the 141 Primary Health Care Centers² were to be completed under the contract.
- d) The five PHC that we assessed were not to be included in the 20 Primary Health Care Centers to be completed under the modified contract.

2. Determine whether project components were adequately designed prior to construction or installation.

This project consisted of the new construction of five Primary Health Care Centers. The contract was a design-build contract requiring the submission and approval of design drawings and specifications for the new construction. Based on the review of the United States Army Corps of Engineers' project files and the Parsons' submittals,

² In addition to 49 Primary Health Care Centers in the northern region of Iraq under Task Order 0011, the Primary Health Care Center contract included Task Orders 0004 and 0012, which authorized the construction of 41 Primary Health Care Centers in the central region of Iraq, and 60 Primary Health Care Centers in the southern region of Iraq, respectively. Therefore, the original total number of Primary Health Care Centers to be completed under Contract W914NS-04-D-0006 was 150. The task orders were subsequently modified to provide for only 141 Primary Health Care Centers.

the design package appeared to be complete and sufficiently specific to construct the primary health Care centers. These projects were effectively designed in accordance with the contract's Scope of Work. As a result, these projects, if constructed in accordance with the approved design and specifications, should produce usable Primary Health Care Centers.

3. Determine whether construction or rehabilitation met the standards of the design.

Construction of each of the five Primary Health Care Centers that we assessed was at different stages of completion so different activities were occurring at each site. The construction did not meet the international standards required by the contract. We documented several areas of inferior quality construction during the on-site inspections. The inadequate quality control and quality assurance on the part of the contractor and the U.S. Government, respectively, resulted in not properly identifying and correcting construction deficiencies. The projects, at the time of our inspections, consisted of concrete columns, beams, ceiling slabs, x-ray room walls, and a stairwell. Reinforced concrete did not appear to be constructed to contract specifications and needed to be evaluated to determine if corrective actions were required. Corrective action procedures had not been submitted or completed, even though the U.S. Army Corps of Engineers' Quality Assurance personnel documented concrete deficiencies.

4. Determine whether the Contractor's Quality Control plan and the Government Quality Assurance Program were adequate.

The Contractor Quality Control program was not adequate. The contract specified requirements for a Contractor Quality Control plan and procedures, which the contractor submitted. However, the Quality Control daily reports were generic, lacked any site or task specific details, did not include test plans, did not contain a subcontractor organizational chart, and lacked subcontractors' job qualifications. The Quality Control daily reports were inadequate and did not disclose concrete issues that could require corrective actions. Additionally, the contractor did not have Quality Control deficiency logs for four of the five Primary Health Care centers, and the one deficiency log that was available did not provide sufficient information to ensure that potential construction deficiencies were detected, evaluated, and properly corrected in a timely manner.

The Government's Quality Assurance program was inadequate. The U.S. Army Corps of Engineers did not provide adequate oversight, resulting in deficiencies, which included insufficient daily Quality Assurance reports that failed to document the identification and correction of concrete issues, displayed a lack of independence, and provided insufficient review of contractor invoices prior to payment.

5. Determine if project sustainability and operational effectiveness were addressed.

The contract adequately addressed sustainability, which should result in operational Primary Health Care Centers. The contract included providing the operation and maintenance manuals, as-built drawings, a commissioning plan, manufacturers' warranties for all equipment, a 12-month operations warranty, and training. The contract also stated that a principal objective was the swift transition of the reconstruction efforts to Iraqi management and control.

Recommendations

We recommend that the Commanding General, Gulf Region Division:

1. Perform a critical evaluation of the needs for the remaining Primary Health Care Centers to identify:
 - a. The Primary Health Care Centers to be completed.
 - b. The work remaining to enable the Primary Health Care Centers to meet the original project objectives of improving the health care of the local Iraqi population and supplying associated medical equipment.
 - c. Remedial action for construction deficiencies in completed or to be completed Primary Health Care Centers that do not meet international standards or render them unsafe for occupancy.
 - d. The funding needed to complete each Primary Health Care Center and the funding needed to bring completed Primary Health Care Centers to the standards of the original contract objectives.
2. Identify the funding needed to the Director, Iraq Reconstruction Management Office.
3. Establish an effective quality assurance program for oversight of contractor performance and to ensure effective contractor Quality Control programs.

Management Comments

The Gulf Region Division in responding to our draft report noted that the objectives, conclusions, and recommendations were inconsistent. While disagreeing with statements made in the draft report and opining that we had not adequately considered the security situation in Iraq, the Gulf Region Division allowed that the report contained some valid points, but that recommendations should only be directed to the five Primary Health Care Centers assessed. The Gulf Region Division did not concur with our recommendations because they addressed the entire Primary Health Care Program.

The Joint Contracting Command – Iraq/Afghanistan responded to recommendations addressed to it in a draft of this report pointing out to us that Joint Contracting Command – Iraq/Afghanistan will not be the construction agent for completion of the Primary Health Care Centers. Gulf Region Division will be the construction agent; therefore, Joint Contracting Command – Iraq/Afghanistan was not in a position to provide responses regarding future construction planning for Primary Health Care Centers.

Evaluation of Management Comments

We stand by the accuracy of our report. In view of the termination of the task orders for the construction of 141 PHCs with only 20 to be completed, we continue to believe that recommendations which address the entire PHC Program are appropriate and we will work with the Gulf Region Division to reach a mutually satisfactory resolution.

Our detailed response to comments from the Gulf Region Division follows. The complete text of the comments is in the Management Comments section of the report

1. **SIGIR Statement.** Page ii, (Conclusions, paragraph 1) “...only 20 of the original 150 PHCs will be completed under the contract...”

GRD-PCO Comments. “The Kirkuk Area PHC construction contract was terminated for convenience. Acquisition strategies are underway to re-scope and advertise for bid all subject PHCs. PHCs are very important to the people of Iraq and to USACE.”

SIGIR Response. The original SIGIR statement that only 20 of the original 150 PHCs will be completed under this contract was confirmed by the Gulf Region Division comments stating that the contractor has been terminated for convenience. While acquisition strategies may be underway to re-scope and advertise for bid all subject PHCs, the fact is, as indicated on page ii of this report, that under this contract, only 20 of the original 150 PHCs will be completed.

2. **SIGIR Statement.** Page ii. (Conclusions, paragraph 3) “Inadequate quality control and quality assurance on the part of the contractor and the U.S. Government, respectively, resulted in not properly identifying and correcting construction deficiencies.”

GRD-PCO Comments. “The security threat is very real and should never be underestimated. District quality assurance (QA) personnel cannot access every site on a regular basis. The contractor immediately objects if any U.S. personnel arrive by personnel security detachments (PSD) or Army escort, fearing threats from insurgents following such visits.

The security threat makes it important to utilize Iraqi Local National (LN) engineers for the QA role, because they can perform the QA duties without attracting attention. LN Quality Assurance Representatives (QAR) conduct site visits, and take photographs of progress with emphasis on problem areas. These visits are reported in QA reports, which are submitted to the Kirkuk Area Office contracting representatives or project engineers to review and provide feedback. Every effort is made to teach, coach, and assist the LN QAR on standards of construction and engineering. There is often a considerable learning curve. If the LN QAR detects a serious problem during the site visit, the problem is raised to the contractor’s task manager to resolve. Further, districts communicate with the prime contractor, or its designated representative to resolve issues concerning poor workmanship.

Overall, the report did not show that it considered district QA operating plans. For example, the GRN Construction Quality Assurance Operating Plan expressed the safety and security risk of conducting QA. The plan stated, ‘The extent of QA is commensurate with the nature, value, complexity, and security risk associated with the work and the requirements of regulation ER 1180-1-6.’ In addition, ‘The difficulty with providing QA security within a war zone is recognized. Safety and security of our employees must come first and access to some sites is not possible. Therefore, the extent of QA activities that can be performed at a site may be limited due to these factors.’

SIGIR Response. We agree that the security threat is real and should never be underestimated. We never stated that the USACE QAR should be on-site daily; instead our report stated that the “USACE QAR should have visited the construction sites periodically to gage the performance of the contractor’s LN QC and the USACE LN QA engineers.” In order to effectively “teach, coach, and assist LN QAR on standards and engineering,” the USACE QAR needed to periodically visit the construction site to ensure the contractor’s LN QC and USACE LN QA engineers were identifying and correcting all potential deficiencies. In some instances, the daily QC and QA reports documented little construction work and provided as few as two photographs for the USACE QAR to review. Considering the size of each PHC, two photographs will not provide the USACE QAR with enough information to identify

potential problems and concerns that the USACE LN QA engineers may have overlooked.

The use of LN QA engineers is an established practice in Iraq. Our report did not state that the general practice of using LN QA engineers was not effective; this report stated the Kirkuk Area Office’s use of the LN QA engineers was not effective in identifying, documenting, and correcting poor construction workmanship. For example, from reviewing the daily QA reports, none of the LN QA engineers identified the significant problems we witnessed during our site visit, such as poor concrete work and stairwell quality. In addition, there is no indication that the LN QARs communicated their concerns over a serious problem to the contractor or subcontractor for correction. Further, the project files did not identify any instances in which the USACE QAR attempted to resolve any issues with the contractor regarding poor workmanship.

The safety and security of the USACE employees is paramount; however, considering the Gulf Region Division’s statement that “PHCs are very important to the people of Iraq” and the fact the construction of the five PHCs was scheduled to cost approximately \$3.2 million, oversight that is more extensive was needed.

3. **SIGIR Statement.** Page ii. (Conclusions, paragraph 4) “The Government’s Quality Assurance program was inadequate. The United States Army Corps of Engineers did not provide adequate oversight, resulting in deficiencies, which included insufficient daily quality assurance reports that did not document the identification and correction of concrete issues, lack of independence, and insufficient review of contractor invoices prior to payment.”

GRD-PCO Comments. “Where security for U.S. Government personnel is problematic, LN QARs are utilized. In addition, project engineers conduct follow-up reviews of daily QA reports. The procedure to use LN QARs is not without problems, but every effort is made to educate LNs and ensure action is taken as necessary. The Kirkuk Resident Office QA reports are listed by site in the following table and show the period of construction and quantity of reports. Kirkuk Area Office contends that this is a sufficient volume of reports to monitor construction quality at the respective sites. Telephone communications between QARs and project engineers to coordinate project construction are not always documented, but occur daily.”

Site	Construction Period	QA Reports in RMS
Hai Alhajjaj, KE01	10 Jan 05 – 04 Mar 06	259
Shiqaq Hai Musalla, KE02	10 Jan 05 – 01 Mar 06	202
Hai Tis’een, KE03	10 Jan 05 – 01 Mar 06	230
Hai Al Wasity, KE04	10 Jan 05 – 04 Mar 06	314
Hai Alasra Wa Al Mafqodeen, KE05	10 Jan 05 – 04 Mar 06	297

SIGIR Response. We did review daily QA reports as part of our assessment. Our concern is not with the quantity of reports but rather with the quality of the daily QA reports. We found that they were vague and did not provide clear information on work performed and potential problems identified and corrected. See the following

example of the 14 Feb 2006 QA report for the Hai Tis'een PHC. The USACE LN QA engineer attached a photograph (Site Photo 5 repeated below) to the daily QA report with the caption "KE-03 – installing pipe for electrical works." The daily QA report does not identify the obvious poor quality concrete workmanship, and the Gulf Region Division's project engineer did not document this issue either. There is no indication this problem was brought to the contractor's attention for corrective action.

