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Petroleum Products, Pet-Coke and Coal

International Trading and Distribution

Feltwell Holding, SA is a corporation built around global wholesale trading. Our founders started initially supplying petroleum products since the 1970's from several oil producing countries in the Middle East and North Africa to international traders and wholesalers, later expanding to energy commodities trading on a global scale.

We specialize in providing Petroleum Coke and Coal primarily from the USA, Russia, South Africa and Colombia internationally to traders and end users.



Fuels Trading and Distribution

We are active in various aspects of the energy business:

- ❑ Trading and brokering petroleum refined products, petroleum coke and coal in the international market.
- ❑ Supply of fuels and equipment to power generating plants, cement plants, mining and industrial facilities and oil and gas production and refining plants.
- ❑ International development and supply of oil and gas modular refineries, power generating plants and water treatment facilities.



□ Thermoelectric Energy

Gas Turbine Generating Systems

Steam Turbine Generating Systems

Diesel or Gas Engine Generating Systems

Power Generation - Gas & Steam Turbines

- Industrial Combustion Turbine Generating units rated 30 to 200 MW use Natural Gas or Diesel 2 with a filtering, heating and centrifuging system. Can be supplied in simple or combined cycle with a Heat Recovery Steam Generator feeding Steam Turbine Generating units to minimize the fuel consumption rate, or to a flash distillation desalination process or absorption chilled water system.



Power Generation - Aeroderivative Turbines

- ▶ Diesel 2 or Kerosene (Diesel 1) can be used in Aeroderivative Turbine Generating units from 3 to 100 MW or in Industrial Combustion Turbine Generating units from 40 to 200 MW. These Industrial Combustion Generating units can also be used in combined cycle to improve fuel efficiency.



Power Generation - HFO and Diesel Engines

HFO medium speed Diesel engine generating units with HFO filtering, heating and centrifuging treatment. These are typically in the 1 to 15 Megawatt range in simple cycle to produce electricity or in a cogeneration system to also produce hot water, process steam or steam for flash distillation desalination or even for absorption chilled water systems.



Power Generation - High Speed Diesel Engines

Diesel 2 or Natural Gas can be used in high speed Diesel engine generating units from 500 KW to 2.5 MW for prime, standby or peaking use.





❑ Modular Oil and Gas Refineries

To be installed close to Oil and Gas Fields to reduce the cost of transportation of crude oil to major refineries for regional use

Modular Crude Oil and Gas Refineries

- Our Group represents Kuai Energy Systems offering wide experience in the international management, engineering, financing, sales, production, project management and installation of Energy Systems in the Oil and Gas and in the Power Generation fields. We are proud to present our Modular Refining Systems in conjunction with CHEMEX LLC, a leading manufacturer of Petroleum Processing Equipment since 1974.



- Modular Oil Refineries from 500 to 50,000 Barrels per Day for Crude Oil to produce Naphtha, Gasoline, Kerosene, Diesel 2, Heavy Fuel Oil 6 and Asphalt .
- No need for process water, minimizing environmental emissions. Can be sited as close as possible to oil fields.
- Larger refining capacities can be provided by paralleling Modular Refineries with maximum flexibility and reliability.
- We can provide Modular Refineries and Electric Power Generating Plants using their subproducts as fuels,

Modular Oil and Gas Refineries

We can provide the following **Modular Oil Refining Process Units**:

- **ATMOSPHERIC DISTILLATION UNIT (ADU)** - separates the different fractions of the crude oil according to boiling range into naphtha, kerosene, diesel, and residuum products. it operates at less than 15 psig.
- **VACUUM DISTILLATION UNIT (VDU)** - performs the same function as an ADU, but operates at a pressure of less than zero psig. it produces products like marine fuel oil (MDO) and asphalt from the ADU residuum (heavy fuel oil).
- **CATALYTIC REFORMER UNIT (CRU)** - produces high octane gasoline from naphtha.
- **HYDRODESULFURIZATION UNIT (HDS)** - removes sulfur and other impurities from naphtha and distillate fuels.
- **HYDROCRACKER UNIT (HCU)** - produces naphtha, kerosene, and diesel from heavy feedstocks like VDU distillates.
- **DESALTER** - removes salt from crude oil prior to distillation to prevent fouling and corrosion.
- **SPLITTER/STABILIZER** - separates a feedstock into two products.
- **FLARE** - combusts any excess vapor released by process equipment.



