

Market Segment: Rental

POWER PROFILE

Mall of Dhahran

POWER NEED

The city of Dhahran in Saudi Arabia has been constructing many shopping malls that are major attractions for the local people. Mall of Dhahran opened in 2005 and has over 93,000 sq. meters (one million sq. feet) with over 300 stores. The food court spreads over an area of 5,000 square meters, which is the largest of all malls in Saudi Arabia.

In the same year of their launch, Al Hokair started to construct the extension of Dhahran Mall. The mall was powered by the local utility company but needed further power for support to Geant Saudi hypermarket, Kika Saudi furniture store and other mall general facilities.

Dhahran Mall opens until midnight and requires electric power to provide lively and exciting entertainment. The responsibility of Al Hokair is to provide alternative, reliable and economical power supply suitable for public and mall facilities. Furthermore, a constant supply of power is required even with irregular fluctuations in electrical load demand.

Since Mall of Dhahran is such an enormous and powerful retail complex, professional technical support is required to produce a stable power with zero tolerance for error.

SOLUTION

"To select TAAQA and Caterpillar® generator sets was really a natural choice for us. Because we can trust both people and the equipment for optimum performance," notes Kasem Ataallah, senior electrical engineer. "Al Hokair has been working with TAAQA as an exclusive power provider for all their real estate projects."

TAAQA, the local Cat® dealer rental company, was called to supply nine power modules to provide a total of 10 MW of power. TAAQA was in charge of design and installation of electrical power solutions in Mall of Dhahran in Dhahran, Saudi Arabia. Nine EAME-CIS 2000kVA power modules consist of Cat® 3516B electronically injected generator sets optimized for high ambient conditions, rated at 1825 kW at 60Hz. Each power module equips a utility grade automatic paralleling switchgear in CSC certified 40ft ISO sound attenuated container. The fuel system and management is connected to 6 X 24lk liter bulk fuel tanks. Additional features include lube oil make up system and bundled container to avoid fluid spills. The noise level is 90 dB(A) at 1 meter. The output voltage is 480 volts, which is elevated to 13.8 kV via step up transformers.

The 47C ambient temperature, 80% humidity, and high dust elements compounded with changing wind directions posed a challenge to TAAQA's highly efficient technical team at the initial stage of operation. In addition, it was complicating because Dhahran Mall was very close to the power plant. To overcome site conditions, the exhaust mufflers mounted on the containers needed to be repositioned and extended for better heat dissipation and air flow away from building, air intake, and radiators. The solution is so significant that the efficiency was improved by 5-10%.



CUSTOMER

Al Hokair

LOCATION

Dhahran, Saudi Arabia

CUSTOMER BUSINESS ISSUE

Continuous power supply for shopping mall complex

SOLUTION

9 Cat® EAME-CIS 2000kVA Power Modules

CAT DEALER

TAAQA Energy & Environmental Solutions Co. Ltd.

Since EAME-CIS 2000kVA power modules were launched to serve as a continuous power source in 2007, professional and technical support has been performed by TAAQA. TAAQA provides complete turnkey power solutions through engineered design, reliable equipment, project management, and 24/7 on-site operation and maintenance services.

The key factor to success is to follow the customer's request that commercial markets need reliable and uninterrupted power solutions from a reliable local source. "We live up to our commitment and run only reserve and redundant power at any of our many sites all over the Kingdom," says Emad Mukhalalaty, managing director of TAAQA.

Therefore the tenant business is boosted by uninterrupted continuous power supply since the power plant started its operation.

RESULTS

"We are extremely pleased with the unprecedented service by TAAQA and the reliable and sturdy Caterpillar® equipment," Ataallah says. "The power plant is very reliable, and it has been running without any power interruption or problem since the day when it was commissioned."

The power generation project in Mall of Dhahra is an excellent continuous power application. The reliability of Caterpillar® generator sets and the ongoing "partner" relationship between Al Hokair and TAAQA will allow Al Hokair to create additional great success stories.

POWER PROFILE

Mall of Dhahran



CIS Solutions Contact

<i>Name</i>	Igor Novad
<i>Phone</i>	+74 95 755 6811 ext.2254
<i>Fax</i>	+74 95 7855688
<i>Mobile</i>	+7495 7961092
<i>Email</i>	Novad_Igor_A@cat.com

Caterpillar CIS LLC
82, Sadovnicheskaya Street
Moscow -115035
Russia

EAME Solutions Contact

<i>Name</i>	Raphael Timms
<i>Phone</i>	+41 22 849 46 85
<i>Fax</i>	+41 22 849 41 39
<i>Mobile</i>	+41 78 833 46 85
<i>Email</i>	Timms.Raphael@cat.com

Caterpillar SARL
76, Route de Frontenex
P.O. Box 6000
1211 Geneva 6
Switzerland