Further, the Gulf Region Division project engineer did not effectively "educate" the USACE LN QA engineer, since he failed to bring this potential safety hazard to the LN QA engineer's attention. In another example, the Gulf Region Division project engineer did not educate the LN QA engineers to count the number of Iraqi workers on site each day. Each LN QA engineer we spoke to stated that he relied upon the LN QC engineer's count of the number of Iraqi workers on site each day. The Gulf Region Division project engineer stated this was not important since Parsons has a firm fixed price contract with the subcontractor, but it highlights a more important point about the independence of the LN QA engineers. If the LN QA engineers are relying upon the contractor's LN QC engineers for the number of workers on site each day, then LN QA engineers might also rely upon the LN QC engineers to tell them what activities were performed on site and photographs instead of visiting the site. Further, since the LN QA engineers know the Gulf Region Division project engineer will not visit the PHC sites, the LN QA engineers could rely upon the LN QC engineers to tell them what happened on a daily basis instead of visiting the site.

After reviewing the documentation provided to us, we did not identify any documented discussions between the Gulf Region Division project engineers and LN QA engineers regarding project construction.

Even though the LN QA engineers completed 1,302 daily QA reports for the 5 PHCs, the reports did not identify, document, and correct the significant examples of poor contractor quality workmanship.



Site Photo 5. Local National Quality Assurance Engineer photograph

QUALITY ASSURANCE REPORT

Daily Construction Log
Kirkuk Area Office
USACE-GRN-PMO

CLINIC CONSTRUCTION: Kirkuk																						
Date: 12Feb06		Weather: cloudy day Temp (Max/Min):23C			Report #																	
Project Location: Kirkuk		Military Grid Coordinates:			Clinic Name: Tessen-KE-03																	
USACE-PMO Team		Donna Street, Area Engineer Domingo , Project Engineer																				
US Contractor: Parsons Co.																						
Iraqi sub Contractor: Kamal Aman Co.																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Project Workforce</th> <th>Iraqi Males</th> <th>Iraqi Females</th> <th>Expat Males</th> <th>Expat Females</th> <th>US Citizens</th> <th>Other</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>43workers</td> <td>0</td> <td>3 Eng.</td> <td>0</td> <td>0</td> <td>0</td> <td>46</td> </tr> </tbody> </table>								Project Workforce	Iraqi Males	Iraqi Females	Expat Males	Expat Females	US Citizens	Other	Total	43workers	0	3 Eng.	0	0	0	46
Project Workforce	Iraqi Males	Iraqi Females	Expat Males	Expat Females	US Citizens	Other	Total															
	43workers	0	3 Eng.	0	0	0	46															
1. What contractors were on the jobsite today: - Kamal Aman Co.																						
2. What work activities were being performed: - Electrical works. - Construction wall. - remove formwork of lintels. - Excavation for electrical M.H. - reinforcing septic tank. - curing wall.																						
3. Did anything occur today that would lead to a claim or change order: -No.																						
4. What equipment was being used: - no.																						
5. How did security issues affect jobsite activities: -Good.																						
6. Were any preparatory or initial inspections held today: - no																						
7. Were there any materials received on the jobsite: - no.																						
8. Did the contractor perform any test today? If so, what tests and results: - No.																						
9. Were there any safety issues on the jobsite today: - Gloves, scaffolding																						
10. General remarks .																						
QA Representative Signature: Eng.Xxxxx K. : Eng.Yyyyy M.				Date: 12Feb06		Supervisor's Initial's	Date:															

4. **SIGIR Statement.** Page 6. (Site Assessment, Concrete Work) “We identified what appeared to be concrete segregation, honeycombs, and reinforcement bar exposure on the surface of the load-bearing reinforced concrete ceiling beams (Site Photo 1 and Site Photo 2). We observed some significant discrepancies with the columns, such as columns with chipped concrete (Site Photo 3) and a column that was not plumb (Site Photo 4).”

GRP-PCO Comments. “There are instances of poor concrete placement, notably lack of proper vibration during and immediately following the actual pour. Poor concrete work has been a significant problem with the PHC contractor’s work. Any instance of structural problems associated with the PHCs was elevated for correction. A determination of structural impacts was made for each instance. Non-structural cosmetic imperfections are common throughout Iraqi construction. Structural integrity is a serious matter. The district made inquiries concerning the deficient support columns and followed up with the contractor’s task manager, as early as 3 October 2005. The contractor indicated that they could not visit the site due to security concerns, but would send their LN Quality Control Representative (QCR) to investigate.”

SIGIR Response. We agree that structural integrity is a serious matter. Our site visit identified significant discrepancies with the columns, such as columns with chipped concrete and an interior reinforced concrete column that was not plumb (see Site Photo 4 repeated below). If the Gulf Region Division made inquiries to the contractor’s task manager in October 2005, the site photo from our February 2006 visit documents that the contractor did not correct this issue. According to the Gulf Region Division, the contractor’s LN QCR was to “investigate.” However, the daily QC reports and required deficiency logs do not indicate this problem was ever brought to his attention; consequently, this issue was not adequately resolved. In addition, the fact the LN QCR, who was required to be on site daily, did not identify this issue on his own raises questions about his qualifications for the position. Further, the LN QA engineer, who was required to be on site daily, did not identify this issue, either.



Site Photo 4. Column that is not plumb (PHC Hai Alasra Wa Al Mafqoodeen)

The Gulf Region Division's comments state that, "Poor concrete work has been a significant problem with the PHC contractor's work." However, we found only one instance where the USACE LN QA engineer documented the occurrence of this problem out of all five clinic projects. The LN QA engineer for the Hai Alhajaj PHC provided Site Photo 25 with his daily QA report. The daily QA report stated, "there is segregation appears in the poured parapet." According to the daily QA report, the LN QA engineer answered the question about any verbal instructions given to the contractor with "NO." We reviewed the daily QC reports and there is no mention of any concrete issues raised by the LN QA engineer. In addition, the segregation issue was not listed in the required deficiency log. Therefore, even though the LN QA engineer identified and documented poor concrete workmanship, he did not point the issue out to the contractor. Since the USACE project engineer reviewed the daily QA reports, he should have followed up with the contractor and the LN QA engineer to determine the issues were adequately addressed and corrected.



Site Photo 25. Extensive segregation of concrete in the parapet

Further, because the Gulf Region Division's comments recognized that the contractor's concrete work has been a significant problem, the USACE project engineer should have directed the USACE LN QA engineers to closely monitor the contractor's concrete work at each site. Upon reviewing the daily QA reports, the Gulf Region Division project engineer should have noticed that the LN QA engineers were not addressing the quality of the contractor's concrete work. At this point, the Gulf Region Division project engineer should have determined if poor quality concrete construction was occurring, and if it was, to identify it to both the LN QA engineers and the contractor for corrective actions. According to the Gulf Region Division Kirkuk Area Office, Parsons documented its segregation and honeycombing problems at the PHCs country-wide and the need for corrective actions in a 21-page document. Since the Kirkuk Area Office was well aware of the contractor's concrete problems, the Gulf Region Division project engineer should have reviewed the daily

QA and QC reports and photographs to determine if similar concrete issues were present at the PHCs. During our site visit we observed concrete quality issues.

5. **SIGIR Statement.** Page 6. (Site Assessment, Concrete Work) "...some cinder block walls had been constructed and then plastered with gypsum. We identified numerous defects in workmanship of the non-load bearing walls such as gaps in the walls, the use of broken blocks or other materials and improper and uneven block placement."

GRD-PCO Comments. "Iraqi construction techniques leave gaps in (do not "butter") the vertical joints of the blocks so that mortar can adhere to it more readily. Their block work is not well finished, so they 'render' all brick and block surfaces with a mortar mix, to hide imperfections. The broken blocks or other material, which are not load-bearing, are considered acceptable as they serve more as a 'backboard' for the mortar rendering. The improper and/or uneven block placement again appears acceptable to the Iraqis when covered with mortar or gypsum."

SIGIR Response. The contract's Task Order required that all work "must comply with the applicable International Building Code." The Task Order identified the codes and standards as the following:

- International Building Code, ICC
- International Existing Building Code, ICC
- International Electrotechnical Commission
- National Fire Protection Association
- Sheet Metal and Air Conditioning Contractor's National Association
- International Mechanical Code
- International Plumbing Code

Regardless of whether Iraqi construction techniques leave gaps, use broken blocks, or improper block placement, the contractor's QC program and the USACE's QA plan were responsible for ensuring the contractor's work complied with the applicable International Building Code.

We do not agree with the Gulf Region Division's assertion that "broken blocks or other material which are not load-bearing are considered acceptable as they serve more as a 'backboard' for the mortar rendering." The International Building Code requires that non-load bearing walls be tied into structural members. This safety precaution seems all the more reasonable in view of the questionable strength of uneven walls constructed with filler materials. Iraqi workers may well be skilled at using mortar and gypsum to cover any construction flaws; however, their skill is being used to mask potential structural problems.

Further, the Gulf Region Division's comments to our report do not address concrete work for poorly constructed load bearing lintels (Site Photos 23 and 24, repeated below). Both Site Photos, provided in the draft report, document poorly constructed lintels. While the Gulf Region Division may believe that gaps, broken blocks, and improper block placement are "acceptable" for non load-bearing walls, lintels are load bearing members used to support material over doorways and windows.

The Gulf Region Division stated, "the improper and/or uneven block placement again appears acceptable to the Iraqis when covered with mortar or gypsum." The Gulf Region Division did not identify which "Iraqis" they were referring to when stating that construction work not done according to the contract was "acceptable." The contract's task order required, and the contractor was paid for, construction work done in accordance with International Building Code. However, the contractor's QC and the Gulf Region Division's QA programs allowed the contractor to construct

these PHCs using what the Gulf Region Division apparently believes to be “Iraqi construction techniques” instead of adhering to International Building Codes as required by the contract.



Site Photo 23. Example of a site photo included with the daily report. Taken by the USACE LN QA for PHC Shiqaq Hai Musalla (Photo courtesy of the USACE)



Site Photo 24. Example of a site photo included with the daily report. Taken by the USACE LN QA (Photo courtesy of the USACE)

6. **SIGIR Statement.** Page 11. (Construction Behind Schedule) "...the principal reason for construction falling behind schedule was that the primary contractor, Parsons, subcontracted the work to an Iraqi firm that subsequently subcontracted the work to local Iraqi companies. Arguments resulted between the subcontractor and the local Iraqi companies regarding payment for work performed. The local Iraqi companies accused the subcontractor of not paying for materials and work performed and refused to continue working. Parsons, the subcontractor, the local Iraqi companies and the USACE did not expeditiously resolve this issue, which resulted in numerous delays.

GRD-PCO Comments. "The Resident Office immediately coordinated with the contractor to resolve any concerns with subcontractor delays as soon as they were notified. The shortcoming of project management was the multiple tiers of contractors. The system of "nested tiers" of subcontractors proved very problematic, from the construction management perspective, for both the contractor and the government, especially since instructions were provided to the prime contractor, rather than subcontractor."

SIGIR Response. We agree that one cause of construction delays was the multiple tiers of contractors. In fact, in our draft report, we stated, "according to the primary contractor and the Gulf Region Division Project Engineer, the principal reason for construction falling behind schedule was the primary contractor, Parsons, subcontracted the work to an Iraqi firm that subsequently subcontracted the work to local Iraqi companies. Arguments resulted between the subcontractor and the local Iraqi companies regarding payment for work performed. The local Iraqi companies accused the subcontractor of not paying for materials and work performed and refused to continue working." However, we further stated that Parsons, the subcontractor, the local Iraqi companies, and the Gulf Region Division did not expeditiously resolve this matter, which resulted in numerous delays. The U.S. Government made the PHC contract with Parsons and provided Parsons with the specific completion date of 6 January 2006. The daily QC reports on several occasions stated the local Iraqi companies refused to work because Parsons' subcontractor was not paying them. The Gulf Region Division project engineer, upon reviewing the daily QC reports, needed to direct Parsons to resolve this issue immediately.