Modular Natural Gas Processing



We can supply the following **Modular Gas Processing Components**:

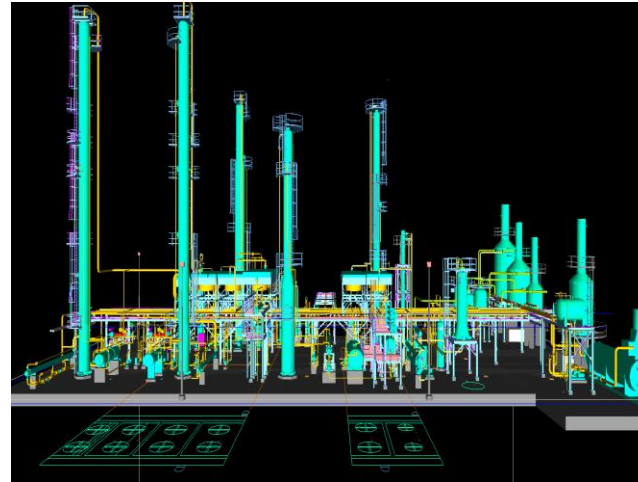
- **FIELD COMPRESSION SYSTEM** - raises the gas pressure from the well heads to the pressure required for gas transmission.
- **AMINE TREATER** - removes hydrogen sulfide (H_2S) and carbon dioxide (CO_2) from the gas stream. Amine gas treating, also known as gas sweetening and acid gas removal, refers to a group of processes that use aqueous solutions of various amines.
- **GLYCOL DEHYDRATOR** removes enough water to prevent freezing during transmission or processing. Design pressures are available from 230 psig to 2,160 psig.
- **MOLE SIEVE DEHYDRATOR** removes all of the water from a gas stream. this unit is used when the gas is processed to very low temperatures (less than -40 F).
- **NATURAL GAS PROCESSING PLANT** removes natural gas liquids (ngls) from a gas stream. the gas is cooled until the desired ngls condense. the raw natural gas must be purified to meet the quality standards specified by the major pipeline transmission and distribution companies. these quality standards vary by pipeline and are usually a function of the pipeline system design and the markets served.
- **NGL FRACTIONATOR** recovers ngls by distillation in demethanizing, deethanizing, depropanizing, and debutanizing fractionation columns. Each fractionation column removes a component from the ngl stream.
- **FLARE** combusts any excess vapor released by process equipment.
- **CLAUS UNIT** recovers elemental sulfur from H_2S

Modular Refinery 3D Design and Rendering

We can offer an Engineering and Design Package for the Modular Refineries, including On-Site advisory services for equipment installation, commissioning, start-up and test run.

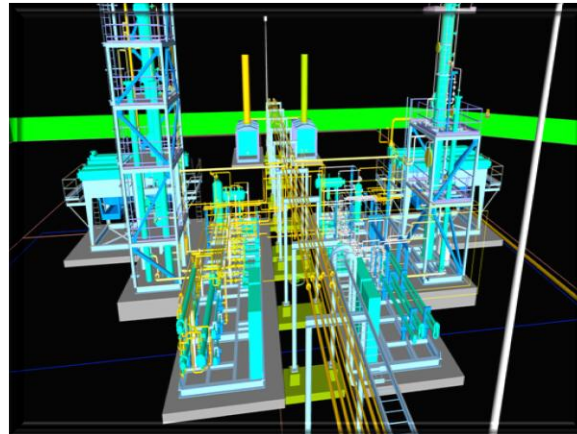
SCHEDULE A - PROCESS DESIGN PACKAGE

- process simulation;
- process flow diagram (PFD);
- piping and instrumentation diagrams (P&IDs);
- electrical single line diagram;
- heat exchanger data sheets;
- air cooler data sheets;
- pump data sheets;
- ASMe Section VIII pressure vessel data sheets;
- electrical and instrumentation equipment lists; and
- process unit site plan.



