

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

STATUS OF THE ADVANCED FIRST  
RESPONDER NETWORK

**SIGIR-07-002**  
**APRIL 25, 2007**



## SPECIAL INSPECTOR GENERAL FOR IRAQ RECONSTRUCTION

April 25, 2007

MEMORANDUM FOR U.S. AMBASSADOR TO IRAQ  
DIRECTOR, IRAQ RECONSTRUCTION MANAGEMENT OFFICE  
COMMANDING GENERAL, MULTI-NATIONAL FORCE-IRAQ  
COMMANDING GENERAL, MULTI-NATIONAL SECURITY  
TRANSITION COMMAND-IRAQ  
COMMANDING GENERAL, JOINT CONTRACTING  
COMMAND-IRAQ/AFGHANISTAN

SUBJECT: Status of the Advanced First Responder Network (SIGIR-07-002)

The Advanced First Responder Network (AFRN) project is intended to address the limited communications capabilities of Iraq's emergency first responders—police, firefighters, and emergency medical personnel—by enabling interoperable communications for the Iraqi Ministry of Interior security and safety forces throughout Iraq. The AFRN project was managed, funded, and maintained by U.S. government organizations pending the assumption of those responsibilities by the Government of Iraq. The AFRN system was transferred to full Government of Iraq ownership and control on June 26, 2006. As of March 28, 2007, U.S. government organizations had expended \$200.4 million in U.S. funds and \$16 million in Development Funds for Iraq money for AFRN development, operations, and maintenance.

### Summary

The objective of this review was to assess the management actions taken by the Multi-National Security Transition Command-Iraq (MNSTC-I) to correct the AFRN communications deficiencies and property accountability conditions, as well as the progress made by the Ministry of Interior to sustain the system, since our previous report, *Review of the Advanced First Responder Network*, (SIGIR-06-020, July 28, 2006). We found:

- MNSTC-I has taken effective corrective actions for the five recommendations made in the previous report.
- Operational effectiveness of the AFRN system has improved, as demonstrated by increased usage by both the first responders and Iraqi citizens.

- After the turnover of AFRN to the Government of Iraq, a sustainment contract managed by the U.S. government and funded by the Government of Iraq was in place until it expired on December 31, 2006. Since then, MNSTC-I has provided about \$2.5 million from the Iraqi Security Forces Fund to continue the sustainment of AFRN while the Ministry of Interior is in the process of solicitation and award of its own sustainment contract. The temporary bridging contract will end on March 31, 2007, and the Ministry of Interior may not have completed an award for a follow-on sustainment contract. Without a timely award of their contract for sustainment, the Government of Iraq jeopardizes the gains that the AFRN system has already made and the AFRN system itself. However, this is an action that must be taken by the Government of Iraq, and therefore this report contains no recommendation on this matter for U.S. government action.

This report contains no recommendations. On March 30, 2007, we thoroughly discussed and coordinated the content and facts in this report with the Office of the Commanding General, MNSTC-I. As agreed at this meeting, management comments are not required or expected.

## **Background**

In April 2004, the Coalition Provisional Authority initiated the AFRN project to improve public safety by deploying a first responder network that would increase the limited communications capabilities among the Ministry of Interior's first responders and the Iraqi citizens. For a depiction of the AFRN infrastructure and communications flow, see Enclosure 1. In general, first responder networks have three main elements: (1) a communication, command, and control system; (2) the radios used by first responders and their parent organizations, such as police stations and fire departments; and (3) the public telephone system. The most critical components of the AFRN are the Governorate Dispatch Centers (GDCs), radio transmission towers, Mobile Switching Offices, and the Network Operations Center.<sup>1</sup> These components are necessary to receive emergency requests from the public, dispatch first responder resources, and manage and monitor the network.

The AFRN project provided the infrastructure and equipment for the communication, command, and control system and the first responder radios. AFRN makes use of the public phone system and fiber-optic network infrastructure that is under the responsibility of the Ministry of Communication's Iraq Telephone and Postal Company (ITPC). By May 2006, when the AFRN project ended, the first responder network spanned through three zones: from Basrah in the south zone, through the Baghdad metropolitan area in the central zone, to Mosul in the north zone.