7. **SIGIR Statement.** Pages 11 to 12. (Review of Payment Invoices) "Neither the DCAA nor the USACE Finance Center Millington requested the USACE Kirkuk Area Office or the on-site Quality Assurance Representative (QAR) responsible for the PHCs to review or approve the invoices to validate the work claimed by the contractor. As a result, the potential existed for payment to the contractor for work not performed or not performed to the contract standards."

GRD-PCO Comments. "The reports conclusion to require QARs to ensure receipt of the work billed is not accurate, because the PHC contract was a cost-type contract, not based on percentage of completion. DOD Financial Management Regulation Volume 10, Chapters 1, 7, 9 and 10 all exempt the requirement to review invoices and ensure receipt prior to payment. Since the construction contract was a cost plus type contract, interim payments are specifically allowed in advance of receipt of goods and services and the percentage of completion requirement does not apply. These types of payments are referred to as financing payments in chapter 7 and specific guidance is provided there. Only prior to final payment is an audit of billings conducted and if an overpayment is detected, then the vendor is required to immediately refund that overpayment."

SIGIR Response. PCO CN-107, “Process Construction Interim Payments (Cost Plus),” states that the resident engineer is responsible for entering the pay activities submitted by the Design Build (DB) contractor into RMS and reviewing the DB contractor’s interim invoice and listing costs, which appear to be questionable. This policy also states, “the PCO and GRD staffs must review interim invoices for cost reimbursable task orders ensuring costs are reasonable, allocable, and allowable and the invoices are processed within the timeframe set forth by the prompt payments clause of the contract.”

Our concern with the Gulf Region Division QAR not reviewing contractor invoices prior to payment is the contractor being paid for work that does not meet the contract’s requirements. During the course of our site visit, we observed several instances of construction work, which did not meet the contract’s requirements; however, the contractor received payment for this non-compliant work since the USACE Finance Center Millington did not request the Gulf Region Division QAR responsible for the PHCs to review and approve the invoices.

At the time of our site visit, the Kirkuk Area Office Area Engineer had just replaced the previous Area Engineer. During our telephone exit conference with the Area Engineer, we mentioned that, during the course of interviews with the Gulf Region Division project engineer, we learned that invoices were not reviewed. The Area Engineer immediately stopped the exit conference and called the project engineer into his office to confirm this practice. The project engineer advised him that contractor invoices are not reviewed locally prior to payment. The Area Engineer stated he was “very concerned with this practice and would make sure that it changes in the future.”

8. **SIGIR Statement.** Page 12. (Reporting of PHC Construction Progress) “The USACE uploaded Parsons’ spreadsheet information, along with information from the local national QA daily reports, into the Resident Management System (RMS). According to the USACE Project Engineer, the RMS’ bases completion percentage for each PHC on the Parsons’ spreadsheet.”

GRD-PCO Comments. “The percentage completion reported is not the contractor’s percentages. The contractor provides an estimation of percent complete. USACE engineers determine the actual percent complete based upon their own site knowledge and LN QAR input, and then modify percentage estimates as necessary. The USACE engineers’ ground-truthed percentage is then entered into RMS. (Ground-truthing is collecting data by non-remote sensing means.)”

SIGIR Response. The Gulf Region Division project engineer stated he used daily QA reports and Parsons’ spreadsheet to compute the percentage complete for each PHC. However, the daily QA reports do not provide any information regarding the completion percentage of the PHC (see 14 Feb 06 daily QA report). The Gulf Region Division project engineer’s site knowledge is limited because he has only visited each site once. Since the daily QA reports are vague and do not address completion percentage and the Gulf Region Division project engineer has limited site knowledge, it appears the Gulf Region Division accepts the information provided by Parsons, which is then uploaded into the RMS. For example, Parsons’ completion percentage spreadsheet for the Hai Tis’een PHC on the day of our site visit, 13 February 2006, was 40.77%; the USACE’s RMS entry for the completion percentage was 41%. Further, during our meeting with the LN QA engineers and the Gulf Region Division project engineer, there was a significant disagreement between them over the amount of time required to complete one PHC. The Gulf Region

Division project engineer stated it “should be completed within 3-6 months;” while the LN QA engineers stated it will be “more than 6 months.”

9. **SIGIR Statement.** Pages 12 to 16. (Reporting of PHC Construction Progress) “We reviewed the PCO construction database and the RMS to identify the percentage complete of each PHC. However, the PCO construction database provided different results from the RMS for each PHC.”

GRD-PCO Comments. “At this time, the source for the percentage of completion data contained in the PCO Construction Database is RMS data.”

SIGIR Response. The Gulf Region Division comment does not address the draft assessment report’s statement that, at the time of the site visit, the “PCO Construction Database provided different results from the RMS for each PHC.” While the Gulf Region Division may have recently corrected this problem, at the time of the assessment, the results within the PCO Construction Database and the RMS did not match. Consequently, the PCO, GRD, and Congress may not have been provided with accurate information.

In addition, the Gulf Region Division did not respond to our report’s statement that it “appears that the completion percentages the PCO reported in December 2005 were artificially inflated to show more work completed than was actually done.”

According to the daily QC and QA reports, the contractor completed significant work during the December 2005 through February 2006 period; however, according to the RMS, three of the five PHCs had 3% or less progress during the period. In addition, we documented the Hai Alhajjaj PHC, which according to the RMS, showed an “unexplained drop in completion percentage of 7% during the same period.”

The Gulf Region Division comments did not address our concerns.

10. **SIGIR Statement.** Page 18. (Project Quality Management) “The USACE Kirkuk Area Office relied upon LN QA engineers to visit the construction site. However, it appears the LN QA engineers were not effective. We reviewed the LN QA engineers’ daily reports and determined the QA daily reports were vague regarding the work performed (“installing the ducts for the air conditioning system”) and provided little insight into the problems encountered at the site. ... In addition, the QA daily reports did not document the existence of poor concrete workmanship as a potential concern.”

GRD-PCO Comments. “LN QAR engineers submit QA reports that are transferred into RMS by district project engineers. The QA reports are supplemented by multiple photographs that provide support for QA reports and minimize the need for lengthy narration.”

SIGIR Response. In the course of our assessment, we reviewed the daily QA reports and associated photographs submitted to the Gulf Region Division project engineers. In some cases, as few as two photographs accompanied daily QA reports, which provided very little insight into the status of the project and any issues with the quality of the contractor’s work. For the daily QA report we earlier referenced (see daily QA report above), the LN QA engineer provided only 7 photographs, one of which was a photograph documenting an outside view of the PHC. When the LN QA engineer provided photographs of significantly poor construction workmanship (Site Photos on pages 26 through 31), neither the LN QA engineer nor the Gulf Region Division project engineer identified the problem. In addition, as mentioned

previously, the daily QA reports did not identify the significant issues we observed during our site assessment.

In an earlier comment, the Gulf Region Division mentioned the GRN Construction Quality Assurance Operating Plan states that the “extent of QA activities that can be performed at a site may be limited...” According to the Gulf Region Division, this required the use of LN QA engineers to perform the on site daily QA function instead of the Gulf Region Division project engineer. Since the Gulf Region Division project engineer did not plan to visit the construction sites, it was crucial that the LN QA engineers document every deviation from the contract’s requirements and take a significant amount of photographs to provide the Gulf Region Division project engineer with a full view of each site. In our opinion, the LN QA engineers did not provide the Gulf Region Division project engineer with enough photographs of on-site construction. The LN QA engineer should not have limited the photographs to just the activities performed on that day; photographs of other areas of construction should have also been taken to document segregation, honeycombing, cracking due to settlement, etc.

11. **SIGIR Statement.** Page 18. (Project Quality Management) “The USACE QAR did not effectively review the daily reports and monitor the performance of the LN QA engineers. The LN QA engineers periodically provided the USACE QAR photographic evidence of poor concrete workmanship, yet there is no indication that the QAR tried to correct this on-going issue. Further, the USACE Resident Engineer and Area Engineer did not effectively monitor performance of the QAR. The Resident Engineer and Area Engineer, at a minimum, should have periodically reviewed the LN QC and LN QA daily reports to determine the progress of the projects and the quality of the contractor’s work. It does not appear that either the Resident Engineer or the Area Engineer thoroughly reviewed the daily reports.”

GRD-PCO Comments. “It is the function of the project engineer to review the QA reports, provide feedback to the LN QARs to include mentoring and update RMS. The project engineer does not effectively review the daily reports and monitor the performance. Although it is not their primary function, Resident Engineers and Area Engineers periodically get involved to evaluate office functions and mentor project engineers. Task organization described in USACE-GRN Construction QA Organizational Operating Plan (specifically pages 5-7) and EP 415-1-260, Resident Engineer’s Management Guide does not seem to be clear to the SIGIR representatives.”

SIGIR Response. USACE Engineering Regulation (ER) 1180-1-6 (7-c 12-e) states that the resident engineer/project engineer is responsible for assuring that the QA Report contains all pertinent items of information. In order to assure the accuracy and completeness of the QA Report, this individual will review the initial reports of any Quality Assurance Personnel (QAP) and perform follow-up reviews as deemed necessary to confirm/maintain continued acceptability. Those reports reviewed will be initialed. In addition, PCO Standard Operating Procedure Number CN-100 (6.5.1) stated that the resident engineer shall review the daily reports and monitor the contractor’s performance with regard to the results of its Contractor Quality Control (CQC) system.

During a different site assessment in Kirkuk in September 2005, the assessment team engineer spoke to the previous Area Engineer at the Kirkuk Area Office, who requested that we look at the 5 Kirkuk area PHCs included in this report. The Area

Engineer stated that the contractor was behind schedule and there were problems with construction quality. When the assessment team arrived in February 2006, the Gulf Region Division project engineer immediately told us that the PHCs were problems and provided us with Parsons' concrete assessment from October 2005. Apparently, from at least September 2005 the Kirkuk Area Office had concerns about the PHCs, specifically concrete issues. If the problems with the PHCs were well known throughout the Kirkuk Area Office, there is no indication that either the resident engineer or the area engineer reviewed the daily QA and QC reports to determine the extent of the problem or whether additional problems were identified.

USACE ER 1180-1-6 (7-c-10) stated that QAP should monitor the contractor's procedures for tracking construction deficiencies to assure acceptable corrective action and that an audit trail is maintained. In addition, PCO Standard Operating Procedure (SOP) Number CN-102 (6.3) states that the Resident Engineer should review/inspect the deficiency tracking log at least monthly for general compliance with this SOP and for any deficiencies, which have not been corrected in a timely manner. The Gulf Region Division comments did not address our draft report, which stated a "QC deficiency log existed for only one of the five PHCs. We reviewed the QC deficiency log and determined that it lacked sufficient information to ensure that contractor QC representatives detected, evaluated, and corrected potential construction deficiencies in a timely manner."

We do not agree with the Gulf Region Division's statement that the project engineer "effectively" reviewed the daily QA reports. The Gulf Region Division project engineer did not identify poor contractor workmanship when the LN QA provided it to him in photographic detail (Site Photos on pages 26 through 31). Nor did he question the LN QA engineers for not including examples of poor quality workmanship, such as concrete issues, when apparently it was known in the office as far back as September 2005.

12. **SIGIR Statement.** Page 18. (Project Quality Management) "...the USACE QAR should have visited the construction sites periodically to gage the performance of the LN QC and LN QA engineers. However, the USACE QAR only visited each PHC site once since construction began in December 2004. The USACE QAR stated that security concerns were the primary reasons for not visiting..."

GRD-PCO Comments. "The project engineer visited the sites bi-weekly, but only in the form of windshield surveys. This procedure was done because of security concerns and the subcontractors' threat to walk off the job if U.S. Government personnel visited the job site. This situation is the circumstance of reconstruction efforts in a country that is not secure from insurgent activity. The district met this challenge by utilizing LN QARs who can regularly visit construction sites and maintain a very low profile. The district received complaints and threats of work stoppage because of the SIGIR visit.

