**Application: water treatment**
**Customer: jv orascom & the arab contractors**
**Power plant: 4 x 2800 kva**

KOHLER®

# Case Study

## Bahr el-baqar wastewater treatment plant

### AT A GLANCE

**PROJECT IMPLEMENTATION**

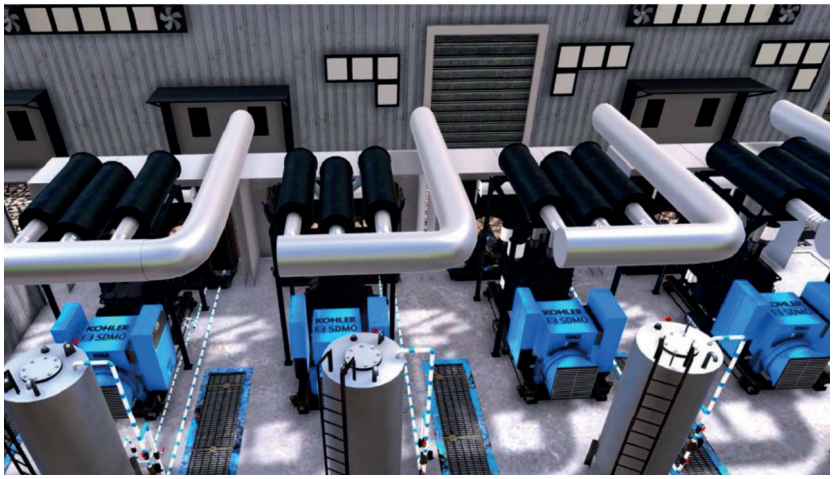
4 x 2800 kVA KOHLER KD SERIES generating sets selected

**INSTALLING THE GENERATING SETS**

**PROJECT CERTIFICATION**

### LOCATION

**SINAL - EGYPT**



4 x 2800 kVA KOHLER KD SERIES generating sets selected

## NEW STANDBY POWER PLANT

One of the biggest challenges facing Egypt in the coming years will be securing itself enough water to sustain its rapidly growing population and expanding economy. But, with climate change policymakers are having to turn to alternative sources to protect against water stress.

The Bahr El-Baqar wastewater treatment plant is the largest facility of its kind in the world. It is located 10 km south of the Port Sai'd tunnels in Sinai, 17 km east of the city of Al-Qantara. It is considered one of the most important projects aiming to develop the Sinai Peninsula to leverage its natural resources.

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The project will contribute to the reclamation of 456,000 feddans (1 feddan = 4,500 m²) by recycling and using agricultural, industrial and sewage wastewater, which will be diverted from the western to the eastern bank under the Suez Canal. All treated water will be discharged into the El-Sheikh Jaber Canal.

The daily capacity of the Bahr El-Baqar wastewater treatment plant is estimated at 5.6 million cubic meters. The plant operates within Bahr El-Baqar's water drainage system, where the total amount of land cultivated in Sinai amounts to 400,000 feddans.

The plant is built over 155 feddans, or 650,000 square meters, on the eastern bank of the Suez Canal all the way to the south of the city of Port Sai'd, approximately 27 km away.

## PROJECT IMPLEMENTATION

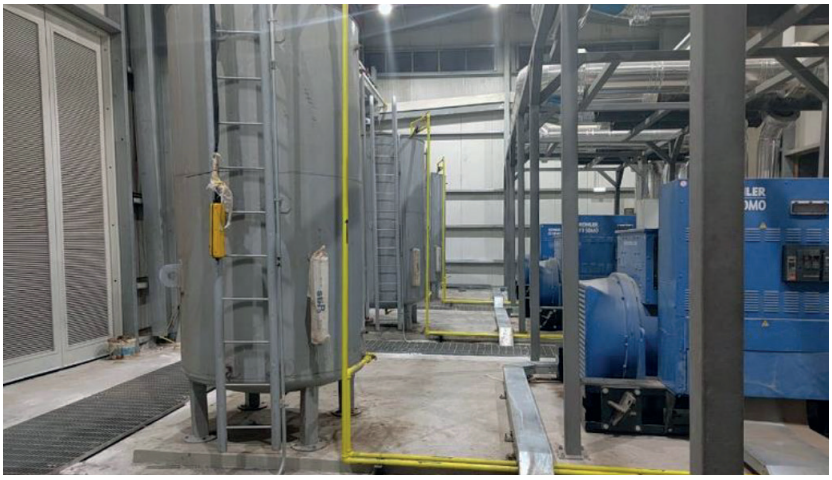
### 4 x 2800 kVA KOHLER KD SERIES generating sets selected

After several months of negotiation and with fierce competition, ONSPEC TAWAKOL successfully won the project with 4 KD2800-F units, thanks to the efforts of our engineers and support from KOHLER throughout all stages. The project also involved performing Factory Acceptance Tests (FAT) at the customer's request.

In the generating sets room, 4.5 m³ daily tanks are installed at the back of the generating sets. These daily tanks are fed by the storage tank using 4 electrical pumps and 2 manual pumps via 1 main suction pipe and 1 main discharge pipe. Each tank has an electrical solenoid valve to control the fuel flow at low level. Fuel is supplied from five 53,000-liter double-wall underground tanks located in a room to the left of the generating sets room.

## INSTALLING THE GENERATING SETS

Four 2800 kVA generating set units were chosen as the standby power plant for the water treatment station. Cooling is provided by a vertical radiator installed on a concrete slab on the ground outside the building.
The radiator is covered with a metal duct for protection (to comply with project specifications).



Our KD2800-F generators were equipped with:
- Motorized air circuit breaker (ACB)
- Embedded APM802 control and synchronization panel mounted on the generating set base frame
- Spare parts and tool kits

## PROJECT CERTIFICATION

The project has been recorded as the world's largest water treatment plant according to Guinness World Records.

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