

Title: Electrical Power Generation Plants

Date: 2014-2019

Scope: EPC (2014-2017) – M&O (2016-2019)

Location: Colombia -Casanare/Boyacá/Córdoba

About OCENSA:

OCENSA owner of the Central Pipeline S.A. in Colombia, which is approximately 830 kilometers long and currently has capacity of approximately 610,000 barrels per day, is the company who is responsible for transporting the crude oil from Cusiana and Cupiaga fields in the Llanos basin to the maritime port of Coveñas on the Caribbean coast.

To date, Ocesa has been transporting crude oil through the pipeline with six pumping stations with reciprocating engines. Now, through Project “EXPANSIÓN DE CAPACIDAD POTENCIA 135 (P135)” Ocesa search to increase the pipeline capacity by 135,000 barrels per day, changing reciprocating engines by electric motors and building three new pumping stations (Paez, Chiquillo and La Granjita) and expand the existing Porvenir Station.

As part of the main project, OCENSA also requires the construction of three new power generation plants to provide electrical power for new electric motors and pumping facilities.

About POWER GENERATION PROJECT:

As background, the Power Generation Project objective is to produce electrical power to its Pipeline using production Gas and Diesel.

This project involves the installation of three (3) power generation stations to deliver energy for transportation of oil through the Ocesa pipeline in Colombia. The project is on EPC and O&M basis and is executed by a consortium registered under Consortium “Generacion P135 Masa-Vepica” (50% STORK-MASA, 50% VEPICA) under fixed price contract type.

Power generating stations will consist in six (6) dual turbo-generators units of 20 MW each in three (3) different locations:

- Casanare (Porvenir Station)
- Boyacá (Paez Station)
- Córdoba (Granjita Station)

Executive Summary:

Vepica as part of the Consortium “Generacion P135 Masa-Vepica” is currently carrying out an EPC and O&M project in Colombia which consists of the Engineering, Purchasing, Construction, Assembly, Testing, Commissioning and Operations & Maintenance for three (3) electrical power generation plants in Paez, Porvenir and La Granjita, Colombia for Ocesa. The project requires around 1,000,000 man-hours from the engineering stage to commissioning, startup, operation and maintenance. This EPC and O&M contract is being carried out as a multi-office project, in collaboration with multiple Vepica branch offices.

Challenges:

- Coordination of several stakeholders from different countries and different cultures (Ocesa, Ecopetrol, Consortium Masa-Vepica, Siemens Houston, Siemens Lincoln, Siemens Colombia, Colombian Suppliers and Contractors, communities and government entities)
- Managing of complex Interfaces with the partner (Stork-Masa), the Interventory (Worley Parsons, Bureau Veritas, Tecnicontrol and VQ Engineering), Ocesa Management Team, with Ecopetrol Operating Team, with the existing and operation facilities in Porvenir Station.
- Procurement of equipment and bulk material, coming mainly from Colombia market.

Vepica Solutions:

To face the project challenges, Vepica implement the following strategy:

- High qualified and experience personnel of Engineering, coming mainly from Caracas office.
- Engineering focused on the objective for a fast track project.
- Implementation of a support engineering team in Colombia, to allow the quick connection between Caracas, the partner and project stakeholders.
- Quick familiarization with local standards, norms and regulations
- Project organization, working with a very clear split of work each other.
- Integration of the Interventory and the client in most of the execution areas to facilitate the approval of deliverables, PO, and to facilitate the construction interfaces.
- Early procurement of equipment, bulk materials and some construction raw materials to avoid delays in the construction.
- Early mobilization to site for in advance work and to develop a very detailed construction strategy with the participation of all stakeholders.
- Maximize the strategy to build modularize and packet units to reduce the erection, construction, pre-commissioning and commissioning time and man-hours.