EnVision
e-Learning & Universal Simulation

Gas Oil Blending Unit

A self-paced MultiMedia based Tutorial/CBT and real-time dynamic simulation of an Oil Blending Unit.

Tutorial/CBT:

This interactive tutorial provides an Overview, Fundamental Principles, and Control and Operating Principles for an Oil Blending Unit using Voice, Video, Animation and Graphics.

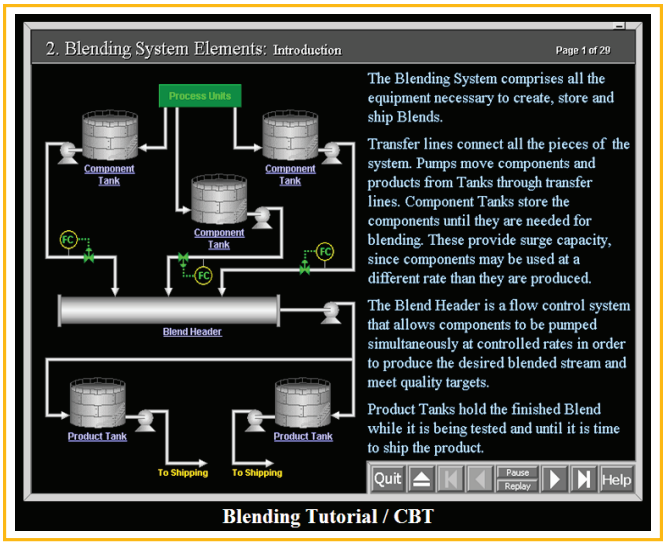
Overview
- Introduction
- Importance of Blending
- Blending System Overview
- Process Safety

Blending System Elements
- Various Types of Blending
- Fluid types
- Additives
- Tanks
- Pumps
- Blend Header
- Online Analyzer
- Octane Engine

Properties
- Octane number
- Volatility
- Distillation
- Other Properties
- Component Properties
- Property Tests
- Property Models

Blend Control
- Uniqueness of Blend Control
- Ratio Controllers
- Property Control
- Computer Control
- Manual Control
- Trim Control
- Recipe Planning
- Ethanol addition

Normal Operation
- Blending Plan
- Equipment Availability
- Loop Selection
- BRC and BPC Setup
- Analyzer Preparation
- Startup with / without BPC
- Full Rate Blending with / without BPC
- Trickles
- Post-Blending Activities
- In-Line Blending to Pipeline or Ship
- Rundown Blending
- Batch Blending



Blending Tutorial / CBT

Common Operation
- Tank Mixing
- Tank Sampling
- Line Displacement and Compatibility
- Seasonal changes

Abnormal Blending Operation
- Component Problems
- Off-Spec Tank Heel
- Off-Spec Tank After Blending
- On-line Analyzer Problems

- Tutorial has a built-in Quiz and comes with a Learning Management System (LMS) called TutAdmin. The LMS allows an instructor to register trainees and monitor their performance and Quiz scores
- Tutorial is available as a Standalone or Web based application
- Available in English, Chinese, Danish, Dutch, French, German, Spanish and Swedish

EnVision

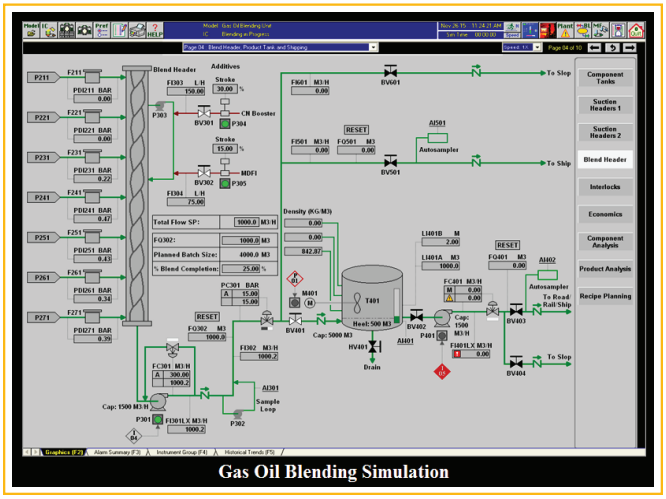
Gas Oil Blending Unit

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


Gas Oil Blending Simulation

Gas Oil Blend Components:

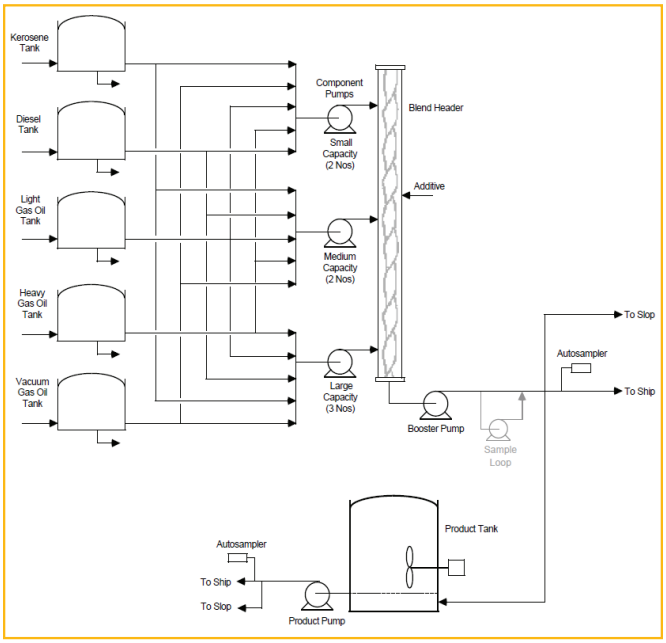
- Kerosene
- Diesel
- Light Gas Oil
- Heavy Gas Oil
- Vacuum Gas Oil

Unit Equipment:

- Component Tanks (Floating Head)
- Pump Suction Headers
- Component Pumps (Small, Medium and Large Capacity)
- Blend Header
- Booster Pump
- Product Tank
- Product Pump
- Analyzers
- Autosamplers

Key Unit Data:

- Blending Rate Max: 1500 M3/H (9000 BPH)
- Tank Capacity:
  - Component Tank: 5000 M3 (30000 BBL)
  - Product Tank: 5000 M3 (30000 BBL)



- 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

EnVision™ is a trademark of GSE Systems, Inc. All other trademarks are the property of their respective owners. The information in this literature is subject to change without notice and is not to be construed as a warranty.

GSE SOLUTIONS
Future of Power Operations

info@gses.com | www.gses.com