



Photo by First Lieutenant George Holland

Quality Verification of Contractor Work in Iraq

By Captain Gregory D. Moon

As part of civil-military operations in Iraq, United States Army engineers perform quality verification (QV) of contractor work in areas that may not be fully secure or are exposed to insurgents. Rebuilding projects are targets because restoration of normal life works against the terrorists' goals. In the densely populated section of Baghdad known as Sadr City, terrorists in 2008 had been stopped from openly attacking or sabotaging civil works projects but still emplaced improvised explosive devices (IEDs), used snipers, and intimidated the civilian population.

QV is needed to assure the owners that a contract is being fulfilled and that they are getting what was paid for. It is the process the government uses to check on work being performed, determining that progress is satisfactory and will result in a completely functional product in the time allowed by the contract. Part of the mission of the 729th Facility Engineer Detachment (FED) during its deployment was to support Task Force Gold in Sadr City, assessing the progress of Iraqi contractors on jobs paid for by the Commander's Emergency Response Program (CERP) and the Iraqi CERP. The security situation was too unsettled to allow a daily presence. There were active threats from IEDs, indirect fire, and snipers. Movement in the area required a patrol in mine-resistant, ambush-protected (MRAP)

vehicles to move as close as possible to each work site. Once on-site, teams acted as quickly as possible to assess progress and then move out. To reduce danger, regularly scheduled visits and prior notification of contractors were avoided.

The Iraq counterinsurgency strategy in use in 2008 was "Clear, Hold, and Build," and Task Force Gold was established to help in the "Build" part of the plan. Part of the work involved actual construction, while another part included mentoring the local government in the care of its public sector responsibilities. Task Force Gold operated on the terrain of 3d Brigade, 4th Infantry Division, part of the Multinational Division-Baghdad, with an engineer commander and a mixed civil affairs and engineer staff. Some of its operations were service projects involving cleanup and debris removal, but a growing number of projects involved construction—renovating schools, reconstructing public health clinics, building public spaces such as parks and sports fields, repairing infrastructure such as sewers and water pumping stations, and providing generators for local power needs.

QV operations were accomplished by sending out teams of two to four engineer Soldiers as part of a civil affairs patrol or on a QV-specific mission with a security team to secure a work site while it was evaluated. All movements in Sadr City involved several vehicles and a sizable



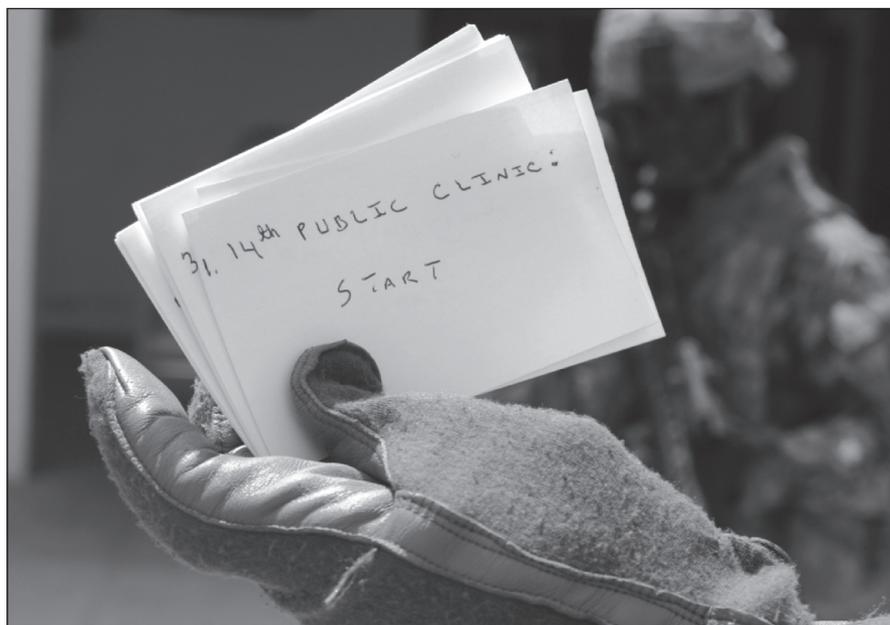
Soldiers enter the public clinic for inspection of local contractor work.

number of Soldiers. The objectives for a typical patrol consisted of checking six to eight projects that required a team to dismount and three or four projects that could be evaluated while mounted. Such missions took three to four hours from assembly to return to base. The return to base did not finish work for the day though. QV teams had to prepare reports for each project and a daily summary for 4th Infantry Division—and eventually Multinational Force—headquarters. These reports usually took five to six hours and another hour was spent in a daily briefing to the task force commander.

Project Selection

The civil affairs teams nominated projects, and a project engineer prepared project packages that were submitted to the brigade and division for staffing and funding. Once contractors were notified and work was started, the QV work began. Funded projects were listed in order of the start work and estimated completion dates. Mission-dependent considerations also helped prioritize the inspections.

Coordination between the QV team and security detachment was an important planning consideration. When QV teams from the 729th FED were conducting inspections for Task Force Gold, the security detachment was not stationed at the same location as the task force. That meant



Using a digital camera, a member of the inspection team records a starting picture.

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that coordination for the daily project list was performed in three steps. First, projects for the upcoming week were selected at the task force. Then that list went to the leader of the security detachment, who used available intelligence about the area to generate a schedule for each day that would avoid predictable patterns of travel. Finally, the schedule went to the QV team.

QV teams prepared for patrols by reviewing the package for each project to be visited that day. The aim was to know what work was required for each project, observe what was being accomplished, note key items from the scope of work, and verify the presence of high-value items such as generators, air conditioning units, and other large equipment. The security detachment confirmed current intelligence and changes in project priorities, then gave the QV team the sequence of sites to be visited. The entire patrol got the patrol order for the day and rehearsed dismount, assembly, movement to the work site, and actions at the site. Once this was accomplished, the patrol loaded up and moved out.

Inspection Process

The basic QV team was two Soldiers and an interpreter. One Soldier was designated the photographer, and the other accompanied the interpreter. The photographer took pictures that identified the site, showing its overall condition, illustrating problem areas and good work, and recording high-value items and high-value parts of the job. The team member with the interpreter started with a quick interview with the job superintendent or the most knowledgeable person on-site. Basic points confirmed that the team had the right place, the number of workers who were on-site, what the contractor was doing that day, whether high-value material was on hand, and if it had been installed. Next, the interviewer walked the site to observe overall progress and, if time and conditions allowed, make on-the-spot notes about the project. Then it was on to the next site on the day's list. The security team usually cleared each site. Since the U.S. government was paying for the work, the teams didn't kick down doors to enter locked rooms. If the contractor wasn't on-site and the team could not gain access to a room, it was noted. Occasionally, the teams suspected the presence of insurgents, in which case the site visit was halted.

The practical reason for using at least two Soldiers on the QV team was to speed up the process. Leaving the cameraman free to move around and take pictures made efficient use of limited time on-site. However, a camera leads to tunnel vision. The Soldier acting as the interviewer-

recorder got a wider view of the site and generally was the leader of the assessment. Index cards with the name of the project were photographed at the beginning of a site visit, then used to record notes about the work.

After returning to the security station at the end of patrols, teams performed maintenance and worked on project reports. The 729th FED teams organized site visit pictures into computer files that kept each day's projects together. Project folders also kept together all reports on individual projects. Once photographs were downloaded, report documents could be prepared. Information management authorities should note that this information must be moved onto the local network, so blocking portable data storage devices from network access stops the reporting process.

Project Reports

The initial general project report template didn't fit the information gathered by the teams, so later reports were based on each project's line items of work. Using the line items from contract packages yielded a breakdown with a quantity or dollar amount attached to each item. This allowed QV teams to estimate the percentage of the work completed. Since information for the project reports is collected quickly, it is short on details. If there are specific items of command interest, QV teams should be notified before site visits.

Project reports contain several types of information:

- Confirmation that work is or is not being performed.
- Estimates of the amount of work accomplished to date.
- Estimates of the quality of work.
- Predictions of whether or not the contractor will complete the project within the contract time.

Each evening, individual project reports and an executive summary were sent to headquarters and an update was presented to the task force commander. QV teams also assisted project officers with pay requests from contractors and talked with contractors about quantity and quality of work at specific sites.