The SIGIR report stated on page 19 that the LN QA reports and the contractor's QC daily reports indicated there have been no incidents of violence at any of the five sites since work started in December 2004. The report did not consider that the reason no violence occurred at the sites because U.S. Government personnel refrained from visiting the sites."

SIGIR Response. The Gulf Region Division project engineer told us that he performed periodic "windshield surveys" of each PHC; however, in our opinion, windshield surveys are not effective. The Gulf Region Division project engineer said

he would simply have a security team drive him by each site – he would not stop or get out of the vehicle during his survey. Site Photo 26 is a “windshield survey” of the Hai Alhajjaj PHC we took from inside the security vehicle. Without pulling up into the parking area of the PHC and stepping outside the security vehicle, this is the view of the PHC. We do not feel the Gulf Region Division project engineer would be able to identify any significant issues either inside or outside the PHCs from this view alone.



Site Photo 26. “Windshield survey” of the Hai Alhajjaj PHC

The Gulf Region Division project engineer did not want us to visit the PHC construction sites because of security issues, and he stated that the Iraqi workers would refuse to work if we visited the sites. During our site visit, Iraqi subcontractors told us that terrorists would now know these are U.S. projects and they would be killed. The Gulf Region Division project engineer advised us that the workers did not show up the day after our visit for fear of violence; however, according to daily QA Reports, within two days the number of workers was the same as before our visit. Further, in the two months since our site visit, there have been no reported acts of violence at any of the 5 PHC sites.

In addition, the Iraqi subcontractors stated to the SIGIR team members that they were afraid to be seen with an American. We reviewed all the daily QC reports, which cast doubt upon this sentiment. The daily QC reports document the visits of Americans working for Parsons without any narrative about concerns of terrorists or acts of violence. In fact, the day after one American Parsons program manager visited the site there were more workers on site the next day. It appears that the Iraqi subcontractors were able to distinguish between the Americans who worked for Parsons and those who worked for the Gulf Region Division and SIGIR. An explanation for the fact that Iraqis didn’t seem to mind Parsons staff on site, but discouraged USACE and SIGIR representatives from visiting was that they knew Parsons was responsible for payments, while the Gulf Region Division and SIGIR

were responsible for oversight and review of project progress and the quality of workmanship.

13. **SIGIR Statement.** Page 19. (Project Quality Management) “The USACE Kirkuk Area Office did not have a signed QA plan to outline the roles and responsibilities of the QA personnel.”

GRD-PCO Comments. “The Area Office operated with the QA plan guidance found in the GRN Construction Quality Assurance Operating Plan for FY 05 to FY 06, dated August 2005. Overall, this plan served as an organizational QA operating plan dealing with QA operations for the district. In addition, the district operated within the guidelines contained in the following publications.

- EP 415-1-260, Resident Engineer Management Guide
- EP 415-1-261 through 265 (Volumes 1-5) Quality Assurance Representative’s Guide
- EP 715-1-2A Guide to Effective Contractor Quality Control
- ER 1180-1-6, Construction Quality Management

GRD-PCO believes that SIGIR assessment reports are a vital ‘snapshot’ of reconstruction activities in Iraq. These reports can act as a powerful adaptive management tool for the commander. We further believe that sufficient time should be dedicated to fully develop that ‘snapshot’ in a fair and balanced fashion. There is no room for supposition, conjecture, or subjectivity in such an important tool.

The use of LN engineers as our first line of construction management, while not perfect, has been largely successful. These are competent people who risk their lives daily to perform this function. LN engineers have a vested interest in seeing all the positive work performed in their country come to fruition.”

SIGIR Response. While the signed QA plan may exist at the district level, the USACE project engineer stated the Kirkuk Area Office did not have a copy of it. As we indicated in the draft report, a signed QA plan outlines the “roles and responsibilities of the QA personnel.” USACE ER 1180-1-6 provides a suggested outline for the QA plan, which includes a section for “QA Surveillance.” Specifically, “deficiency monitoring” is identified as one of the key components of the QA Surveillance. An extensive QA plan is required at the Kirkuk Area Office to outline not only the roles and responsibilities of the Gulf Region Division project engineer, resident engineer, and area engineer, but also the LN QA engineers performing the on site QA function. This plan needs to provide specific details of the International Building Code standards that the contract and task order required. This would eliminate the LN QA engineers from accepting what the USACE comments referred to as “Iraqi construction techniques” instead of the quality workmanship required by the contract and task order.

In view of the unidentified and uncorrected construction problems that we observed during our on-site visits and the subsequent termination of the contract for construction of 150 PHCs with only 20 to be delivered, we agree with the USACE that use of the LN engineers is not perfect, particularly as they are currently utilized for the Kirkuk PHC projects.

GRD-PCO Concluding Comment. Recommendation and Command Comments

“GRD-PCO disagrees with the assessment recommendations because the recommendations do not correspond with the objectives, conclusions or work performed in the assessment. The project assessment objectives and conclusions focused on the results and quality of project construction for the five PHCs in and around Kirkuk. The recommendations didn’t suggest any actions to correct deficiencies found at the Kirkuk PHCs, but made broad recommendations concerning all PHCs unrelated to this assessment and outside the scope of work. The standards under which SIGIR stated it performed the work do not support the level of work necessary to reach such broad conclusions. No matter how valid a recommendation may be, inspection standards do not support providing recommendations for which no field work was performed. Quality control inspection standards require adequate supporting evidence for inspection results, conclusions, and recommendations. According to inspection standards, recommendations should not be prescriptive (broad) in nature; rather, they should be crafted in a manner that lays out what needs to be corrected or achieved. Recommendations for this assessment should have focused on what was needed to be corrected or achieved for the five Kirkuk PHCs.

We recommend SIGIR resubmit recommendations that are consistent with the Quality Standards for Inspections issued by the President’s Council on Integrity and Efficiency and within the scope of this project assessment.”

SIGIR Response. We stand by the accuracy of our report. In view of the termination of the task orders for the construction of 141 PHCs with only 20 to be completed, we continue to believe that recommendations, which address the entire PHC Program, are appropriate and we will work with the Gulf Region Division to reach a mutually satisfactory resolution.

We agree that quality control inspection standards require adequate supporting evidence for inspection results, conclusions, and recommendations. Our conclusions and recommendations are based on not only the 5 Kirkuk PHCs visited, but also the SIGIR’s previous assessment of the Hai Al Imam PHC in Babil, Iraq³, review of Parsons’ concrete analysis, and discussions with employees of GRD and Parsons.

Our conclusion that only 20 of the original 141 PHCs will be completed under the contract was validated by the USACE’s comment that the PHC construction contract was “terminated for convenience.” Further, the USACE stated, “acquisition strategies are underway to re-scope and advertise or bid all subject PHCs.” Since funding for the PHCs is not readily available, the USACE may not have the capability to complete all of the remaining PHCs. Consequently, our recommendation to perform a “critical evaluation of the needs for the remaining Primary Health Care Centers to identify the Primary Health Care Centers to be completed” is accurate.

The assessment report documents numerous examples of dangerously poor quality workmanship. In addition, a previous SIGIR assessment report stated “reinforced concrete load bearing beams were not constructed to contract specifications and need to be evaluated to determine if corrective actions are require[d]. We recommend the contractor evaluate concrete deficiencies and complete corrective actions.” Specifically, the assessment team observed significant concrete segregation on load bearing reinforced ceiling beams, as shown in Site Photos 27 and 28).

³ See SIGIR Report Number PA-05-017

While the USACE QARs for the Hai Al Imam PHC monitored field activities and completed daily QA reports, the QARs did not consistently review the contractor's QC daily reports and QC deficiency logs; consequently, there was no assurance that potential construction deficiencies were detected, evaluated, and properly corrected in a timely manner. Specifically, the daily QC reports did not always include sufficiently complete daily observations of what occurred at the site, problems encountered at the site that required corrective actions, or solutions achieved to correct problems at the site. The daily QC reports were inadequate and failed to disclose concrete issues that could require corrective actions.

In September 2005, the assessment team met with the Parsons' PHC Task Manager who stated Parsons had become aware of concrete problems throughout the country, which required an analysis to determine potential corrections needed. Parsons provided us with a 21-page presentation, which dealt with the proper pouring of concrete for columns and stairs and potential fixes for "minor" segregation and honeycombing. However, it appears that Parsons' analysis did not identify the significant amount of concrete segregation and honeycombing in the PHCs. One of the techniques for "fixing" the concrete segregation and honeycombing in the columns, beams, and slabs is to put on a "smooth finish." This appears to be similar to the USACE's solution to the issue of poor concrete work on non-load bearing walls, which is to cover it with "mortar or gypsum" and then it will appear "acceptable to the Iraqis."



Site Photo 27. Close-up view of concrete first floor ceiling concrete beam



Site Photo 28. Close-up view of concrete first floor ceiling concrete beam

Further, at the time of the Hai Al Imam PHC site visit, the Parsons' PHC Task Manager stated the USACE Gulf Region South (GRS) Basrah Area Engineer issued a stop work order to Parsons for the PHCs because of poor concrete work.

The Quality Standards for Inspection issued by the President's Council on Integrity and Efficiency requires inspectors to use the "knowledge, skills, and experience called for by their profession to diligently gather evidence and objectively evaluate its sufficiency, competency, and relevancy."

We based our conclusions and recommendations upon the following:

- Significant concrete issues we observed
- Concrete issues raised by the USACE GRS Area Engineer (through the use of a stop work order to Parsons)
- Parsons' concrete analysis and potential fixes for concrete segregation and honeycombing
- USACE's comment that "poor concrete work has been a significant problem with the PHC contractor's work."

Considering the significant concrete issues that have been identified in the USACE GRS and Gulf Region North (GRN), it would be irresponsible for the SIGIR to ignore the identified problems and not recommend that the USACE GRD perform a critical evaluation of the needs for all remaining PHCs to identify the "remedial action for construction deficiencies in completed or to be completed PHCs that do not meet international standards or are unsafe for occupancy."

In addition, the USACE comment that "acquisition strategies are underway to re-scope and advertise for bid" the remaining PHCs, the USACE needs to evaluate each PHC to determine the amount of work done by Parsons and the amount of work required to

complete each PHC to the contract and task order's requirements. Without this assessment, the USACE will not know the condition of each PHC when it solicits for bid the completion of the PHCs.

Appendix A. Individual Site Assessment

Hai Alhajaj, is a Type “A” Primary Health Care Center



Site Photo 29. View of outside of Hai Alhajaj PHC

Earthwork, structural concrete, walls, and roof

Significant work had been accomplished or was underway at the time of the assessment. The earthwork and the construction of this facility’s structural concrete elements were almost complete. The Statement of Requirements and Specifications (SORS) required site demolition and clearance if needed, construction of sidewalks, parking, fencing, lighting, roads, water, and sewer. Site clearing, excavation, and backfilling appeared to be almost complete. Excavation for the septic tank was underway (Site Photo 30).



Site Photo 30. Excavated hole for septic tank

All reinforced concrete columns, slabs, and ceiling beams appeared complete and the formwork was removed (Site Photo 31). The contract and design specifications required cast in-place reinforced concrete structural beams, columns, and slabs. Due to time constraints on site, we assessed only a fraction of the structural concrete work. The ground floor columns, ground floor structural beams, ground floor ceiling slab, interior stairwell, x-ray room walls, first floor structural beams, first floor columns, and first floor ceiling slab all appeared almost complete; however, we identified quality issues. During the site assessment, we observed work in progress on the block walls and roof. The block walls appeared to be of substandard construction with quality problems. For instance, we observed block rows not level, walls with unfilled gaps between blocks, broken blocks and bricks of different sizes used in wall construction, and blocks improperly installed. Site Photo 32 shows broken blocks used in wall construction. We observed a partial application of tar on the roof; however, the placement of concrete roofing tiles had not started. Site Photo 33 shows the partial application of tar on the roof.