SCHEDULE B - CONSTRUCTION DESIGN PACKAGE

- structural steel design drawings for skids;
- foundation design skids;2.
- equipment general arrangement drawings;
- equipment drawings;
- piping drawings;
- electrical location diagram;
- instrumentation location diagram;
- electrical wiring diagrams; and
- instrumentation wiring diagrams.



Fabrication of Modular Refineries



- ▶ Our Modular Refineries are designed with skid-mounted modular equipment for placement on concrete slab foundations. With conventional foundation-mounted equipment, each piece of equipment is placed on its individual foundation and welders pipe the equipment together. This “stick-built” method requires longer construction time than Chemex’s modular fabrication.
- ▶ Chemex manufactures brand new or refurbished process units in its facilities in Bakersfield, California and Houston, Texas in the USA. We offer clients the option of using refurbished process equipment with a warranty equal to new equipment since using refurbished process equipment can result in substantial cost savings and accelerated completion schedules when compared with new equipment.
- ▶ Our equipment is designed to be transported by land or sea to any location. The equipment is fabricated in the same configuration as the process unit site plan. All piping, instruments, and electrical connections are made among the skids and tested. After completion of testing, the equipment is disassembled, packed, shrink-wrapped, and shipped from Bakersfield or from the Port of Houston.

Modular Refinery Installation

- ▶ We can provide personnel to advise the buyer of the final assembly and construction at each site. We can also provide local project management. When the equipment arrives at the facility site, it is unloaded and set on the concrete slab foundations. Final skid placement and elevations are checked against the drawings and skids are shimmed and adjusted accordingly. After the equipment is in place, assembly of the interconnecting spools begins. The equipment is literally bolted together with very little welding required. The process equipment can usually be assembled and ready to start up within thirty days.



Modular Refinery Commissioning

- ▶ We can provide advisors for the commissioning of the process equipment. All rotating equipment, instrumentation, and electrical equipment require preparation for operation. Piping is pressure tested and/or vacuum tested. The equipment is purged and made ready for startup by our advisory crew.

Test Run

- ▶ The twenty-four hour test run confirms the design of the process equipment. Our advisors advise the operating personnel about the proper operation of the equipment to achieve the intended results.



❑ Land-Based Solar Photovoltaic Power Generation Systems



Fixed Systems

Renewable Energy



Sun Tracking Systems

❑ Floating Solar Photovoltaic Generation Systems

Advantages:

- Preservation of agricultural and commercial land
- Increased generation from cooling of Photovoltaic panels and cables
- Decrease of natural evaporation by shading from the Photovoltaic panels increasing the amount of available reservoir water or Hydroelectric power generation
- Decrease of algae because of shading.



Parabolic Tower

❑ Concentrating Parabolic Solar Systems

Alternative Systems:

- Concentrating Solar Parabolic Towers - Solar Power is reflected by rotating mirrors to a focal point on the tower to heat water and produce steam for a steam turbine generating unit and or heat storage.
- Concentrating Solar Parabolic Linear Throughs - Solar Power is reflected to a linear pipe containing molten salts of other liquid medium to gather hot water for steam to a steam turbine generating unit and/or heat storage.
- Concentrating Solar Parabolic Circular Unit - Solar Power is reflected to a center mounted heat gathering point to feed hot water to Sterling engine generating units.



Parabolic Through

List of Commercial References

Arabian Co. for Transportation Services

ARAMCO

ADNOC

Chemium International

COSCO Logistics

ECOPETROL

ENOC

General Maritime

Gulf Petrochem

Jordan Petroleum Refining Corp

Marathon Petroleum Corporation

Mercuria Energy

Mission Petroleum

Premiere Transport Logistics

Schlumberger

SEPCO II

TRAFIGURA TRADING

Valero/Atlantic Trading

VOLPAK