

Kenya Olkaria V Geothermal Power Plant Project Team

[Mitsubishi Power, Ltd., Mitsubishi Corporation]

Representative : Yu Morita (Mitsubishi Power, Ltd. Geothermal Power System Project Group, Engineering Manager)

Member : 83 persons(Mitsubishi Power, Ltd. 80 persons, Mitsubishi Corporation 3 persons)

While the demand for electricity in Kenya is increasing along with its steady economic growth, the country's power mix as of 2017 consisted of 805MW of hydropower(36%), 698MW of thermal power(31%), 651MW of geothermal power(29%), and 81MW of other power(4%)*1. Thus, it was necessary to reduce dependence on hydroelectric power, which is vulnerable to drought and unstable, and thermal power, which causes current account deficits due to imports of fuel for power generation, and to ensure stable and sustainable economic growth.

*1(Source)Republic of Kenya/Updated Least Cost Power Development Plan 2017-2037

Under these circumstances, the Kenyan government decided to promote the development of the Olkaria V geothermal power plant with an ODA loan from JICA. Mitsubishi Power's track record of delivering the Olkaria I and II geothermal power plants in Kenya and its ability to carry out EPC in the field of geothermal power generation in various countries around the world were highly evaluated, and a consortium with our company as a participant was awarded the contract for geothermal power generation facilities.

The project was undertaken by the Kenya Electricity Generating Company, Plc "KenGen" as a client. Mitsubishi Power. and Mitsubishi Corporation formed a consortium with H Young & Co. (E.A.) Ltd., the largest construction company in Kenya. Mitsubishi Power designed, manufactured, and procured steam turbines, generators, condensers, and main auxiliary equipment, and dispatched engineers to provide guidance on installation and commissioning. Mitsubishi Corporation was in charge of export of the equipment, and H Young, a local construction company, conducted the construction work.

The construction work of the power plant was entrusted to H Young and the project was successfully completed with Mitsubishi Power's support in engineering and quality assurance. In addition, this project adopted Mitsubishi Power's unique and accumulated technology for geothermal power generation, achieving a single unit output of 82.7 MW (Net), the largest geothermal power plant ever delivered to the country, thereby contributing to the effective utilization of Kenyan underground resources (geothermal steam).

Olkaria V was successfully delivered in December 2019 and has been in commercial operation. In 2016, Kenya was the world's ninth largest producer of geothermal power, but with the plant's opening in 2019, Kenya surpassed Iceland to become the world's eighth largest producer of geothermal power. This award deserves recognition in the field of international contribution because of the above excellent achievements and future development.



Fig.1
Turbine Equipment



Fig.2 With President KenGen,
Ambassador of Japan to
Kenya and others

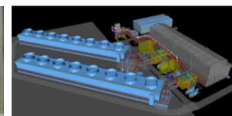


Fig.3
Power Plant
Model



Fig.4
Power Plant
Panoramic
View