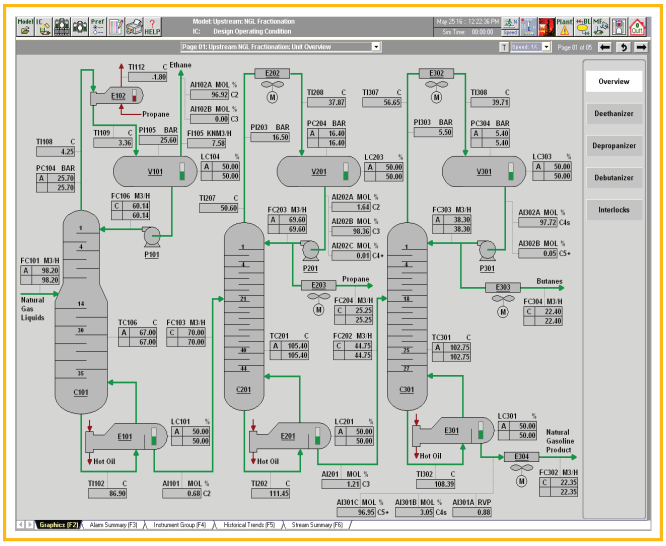
EnVision
e-Learning & Universal Simulation

NGL Fractionation Simulation

A real-time dynamic simulation of an NGL Fractionation Unit

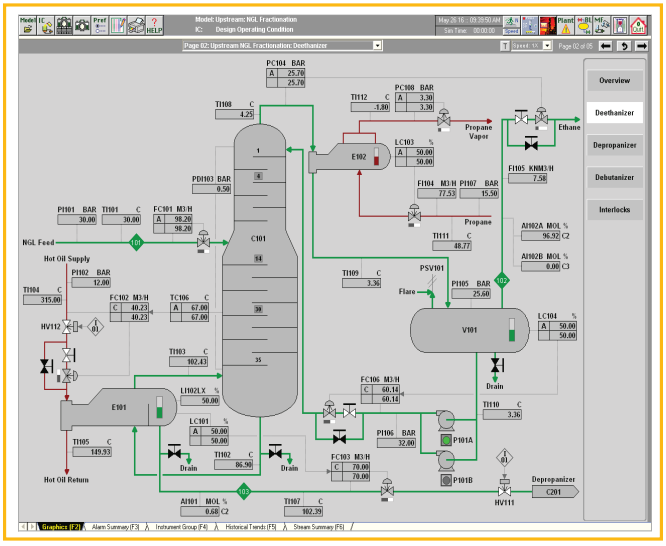


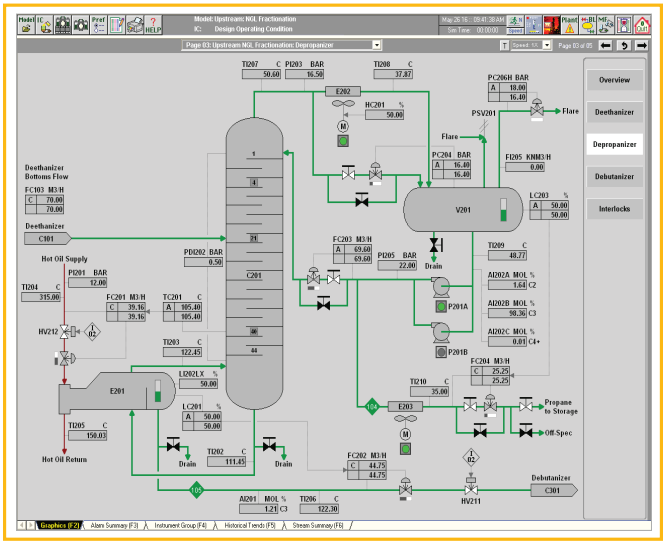
Simulation:

GSE's EnVision simulation is a real-time dynamic process simulation program used for Operator Training. It is based upon a rigorous and High-Fidelity mathematical process model to provide a realistic dynamic response of a process unit.

