



INTERNATIONAL

Alba 2,481 MW PS5 CCGT Plant

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— A case study to judge us on

Alba 2,481 MW PS5 CCGT & power distribution network

ESB International is responsible for the specification, tender negotiation leading to contract award, design review, Project and Construction management, safety and commissioning supervision of the Alba PS5 CCGT power plant project and associated Power Distribution Network.

Client Name	Aluminium Bahrain B.S.C. (Alba)
Start Date – End Date	2015 - 2020 (Unit 1, 2 & 3)
Start Date – End Date	2020 - Ongoing (Unit 4)

Background

Following the appointment of ESB International in September 2015, the EPC consortium of GE/GAMA was issued with Notice to Proceed in August 2016. The combined cycle gas turbine plant consists of 3 x GE 9HA01 gas turbines and achieved commercial operation in 2019. These “H” technology gas turbines were the first of their type in the Middle East and the first application in an aluminium smelter.

In a parallel procurement process, Siemens was appointed to supply and install new 220 kV and 33 kV sub-stations and associated transformers/ reactors, as well as a SCADA system for the new power distribution system.

The existing Alba Power Distribution network is also incorporated into the new SCADA system.

In February 2020, ESB International was appointed as Engineering, Construction and Management (ECM) Consultant by Alba for a CCGT 4th Block to be added to PS5, this time utilising the latest MHI J Class Gas Turbine technology. EPC Notice to Proceed was granted in May 2022. ESB International is currently supporting the delivery of the station’s 680 MW extension, which is due to be fully commissioned in 2024. This extension will increase our client’s power generation efficiency by over 4%, and greenhouse gas emissions will reduce by over 600,000 tons annually.

The services we provided:

- Project development activities
- Management of project planning
- Specification preparation, tender evaluation and EPC contract award
- Management of site preparation
- Detailed engineering design review
- Project construction & commissioning supervision
- Complete engineering support during all phases of the project
- Site management, safety management and quality surveillance
- Power Systems Study for integration of the 4th Unit into power distribution network
- Project closeout and warranty services

We should be talking to each other

To discuss your needs, please get in touch with ESB International at the contact points below.

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