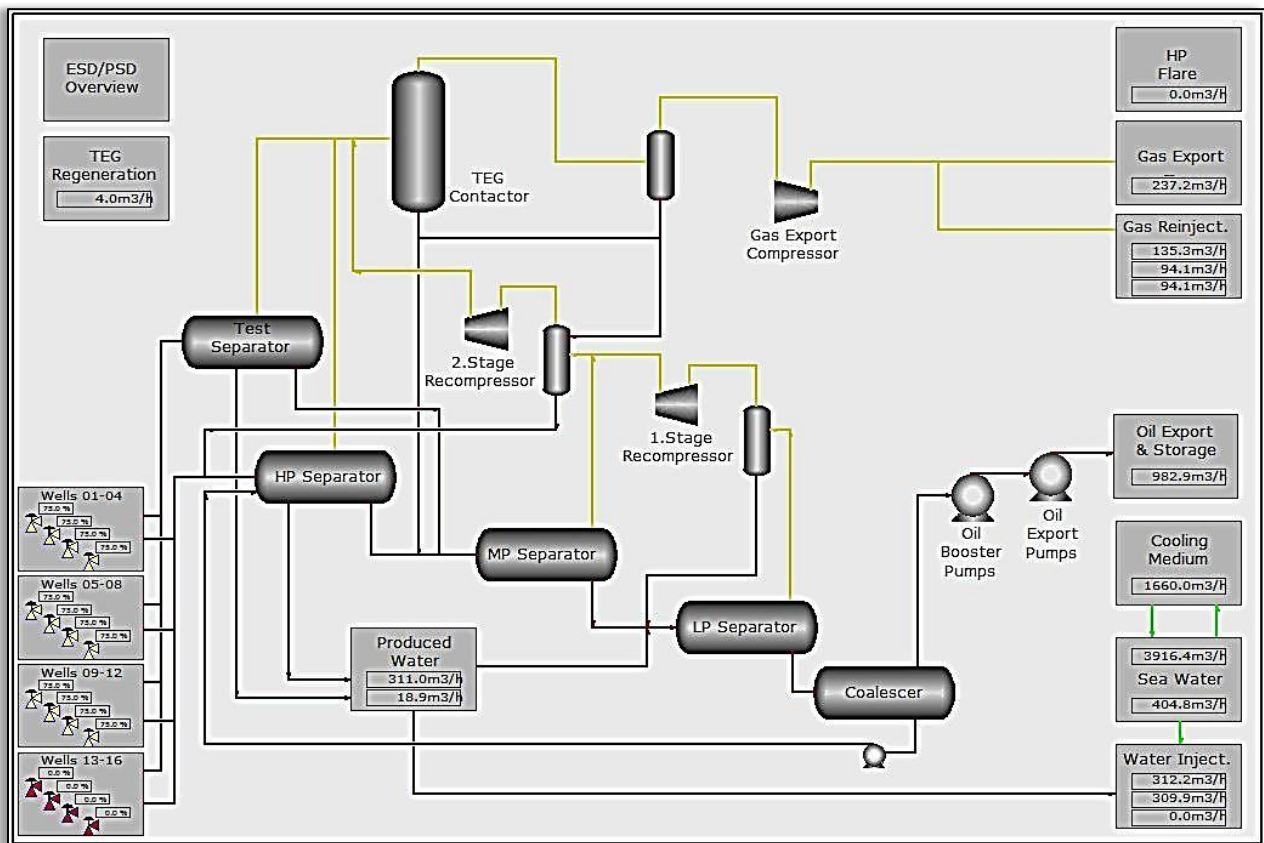




Oil & Gas Production Training

Simtech Oil & Gas



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Oil & Gas Production Training

Delivery Method: -	Instructor led Simulator-based Oil & Gas Production classroom Training
Location: -	At Simtech Oil & Gas Office or Client premises
Course Title: -	Oil & Gas Production
Language: -	English
Duration: -	4 days (9:00 AM – 5:00 PM)
Course Material: -	A complete set of course materials will be supplied. Software licenses will be valid during training.
Certificate: -	Course attendance certificate, stating the core learning objective of training, issued upon completion
Prerequisites: -	Basic knowledge of gas processing, controller tuning, Heat & Mass Transfer, Fluid Mechanics and unit operations, along with some understanding of Thermodynamics and phase equilibria is assumed, however no previous experience using K-Spice is required.
Instructor: -	Simtech Oil & Gas appointed Instructor
Objectives: -	<p>The simulator-based Oil & Gas Production interactive training course is intended to introduce the fundamental concepts of Oil & Gas Production facility. The participants will learn about process, automation, safety and operational aspects of Oil & Gas production by following the most efficient concept of learning, 'Learn by Doing'.</p> <p>The key learning objectives of the course are;</p> <ul style="list-style-type: none">• Important specifications of Gas, Condensate & Oil• Understand the overall process of Oil and Gas production & separation• Understand the dynamics of each unit operations and their interaction• Process instrumentation & Control Implementation• Overpressure Protection (Relief and Flare) systems• Operational safety design & its implementation• Learn the concept of Integrated control in Oil & Gas separation process• Understand how safety is designed and implemented to have safe production of export Gas & liquid HC• Recognize the operating problems in Oil and Gas separation facilities• Learn interaction of DCS with process dynamics• Develop thorough understanding of Separation equipment, Heat transfer equipment, Pumps, Compressors and drivers• Brief understanding of Compressor control• Glycol dehydration – TEG Regeneration

Who Should Attend?

