

## Engineers Overcome Challenges to Build Electricity Substation

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TALLIL, Iraq, Jan. 22, 2008 – Of the nearly 3,800 projects the U.S. Army Corps of Engineers Gulf Region Division has completed across Iraq in four years, one stands out because of the special challenges it posed.



*Circuits come together and split to different directions in the country at the Amarah, Iraq, electrical substation outdoor switchyard. U.S. Army photo (Click photo for screen-resolution image); [high-resolution image](#) available.*

Built at a cost of nearly \$37 million, a 400-kilovolt electrical substation in Amarah, the capital of Iraq's Maysan province, was built in an area deemed volatile and high-risk from a security perspective, with no Western presence.

The contract solicitation sought proposals from international companies having an Iraqi partner, and the contract went to a joint venture of ABB Sweden, an international company, and Shams Al Sabah, an Iraqi firm. Extensive training in and out of country was given to Iraqi project and ministry engineers who were to be located in the field. The training stressed reporting, and included the use of video and digital equipment.

An after-action report by Bill Simpson, who managed the project from Basra, cited those factors and attributed the project's success in part to "a good and solid scope of work, a detailed and

frequently updated project schedule, good communications with close coordination, and following sound project-management principles of managing 'scope creep,' schedule and quality."

Certain themes recur when factors yielding good projects are discussed. These include having projects grounded in real need, hiring good contractors, and communicating clearly.

Being technically sound isn't enough to make a project a good one, Army Lt. Col. Gregory Raimondo, deputy commander of the corps' Gulf Region South District, said. It also must address real community needs. The Amarah project, which distributes power to up to 250,000 people, was clearly needed and was closely coordinated with Iraqi authorities who provided strong support, officials said.

Army Lt. Col. Kenneth McDonald, officer in charge of the Corps of Engineers' Basrah Area Office, cited "good, competent contractors" and competent Corps of Engineers personnel and Iraqi associates as being high on his list of "good project" requirements.

Army Sgt. 1st Class Christopher Golden, noncommissioned officer in charge of the Adder Area Office, explained that the need for good contractors is underscored by the fact that project construction often lasts longer than a particular individual is deployed to manage it, so contractors provide continuity.

Cecil Whitehouse, a Corps of Engineers construction representative whose projects are located in Muthanna province, listed communications with the contractor as a key factor in terms of tactics, techniques and procedures contributing to good projects. He cited a number of examples, including requiring clear and precise reporting from contractors and giving contractors words of encouragement when deserved and addressing problems head-on with contractors.

Good, solid reporting, assisted by video and teleconferences and digital photos, was a hallmark of the Amarah job, Simpson said. Daily reporting was supplemented by weekly meetings, followed and complimented by monthly face-to-face project-review meetings in safe locations.

Raimondo and Whitehouse said they saw important links between providing local jobs and getting positive “atmospherics” from a project area. Parks urged specifying a large percentage of local workers on Corps of Engineers projects. About 80 percent of the labor for the Amarah project came from the area, with more than 500 workers a day on site during the peak construction period, which lasted more than a year.