The cost of the AFRN project was \$214 million by the end of calendar year 2006. Funding came from three sources—\$178.8 million from the Iraq Relief and Reconstruction Fund; \$19.2 million from the Iraq Security Support Fund; and \$16 million from the Development Fund for Iraq.

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<sup>1</sup> Previously termed the "Communications Center" during design and deployment, common usage and current contracts now refer to this component as the "Network Operations Center."

## Prior Findings

Our July 2006 report found that because of deficiencies in connectivity and operational effectiveness, the AFRN project had not yet produced:

- an effective nationwide first responder communication, command, and control system
- an efficient means to dispatch and direct first responders at the governorate level
- the ability to escalate incidents to the national level

We also found insufficient property controls: there was no assurance that all first responder radios purchased were accounted for, controlled, or properly transferred to the Government of Iraq by MNSTC-I's Civilian Police Assistance Training Team personnel.

**Connectivity.** Inter-zone connectivity that would allow system surveillance and monitoring did not exist because only 33 of the required 84 E1<sup>2</sup> circuits that provide transmission capacity for the ITPC fiber-optic network had been installed and commissioned. As a consequence, the Communications Center could monitor AFRN system performance for only the central zone (Baghdad). The E1 capacity development rested primarily with the Ministry of Communications ITPC, which had to furnish the hardware required to provide the transmission capacity; however, actual integration of the ITPC transmission capacity required complementary actions by the Ministry of Interior as the AFRN owner/operator. Because the connectivity problem continued to exist, we recommended that the Commanding General, MNSTC-I, require the contractor obtained in June 2006 for operations and maintenance (O&M) services, to obtain both Ministry of Interior and Ministry of Communications' ITPC assistance to diagnose the cause of insufficient connectivity and to implement a solution.

**Operational Effectiveness.** Several conditions degraded the operational effectiveness of the AFRN system:

- Only two of the nine GDCs could receive emergency phone calls from the public.
- None of the nine GDC dispatcher consoles provide the intended computer assisted dispatch function, because the software was not installed.
- A sufficient number of trained personnel were not available to fully staff eight GDCs.
- Seven GDCs could not monitor radio network talk groups, such as for a police jurisdiction.
- Reduced and unstable commercial electrical supply caused a higher-than-anticipated usage and failure of backup generators and associated automatic transfer switches. Only 12 of the 22 additional generators intended to ensure uninterrupted electrical power to AFRN were installed by the end of May 2006.

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<sup>2</sup> An E1 is a communications circuit that provides 30 megabits of transmission capacity and delivers 28 voice channels (with an additional two channels for transmission control).

**Property Accountability.** MNSTC-I had written procedures to control and account for more than 30,000 first responder radios; however, we found that accountability was deficient because the total number of radios recorded as issued or in inventory exceeded the number purchased and received.

## **Prior Recommendations**

Because of these deficiencies, we recommended that the MNSTC-I Commanding General take these actions:

1. Ensure that the contractor conducting the AFRN assessment coordinate with the Iraqi Ministry of Interior and the Ministry of Communications, which controls the ITPC, to diagnose and resolve the specific technical reason or reasons why connectivity between the three AFRN zones did not exist.
2. Direct the appropriate command organization to:
  - a. Request the Ministry of Interior to provide current inventory information, by model type, for the first responder radios in their possession.
  - b. Direct Civilian Police Assistance Training Team personnel to conduct a physical inventory, by model type, of any radios not yet transferred to the Ministry of Interior.
  - c. Reconcile the Ministry of Interior and Civilian Police Assistance Training Team inventories with the record of all radios purchased and document the results.
  - d. Initiate actions in accordance with applicable U.S. government property management policies to properly account for and control all radios.

## **Results**

Since we reported in July 2006, MNSTC-I has corrected the previously reported deficiencies regarding connectivity of the AFRN system and accountability of first responder radio inventory. Specifically, MNSTC-I took effective corrective actions for the five recommendations in the prior report. Further, we noted the increased effectiveness of the system, as well as increased AFRN usage by first responders and Iraqi citizens. In addition, the Ministry of Interior is in the process of awarding a contract for the sustainment of AFRN.

**Connectivity.** MNSTC-I and the O&M contractor, as well as the appropriate Ministry of Interior and Communications representatives, assessed the AFRN and ITPC E1 capacity issue. As a result, an additional 51 E1s were commissioned. However, for reasons beyond the control of MNSTC-I, the O&M contractor, or the Ministry of Interior, inter-zone connectivity will be sporadic at best, primarily because of breaks in the fiber-optic cable. Usually located in close proximity of roads, fiber-optic cables are often damaged by the detonation of improvised explosive devices hidden along the roads. In addition, because the lines are not clearly marked, inadvertent breaks in connectivity occur when unrelated construction activities cut through the cable or when Iraqi citizens mistake the conduit containing the cable for a water supply line and then attempt to tap the conduit for unauthorized access to water. Compounding the problem are the security conditions that prevent or delay ITPC work crews from repairing damaged cable.

However, the MNSTC-I Communications Division's mentoring and liaison activities have resulted in the Ministry of Interior leasing satellite transmission capacity rather than relying solely on the ITPC fiber-optic network between the Baghdad and Basrah zones. Consequently, AFRN's Network Operations Center can now monitor two of the three zones, which include the more robust central and south zones.

***Operational Effectiveness.*** The number of operational GDCs grew from two to six; a seventh is expected to reach operational status by the end of April 2007. This threefold increase is the direct result of concerted efforts by MNSTC-I, the O&M contractor, and the Ministry of Interior to resolve 28 of the 31 GDC deficiencies noted in our July 2006 report—a 90% improvement:

- All nine GDCs are compatible with the ITPC public phone system and are capable of receiving emergency phone calls.
- All nine have installed computer assisted dispatch software.
- Seven of the nine have sufficient the number of trained staff to begin operations.
- Eight of the nine have the technical capability to monitor network talk groups.

Because of these improvements, from July 2006 through February 2007:

- The number of emergency phone calls received from Iraqi citizens increased significantly—from 1,813 in July 2006 to more than 120,000 in December 2006. The average monthly call rate was over 65,000 from July 2006 through February 2007.
- AFRN radio usage by first responder personnel rose from an average of 37,000 transmissions daily in July 2006 to over 87,000 in February 2007.

Further, an additional three backup generators have been installed, and a decision was made to retain the remaining seven uninstalled backup generators as temporary replacements. We believe that this is a prudent course of action because power from the national electrical grid is often disrupted, resulting in increased use of the backup generators and accelerating the requirement to overhaul the generators. The availability of commercial electrical supply remains a concern throughout Iraq in general.

Senior Ministry of Interior officials note a growing positive acceptance and endorsement of the AFRN system by the Iraqi government, first responder organizations, other ministries, and provincial governments seems to be growing. For example, provincial governments and additional ministries have expressed interest in expanding the system and a willingness to share in the associated costs. In effect, AFRN is proving its utility to the Iraqi government and the public it serves.

***Property Accountability.*** MNSTC-I effectively implemented all four of our recommendations to resolve the accountability issues for 30,297 Sepura radios. Specifically, MNSTC-I personnel searched all warehouses used to store the Sepura radios, requested the Ministry of Interior to conduct an inventory of radios, and reconciled the results of these two actions to the quantity purchased. The reconciliation determined that not all radios could be accounted for and that full

accountability could not be established. As a result, MNSTC-I initiated an administrative investigation under the provisions of the U.S. Army policy governing property accountability.<sup>3</sup>

**Sustainment.** When the Development Fund for Iraq-funded O&M contract expired on December 31, 2006, the Ministry of Interior had not yet awarded the follow-on contract. MNSTC-I obligated an additional \$3.1 million from the Iraq Security Forces Fund to continue AFRN sustainment while the Ministry of Interior-funded contract was in the process of solicitation and award. By March 28, 2007, MNSTC-I had expended \$2.5 million of the \$3.1 million obligated on the contract. This temporary bridging contract will end on March 31, 2007, and the Ministry of Interior may not have completed an award of a follow-on contract. Without a timely award of the follow-on sustainment contract, the Government of Iraq jeopardizes the gains already made with the AFRN system and, in fact, the AFRN system itself. However, this is an action for the Government of Iraq to take; therefore, this report contains no further recommendation for U.S. government action.

