

Title: DE and Procurement Support for the 42,000 BPSD FCC unit and the 34,000 BPSD HDS unit of the Lázaro Cárdenas Refinery, Mexico

Date: 2005-2008

Scope: Detail Engineering

Location: General Lázaro Cárdenas Refinery, Minatitlán, Veracruz, México.

About Dragados Industrial - PEMEX.

Mexico's state oil company Pemex is engaged in the exploration, production, transportation, refining, storage and sale of hydrocarbons and derivatives. Its products include petrochemicals, natural gas, liquid gas, sulfur, gasoline, kerosene and diesel. The company was founded in 1938 and is based in Mexico City, Mexico.

Executive Summary:

The Detail Engineering included preparation of technical requisitions, technical bid evaluations, review and approval of vendor's drawings, verification of basic engineering (provided by Dragados), intelligent P&IDs, intelligent 3D electronic model (meti 90%) (as per Pemex' required specifications), data sheets and equipment and instrumentation requisitions, single line diagram, specification and requisition for dcs, esd, firefighting and gas detection systems, preparation of documents in smartplan P&IDs and meti, bulk materials, material take off and requisitions, expediting, control and approval of vendors' drawings, project control as per schedule. The FCC unit processes 42,000 bpd of atmosphere and vacuum gasoil. The Hydrodesulphurization (HDS) processes 34,000 bpd of diesel, light cyclic oil and light gasoil mix.

Challenges:

- Compliance with extremely detailed specifications on modeling and intelligent databases, the ultimate goal being to support operation and maintenance, including integration with the document control system and material control
- Complete configuration of 2D and 3D design systems without a database.
- Execution coordination on works in Minatitlán, Mexico, and Venezuela
- Execution in fast-track mode
- Handling of changes due to alterations to some of the design bases and original execution specifications.

Vepica Solutions:

- Training in Intergraph and intensive work in database management and compliance with challenging client specifications (PEMEX).
- Integration of work teams with personnel support from Spain-Venezuela-Colombia and USA.