The Simulator allows a Trainee to Prartice:

- Startup and Shutdown Operations
- Normal Operations
- Emergency Shutdown Operation
- Control Exercises
- Troubleshoot and practice recovery from Equipment, Instrument, and Control Valve Malfunctions





- Simulation comes with a Learning Management System (LMS) called SimAdmin that allows an instructor to register trainees and monitor their performance
- Simulation is a vailable as Stanndalone (Single or Dual Monitor) and Instructor-Traine versions

GSE Solutions
www.gses.com/EnVision

NGL Fractioation Simulation

Major Equipment:

- Deethanizer with Reboiler and Overhead Section
- Depropa nizer with Reboiler and Overhead Section
- Debutanizer with Reboiler and Overhead Section
- Product Coolers

Key Operating Variables:

Deethanize r

- Top P ressure: 25.7 B AR (372.7 P SIG)
- Top Temperature: 4.3 C (39.7 F)
- NGL Feed Flow: 98.2 M 3/H (14 .8 MBPD)
- Reflux Flow: 60.1 M 3/H (9.1 M BPD)
- Ethane Product Flow 7.6 K NM3/H (268.5 M SCFH)
- Bottom Product Flow: 70.0 M 3/H (10.6 M BPD)

Depropanizer

- Top Pressure: 16.5 B AR (239.3 P SIG)
- Top Temperature: 50.6 C (123.1 F)
- Reflux Flow: 69.6 M 3/H (1 0.5 M BPD)
- Propane Product Flow: 25.3 M 3/H (3 .8 M BPD)
- Bottom Product Flow: 44.8 M 3/H (6 .8 M BPD)

Debutanizer

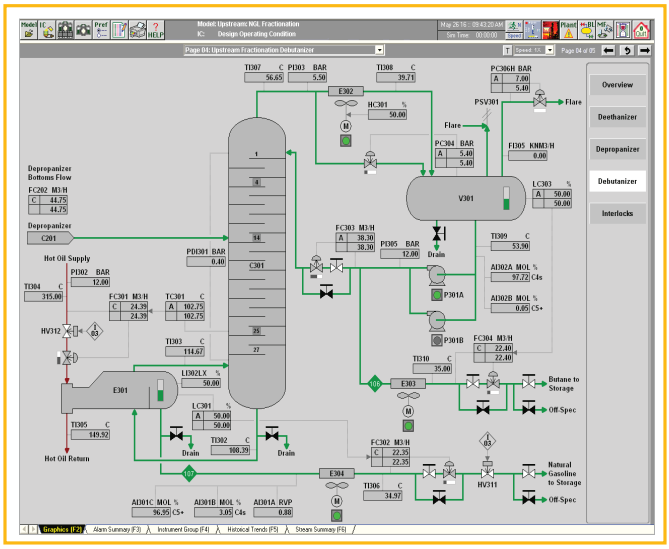
- Top Pressure: 5.5 B AR (79.8 P SIG)
- Top Temperature: 56.5 C (133.7 F)
- Reflux Flow: 38.3 M 3/H (5.8 M BPD)
- Buta ne Product Flow: 22.4 M 3/H (3.4 M BPD)
- Natural Gasoline: 22.4 M 3/H (3.4 M BPD)

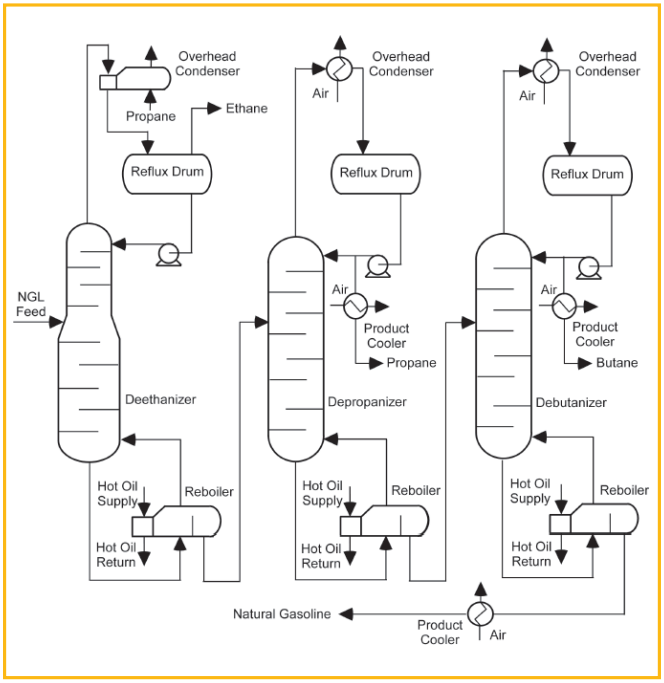
Product Flow

- Natural Gasoline Product: 0 .9 B ARA (1 2.8 PSIA) RVP

Product Purity

- Ethane: 97.0 M OL %
- Propane: 98.3 M OL %
- Butane: 97.5 M OL %





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