Equipment Needed

The QV teams need several pieces of equipment, including—

- **Digital camera.** A high-quality digital single-lens reflex camera with high-speed storage cards and a fast lens takes pictures quickly and with sufficient quality to be

used for other purposes, such as information operations. Point-and-shoot cameras process pictures more slowly, thus slowing down site visits.

- **Digital voice recorder.** This would allow immediate and accurate recording of comments and questions about the work at each site. However, notebooks and note cards are also useful for writing and memory aids and may even offer some advantages. For example, if the order of visits changes, note cards can be rearranged and kept in order.
- **Computer.** The QV team needs access to a computer hooked up to the local network to allow photos to be downloaded from portable storage. Because the reporting process takes a lot of time, a computer dedicated to that effort is necessary. Ideally, the work should be done on nonsecure computers, because the data has to be shared not only with U.S. forces but also with local contractors.

Planning Factors

Mission, enemy, troops available, terrain, and time available (METT-T) analysis works well to develop planning factors for QV.

- **Mission.** The description of the type of projects to be checked is important. Typical missions are relatively small in scope and total cost. Larger projects require a secure environment to be executed successfully. Depending on the phase of a project, even relatively modest ones can require a lot of time to check. For example, the final inspection of a school renovation requires more time and effort than the initial checks. Commanders should be aware of the types and number of projects being checked.
- **Enemy.** Local contractors won't work if there is an active threat facing them. Given that the risk to contractors is low enough for them to work, some threats may still exist. During the 729th's deployment, IEDs were a possible danger during movement to the work site, while at the site, and while moving away from the site. Indirect fire and snipers were also a consideration. Avoiding predictable patterns of movement and not scheduling meetings with the local contractors ahead of time reduced the danger from terrorists.
- **Troops available.** Experienced QV teams can do their jobs quicker, and their estimates will be quantitatively and qualitatively better. The security element



Photo by First Lieutenant George Holland

Soldiers move through the Al Yarmouk School.

must be large enough to clear and secure sites for the duration of visits. The security element averaged 20 Soldiers on 729th FED missions. An interpreter is necessary in most cases.

- **Terrain.** The farther projects are from the base of operations, and the farther they are from each other, the fewer that can be inspected in a given time. In a relatively compact area such as Sadr City, projects may be within an area of five or six square miles. In other cases, projects may be scattered all across a province.
- **Time available.** Project reports impact time-on-task on a daily basis. The more in-depth and detailed the reports required by headquarters, the more time they take to generate. If reports are modified to reflect specific project requirements, the reports become easier to complete. Commanders should tailor their specific information requirements so that the QV teams can get on-site, collect the information, and depart—minimizing the number of trips to the site.

Potential QV Team Members

Engineer NCOs in construction engineering supervisor military occupational specialties and company grade engineer officers have the background to get a good start as QV team members. Experience in supervising unit construction projects is a good place to sharpen the ability to assess work. Another way of gaining useful experience is to check contractor work. Officers and NCOs can gain this by helping the Directorate of Public Works at their home station to perform QV work. Another avenue for

officers and NCOs to explore is to establish a relationship with the United States Army Corps of Engineers (USACE) to work on projects at or near their home stations. A good class to introduce the basics of QV is “Quality Verification for General Construction,” available through the USACE Proponent-Sponsored Engineer Corps Training (PROSPECT) program.

These recommendations are necessary because of the lack of experience of many Soldiers in-theater. They were enthusiastic but had not been allowed to do much practical construction work. This was apparent in the way they handled their tools and equipment and in some of their judgments. This lack of experience also affected command decisions about which units to employ. United States Air Force and United States Navy construction units were preferred for performing construction jobs. They were more effective because they had practiced their specialties more than their Army counterparts. *Building Great Engineers* starts with Soldiers performing their specialties at home and taking that experience into theater. 

Captain Moon was commissioned through the Reserve Officer Training Corps at Auburn University with a bachelor's in civil engineering. He served for ten years on active duty and for seven years in the United States Army Reserves. He enlisted as a staff sergeant construction engineering supervisor in 2002 and was mobilized to Iraq in 2008. He applied for and received reappointment as a captain in 2009 and continues as a member of the 729th FED. He works for the Federal Aviation Administration as a civil engineer.