

SIMULATION PROGRAMS FOR THE GAS PROCESSING INDUSTRY

ADVANCED DISTILLATION – AUDY™ 5050

The unit includes two (2) tower depropanizer and debutanizer distillation system. The two (2) tower system includes reboiler and overhead systems. Product quality analyzers are included.

COMPRESSOR, TURBINE, AND UTILITIES – AUDY™ 5060

The compressor unit includes the centrifugal compressor with steam turbine drive, lube and seal oil systems, buffer gas system, vacuum system, and health monitoring system. Surge, stonewall, vibration, and trip logic are included.

AMINE GAS TREATING – AUDY™ 5120

The amine treating unit includes gas sweetening via DEA absorption. The process includes the amine contactor, treated gas separation, amine recovery, and overhead water recovery. The unit also includes anti-foam and filtration systems.

PROPYLENE REFRIGERATION COMPRESSOR – AUDY™ 5210

Includes: 4-stage refrigeration compressor, inlet scrubbers, surge drum and refrigerant users.

GAS COMPRESSOR – AUDY™ 5250

The seven (7) stage compressor unit is a comprehensive, representation of a typical gas compression process. The unit includes an inlet scrubber, seven (7) gas turbines, seven (7) compressors, seven (7) interstage scrubbers, two (2) oil pumps, high pressure flash tank and special control logic.

GAS PROCESSING INDUSTRY continued.....

LNG – AUDY™ 5280

The LNG plant is a comprehensive emulation of the liquefaction unit process. Feed gas is brought to the liquefaction unit for removal of water and heavy hydrocarbons. The remaining gas is cooled to liquefaction temperature. Refrigeration is supplied through two (2) separate circuit systems: propane and multi-component refrigeration. Makeup components for the MCR and propane refrigeration system are provided by the fractionation unit.

LPG – AUDY™ 5290

The LPG plant includes a deethanizer, depropanizer and a debutanizer along with associated refrigeration processes. Also included is a condensate stabilizer and absorber column along with associated equipment and controls.

NGL RECOVERY – AUDY™ 5450

The NGL recovery unit recovers the ethane-plus components from the gas feed. The unit begins at the feed gas scrubber and ends at the residue gas compressor. Equipment simulated includes the feed gas scrubber, dehydrator, feed gas separator, gas chillers, chiller separator, gas chillers, chiller separator compressor/expander, J-T valve, and demethanizer.

GAS/OIL SEPARATION PLANT – AUDY™ 5530

Includes: high pressure production trap (HPPT), HP flare knockout drum, desanding vessel, crude shipping pumps, test separator and test separator KO drum.

OFF-SHORE GAS COMPRESSION – AUDY™ 5550

Includes: an offshore gas compression plant for increasing the pressure of the gas recovered from gas-oil separation plant offshore facilities for injection into a pipeline to the onshore facilities for further processing.

CRUDE OIL PRODUCTION – AUDY™ 5560

Includes: a crude production plant which enhances the crude imported from offshore platforms by removing most of the impurities via wash water and settling systems and removal of lighter hydrocarbons (light ends) which are sent to an onshore gas compression plant. The crude is stabilized via parallel stabilizers, stored in storage tanks before being pumped to the crude pipeline via shipping pumps.

GAS PROCESSING INDUSTRY continued.....

ON-SHORE GAS COMPRESSION – AUDY™ 5570

Includes: atmospheric compressor, LPPT compressor, pipeline compressor, and booster compressor. Each compressor has a suctional discharge drum as well as a glycol contactor.

GAS TURBINE GENERATOR – AUDY™ 5640

Includes: 12MW generator, gas turbine combustor, compressor, turbine and diesel starter, lube oil system, oil or gas fired waste heat recovery boiler.

GAS DEHYDRATION W/MOLECULAR SIEVE – AUDY™ 5690

The gas dehydration unit by molecular sieves is a comprehensive representation, which includes a gas scrubber, gas filter operator, molecular sieve dehydration units, chiller units, demethanizer and expander.

DEGASSING PLANT – AUDY™ 5700

The degassing plant process model is a dynamic representation of an onshore gas/oil/water separation plant with a test separator. The model consists of a dual train, three (3) stage, three (3) phase separators including a test separation train.

GAS COMPRESSION – AUDY™ 5890

The gas compression unit is a comprehensive, dynamic simulation of a gas compression plant, which supplies high pressure gas for well head injection. The program model consists of three compressors driven by a power turbine driven gas generator.

LPG REFRIGERATION AND STORAGE – AUDY™ 5960

The LPG refrigeration and storage plant model processes propane liquid by reducing the pressure in a pressurizing propane vaporizer and then chilling the propane to sub-freezing by three (3) chillers. Propane liquid then is transported to a storage tank through a product purge separator. In the storage tank, the propane vapors are recovered by a vent compressor and then recycled back to the chillers through a scrubber.