

CASE STUDY



Energy Projects NAFOORA GAS LIFT SYSTEM CAPACITY EXPANSION & NAFOORA GAS UTILIZATION

Country
Libya

EPC Contractor
J&P (Overseas) Ltd

Overall Project Value
46.000.000 USD

Owner
AGOCO

Dates
2002 - 2004

ENOIA's Consulting Value
280.000 USD



The Project concerns the expansion of the Nafoora Gas Lift System capacity in order to increase the oil production from Nafoora Field as well as installation of export facilities for exporting compressed, dehydrated, and sweetened gas. The new facilities include:

- Compressors
- Dehydration Units (2 No.)
- Sweetening Unit (Mole Sieves)
- Pipelines, Export Gas Custody Transfer Metering, etc.

A brief description of the main equipment, subsystems/packages of the two involved plants (GOSP4 - CPS):

GOSP4:

- Slug catcher designed for 120 MMSCFD of gas collecting low pressure gas from the various gas separation plants (GOSPs)
- Lift gas compressor station comprising four compressor trains which will operate in parallel with the existing ones. Each train has a nominal capacity of 15 MMSCFD
- Fuel Gas Treatment Unit (FGTU) to providing fuel gas to the compressor station.
- TEG Gas Dehydration unit at the discharge of the new compressors, designed to dehydrate 75 MMSCFD gas down to max.4 lb of H₂O / MMSCF of gas
- Instrument Air Package
- Compressor Station Start Air Package
- Normal Flare
- Fire Fighting System
- Closed Drains System

CPS:

- Slug catcher designed for 75 MMSCFD of gas that collects low pressure gas from the various GOSPs
- Lift gas compressor station comprising four compressor trains with provision for the installation of a fifth train in the future (as spare). Each train of nominal cap. of 15 MMSCFD.
- Fuel Gas Treatment Unit (FGTU) to providing fuel gas to the compressor station.
- TEG Gas Dehydration unit at the discharge of the new compressors, designed to dehydrate 75 MMSCFD gas down to max.4 lb of H₂O / MMSCF of gas.
- Gas Sweetening Unit for H₂S removal and Hg removal including Gas Conditioning Unit (the pressure reducing station, the KO drum, the gas-gas superheater and the NGL heater) and the Mole Sieve Unit (Mole Sieves, Hg removal bed, etc.). The Gas Sweetening Unit receives gas both from GOSP4 (through the GOSP4-CPS pipeline) and CPS. The design capacity of the Mole Sieve Unit is 37.5 MMSCFD produced sweet gas.
- Custody transfer metering station
- Compressor Station Start Air Package
- Normal & Acid Flare
- Fire Fighting System
- Closed Drains System

Scope of Services

ENOIA participated in the project as Engineering Consultant with the following Scope of Services:

- Basic Design
- Detailed Engineering including Process, Piping, Mechanical, Electrical, Instrumentation, Control and Telecommunication and Civil
- Engineering services for Procurement
- Support during Construction