## Scope and Methodology

This review began in November 2006 (Project 6039) with the objective to assess the management actions taken by the Multi-National Security Transition Command-Iraq (MNSTC-I) to correct the AFRN communications deficiencies and property accountability conditions, as well as the progress made by the Ministry of Interior to sustain the system, since our previous report, *Review of the Advanced First Responder Network*, (SIGIR-06-020, July 28, 2006).

To evaluate the effectiveness of actions taken to resolve AFRN connectivity issues, we reviewed assessment reports prepared by the O&M contractor in July and August, 2006; reviewed E1 capacity data for January 2007; and interviewed both contractor personnel and MNSTC-I's Communications Division personnel with firsthand knowledge of the E1 capacity issues.

To determine the number of GDCs in operational status, we reviewed system data obtained from the O&M contractor, interviewed Ministry of Interior representatives, and obtained assessments from MNSTC-I's Communications Division personnel with firsthand knowledge of GDC operations status. We also obtained assessments from senior officials in the Ministry of Interior regarding AFRN usage, value to the Iraqi people, and acceptance of the system by the Government of Iraq.

To evaluate MNSTC-I's actions to resolve AFRN radio accountability, we reviewed documents evidencing MNSTC-I inventory of Sepura radios and review of radio issue documents; Sepura radio inventory submitted by the Ministry of Interior to MNSTC-I in January 2007; and the MNSTC-I reconciliation of Sepura radios in inventory, issued, and reported by the Ministry of Interior to documents supporting the number of radios purchased. Finally, we obtained and reviewed the March 15, 2007, MNSTC-I memo that appointed, in accordance with governing U.S. Army policy, an investigating officer and associated actions regarding radio accountability discrepancies.

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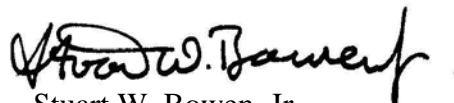
<sup>3</sup> *Army Regulation 735-5: Polices and Procedures for Property Accountability*, February 28, 2005.

To evaluate AFRN sustainment, we reviewed the MNSTC-I contract that provided O&M support for the period January 1, 2007, through March 31, 2007, and interviewed MNSTC-I officials, in their capacity as observers of the Ministry of Interior's contracting efforts, to determine the Ministry of Interior's progress to independently sustain the AFRN system.

We conducted this performance audit from November 7, 2006, through March 30, 2007, in accordance with generally accepted government auditing standards.

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We appreciate the courtesies extended to the staff. For additional information on this report, please contact Mr. Joseph T. McDermott (703-428-1100 / [joseph.mcdermott@sigir.mil](mailto:joseph.mcdermott@sigir.mil)) or Mr. Clifton Spruill (703-343-9275 / [clifton.spruill@iraq.centcom.com](mailto:clifton.spruill@iraq.centcom.com)). For the report distribution, see Enclosure 2. For a list of the audit team members, see Enclosure 3.

