CASE STUDY

A world designed to last



Coral Sul FLNG

First Deep Water FLNG in Africa

TECHNIP ENERGIES



Overview

Coral Sul FLNG is a floating liquefied natural gas unit that is being installed 80 kilometers offshore Mozambique in the southern part of Area 4 of the Rovuma Basin. It has a production capacity of 3.4 MMTPA of LNG per year from wells located in 2,000-meter water depth with a design life of 25 years. The project includes engineering, procurement and construction as well as transport, installation and startup, plus operation of the FLNG until Provisional Acceptance.

The project is being executed by a consortium of three entities: A joint venture between Technip Energies and JGC, Samsung Heavy Industries (SHI) and TechnipFMC, with Technip Energies serving as consortium leader. The project includes a strong local content aimed at promoting the growing competencies of the regional workforce and subcontractors for the development of the oil and gas sector in Mozambique.

INSTALLED 80KM OFFSHORE MOZAMBIQUE

PRODUCTION CAPACITY OF 3.38 MMTPA OF LNG PER YEAR

8 LNG TANKS 227,840 M³ TOTAL CAPACITY

FLNG DIMENSIONS: L424.5M X B66M X D38.5M

Challenge

A fast-track schedule executed in multiple operating centers

One of the main challenges of the project was the specified schedule with a Ready For Startup 60 months after the contract effective date, meaning a Ready For Sail Away at month 54.5. A fast-track schedule for engineering and procurement was developed to enable a smooth topsides and hull construction.

Another challenge involved the coordination of engineering for this complex facility being spread among the consortium stakeholders and the turret mooring system subcontractor in six operating centers in the USA, France, Singapore, Korea, Japan and India. To facilitate, common 3D tools and a database were shared between operating centers and an efficient interface management system was implemented.







Technologies

The LNG trains of Coral Sul FLNG use the latest liquefaction technologies with an APCI DMR process and four LNG loading arms for side-by-side offloading operations supplied by Technip Energies.

All topsides modules were built in SHI yard in Korea and were fully fitted with instrumentation and electrical and piping components before being lifted and integrated into the hull, minimizing the amount of integration activities. This strategy required a very early and mature definition of the engineering deliverables by the TEN-JGC Joint Venture.

Solutions

Showcasing expertise in FLNG technology in offshore facilities and LNG plants

Technip Energies has taken advantage of our expertise in FLNG technology to develop fast-track and robust engineering activities tailored to the construction strategy of SHI yard. Critical constraints associated with the construction, transport, installation and startup of the FLNG as well as lessons learned from previous projects were incorporated at the early stage of design and procurement.

As consortium leader, Technip Energies has used its extensive project management capabilities to coordinate activities among all partners and resolve numerous interfaces inherent to the development of such a complex facility within the tight schedule of each operating center.



Results

The Ready For Sail Away was achieved per contract schedule despite the COVID pandemic affecting construction yards in Singapore for the turret mooring system and in Korea for the hull and topsides, with no carryover to the offshore phase. This put the project on schedule for startup in Q2 2022.

“Coral Sul is the third FLNG that Technip Energies has designed and built, further confirming our leadership in the liquefaction of natural gas and on large offshore production facilities”

Marco Villa
T.EN Chief Operating Officer

