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Prime Power

Case History

Saudi Electricity Company

Where:

Turbah, western Saudi Arabia

What:

Cummins Power Generation QSK95 Series generator set

Purpose:

Supplementing an established Cummins Power Generation rental solution

QSK95 Series shows its value at Saudi power plant

A demanding rental customer in the Middle East has found the Cummins Power Generation QSK95 Series generator set is the answer to a number of longstanding requirements. Working alongside an established array of rental generator sets, the QSK95 Series is delivering greater power and performance with a smaller footprint.

Saudi Electricity Company (SEC) owns and operates a plant at Turbah in western Saudi Arabia, a site 1,000 meters above sea level and remote from the grid. The entire township of Turbah is dependent on the plant. Excluding the outlying settlements, the town of Turbah's power demand is 51 MW, rising to more than 60 MW in the peak summer months, when temperatures can reach 50 degrees C.

In 2005 SEC awarded a five year rental contract for the site to Cummins Olayan Energy (COE), a joint venture between Cummins Power Generation and the Saudi Olayan Group. COE won the bid on pricing, reliability, and in-house 24/7 service and spares capability.



SEC added a QSK95 Series unit to its existing generator set array



The QSK95 Series has demonstrated easier serviceability

COE's solution, based on Cummins Power Generation K50A50G3/G9 generator sets, offered the lowest operation cost per kWe generated.

COE fulfilled the contract, and in April 2010 was rewarded with a follow-on five year deal. The number of Cummins Power Generation generator sets at the plant rose to 71 – a mix of C1250 D2R, 1500 DFLE and C3250 D6 units, coordinated by PowerCommand® 3100 and 3.3 controllers. Spares and servicing to the site are handled by Cummins Power Generation distributor General Contracting Company, Jeddah. In the country as a whole, COE manages more than 400 MW of Independent Power Provider (IPP) contracts for SEC.

In 2014, a QSK95 Series generator set was added to the installation to work alongside the other Cummins Power Generation generator sets. The requirement was for a high density power solution with unlimited prime power operation, fuel efficiency and reliability; which meant the QSK95 Series was the perfect fit.



The QSK95 Series delivers greater power through a smaller footprint

The performance of the new QSK95 Series has exceeded SEC's expectations, delivering highly impressive fuel consumption data.

The QSK95 Series generator set has proved the ideal choice for the Turbah site. Its rugged 4-cycle, 16 cylinder design delivers reliable power, low emissions and fast response to variable loads. It can operate in the location's high summer ambient temperatures, and is configured to meet sound pollution regulations of 85 dBA at 7 meters. COE has installed the 60 Hz variant of the unit, capable of delivering 3,250 kWe standby, 2,750 kWe prime and 2,500 kWe continuous power.

The QSK95 Series has demonstrated maximum uptime and reduced operation and maintenance costs, as well as providing easier serviceability. Including the newly installed QSK95 Series, the Turbah plant today has 72 Cummins Power Generation generator sets providing a total capacity of 90.25 MW and a continuous rating of 63 MW.

The performance of the new QSK95 Series has exceeded SEC's expectations, delivering highly impressive fuel consumption data. The generator set's performance is just as impressive in terms of maintenance, with improved top overhaul and major overhaul intervals - all thanks to the QSK95 Series' state of the art design.

For more information about integrated prime power solutions, contact your local Cummins Power Generation distributor or visit power.cummins.com



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