



# Operation RIO Update

24 October 2003

Basrah generator slab under construction.

*An update for all SWD employees and Operation RIO volunteers supporting Operation Iraqi Freedom.*

**Mission Update:** A slowdown in attacks on Iraq's oil pipelines has allowed Iraq's crude output to maintain the range of 2 million barrels per day (bpd), according to Gary Vogler, deputy senior oil advisor at the Coalition Provisional Authority in Iraq. Our latest oil production numbers on 23 October show a high of 2,136,000. As winter in Iraq approaches oil demand within the country will rise and RIO is working diligently to ensure the steady supply of refined products.

## A Foundation for Success

Story and photos by Lori Thomas and Alan Dooley

Basrah, Iraq – All construction projects require good foundations. The effort to provide steady and dependable electrical power to the important petroleum refinery in this southeastern Iraq area was no exception to that rule.

After the recent Gulf war, looters heavily damaged much of the electrical grid of southern Iraq. They knocked down numerous electrical towers on the high voltage distribution grid to steal the copper wire, which they then sold on the black market.

This criminal activity plunged much of the region into a months-long electrical blackout, leaving it without lights, air conditioning in 130 degree-plus temperatures, water and other requirements for modern living. It also made it impossible for the Basrah Refinery to produce critical fuel supplies to heat and light the region, as well as for transportation needs.

To overcome this situation, The U.S Army Corps of Engineers Task Force RIO (Restore Iraqi Oil) and contractor Kellogg, Brown and Root teamed up with Iraqi oil experts: Mr. Jamal Sylaiman, Basrah Refinery Chief Engineer; Mr. Ab-Reda Hasaan, SCOP (State Company for Oil Production); and Mr. Aayed, Power and Generation, to reintroduce dependable electricity to the refinery.



Iraq's Ministry of Power identified two 12.9 megawatt generators to be installed at the Shaiba Power Station near the refinery. But the giant generators and their associated equipment couldn't simply sit on the ground.

Rather, a very substantial cement foundation was required. SCOP engineers in Baghdad calculated that it had to be 60 meters square (some 197-foot square) and 40 centimeters (16-inches) thick. It would have to be absolutely level and

constructed with heavy steel reinforcing rod as well. To put the task in perspective, this is enough concrete to construct a 10-foot wide driveway, six inches thick, only a few feet short of two miles long.

An initial challenge arose over simply getting the design drawings from Baghdad to Basrah. But a Power and Generation engineer resourcefully leaped into a taxi and rode more than 300 miles to Baghdad. Gathering the necessary drawings in hand, he immediately raced back over the same 300 miles to Basrah by the following evening.



Work began the next day with a single backhoe and two survey crews.

SCOP was stymied in its effort to locate high quality cement, but Task Force RIO located and delivered 800 tons in large bags. The Army engineers also were able to locate and get released 160 tons of reinforcing steel rod for the project.

When U.S. Army Engineers offered a large truck-mounted concrete mixer for the project, Iraqi construction experts stated that they could do the work, complete it on time and provide substantial local employment in the process. This offered a ready-made way to get the job done and provide employment for eager Iraqi workers.

Under the watchful eyes of SCOP engineers, earth was moved and the site preparation began.

During the initial phase, Iraqi steel workers swarmed over the site, measuring, cutting and bending tons of heavy steel reinforcing rod. They bent it by hand and tied it together meticulously with thousands of feet of hand-twisted wire.

As work went forward, tireless local laborers endured temperatures that started at 100 degrees at 6 a.m., zoomed past 110 by 10 a.m. and soared to about 120 by mid afternoon. Reinforcing steel became so hot it had to be handled with rags. Securing wire had to be twisted the same way.

Only two days later, while steel work pressed forward, another crew started mixing concrete in three, one-yard mixers. Each was filled repeatedly by hand with wheelbarrows of sand, aggregate (gravel) and then heavy bags of cement. Water was added as the mixing process started. Once mixing was completed, another team of Iraqi laborers stood ready to move the fresh mixture – again by hand with wheelbarrows – to concrete finishers waiting to pour and finish it.

The process went on 24 hours a day, and the slab was completed well within the allotted time. While the concrete cured, Iraqi concrete finishers ensured that it was sprayed with water to prevent it from drying out in the searing heat before it could cure properly.

On August 27, a full eleven days ahead of schedule, the slab was completed. It is curing and will be ready to receive and support the generators when they arrive.

The Army engineers and KBR representatives observing the cross-sections of concrete as forms were removed and reset for the next area commented on the quality of the work achieved. They noted the total absence of any sign of voids in the resulting slab.



Clearly, the combination of Iraqi methods, manpower and eagerness to meet the mission were more than equal to the challenging construction job. This successful Iraqi-led and executed project bodes well for the energetic

people of Iraq. They are starting to test themselves in an environment that encourages independent thought and action in an era following more than three decades of restrictive central control over their activities.

A foundation for electrical power has been poured in Basrah. But of equal import, a foundation and direction for the future has likewise been set in place in there.

**Help Wanted:** Several key jobs are opening soon for Task Force Rio in Iraq in November. Included are: GS-12/13 Project Managers, GS-12/13 Project Engineers, GS 5-7 Administrative Assistants, and many others. If you are interested, and have your supervisor's concurrence, please call Linda Ranallo at 214-767-2385 or Jim Barton at 214-767-2370 for more information. This is an excellent time to be part of a history making project that is benefiting the people of Iraq.

**Back Issues of RIO Update:** Have you missed an issue of RIO Update? Go to [www.swd.usace.army.mil](http://www.swd.usace.army.mil) to view copies of all back issues. Ms. Angela Williams in SWD IM, has been very faithful in maintaining this web page.

**"HOOAH!!"**

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