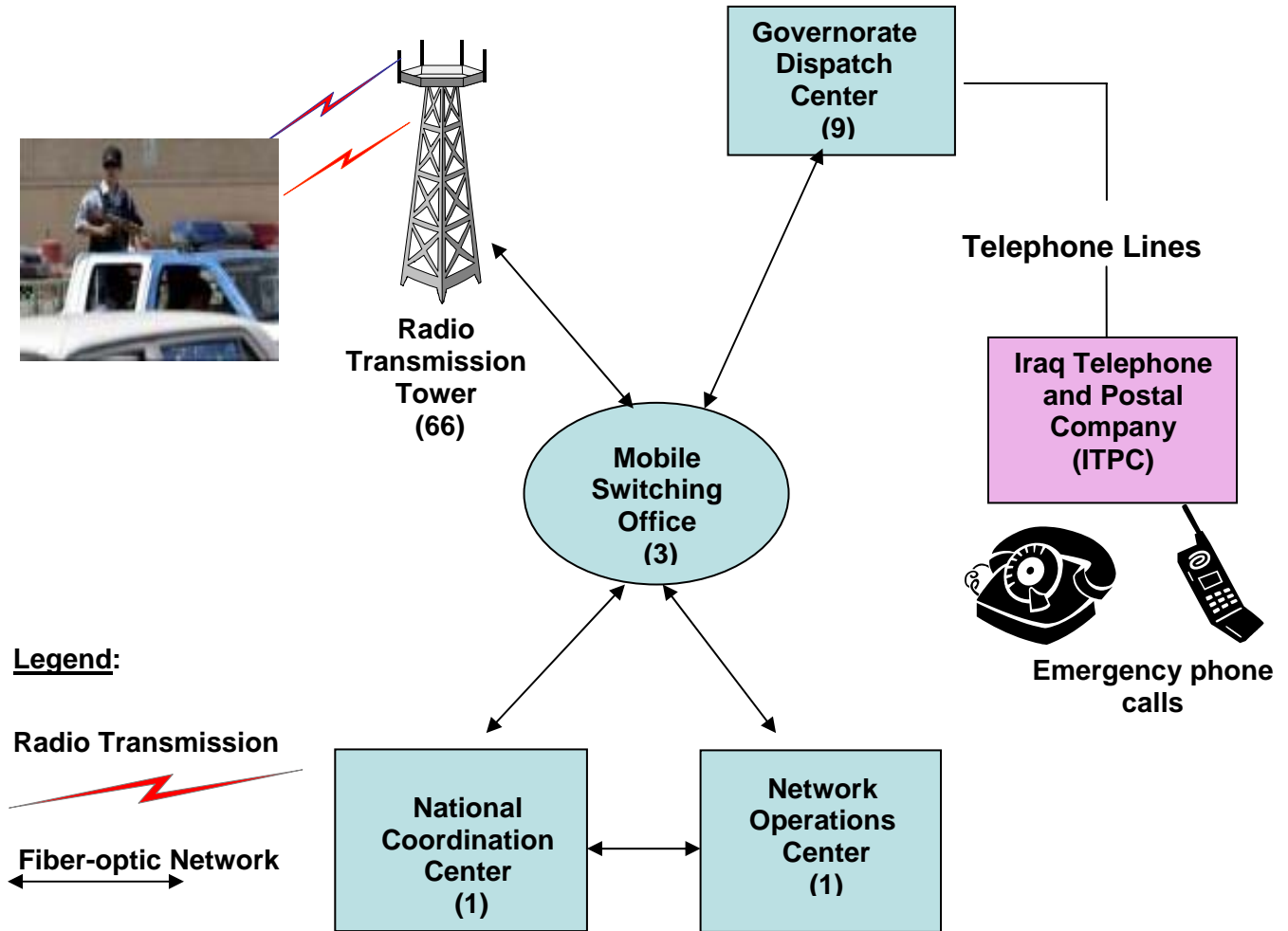


Stuart W. Bowen, Jr.  
Special Inspector General for Iraq Reconstruction

cc: See Distribution



## Enclosure 1. AFRN Primary Infrastructure and Communication Flow



Various components comprise AFRN's communication/command/control system. Governorate Dispatch Center (GDC) personnel receive emergency phone calls from the public, dispatch first responders, and monitor the emergency response. The radio transmission towers receive a radio signal from a first responder and then route that signal through the fiber-optic network to the Mobile Switching Office where it is routed to the applicable GDC. GDC contact with first responders is the reverse; the signal goes from the GDC to the Mobile Switching Office and from there is routed to the appropriate transmission tower where it is broadcast to the applicable first responder radios. In cases where the fiber-optic network is not close to a transmission tower a microwave antenna on the tower transmits the signal to a microwave receiver on the nearest tower that is connected to the fiber-optic network. The AFRN project also established the National Coordination Center for significant events warranting the notification of higher authorities and the Network Operations Center for monitoring the overall health of the system and identifying network faults.

## **Enclosure 2. Report Distribution**

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House Committee on Foreign Affairs  
    Subcommittee on Middle East and South Asia  
    Subcommittee on International Organizations, Human Rights, and Oversight

## **Enclosure 3. Audit Team Members**

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

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

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