USAID ENERGY POLICY PROGRAM

SUCCESS STORY

ENHANCING RELIABILITY OF PESCO'S POWER NETWORK

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SUCCESS STORY

Enhancing Reliability of PESCO's Power Network

New cooling fans manufactured at Heavy Electrical Complex, Hattar

Newly installed cooling fans at Shahi Bagh grid station, Peshawar

The newly installed cooling fans and fan motor circuit breakers on the power transformer are helping to recapture 260.5 MWs of transmission throughput capacity on PESCO's Grid and benefitting 3,333,879 individuals.

Delivering reliable electric power to consumers depends to a large extent on the condition of the power plant's equipment. One of the most critical components of a power system is its power transformers, and their proper functioning is fundamental for delivering power to the substations and utilities. Cooling fans increase the amount of power that a transformer can deliver, enhance its service life, and reduce losses by providing additional cooling of the transformer's oil. The efficient cooling of power transformers is of paramount importance in the peak summer season when temperatures rise and loads increase.

The USAID Energy Policy Program (EPP) team has been working to improve and upgrade the transmission system of Peshawar Electric Supply Company (PESCO) to reduce transmission losses and improve reliability. As part of this effort, 477 cooling fans were installed on 104 power transformers at 69 of PESCO's Grid Stations as of February 2015. The newly installed cooling fans and fan motor circuit breakers on the power transformer are helping to recapture 260.5 MWs of transmission throughput capacity on PESCO's Grid and benefitting 3,333,879 individuals. EPP support to PESCO included coordinating inspection of the cooling fans by EPP's engineers, attending factory acceptance tests, and conducting onsite inspections of each cooling fan installation. All installation work has been completed in the presence and satisfaction of EPP and PESCO representatives.

EPP is also working toward enhancing power transformer reliability by providing PESCO with transformer oil purification plants. Dirty oil in the transformers can potentially damage the transformers, which can lead to power outages and cause unscheduled load-shedding. Testing of oil quality showed that many of PESCO's transformers required oil purification. EPP has initiated the procurement of two transformer oil purification plants along with the necessary oil testing equipment at the request of PESCO. The oil purification plants will assist PESCO in adopting efficient transformer maintenance practices and significantly enhance the useful life of the power transformers.

It is intended that the lessons learned at PESCO can be applied to other power distribution companies (DISCOs) in Pakistan to improve operations and increase the amount of power supplied to end-users.