Flex LNG Producer 1 Project

LNG Floating Production Vessel

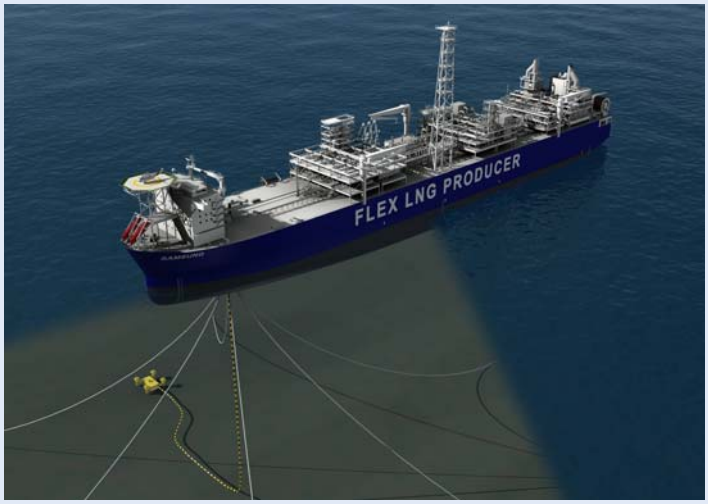
Customer: Kanfa Aragon

Services Provided

- Front End Engineering Design (FEED) Verification
- Detailed Design and Engineering
- Package Management

Benefits to Customer

- Close working relationship with customer
- Modular construction philosophy and techniques
- Knowledge of double nitrogen expander liquefaction cycle
- Extensive experience and capability in cryogenic plant engineering



Images courtesy of Flex LNG and Samsung Heavy Industries

Background

Flex LNG was established to commercialise floating LNG. Increasing costs of onshore base load LNG plants and technology developments in offshore LNG storage and transfer have resulted in offshore LNG production now being commercially viable.

Kanfa Aragon, specialising in FPSO topside solutions for gas processing & LNG was awarded a contract to undertake Pre-Engineering studies for the Flex LNG Producer 1 generic topsides, with subsequent awards for FEED and Detailed Engineering.

Costain has supported Kanfa Aragon with engineering services for the liquefaction section, from pre-engineering through to detailed design, bringing extensive cryogenic experience in gas processing and LNG to the project.

Project Description

The floating LNG facility has been designed to produce in excess of 1.7 million tonnes of LNG per annum, processing a range of feed gas compositions. The topside facilities are modular in design and consist of a field specific section, conditioning the incoming gas to a specification suitable for processing in a generic section. The generic section incorporates a gas pre-treatment plant for the removal of carbon dioxide, water and mercury, and a two-train liquefaction system. The generic section has the potential to be replicated on further LNG Producer vessels.

The liquefaction module uses the proven nitrogen expander liquefaction cycle, considered one of the most robust and flexible liquefaction technologies for use in the offshore LNG industry. The Costain scope of work includes the detailed engineering for the Plate Fin Heat Exchangers, Cold boxes, Cryogenic Pumps, Liquid Expanders, Turbo-expanders and associated equipment followed up by management of these equipment packages with suppliers.

The project is ongoing, commissioning and start-up is currently planned for 2013.