The construction of sidewalks, parking, lighting, and roads had not started.



Site Photo 31. First floor structural column and beams



Site Photo 32. Example of broken blocks used in wall construction



Site Photo 33. Roof partially covered with tar

Electrical / communication systems

The SORS required all electrical design and construction to comply with the International Electrotechnical Commission Standards (IECS). The SORS required new energy efficient lighting, switched power outlets, and lighting switches. Electrical power and lighting requirements included interior and exterior lighting, surgical lighting, commercial grade wiring, panels, breakers, switches, outlets, junction boxes, transformers, connectors, and fixtures. Additional submittal requirements included switchgear, electric heaters, sump pumps, lightning protection, radio paging, emergency lighting, fire alarm system, central control and maintenance system, and the circuit protection. In addition, the SORS required a safe and sufficient power connection to the local grid and critical, standby, and primary power generators. At the time of the assessment, the electrical system installation was underway. We observed basic electrical preparatory work. The electrical work assessed consisted of the installation of polyvinyl chloride (PVC) conduit and plastic or metal electrical boxes attached to the surface of the block walls or recessed in a chiseled section of the wall. We observed plaster coating on some walls. We identified wiring installed inside the PVC conduit in some areas. For a picture of the basic electrical work completed, see Site Photo 34.

Electrical power and communications equipment was operative at the time of our on-site inspection.



Site Photo 34. Electrical wiring (Photo courtesy of USACE)

Mechanical systems (heating, ventilation and air conditioning)

The SORS required new thermostats, heating, exhaust, ventilation and cooling systems. Work and equipment required also included condensing units, air handling units, coils, piping, ventilation and exhaust fans, grilles registers, hangars, insulation, and fasteners. The SORS required all work to comply with the International Mechanical Code (IMC). At the time of the assessment, the mechanical work was underway. The fabrication and construction of the ventilation ductwork was underway (Site Photo 35) and appeared to meet the contract requirements, but the installation was not complete (Site Photo 36). We did not observe duct fittings such as grilles, registers, and diffusers on site. We did not observe the connection of heating and cooling equipment to either the ductwork or the equipment on site.



Site Photo 35. Installation of ventilation ductwork



Site Photo 36. Additional pieces of ventilation ductwork to be installed

Water/sewer systems

At the time of the assessment, a small percentage of the work on the water and wastewater systems appeared in-progress or complete. The SORS required all work to comply with International Plumbing Code (IPC).

The contractor had not installed most fixtures, fittings, faucets, valves, drains, and accessories; nor did the hardware or fixtures appear to be on-site. As indicated in the “Earthwork” section of this assessment, the contractor had made substantial progress on the excavation for the underground septic tank (Site Photo 30). We observed water pipes attached to the block walls and drainage pipes installed through the concrete slabs to allow for future drainage lines for the sinks and toilets (Site Photos 37 and 38). We did not observe water heaters and elevated water storage tanks on site.



Site Photo 37. Plumbing pipes placed in block wall



Site Photo 38. Plumbing pipes placed in concrete slab

Interior finishing (Windows/Doors/Tile/Paint/Ceilings)

At the time of the assessment, we identified the installation of some wooden interior doorframes; however, due to time constraints, we did not assess them. For a picture of completed doorframes, see Site Photo 39. We observed additional wooden doorframes on site; however, we did not observe exterior doors installed or on site.

The contractor had neither completed the window frames nor installed any windows or security grilles (Site Photo 40). We did not observe any interior wall painting, the fabrication of the suspended ceiling, or tile work. We did not observe any doors, windows, or hardware on site.



Site Photo 39. Example of completed doorframes



Site Photo 40. Example of windows without window frames

Appendix B. Individual Site Assessment

Shiqaq Hai Musalla, a Type “A” Primary Health Care Center



Site Photo 41. View of outside of Shiqaq Hai Musalla PHC

Earthwork, structural concrete, walls, and roof

Significant work had been accomplished or was underway at the time of the assessment. The earthwork and the construction of this facility’s structural concrete elements were almost complete. The SORS required site demolition and clearance if needed, construction of sidewalks, parking, fencing, lighting, roads, water, and sewer. Site clearing, excavation and backfilling appeared to be almost complete. Excavation for the septic tank was underway (Site Photo 42).



Site Photo 42. Beginning excavation of the septic tank

At the time of the site visit, all reinforced concrete columns, slabs, and ceiling beams appeared complete and most of the formwork was removed. The contract and design specifications required cast in-place reinforced concrete structural beams, columns, and slabs. Due to time constraints on site, we assessed only a fraction of the structural concrete work. The ground floor columns, ground floor structural beams, ground floor ceiling slab, interior stairwell, x-ray room walls, first floor structural beams, first floor columns, and first floor ceiling slab all appeared complete; however, we identified quality issues. During the assessment, we observed work in progress on the block walls and roof. The block walls appeared to have quality problems. For instance, we observed block rows not level, walls with unfilled gaps between blocks, broken blocks and bricks of different sizes used in the wall construction and blocks improperly installed. For a picture of poor concrete quality due to the use of different sized bricks at the Shiqaq Hai Musalla PHC, see Site Photo 23 (in the QA section of report). We observed a recent application of tar on the roof; however, placement of concrete roofing tiles had not begun. For a picture of the recent application of tar on the roof, see Site Photo 43.

The construction of sidewalks, parking, lighting, and roads had not started.



Site Photo 43. Tar applied to the roof

Electrical / communication systems

The SORS required all electrical design and construction to comply with the IECS. The SORS required new energy efficient lighting, switched power outlets, and lighting switches. Electrical power and lighting requirements included interior and exterior lighting, surgical lighting, commercial grade wiring, panels, breakers, switches, outlets, junction boxes, transformers, connectors, and fixtures. Additional submittal requirements included, switchgear, electric heaters, sump pumps lightning protection, radio paging, emergency lighting, fire alarm system, central control and maintenance system and the circuit protection. In addition, the SORS required a safe and sufficient power connection to the local grid and critical, standby and primary power generators. At the time of the assessment, the electrical system installation was underway. We observed basic

electrical preparatory work. The electrical work assessed consisted of the installation of PVC conduit and plastic or metal electrical boxes attached to the surface of the block walls or recessed into a chiseled section of the wall. We identified wiring installed inside the PVC conduit in some areas. For a picture of the basic electrical work completed, see Site Photo 44.

At the time of the assessment, we did not observe the initiation of the electrical, power, and communications work.



Site Photo 44. PVC conduit installed in structural concrete

Mechanical systems (heating, ventilation and air conditioning)

The SORS required new thermostats, heating, exhaust, ventilation and cooling systems. Work and equipment required also included condensing units, air handling units, coils, piping, ventilation and exhaust fans, grilles, registers, hangars, insulation, and fasteners. The SORS required all work to comply with IMC. The mechanical work was underway. The fabrication and construction of the ventilation ductwork was nearly complete and appeared to meet the contract requirements (Site Photo 45). We did not observe duct fittings, grilles, registers, and diffusers on site. We did not observe the heating and cooling equipment connected to either the ductwork or the equipment on site.



Site Photo 45. Ventilation ductwork

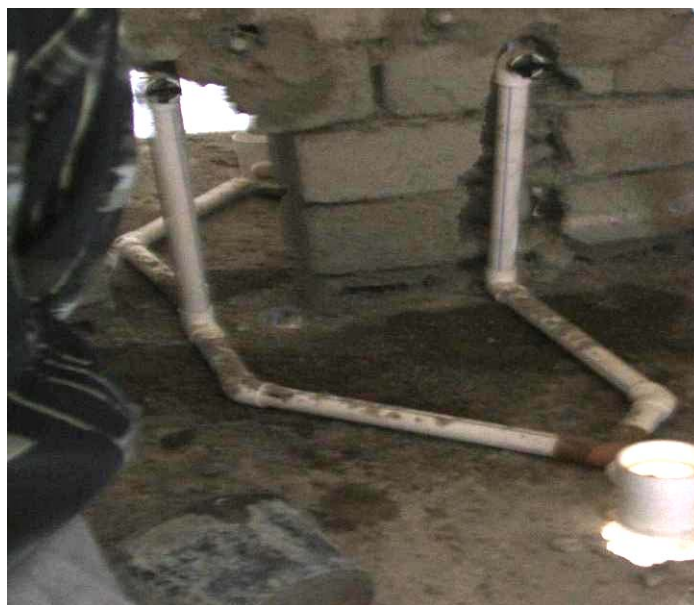
Water/sewer systems

A small percentage of the work on the water and wastewater systems appeared in progress or complete at the time of the assessment. The SORS required that all work comply with the IPC.

The contractor had not installed most fixtures, fittings, faucets, valves, drains and accessories; nor did the hardware or fixtures appear to be on site at the time of the assessment. The contractor had started the excavation of the underground septic tank as indicated in the “Earthwork” section of this assessment. We observed pipes placed through the concrete slabs to accommodate future drainage lines for the sinks and toilets (Site Photos 46 and 47). We did not observe water heaters and elevated water storage tanks on site.



Site Photo 46. Bathroom plumbing pipes



Site Photo 47. Bathroom plumbing pipes

Interior finishing (Windows/Doors/Tile/Paint/Ceilings)

At the time of the assessment, we identified the installation of some wooden interior doorframes; however, due to time constraints, we did not assess them. For a picture of the completed doorframes, see Site Photo 48. We observed additional wooden doorframes on site; however, we did not observe exterior doors installed or located on site.

The contractor had neither completed the installation of window frames nor installed any windows or security grilles (Site Photo 49). We observed the beginning of tile installation (Site Photo 50). Interior walls had not been painted and fabrication of the suspended ceiling had not started. We did not observe any doors, window, or hardware on site.



Site Photo 48. Example of completed doorframes



Site Photo 49. Window opening without window frame



Site Photo 50. Example of tile work

Appendix C. Individual Site Assessment

Hai Tis'een is a Type "B" Primary Health Care Center



Site Photo 51. View of outside of Hai Tis'een PHC

Earthwork, structural concrete, walls, and roof

Significant work had been accomplished or was underway at the time of the assessment. The earthwork and the construction of this facility's structural concrete elements were almost complete. The SORS required site demolition and clearance if needed, construction of sidewalks, parking, fencing, lighting, roads, water, and sewer. Site clearing, excavation, and backfilling appeared almost complete.

All reinforced concrete columns, slabs and ceiling beams appeared complete and most of the formwork removed. For a picture of the remaining formwork and structural beams, see Site Photos 52 and 53, respectively. The contract and design specifications required cast in-place reinforced concrete structural beams, columns, and slabs. Due to time constraints on site, we assessed only a fraction of the structural concrete work. The ground floor columns, ground floor structural beams, ground floor ceiling slab, interior stairwell, x-ray room walls, first floor structural beams, first floor columns, and first floor ceiling slab all appeared almost complete; however, we identified quality issues. During the site assessment, we observed work in progress on the block walls. The block walls appeared to be of substandard construction with quality problems. For instance, we observed block rows not level, walls with unfilled gaps between blocks, broken blocks, blocks improperly installed, and different sizes of bricks used in the wall construction. For a picture of wall construction using different sized blocks, see Site Photo 54. We did not observe roof construction underway.

The construction of sidewalks, parking, lighting, and roads had not started.



