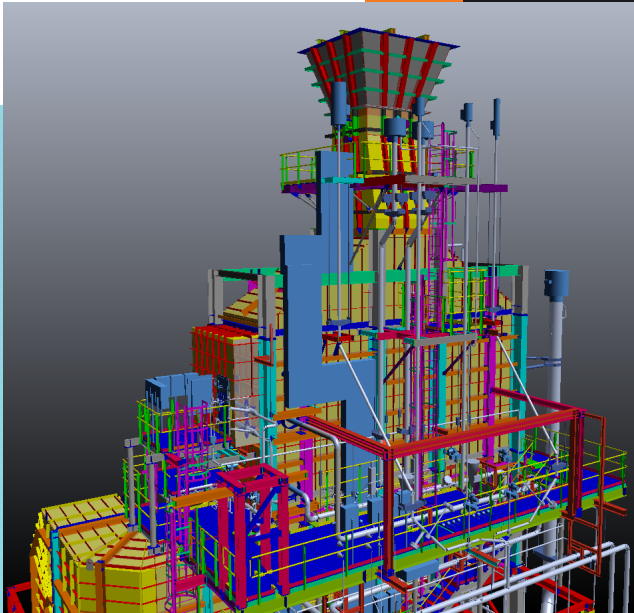
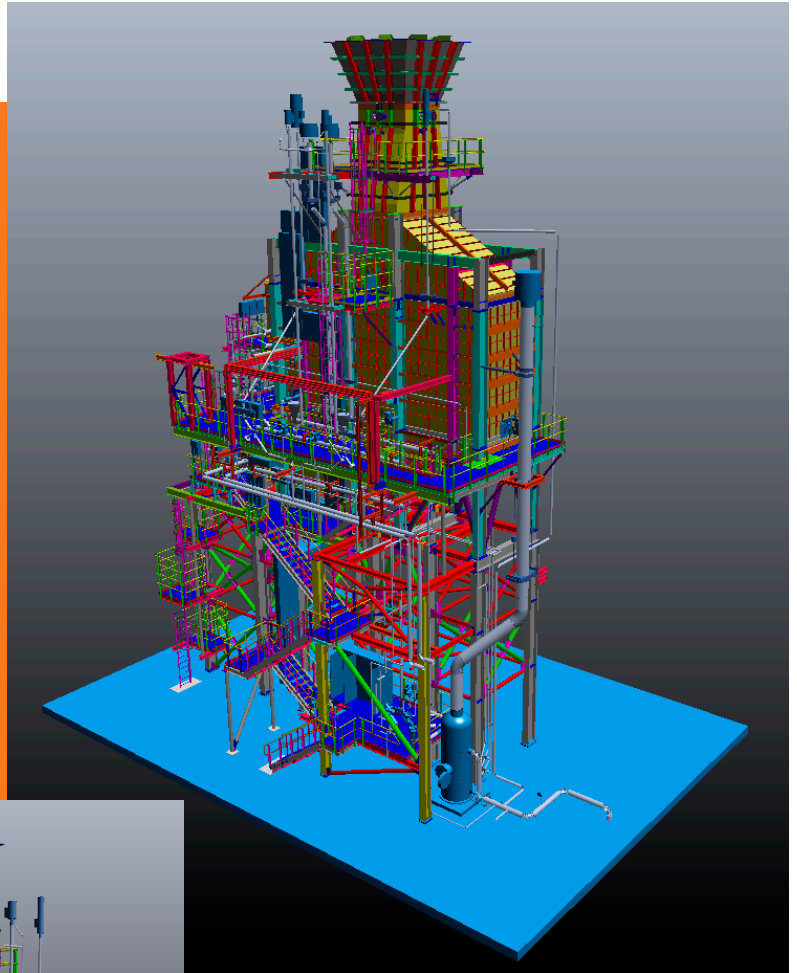


West Africa, Ghana

Once Through Boiler

194 MW



johncockerill.com/energy



WEST AFRICA GHANA, Once Through Boiler

Full Dry Run Capability

Project Definition

The project in West Africa provides efficient, reliable, low cost power for Ghana's growing economy. The facility was constructed in two phases with Stage 1A including five fast deployment GE TM2500 gas turbines operating in simple cycle. An additional 52 MW of combined cycle capacity was added in Stage 1B by using a single steam turbine and five vertical Once Through Boilers (OTB) by John Cockerill.

The Ghana facility required maximum operational flexibility with an extremely compressed construction schedule to convert the already operational simple cycle gas turbines to combined cycle operation. The OTB was the ideal choice for this project based on the flexibility of full dry run capability which allows de-coupling of the combustion cycle from the steam cycle. The modular box OTB design maximizes shop fabrication by pre-assembling 100% of the pressure parts in a single module. Construction of the OTBs was quickly completed with minimal field construction hours alongside the operating TM2500+ gas turbines.

The Contract

In January 2019, GE awarded John Cockerill Energy the contract for five OTBs. The John Cockerill Energy scope of work include the design, engineering, manufacture and supply of the boilers. The pressure parts were manufactured in modular box style in Korea. Boiler erection was completed by Metka on behalf of GE.

Gas Turbine

- GE TM2500+
- ISO rated : 33.5 MW
- Truck mounted GTs
- Fuels : LPG ; distillate oil as back up
- Vertical Upward Exhaust

Heat Recovery Steam Generator

- John Cockerill Energy
- Once Through Boiler
- Vertical gas path
- 2 pressure, unfired design
- Full dry run capability
- Prefabricated in Modular Box style
- No diverter damper required
- Tailor made design for this application

Plant Operation

West Africa project is designed for both Base Load and Daily Cycling operation.

Performances

GAS	°C	kg/s	
Inlet	545	88	
Outlet	141	88	
STEAM	°C	barA	t/h
HP	512	64	40
LP	232	8	6

Schedule

Notice To Proceed	December 2018
Contract awarded	January 2019
Substantial completion	December 2020



Truck Mounted Gas Turbine TM 2500+ at site.



Modular Box Heat Exchangers under manufacturing.

CMI becomes John Cockerill

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