PS6000: GAS OIL PROCESSING PLANT SIMULATOR

The PS-6000 is a simulation software package with rigorous and detailed simulation models of Gas Oil Separation and upstream processing facilities. The benefits of this package are:

For Academic

- Industrial Exposure for Students
- In-depth Process Understanding
- Carry out In-house projects
- Sound Fundamental Concepts of Process Control and safety with DCS Operations
- Understanding the Intricacy & Complexity of process dynamics
- Employability

For Industries

- Improved Plant Safety
- Smooth Startup & Shutdown
- Evaluation of Operator Proficiency
- Faster Recovery from External/Internal Process Disturbances
- Increased familiarity of Controls & Interlock Systems

The package consists of simulation models for various Gas Oil Separation plants and upstream operations. Each model simulates a Gas Oil Separation plant with its control, instrumentation and safety systems and field devices. The Instructor can invoke malfunctions, disturbances and instrument failures and evaluate the trainee performance. Trainee can perform normal operations, emergency operations as well as startup / shutdown operations on these models.

PS-6001 GAS OIL SEPARATION PLANT (GOSP)

The condensate stabilizer is designed to top off the lighter components till butane. The stabilizer overhead gas is passed through a scrubber and compressed by an overhead compressor system before routing to Dehydration unit. The overhead compressor has two stages with air-cooled interstage coolers and KO drum. The stabilizer column is equipped with reboiler to supply heat using hot oil.

PS-6002 DEGASSING PLANT

The model consists of Wellheads, Test Separator and Production separator. Each Well comprises of Down-hole safety valve, Master valve, Wing valve and Choke valve in series.

PS-6003 DEHYDRATION UNIT

Production gas from the 3-phase separator enters the gas dehydration unit to remove the water. The dehydration unit has Tri Ethylene Glycol (TEG) in a recirculating system to absorb the water from the gas stream. The rich TEG is regenerated at low pressure using the heat to boil off the water. The dehydration is specified to provide the dehydrated gas with allowable moisture content to meet the export specification of the sales gas.

PS-6004 GAS COMPRESSION PLANT

Gas from the 3-phase separator is routed to the suction header of the export compressor where it feeds export gas compression train. The export compressor system consists of a suction drum, LP and HP compressors, air-cooled interstage and discharge coolers. The compressed gas is then routed to the sales gas export pipeline through a metering skid.

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PS-6005 LPG PLANT

This simulated plant consists of De-ethanizer, De-propanizer and LPG Column sections.

PS-6007 LNG PLANT

LNG PLANT: The process involves 3 cycles in cascade, using a pure refrigerant in each of the cycles. Refrigeration cycles include Propane Cycle, Ethylene cycle and Methane cycle.

PS-6006 NGL RECOVERY UNIT

This simulated plant consists of Gas/Gas/Liquid Exchangers, Warm Separator, Turbo Expander compressor, J-T Valve and De-ethanizer Absorber

PS-6008: PRODUCTION WELLS, MANIFOLD AND 3-PHASE SEPARATOR UNIT

Well Fluid from two set of well headers enters the production manifold via Master valve and wing valve. The flow from individual well is controlled through choke valve. From the production manifold the fluid enters the three phase separator and slug catcher, where the gas, condensate and the aqueous layers are separated. The aqueous and condensate liquids are routed to respective vessels and the gas is routed to the dehydration unit.

Besides supply of above standard simulation plants, we develop rigorous custom simulation models for your plants based on the plant configuration, design parameters, operating data and instrumentation and safety systems. These custom models are very useful for training / re-training your operators/engineers as well as control / safety system verification, validating operating procedures, de-bottlenecking studies and what-if analysis.

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