Site Photo 52. View of remaining formwork



Site Photo 53. First floor structural beams



**Site Photo 54. Example of different sized blocks in wall construction
(Photo courtesy of the USACE)**

Electrical/Communications Systems

The SORS required all electrical design and construction to comply with the IECS. The SORS required new energy efficient lighting, switched power outlets and lighting switches. Electrical power and lighting requirements included interior and exterior lighting, surgical lighting, commercial grade wiring, panels, breakers, switches, outlets, junction boxes, transformers, connectors, and fixtures. Additional submittal requirements included switchgear, electric heaters, sump pumps, lightning protection, radio paging, emergency lighting, fire alarm system, central control and maintenance system, and the circuit protection. In addition, the SORS required a safe and sufficient power connection to the local grid and critical, standby and primary power generators. At the time of the assessment, the electrical system installation was underway. We observed basic electrical preparatory work. The electrical work assessed consisted of the installation of PVC conduit and plastic or metal electrical boxes attached to the surface of the block walls or recessed in a chiseled section of the wall. We observed no wiring inside the electrical boxes or PVC conduit. For a picture of the basic electrical work completed, see Site Photo 55.

At the time of the assessment, we did not observe the initiation of the electrical, power, and communications work.



Site Photo 55. PVC conduit and electrical box

Mechanical systems (heating, ventilation and air conditioning)

The SORS required new thermostats, heating, exhaust, ventilation and cooling systems. Work and equipment required also included condensing units, air handling units, coils, piping, ventilation and exhaust fans, grilles, registers, ductwork, hangars, insulation, and fasteners. The SORS required that all work comply with the IMC. At the time of the assessment, we did not observe the initiation of any mechanical work. For instance, we did not observe the fabrication or construction of the ventilation ductwork (duct fittings, grilles, registers and diffusers on site) or the connection of heating and cooling equipment to the ductwork or the equipment on site.

Water/sewer systems

At the time of the assessment, a small percentage of the work on the water and wastewater systems appeared to be in-progress or complete. The SORS required that all work comply with the IPC.

The contractor had not installed most fixtures, fittings, faucets, valves, drains and accessories; nor did the hardware or fixtures appear to be on site. The contractor had started the excavation and fabrication of the underground septic tank as indicated in the “Earthwork” section of this assessment (Site Photo 56). We witnessed construction workers mixing and pouring concrete on the ground in front of the PHC (Site Photo 57). This measuring and mixing procedure appeared to be inconsistent with the standard concrete specifications. We observed pipes placed through the concrete slabs to accommodate future drainage lines for the sinks and toilets (Site Photo 58). We did not observe water heaters and elevated water storage tanks on site.



Site Photo 56. Workers applying rebar to top of septic tank



Site Photo 57. Concrete mixing



Site Photo 58. Plumbing pipes placed in concrete slab

Interior finishing (Windows/Doors/Tile/Paint/Ceilings)

At the time of the assessment, we observed the partial installation of some wooden interior doorframes (Site Photo 59); however, we did not assess the doorframes due to time restrictions on site. We identified additional wooden doorframes on site (Site Photo 60). We did not observe any exterior doors, windows, or hardware on site.

The contractor had not completed the window frames and had not installed any windows or security grilles (Site Photo 61). We did not observe the initiation of tile work, painting of the interior walls, or fabrication of the suspended ceiling. We did not observe any doors, windows, or hardware on site.



Site Photo 59. Doorframes partially completed



Site Photo 60. Doorframes on site but not installed



Site Photo 61. Window frames

Appendix D. Individual Site Assessment

Hai Al Wesity a Type “A” Primary Health Care Center



Site Photo 62. View of outside of Hai Al Wesity PHC (Photo courtesy of the USACE)

Earthwork, structural concrete, walls, and roof

Significant work had been accomplished or was underway at the time of the assessment. The earthwork and the construction of this facility’s structural concrete elements were almost complete. The SORS required site demolition and clearance, if needed, construction of sidewalks, parking, fencing, lighting, roads, water, and sewer. Site clearing, excavation and backfilling appeared almost complete. Excavation for the septic tank was underway (Site Photo 63).



Site Photo 63. Excavated hole for septic tank (Photo courtesy of the USACE)

At the time of the site assessment, all reinforced concrete columns, slabs, and ceiling beams appeared complete and most of the formwork removed. For a picture of the concrete column and beams, see Site Photo 64. The contract and design specifications required cast in-place reinforced concrete structural beams, columns, and slabs. We assessed only a fraction of the structural concrete work due to time constraints on site. The ground floor columns, ground floor structural beams, ground floor ceiling slab, interior stairwell, x-ray room walls, first floor structural beams, first floor columns, and first floor ceiling slab all appeared almost complete; however, we identified quality issues. During the site assessment, we observed work in progress on the block walls. The block walls appeared to be of substandard construction with quality problems. For instance, we observed block rows not level, walls with unfilled gaps between blocks, broken blocks, blocks improperly installed, and bricks of different sizes used in the wall construction. For a picture of broken and different sized blocks used in wall construction, see Site Photo 65. The roof was in need of cleanup prior to tarring (Site Photo 66).

The construction of sidewalks, parking, lighting, and roads had not started.



Site Photo 64. First floor structural column and beams



**Site Photo 65. Example of broken and different sized blocks used in wall construction
(Photo courtesy of the USACE)**



Site Photo 66. Roof in need of cleanup prior to tarring

Electrical / communication systems

The SORS required all electrical design and construction to comply with IECS. The SORS required new energy efficient lighting, switched power outlets, and lighting switches. Electrical power and lighting requirements included interior and exterior lighting, surgical lighting, commercial grade wiring, panels, breakers, switches, outlets, junction boxes, transformers, connectors, and fixtures. Additional submittal requirements included, switchgear, electric heaters, sump pumps, lightning protection, radio paging, emergency lighting, fire alarm system, central control and maintenance system, and the circuit protection. SORS also required a safe and sufficient power connection to the local grid and critical, standby and primary power generators. At the time of the assessment, the electrical system installation was underway. We observed basic electrical preparatory work. The electrical work observed consisted of the installation of PVC conduit and plastic or metal electrical boxes attached to the surface of the block walls or recessed in a chiseled section of the wall. We observed wiring installed inside the PVC conduit in some areas (Site Photo 67) and some outlet boxes with wiring (Site Photo 68).



Site Photo 67. Electrical wire running through PVC conduit



Site Photo 68. Wires within outlet box

Mechanical systems (heating, ventilation and air conditioning)

The SORS required new thermostats, heating, exhaust, ventilation and cooling systems. Work and equipment required also included condensing units, air handling units, coils, piping, ventilation and exhaust fans, grilles, registers, ductwork, hangars, insulation, and fasteners. The SORS required that all work comply with the IMC. The mechanical work was underway. The fabrication and construction of the ventilation ductwork was nearly complete and appeared to meet contract requirements (Site Photo 69). We did not observe duct fittings, grilles, registers, and diffusers on site. We did not observe either the connection of heating and cooling equipment to the ductwork or the equipment on site.



Site Photo 69. Ventilation ductwork

Water/sewer systems

At the time of the assessment, a small percentage of the work on the water and wastewater systems appeared to be in progress or complete. The SORS required all work comply with the IPC.

The contractor had not installed most fixtures, fittings, faucets, valves, drains and accessories; nor did the hardware or fixtures appear to be on site at the time of the assessment. The contractor had started the excavation and the fabrication of the underground septic tank as indicated in the “Earthwork” section of this assessment (Site Photo 63). We observed water pipes attached to the interior walls (Site Photo 70) and the installation of sewer piping (Site Photo 71). We observed pipes placed through the concrete slabs to accommodate future drainage lines for the sinks and toilets (Site Photo 72). We did not observe water heaters and elevated water storage tanks on site.



Site Photo 70. Plumbing lines installed across block wall



Site Photo 71. Partial installation of sewer drain (Photo courtesy of the USACE)



Site Photo 72. Plumbing pipes placed in concrete slab

Interior finishing (Windows/Doors/Tile/Paint/Ceilings)

At the time of the assessment, we observed the installation of some wooden interior doorframes (Site Photo 73); however, we did not assess the doorframes due to time restrictions on site. We did not observe the installation of exterior doors nor did they appear to be on site. The contractor had not installed any windows or security grilles (Site Photo 74). Interior walls were not painted and the fabrication of the suspended ceiling had not started. We did not observe any doors, windows or hardware on site.



Site Photo 73. View of completed doorframes (Photo courtesy of the USACE)



**Site Photo 74. Example of window without window frame and grilles
(Photo courtesy of the USACE)**

Appendix E. Individual Site Assessment

Hai Alasra Wa Al Mafqodeen a Type “A” Primary Health Care Center



Site Photo 75. View of outside the Hai Alasra Wa Al Mafqodeen PHC

Earthwork, structural concrete, walls, and roof

Significant work had been accomplished, or was underway, at the time of the assessment. The earthwork and the construction of this facility’s structural concrete elements were almost complete. The SORS required site demolition and clearance, if needed, and construction of sidewalks, parking, fencing, lighting, roads, water, and sewer. Site clearing, excavation and backfilling appeared almost complete. Excavation for the septic tank was underway (Site Photo 76).



Site Photo 76. Rebar and formwork for the top of the septic tank

At the time of the site assessment, all reinforced concrete columns, slabs, and ceiling beams appeared complete and most of the formwork removed. For a picture of the concrete columns and remaining formwork, see Site Photos 77 and 78, respectively. The contract and design specifications required cast in-place reinforced concrete structural beams, columns, and slabs. We assessed only a fraction of the structural concrete work due to time constraints on site. The ground floor columns, ground floor structural beams, ground floor ceiling slab, interior stairwell, x-ray room walls, first floor structural beams, first floor columns, and first floor ceiling slab all appeared almost complete; however, we identified quality issues. During the site assessment, we observed work in progress on the block walls. The block walls appeared to be of substandard construction with quality problems. For instance, we observed block rows not level, walls with unfilled gaps between blocks, broken blocks, blocks improperly installed, and bricks of different sizes used in the wall construction. Site Photo 79 shows broken blocks in wall construction. We observed preparatory work in progress on the roof; however, at the time of the assessment, we did not observe roof construction activities underway (Site Photo 80).

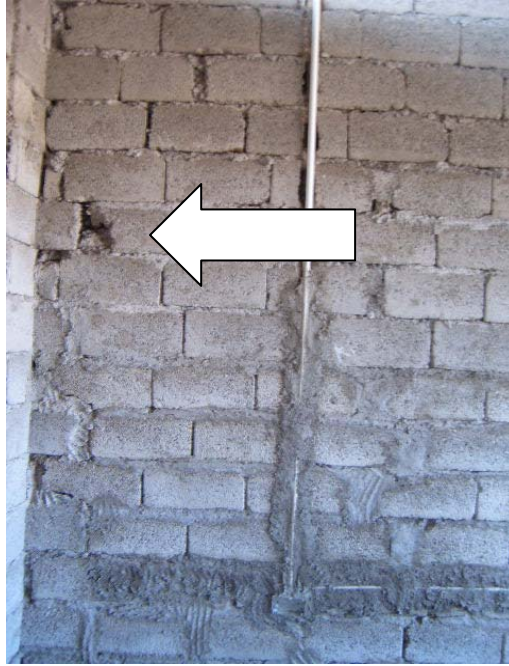
The construction of sidewalks, parking, lighting, and roads had not started.



Site Photo 77. First floor structural beams and column



Site Photo 78. Example of remaining formwork



Site Photo 79. Example of broken blocks in wall construction



Site Photo 80. Condition of the roof

Electrical/communication systems

The SORS required all electrical design and construction to comply with IECS. The SORS required new energy efficient lighting, switched power outlets, and lighting switches. Electrical power and lighting requirements included interior and exterior lighting, surgical lighting, commercial grade wiring, panels, breakers, switches, outlets, junction boxes, transformers, connectors and fixtures. Additional submittal requirements included switchgear, electric heaters, sump pumps, lightning protection, radio paging, emergency lighting, fire alarm system, central control and maintenance system, and the circuit protection. In addition, the SORS required a safe and sufficient power connection to the local grid and critical, standby and primary power generators. At the time of the

assessment, the electrical system installation was underway. We observed basic electrical preparatory work. The electrical work observed consisted of the installation of PVC conduit and plastic or metal electrical boxes attached to the surface of the block walls or recessed in a chiseled section of the wall. We did not observe wiring installed inside the PVC conduit. For a picture of the PVC conduit, see Site Photo 81.

At the time of the assessment, we did not observe the initiation of the electrical, power and communications work.



Site Photo 81. PVC conduits attached to brick wall

Mechanical systems (heating, ventilation and air conditioning)

The SORS required new thermostats, heating, exhaust, ventilation and cooling systems. Work and equipment required also included condensing units, air handling units, coils, piping, ventilation and exhaust fans, grilles, registers, ductwork, hangars, insulation, and fasteners. The SORS required that all work comply with the IMC. At the time of the assessment, the mechanical work was underway. The fabrication and construction of the ventilation ductwork was nearly complete and appeared to meet the contract requirements (Site Photo 82). We did not observe duct fittings such as grilles, registers and diffusers on-site. We did not observe the connection of heating and cooling equipment to the ductwork or the equipment on site.



Site Photo 82. Completed ventilation ductwork

Water/sewer systems

At the time of the assessment, a small percentage of the work on the water and wastewater systems appeared to be in progress or complete. The SORS required all work comply with the IPC.

The contractor had not installed most fixtures, fittings, faucets, valves, drains and accessories; nor did the hardware or fixtures appear to be on site at the time of the assessment. The contractor had started the excavation of the underground septic tank and was fabricating the reinforced concrete top of the tank as indicated in the “Earthwork” section of this assessment (Site Photo 76). We observed pipes placed through the concrete slabs to accommodate future drainage lines and partial installation of sewer drains (Site Photo 83). We observed PVC water pipes installed and awaiting connection (Site Photo 84). We did not observe water heaters and elevated water storage tanks on site at the time of the assessment.



Site Photo 83. Partial installation of sewer drain (Photo courtesy of the USACE)



Site Photo 84. Installation of plumbing pipes into blocks

Interior finishing (Windows/Doors/Tile/Paint/Ceilings)

At the time of the assessment, we observed the partial installation of some wooden interior doorframes; however, due to time restrictions on site, we did not assess the doorframes. For a picture of the partially completed interior doorframes, see Site Photo 85. We did not observe the installation of exterior doors nor did they appear to be on site.

The contractor had not completed the window frames and had not installed any windows or security grilles (Site Photo 86). Tile work had just started. We did not observe the painting of interior walls or the fabrication of the suspended ceiling. We did not observe any doors, windows, or hardware on site.



Site Photo 85. Partially installed doorframe



Site Photo 86. Windows without frames

Appendix F. Scope and Methodology

We performed this project assessment from January through March 2006, in accordance with the Quality Standards for Inspections issued by the President's Council on Integrity and Efficiency. The assessment team included an engineer and an auditor.

In performing this Project Assessment we:

- Reviewed contract documentation to include: the Contract, Contract Modifications, Scope of Work, and Independent Government Estimate;
- Reviewed the design package (drawings and specifications), Quality Control Plan, Contractor's daily Quality Control Reports, and Quality Assurance Reports;
- Interviewed the U.S. Army Corps of Engineers Area Engineer, Project Engineer, Local National Quality Assurance personnel, and Parsons' Quality Control personnel; and
- Conducted an on-site assessment and documented results at the five Kirkuk Area Primary Health Care Centers, in Kirkuk, Iraq.

Appendix G. Acronyms

CLIN	Contract Line Item Number
CPA	Coalition Provisional Authority
CQC	Contractor Quality Control
DCAA	Defense Contracting Audit Agency
ER	Engineering Regulation
GRD	Gulf Region Division – United States Army Corps of Engineers
IDIQ	Indefinite Delivery Indefinite Quantity
IECS	International Electrotechnical Commission Standards
IMC	International Mechanical Code
IPC	International Plumbing Code
IRRF	Iraq Relief and Reconstruction Fund
JCC-I/A	Joint Contracting Command – Iraq/Afghanistan
LN	Local National
MoH	Ministry of Health
NTE	Not to Exceed
NTP	Notice to Proceed
Parsons	Parsons Delaware, Inc.
PCO	Project and Contracting Office
PHC	Primary Health Care Center
PVC	Polyvinyl Chloride
QA	Quality Assurance
QAR	Quality Assurance Representative
QC	Quality Control
RMS	Resident Management System
SOP	Standard Operation Procedure
SORS	Statement of Requirements and Specifications
SOW	Scope of Work
TO	Task Order
USACE	United States Army Corps of Engineers

Appendix H. Report Distribution

Department of State

Secretary of State

Senior Advisor to the Secretary and Coordinator for Iraq

U.S. Ambassador to Iraq

Director, Iraq Reconstruction Management Office

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

Inspector General, Department of State

Department of Defense

Secretary of Defense

Deputy Secretary of Defense

Director, Defense Reconstruction Support Office

Under Secretary of Defense (Comptroller)/Chief Financial Officer

Deputy Chief Financial Officer

Deputy Comptroller (Program/Budget)

Inspector General, Department of Defense

Director, Defense Contract Audit Agency

Director, Defense Finance and Accounting Service

Department of the Army

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

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

Deputy Assistant Secretary of the Army (Policy and Procurement)

Director, Project and Contracting Office

Commanding General, Joint Contracting Command-Iraq/Afghanistan

Assistant Secretary of the Army for Financial Management and Comptroller

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

Commanding General, Gulf Region Division

Auditor General of the Army

U.S. Central Command

Commanding General, Multi-National Force-Iraq

Commanding General, Multi-National Security Transition Command-Iraq

Commander, Joint Area Support Group-Central

Other Federal Government Organizations

Director, Office of Management and Budget

Comptroller General of the United States

Inspector General, Department of the Treasury

Inspector General, Department of Commerce

Inspector General, Department of Health and Human Services

Inspector General, U.S. Agency for International Development

President, Overseas Private Investment Corporation

President, U.S. Institute for Peace

Congressional Committees and Subcommittees, Chairman and Ranking Minority Member

U.S. Senate

Senate Committee on Appropriations

Subcommittee on Defense

Subcommittee on State, Foreign Operations and Related Programs

Senate Committee on Armed Services

Senate Committee on Foreign Relations

Subcommittee on International Operations and Terrorism

Subcommittee on Near Eastern and South Asian Affairs

Senate Committee on Homeland Security and Governmental Affairs

Subcommittee on Federal Financial Management, Government Information and International Security

Subcommittee on Oversight of Government Management, the Federal Workforce, and the District of Columbia

U.S. House of Representatives

House Committee on Appropriations

Subcommittee on Defense

Subcommittee on Foreign Operations, Export Financing and Related Programs

Subcommittee on Science, State, Justice and Commerce and Related Agencies

House Committee on Armed Services

House Committee on Government Reform

Subcommittee on Management, Finance and Accountability

Subcommittee on National Security, Emerging Threats and International Relations

House Committee on International Relations

Subcommittee on Middle East and Central Asia

Appendix I. Project Assessment Team Members

The Office of the Assistant Inspector General for Inspections, Office of the Special Inspector General for Iraq Reconstruction, prepared this report. The principal staff members who contributed to the report were:

Randall Nida

Kevin O'Connor

Management Comments, Commanding General, Gulf Region Division



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
GULF REGION DIVISION
BAGHDAD, IRAQ
APO AE 09316

CEGRD-CG


11 April 2006

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

SUBJECT: Draft SIGIR Project Assessment Report – Primary Health Care Centers Numbered KE-01, KE-02, KE-03, KE-04, and KE-05 Kirkuk, Iraq (PA-06-042, PA-06-043, PA-06-044, PA-06-045, PA-06-046)

1. This memorandum provides the U.S. Army Corps of Engineers, Gulf Region Division response to the subject draft project assessment report. See the enclosure for details.
2. Upon review of the draft assessment report, the Gulf Region Division found that the objectives, conclusions and recommendations are inconsistent. Basically, the recommendations do not coincide with the intent of the assessment; the report was not always accurate and did not adequately consider the security situation in Iraq. The scope of this review was five Primary Healthcare Centers (PHC) located in Kirkuk, Iraq; however, the recommendations made are directed toward the entire PHC program. In our opinion, work performed under the *Quality Standards for Inspections* should not make broad recommendations of such magnitude. While the report contains some valid points, the recommendations should only be directed to the five PHC's reviewed. Therefore, we non-concur with the recommendations as they are currently written.
3. Thank you for the opportunity to provide our written comments for your consideration in the final assessment report.
4. If you have any questions, please contact Mr. Milton Naumann at (540) 665-5064 or his email Milton.Naumann@tac01.usace.army.mil.

Encl


WILLIAM H. McCOY
Brigadier General, USA
Commanding

Management Comments, Commanding General, Gulf Region Division

COMMAND REPLY

SIGIR Draft Assessment Report – Primary Healthcare Centers Numbered KE-01, KE-02, KE-03, KE-04, and KE-05 Kirkuk, Iraq (PA-06-042, PA-06-043, PA-06-044, PA-06-045, PA-06-046)

Additional Facts. Since this report was a review of five PHC projects in Kirkuk, our comments and response to the recommendations are written from that perspective. GRD-PCO provides the following additional information related to this draft report.

1. **SIGIR Statement.** Page ii, (Conclusions, paragraph 1) “...only 20 of the original 150 PHCs will be completed under the contract...”

GRD-PCO Comments. The Kirkuk Area PHC construction contract was terminated for convenience. Acquisition strategies are underway to re-scope and advertise for bid all subject PHCs. PHCs are very important to the people of Iraq and to USACE.

2. **SIGIR Statement.** Page ii, (Conclusions, paragraph 3) “The inadequate quality control and quality assurance on part of the contractor and the U.S. Government, respectively, resulted in not properly identifying and correcting construction deficiencies.”

GRD-PCO Comments. The security threat is very real and should never be underestimated. District quality assurance (QA) personnel cannot access every site on a regular basis. The contractor immediately objects if any U.S. personnel arrive by personnel security detachments (PSD) or Army escort, fearing threats from insurgents following such visits.

The security threat makes it important to utilize Iraqi Local National (LN) engineers for the QA role, because they can perform the QA duties without attracting attention. LN Quality Assurance Representatives (QAR) conduct site visits, and take photographs of progress with emphasis on problem areas. These visits are reported in QA reports which are submitted to the Kirkuk Area Office contracting representatives or project engineers to review and provide feedback. Every effort is made to teach, coach, and assist the LN QAR on standards of construction and engineering. There is often a considerable learning curve. If the LN QAR detects a serious problem during a site visit, the problem is raised to the contractor’s task manager to resolve. Further, districts communicate with the prime contractor, or its designated representative to resolve issues concerning poor workmanship.

Overall, the report did not show that it considered district QA operating plans. For example, the GRN Construction Quality Assurance Operating Plan expressed the safety and security risk of conducting QA. The plan stated, “The extent of QA is commensurate with the nature, value, complexity, and security risk associated with the work and the requirements of regulation ER 1180-1-6.” And, “The difficulty with providing QA

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services within a war zone is recognized. Safety and security of our employees must come first and access to some sites is not possible. Therefore, the extent of QA activities that can be performed at a site may be limited due to these factors.”

3. **SIGIR Statement.** Page ii. (Conclusions, paragraph 4.) “...the Government’s Quality Assurance program was inadequate. The U.S. Army Corps of Engineers did not provide adequate oversight including insufficient daily quality assurance reports that failed to document the identification and correction of concrete issues, lack of independence, and insufficient review of contractor invoices prior to payment.”

GRD-PCO Comments. Where security for U.S. Government personnel is problematic, LN QARs are utilized. In addition, project engineers conduct follow-up reviews of daily QA reports. The procedure to use LN QARs is not without problems, but every effort is made to educate LNs and ensure action is taken as necessary. The Kirkuk Resident Office QA reports are listed by site in the following table and show the period of construction and quantity of reports. Kirkuk Area Office contends that this is a sufficient volume of reports to monitor construction quality at the respective sites. Telephone communications between QARs and project engineers to coordinate project construction are not always documented, but occur daily.

