

Using diesel power modules, APR Energy created a custom configured power plant to meet the needs of the mining operation.



Background

Located in Southeast Africa, Mozambique has continued to experience real growth of more than 6% per year over the past decade, with projected growth to continue through 2017. Much of this economic growth has been stimulated by foreign investment in the mining and oil and gas industries. Vale Moçambique Limitada, a subsidiary of Vale, listed as the second-largest mining company in the world, needed a reliable source of backup power for the construction phase of its mining operation in the province of Tete, Mozambique. The interim power solution required transportable generating units and rapid mobilisation, ultimately leading to a seamless, uninterrupted supply of power to cover peak demand.

Challenges

Vale required additional capacity during the commissioning phase of the Moatize Coal Project to supplement supply from the local grid. A reliable, turnkey source of backup power was necessary to ensure constant power availability and avoid costly downtime. The project needed to be successfully implemented within a strict schedule whilst operating in a very challenging environment. The plant would serve to fulfill demand requirements until Vale could construct a large coal fired power station, which would provide all on-site power

Solution

Upon its selection for the project, APR Energy worked closely with Vale and local contractors to rapidly mobilise, install, and commission the 10MW turnkey plant. Using diesel-fired power generation modules, APR Energy's project engineers created a customised solution, which included the implementation of a volumetric fuel measurement system and design of a 2km overhead line from the plant to nearby substation. APR configured the plant to operate in base load parallel with the grid, with the capability of instantaneously switching to island mode in the event of grid failure. In addition, APR collaborated with Vale's environment, health, and safety managers to ensure that the installation fully complied with company standards.

Outcome

APR Energy's power generation units provided reliable, dedicated power to Vale's Moatize Coal Project throughout the critical commissioning phase of the mine site. APR Energy's site engineers worked closely with Vale operations staff to develop a training program for the operation and maintenance of the units. In 2011, after training the local workforce, APR Energy transferred operation of the power plant over to Vale Moçambique Limitada to ensure a reliable and long-term power solution for the mine site.

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