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Qudas electricity means life to Iraqis

By Kendal Smith
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Baghdad, Iraq - "The impact of this project for the Iraqi people is that electricity means life, new life. This electricity brings more homes, more water, more laborers, more farming, more markets. It is life for Iraq," says an Iraqi engineer at the Qudas electric power station.

The Gulf Region Division oversees the $160 million installation of two new gas turbines and their auxiliary modules that will generate 200 megawatts of electricity, sufficient to power approximately 180,000 Iraqi homes.

Work at Qudas is lively with 300 to 400 workers per day busy on the job site. A second evening shift was added to increase productivity. To increase turbine generator efficiency, an evaporative cooling system was installed on the inlet side of each turbine. This modification, being used for the first time in Iraq, cools the turbines' incoming air and adds water vapor by a series of water-soaked panels, much like "swamp coolers" cool hot, low-humidity air in the Southwest United States. Ultimately, this evaporative cooling process gives the turbine more explosive power in the combustion chamber.

With those chamber temperatures being in excess of 1,000 degrees Celsius, a finned-fan assembly with 30 individual fan units will feed a manifold to cool circulated liquid that in turn cools the main turbine and bearings and generator moving parts.

The 32-meter gray concrete cooling chimney on the left is being assembled for Turbine # 9. Workers in the foreground are preparing battery container formwork for placing concrete. (U.S. Army photo by Kendal Smith)

Labor continues on the construction, installation and completion of two, 32-meter high, cooling chimneys, one each for the turbines' individual outlet. The chimneys will have an inner stainless steel layer with a middle layer of carbon steel and a concrete outer layer.

Extensive rebar and concrete placing work is in process to form and build hardened tunnels and trenches, as well as junction and distribution enclosures to contain control and output cabling on the site. These concrete encasements house

electrical cables from the turbines to the switchyard where the created electrical energy will transfer to the overall Iraqi national electrical grid for distribution to the population.

Eight overhead cranes are used around the installation of the new turbines and in the switchyard ranging from a capacity of 80 tons, 50 tons or 20 tons.

"It's a great project, comprehensive and challenging," says Navy Commander Jerome Zinni, the GRD Qudas Project Manager. "It will be a significant achievement for U.S. Army Corps of Engineers to turn this much needed and substantial amount of energy over to the Iraqis. I'm very proud to be part of the efforts."

Workers prepare the rebar and forms for placing the concrete channels that will contain control and output cables from the turbines to the switchyard. Water is applied to ensure the newly-placed concrete cures properly. (U.S. Army photo by Kendal Smith)

A 50-ton crane holds the 400Kv insulator overhead while workers connect it to the bushing in the Qudas electrical generating plant switchyard. (U.S. Army photo by Kendal Smith)

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