Site	Construction Period	QA Reports in RMS
Hai Alhajjaj, KE01	10 Jan 05 - 04 Mar 06	259
Shiqaq Hai Musalla, KE02	10 Jan 05 - 01 Mar 06	202
Hai Tis’een, KE03	10 Jan 05 - 01 Mar 06	230
Hai Al Wasily, KE04	10 Jan 05 - 04 Mar 06	314
Hai Alasra Wa Al Mafqoodeen, KE05	10 Jan 05 - 04 Mar 06	297

4. **SIGIR Statement.** Page 5. (Site Assessment, Concrete Work) “We identified what appeared to be concrete segregation, honeycombs and reinforcement bar exposure on the surface of the load-bearing reinforced concrete ceiling beams (see Site Photo 1 and Site Photo 2). We observed some significant discrepancies with the columns, such as columns with chipped concrete (see Site Photo 3) and a column that was not plumb (see Site Photo 4).”

GRD-PCO Comments. There are instances of poor concrete placement, notably lack of proper vibration during and immediately following the actual pour. Poor concrete work has been a significant problem with the PHC contractor’s work. Any instance of structural problems associated with the PHCs was elevated for correction. A determination of structural impacts was made for each instance. Non-structural cosmetic work was handled through the prime contractor for corrective action. Cosmetic imperfections are common throughout Iraqi construction. Structural integrity is a serious matter. The district made inquiries concerning the deficient support columns and followed up with the contractor’s task manager, as early as 3 October 2005. The contractor indicated that they could not visit the site due to security concerns, but would send their LN Quality Control Representative (QCR) to investigate.

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5. **SIGIR Statement.** Page 6. (Site Assessment, Concrete Work) "...some cinder block walls had been constructed and then plastered with gypsum. We identified numerous defects in workmanship of the non-load bearing walls such as gaps in the walls, the use of broken blocks or other materials and improper and uneven block placement."

GRD-PCO Comments. Iraqi construction techniques leave gaps in (do not "butter") the vertical joints of the blocks so that mortar can adhere to it more readily. Their block work is not well finished, so they "render" all brick and block surfaces with a mortar mix, to hide imperfections. The broken blocks or other material which are not load-bearing are considered acceptable as they serve more as a "backboard" for the mortar rendering. The improper and/or uneven block placement again appears acceptable to the Iraqis when covered with mortar or gypsum.

6. **SIGIR Statement.** Page 11. (Construction Behind Schedule) "...the principal reason for construction falling behind schedule was the primary contractor, Parsons, subcontracted the work to an Iraqi firm that subsequently subcontracted the work to local Iraqi companies...The local Iraqi companies accused the subcontractor of not paying for materials and work performed and refused to continue working. Parsons, the subcontractor, the local Iraqi companies and the USACE did not expeditiously resolve this issue, which resulted in numerous delays.

GRD-PCO Comments. The Resident Office immediately coordinated with the contractor to resolve any concerns with subcontractor delays as soon as they were notified. The shortcoming of project management was the multiple tiers of contractors. The system of "nested tiers" of subcontractors proved very problematic, from the construction management perspective, for both the contractor and the government, especially since instructions were provided to the prime contractor, rather than subcontractor.

7. **SIGIR Statement.** Pages 11 to 12. (Review of Payment Invoices) "Neither the DCAA nor the USACE Finance Center Millington requested the USACE Kirkuk Area Office or the on-site Quality Assurance Representative (QAR) responsible for the PHCs to review or approve the invoices to validate the work claimed by the contractor. As a result, the potential existed for payment to the contractor for work not performed or not performed to the contract standards."

GRD-PCO Comments. The report's conclusion to require QARs to ensure receipt of the work billed is not accurate, because the PHC contract was a cost-type contract, not based on percentage of completion. DOD Financial Management Regulation Volume 10, Chapters 1, 7, 9 and 10 all exempt the requirement to review invoices and ensure receipt prior to payment. Since the construction contract was a cost plus type contract, interim payments are specifically allowed in advance of receipt of the goods and services and the percentage of completion requirement does not apply. These types of payments are referred to as financing payments in chapter 7 and specific guidance is provided there.

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Only prior to final payment is an audit of billings conducted and if an overpayment is detected, then the vendor is required to immediately refund that overpayment.

8. **SIGIR Statement.** Page 12. (Reporting of PHC Construction Progress) “The USACE uploaded Parsons’ spreadsheet information, along with information from the local national QA daily reports, into the Resident Management System (RMS). According to the USACE Project Engineer, the RMS’ bases completion percentage for each PHC on the Parsons’ spreadsheet.”

GRD-PCO Comments. The percentage completion reported is not the contractor’s percentages. The contractor provides an estimation of percent complete. USACE engineers determine the actual percent complete based on their own site knowledge and LN QAR input, and then modify percentage estimates as necessary. The USACE engineers’ ground-truthed percentage is then entered into RMS. (Ground-truthing is collecting data by non-remote sensing means.)

9. **SIGIR Statement.** Pages 12 to 16. (Reporting of PHC Construction Progress) “We reviewed the PCO Construction Database and the RMS to identify the percentage complete of each PHC. However, the PCO Construction Database provided different results from the RMS for each PHC.”

GRD-PCO Comments. At this time, the source for the percentage of completion data contained in the PCO Construction Database is RMS data.

10. **SIGIR Statement.** Page 18. (Project Quality Management). “The USACE Kirkuk Area Office relied upon LN QA engineers to visit the construction site. However, it appears the LN QA engineers were not effective. We reviewed the LN QA engineers’ daily reports and determined the QA daily reports were vague regarding the work performed (“installing the ducts for the air conditioning system”) and provided little insight into the problems encountered at the site...In addition, the QA daily reports did not document the existence of poor concrete workmanship as a potential concern ...”

GRD-PCO Statement. LN QAR engineers submit QA reports that are transferred into RMS by district project engineers. The QA reports are supplemented by multiple photographs that provide support for QA reports and minimize the need for lengthy narration.

11. **SIGIR Statement.** Page 18. (Project Quality Management) “The USACE QAR did not effectively review the daily reports and monitor the performance of the LN QA engineers. The LN QA engineers periodically provided the USACE QAR photographic evidence of poor concrete workmanship, yet there is no indication that the QAR tried to correct this on-going issue. Further, the USACE Resident Engineer and Area Engineer did not effectively monitor performance of the QAR. The Resident Engineer and Area Engineer, at a minimum, should have periodically reviewed the LN QC and LN QA daily reports to determine the progress of the projects and the quality of the contractor’s work.

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It does not appear that either the Resident Engineer or the Area Engineer thoroughly reviewed the daily reports.”

GRD-PCO Comments. It is the function of the project engineer to review the QA reports, provide feedback to the LN QARs to include mentoring and update RMS. The project engineer does effectively review the daily reports and monitor the performance. Although it is not their primary function, Resident Engineers and Area Engineers periodically get involved to evaluate office functions and mentor project engineers. Task organization described in USACE-GRN Construction QA Organizational Operating Plan (specifically pages 5-7) and EP 415-1-260, Resident Engineer’s Management Guide does not seem to be clear to the SIGIR representatives.

12. **SIGIR Statement.** Page 18. (Project Quality Management) “the USACE QAR should have visited the construction sites periodically to gage the performance of the LN QC and LN QA engineers. However, the USACE QAR only visited each PHC site once since construction began in December 2004. The USACE QAR stated that security concerns were the primary reasons for not visiting ...”

GRD-PCO Comments. The project engineer visited the sites bi-weekly, but only in the form of windshield surveys. This procedure was done as a result of security concerns and the subcontractors’ threat to walk off the job if U.S. Government personnel visited the job site. This situation is the circumstance of reconstruction efforts in a country that is not secure from insurgent activity. The district met this challenge by utilizing LN QARs who can regularly visit construction sites and maintain a very low profile. The district received complaints and threats of work stoppage as a result of the SIGIR visit.

The SIGIR report stated on page 19 that the LN QA reports and the contractor’s QC daily reports indicated there have been no incidents of violence at any of the five sites since work started in December 2004. The report did not consider that the reason no violence occurred at the sites because U.S. Government personnel refrained from visiting the sites.

13. **SIGIR Statement.** Page 19. (Project Quality Management) “The USACE Kirkuk Area Office did not have a signed QA plan to outline the roles and responsibilities of the QA personnel.”

GRD-PCO Statement. The Area Office operated within the QA plan guidance found in the GRN Construction Quality Assurance Operating Plan for FY 05 to FY 06, dated August 2005. Overall, this plan served as an organizational QA operating plan dealing with QA operations for the district. In addition, the district operated within the guidelines contained in the following publications.

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- EP 415-1-260, Resident Engineer Management Guide
- EP 415-1-261 through 265 (Volumes 1-5) Quality Assurance Representative's Guide
- EP 715-1-2A Guide to Effective Contractor Quality Control
- ER 1180-1-6, Construction Quality Management

GRD-PCO believes that SIGIR assessment reports are a vital “snapshot” of reconstruction activities in Iraq. These reports can act as a powerful adaptive management tool for the commander. We further believe that sufficient time should be dedicated to fully develop that “snapshot” in a fair and balanced fashion. There is no room for supposition, conjecture, or subjectivity in such an important tool.

The use of LN engineers as our first line of construction management, while not perfect, has been largely successful. These are competent people who risk their lives daily to perform this function. LN engineers have a vested interest in seeing all the positive work performed in their country come to fruition.

Recommendation and Command Comments

GRD-CPO disagrees with the assessment recommendations because the recommendations do not correspond with the objectives, conclusions or work performed in the assessment. The project assessment objectives and conclusions focused on the results and quality of project construction for the five PHCs in and around Kirkuk. The recommendations didn't suggest any actions to correct deficiencies found at the Kirkuk PHCs, but made broad recommendations concerning all PHCs unrelated to this assessment and outside the scope of work. The standards under which SIGIR stated it performed the work do not support the level of work necessary to reach such broad conclusions. No matter how valid a recommendation may be, inspection standards do not support providing recommendations for which no field work was performed. Quality control inspection standards require adequate supporting evidence for inspection results, conclusions, and recommendations. According to inspection standards, recommendations should not be prescriptive (broad) in nature; rather, they should be crafted in a manner that lays out what needs to be corrected or achieved. Recommendations for this assessment should have focused on what was needed to be corrected or achieved for the five Kirkuk PHCs.

We recommend SIGIR resubmit recommendations that are consistent with the *Quality Standards for Inspections* issued by the President's Council on Integrity and Efficiency and within the scope of this project assessment.

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Recommendation 1. Perform a critical evaluation of the needs for the remaining Primary Healthcare Centers to identify:

- a. The Primary Healthcare Centers to be completed.

Actions Taken. Non-concur.

- b. The work remaining to enable the Primary Healthcare Centers to meet original project objectives of improving the healthcare of the local Iraqi population and supplying associated medical equipment.

Actions Taken. Non-concur.

- c. Remedial action for construction deficiencies in completed or to be completed Primary Healthcare Centers that do not meet international standards or render them unsafe for occupancy.

Actions Taken. Non-concur.

- d. The funding needed to bring each Primary Healthcare Center to be completed and any funding needed for completed Primary Healthcare Centers to the standards of the original contract objectives.

Actions Taken. Non-concur.

Recommendation 2. Identify funding requirements to the Director of the Iraq Reconstruction Management Office and Commanding General, Joint Contracting Command – Iraq/Afghanistan.

Actions Taken. Non-concur.

Recommendation 3. Establish an effective quality assurance program for oversight of contractor performance and to ensure effective contractor quality control programs.

Actions Taken. Non-concur.