The training course is designed to put your knowledge & skills in practice. This technical course is aimed at:

- Engineers (Process/Facility, Petroleum, Automation, Maintenance)
- Designers
- Operations Personnel
- Field Supervisors
- Project Managers

basically for all those involved with the selection, designing, installation, evaluation, or operation & management of Oil & Gas processing plants and related facilities.

The day's will: -

Be divided into five sessions, timings are approximate, due to the nature of the dynamic simulator trainees may work at different paces, and this will be allowed for throughout the training course.

- 09:00 - 10:15 session 1**
10:15-10:45 Tea break
- 10:45 - 12:00 session 2**
12:00-01:00 Lunch
- 01:00 - 14:15 session 3**
14:15-14:30 break
- 14:30 - 15:30 session 4**
15:30-15:45 break
- 15:45 - 17:00 session 5**

Session times subject to practical exercises and course generated discussion.

No session will run longer than 75 minutes without a break.

All the sessions are interactive and trainee participation will be actively encouraged.



Day One

Session 1

Introduction and Overview of course

- Introduction of Course Participants
- Simulator Installation
- Overview of Course

Session 2

Simulator Familiarisation

- Simulator HMI
- File Format
- Simulator software components
- Simulator features and functions

Session 3

Simulator Topography

- Process Model
- Process Control
- Safety Layers

Session 4

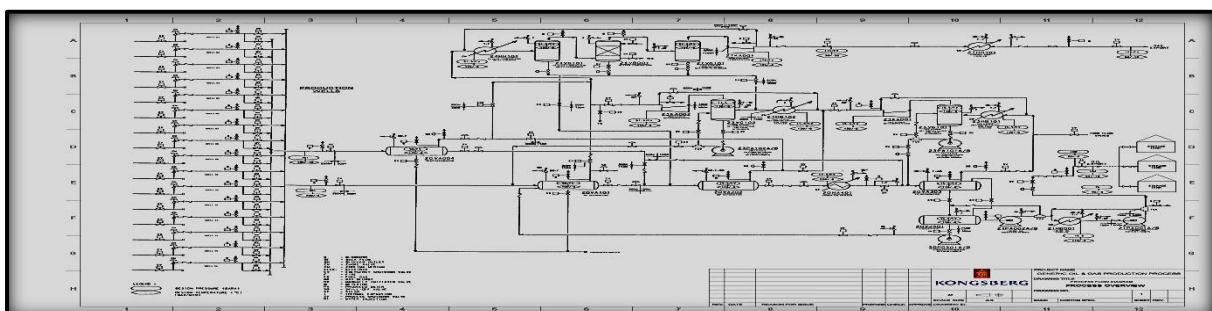
Introduction to Oil & Gas Production

- Typical Composition of Natural gas, Condensate & Crude Oil
- Typical Oil & Gas facilities
- Typical utilities of Oil & Gas facility
- Simulator model scope compares to Typical Oil & Gas Production facility

Session 5

Oil & Gas Facility Pre-Commissioning

- Typical Oil & Gas Production facility start-up Philosophy
- Reset Safety bars
- Line-up Flare System



Day Two

Session 1

Quick Revision

Sea Water & Cooling Water System

- Process, Control, and Safety Philosophy
- Line-up & Commissioning of Sea Water
- Line-up & Commissioning of Cooling Water System

Session 2

Pre-commission Production and Test Manifold

- Reset Safety bars
- Apply Start-up Override and Reset safety bar of Oil Separation Train
- Line-up Production and Test Manifold

Session 3

Pre-commission Oil Separation Train

- Process, Control, and Safety Philosophy
- Line-up HP, MP, LP and Electrostatic Dehydrator
- Line-up Oil Export System

Session 4

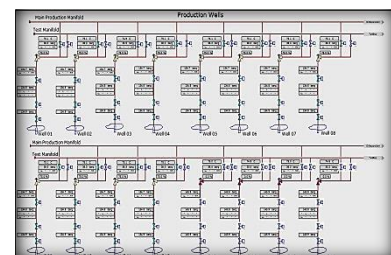
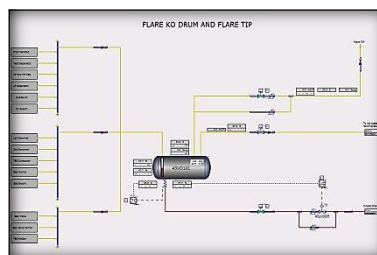
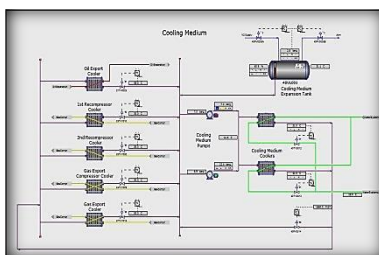
Pre-Commissioning Produced Water

- Process, Control, and Safety Philosophy
- Reset Safety bar of Produced Water
- Line-up of Produced Water

Session 5

Commission Production Wells & Test Separator

- Commissioning of Production Well to Test Separator
- Commissioning of Production wells to HP Separator



Day Three

Session 1

Quick Revision

Commissioning Of Oil Separation Train

- Commissioning Gas to Oil Separation Train
- Regeneration Gas Heater and Compressor
- Line-up & Commissioning of Mercury System

Session 2

Commission Produced Water System

- