

Premier oil and gas drilling contractor upgrades by adding new MTU Electric Drilling Packages to rig fleet



Who: Unit Drilling, a division of Unit Corporation
What: Six MTU Series 4000 G73 generator sets (Electric Drilling Packages)
Why: Provide self-contained, reliable power for oil- and gas-drilling rigs deployed in remote sites in the southwestern United States
Where: Tulsa, Oklahoma, USA



A major driller is putting six MTU Electric Drilling Packages (EDPs) to work in remote sites from Wyoming to Texas. Providing drilling and standby power for drilling operations at depths more than 20,000 feet, the EDP was designed as an all-in-one solution. Over several months in extreme conditions, it's been getting the job done with no downtime.

The pioneer spirit that transformed Oklahoma from a Wild West frontier outpost into today's cosmopolitan, cowboy-flavored metropolis is still in evidence in Oklahoma, preserved in the state's museums, architecture and even in the energy industry that fueled the transformation itself.

A recent decision by Unit Corporation's Unit Drilling Division (Tulsa, OK) to acquire six MTU Series 4000 G73 generator sets is a perfect example of that spirit, one that both filled a major driller's need to expand its critical supplier base and served notice that MTU is a new force to be reckoned with in the oilfield. In a segment of the drilling business once dominated to the point of near-monopoly by a single competitor, Unit's acquisition of the half-dozen Electric Drilling Packages says there's a new sheriff in town, and its name is MTU.

Self-contained and fully supported

The MTU Electric Drilling Package consists of a Tier 2-compliant MTU Series 4000 12V G73 engine capable of producing 1,105 kW (1,482 bhp) plus 10% overload capability at 1,200 rpm, and a generator, radiator and control panel mounted on a rigid steel base frame. Specifically designed to excel in the extreme and remote operating environments typified by Unit Drilling's drill sites from Wyoming to Texas, the EDP provides drilling and standby power for drilling operations to depths in excess of 20,000 feet.

With worldwide demand for energy at unprecedented levels, drilling efficiency has never been more important, and never more difficult to achieve given the challenges drillers face. One of those challenges is the necessity to drill not just downward thousands of feet into the

Mike Almond, corporate maintenance manager, Unit Drilling
"MTU's EDPs have been user-friendly, running successfully with no recordable downtime. The results have been appealing from an operations point of view."



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MTU 12V4000 engines are compliant with EPA Tier 2 emissions standards and are capable of generating 1,105 kW at 1,200 rpm.

ground but sideways, too, by using steerable motors on the drill to expose more of the production zone of an underground oil or gas field.

“Deep horizontal drilling is a growing practice around the world,” explains Steve Besore, Oil & Gas Applications, MTU. Besore says the new drilling technique, though highly successful in optimizing well production, also requires more power than conventional well drilling. That increased power demand has given rise to the development of AC/DC drilling rigs powered by multiple generator sets, the technology that the new EDP incorporates.

According to Besore, Unit’s purchase of MTU packages gives them a built-in competitive advantage. Because the EDP was designed as a unit rather than a disparate system of independently outsourced components, it virtually guarantees the high performance and peace of mind that drillers demand. MTU has single-source responsibility for the entire system – a unique and valuable asset for drillers who already have enough to monitor on a hectic drilling site. “You know when your hours start from the engine, generator and the radiator. All three of those components play their part in the package and they’re all very important,” Besore explains.

For rigs with a high power load – the type used by Unit Drilling and many other major drilling contractors – multiple EDPs can operate in parallel to generate enough power to meet the peak load

demand and continuously drive all of the rig’s equipment while offering the flexibility to take one or more EDP units offline for maintenance or in times of lower power demand.

Unit Drilling chooses MTU

MTU’s new Electric Drilling Package is a genuine modern engineering marvel. But the first step taken by United Engines in selling six of them to Unit Drilling was decidedly old-school and reflective of the personal touch that’s one of the hallmarks of the authorized MTU distribution network.

“We held an open house at our Tulsa headquarters,” says United Engines’ Sales Representative Matt Scott. “We knew an open house would be a great way to introduce it to customers, who would be able to get an up-close look at the quality and superior design of the MTU Electric Drilling Package.”

One of those customers was Mike Almond, Corporate Maintenance Manager for Unit Drilling. “Unit was already an occasional customer, but until the Electric Drilling Package came along, we really didn’t have the right product to offer them,” Scott recalls.

United’s open house couldn’t have happened at a more opportune time, because Unit Drilling was looking for an alternative supplier of generator sets to power its large fleet of drilling rigs. Almond says, “Unit Drilling has always felt it was important to have options to assist in keeping up

with our demands. In the past, our industry has predominantly leaned towards a competitor’s engine to power our drilling rigs. Because of that competitive engine’s popularity, production lead time in market-up swings becomes a concern.”

Teaming up to win

Shortly after the open house, MTU’s Besore teamed up with United Engines’ President Trip Bates and Sales Representative Matt Scott to pitch the MTU Electric Drilling Package to Mike Almond, Corporate Maintenance Manager for Unit Drilling and his boss, Executive Vice President John Cromling at a meeting in Unit’s Oklahoma City offices.

“We reinforced Steve’s presentation to Mike and John with our own pledge from United to support the packages all the way,” Scott recalls.

Almond and Cromling were duly impressed by the distributor’s commitment to the driller’s business, the quality and performance of the MTU drilling packages, and the team approach United and MTU used to win an order from Unit. The company ordered three EDPs, followed quickly by an order for three more.

After several months of hard use in the field, Unit’s six new MTU Electric Drilling Packages have been in Almond’s words, “User-friendly, running successfully with no recordable downtime. The results have been appealing from an operations point of view.”

MTU America Inc.

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MTU is a brand of Rolls-Royce Power Systems AG. MTU high-speed engines and propulsion systems provide power for marine, rail, power generation, oil and gas, agriculture, mining, construction and industrial, and defense applications. The portfolio is comprised of diesel engines with up to 10,000 kilowatts (kW) power output, gas engines up to 2,150 kW and gas turbines up to 35,320 kW. MTU also offers customized electronic monitoring and control systems for its engines and propulsion systems.



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