Azura Edo power plant – powering Nigeria’s future

An IPP power plant (459 MW) providing reliable energy supply
The challenge

While Nigeria has the largest population and economy on the African continent, the demand for electricity far outweighs the available capacity, which is often less than 5 GW for a population of about 170 million. Nigeria has one of the lowest per-capita electricity consumption figures in the world. Nigeria initiated the power sector reform with the objective to attract private participation and strengthen power sector performance to remove constraints to economic development.

The Azura Edo 459 MW gas-fired power plant serves as a significant milestone for the power sector in Nigeria. It is the first large private financed IPP project in Nigeria under the new regulatory framework. The project is regarded as a pathfinder of sorts, with developers and investors already considering the project as a platform for similar developments in the market.

It signals to private investors that despite challenges facing the country, bankable power projects can be successfully developed in Nigeria. The sponsor consortium led by Amaya Capital was supported by a syndicate of 15 international and local lenders including Siemens Financial Services.

Our solution

The plant is designed to run on natural gas. It is constructed under turnkey Engineering, Procurement and Construction (EPC) contract by a consortium of Siemens and Julius Berger Nigeria. The project will be developed in three phases, starting with this 459 MW open cycle gas turbine power plant. In the design, Siemens considered further extension and conversion to combined cycle over two phases, in order to bring the total capacity of the plant up to 1,500 MW. This open cycle consisting of three SGT5-2000E gas turbines equipped with the SPPA-T3000 control system is designed and ready for combined cycle extension in a 3 + 1 configuration.

The implementation of the project was performed under a challenging environment in 28 months, two months before the contractually agreed date. The success was a result of stringent project management and excellent collaboration with our competent consortium partner. Last but not least the security issues on site were managed through a strong security concept for site and transportation.
“What a massive achievement. To do what you’ve done, in the time you’ve done it, and in the conditions on ground – that’s something you should be proud of for the rest of your lives.

Your work will be appreciated not just by me, but by millions of Nigerians for years to come.”

David Ladipo
Chief Executive Officer, Group Managing Director and Director,
Azura Power West Africa Limited.

Customer benefits

• Handover to customer about 2 months before the contractually agreed date
• Almost 5 million working hours without a single work related accident
• Erection works contracted to Nigerian companies
• Fulfills high quality standards
• Good cooperation with communities (e.g. employments, training)
• Siemens is a reliable and bankable partner
• Designed and ready for further extension and conversion to combined cycle

Scope of supply

Outstanding EPC competence and project management, comprising:

• Three SGT5-2000E gas turbines, Germany
• Three SGen5-100A generators, Germany
• Three main transformers, Germany
• Balance of plant, fuel gas pressure & metering and electrical equipment
• SPPA-T3000 control system
• HV switchyard, OHL towers, extension of Benin-North substation
• Erection and commissioning
• Long-term service agreement (12 years)

A wide range of offerings

We provide a broad range of in-house capabilities and a full array of services, including plant engineering, procurement, transportation logistics, construction management, technical field assistance, commissioning and operation & maintenance. All services are supported by stringent project, quality and EHS management.