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 Practice:

- 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 available as Standalone (Single or Dual Monitor) and Instructor-Trainee versions
**Major Equipment:**
- Deethanizer with Reboiler and Overhead Section
- Depropanizer with Reboiler and Overhead Section
- Debutanizer with Reboiler and Overhead Section
- Product Coolers

**Key Operating Variables:**

**Deethanizer**
- Top Pressure: 25.7 BAR (372.7 PSIG)
- Top Temperature: 4.3 C (39.7 F)
- NGL Feed Flow: 98.2 M3/H (14.8 MBPD)
- Reflux Flow: 60.1 M3/H (9.1 MBPD)
- Ethane Product Flow: 7.6 KNM3/H (268.5 MSCFH)
- Bottom Product Flow: 70.0 M3/H (10.6 MBPD)

**Depropanizer**
- Top Pressure: 16.5 BAR (239.3 PSIG)
- Top Temperature: 50.6 C (123.1 F)
- Reflux Flow: 69.6 M3/H (10.5 MBPD)
- Propane Product Flow: 25.3 M3/H (3.8 MBPD)
- Bottom Product Flow: 44.8 M3/H (6.8 MBPD)

**Debutanizer**
- Top Pressure: 5.5 BAR (79.8 PSIG)
- Top Temperature: 56.5 C (133.7 F)
- Reflux Flow: 38.3 M3/H (5.8 MBPD)
- Butane Product Flow: 22.4 M3/H (3.4 MBPD)
- Natural Gasoline Product Flow: 22.4 M3/H (3.4 MBPD)
- Natural Gasoline Product: 0.9 BARA (12.8 PSIA)

**Product Purity**
- Ethane: 97.0 MOL %
- Propane: 98.3 MOL %
- Butane: 97.5 MOL %