

USAID ENERGY POLICY PROGRAM

SUCCESS STORY

NEW EQUIPMENT IN MARDAN IMPROVES ELECTRICITY DELIVERY

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PAKISTAN

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Power outages and load shedding have become severe in Pakistan in recent years. The electrical power distribution system in Pakistan is decades old with equipment that is nearing the end of its usable life. An important component of the electricity distribution system is the capacitors which are electrical or electronic components that store electrical energy. In summer, when demand for electricity increases, capacitor banks give more capacity for electricity to be transferred and reduces losses.

The capacitor bank at the Mardan Grid Station, serving the Mardan area in Khyber Pakhtunkhwa Province, had been out of order since 2007 due to shortage of cells reducing the amount of reliable electrical power available to residents and businesses in the Mardan area.

Rehabilitating the capacitor bank would reduce up to two megawatts in losses, which would mean 2 additional megawatts of electricity would be available for citizens and businesses to use.

In February 2015, USAID/Energy Policy Program repaired and replaced the capacitor banks at the Mardan Grid Station. EPP modified the old 60 megavolt ampere reactive (Mvar) bank to 48 Mvar capacitor, tested the protection and related control systems and energized the capacitor banks. These groups of capacitors are typically used to counteract power networks. They also play a crucial role in maintaining system voltage within the desired limits. Essential power grid updates like those at Mardan ensure that safety standards continue to be met, power is delivered consistently, and that the system is managed efficiently.

“With the installation of the new capacitors, power lags have been reduced, maintaining a smooth flow of electricity in the power supply,” said Saleem Shah, Senior Engineer at NTDC, Peshawar. “Capacitors have given a relief to the transformers and improved voltage and power factor.” He added that customers are now provided with more regular and reliable electricity. And this, in turn, means more revenue is produced to pay the costs of providing electricity.

Small, medium, and large-scale businesses need a reliable supply of electricity to be successful. A secure supply of electricity is crucial to economic growth — and a bright future for all of Pakistan’s people.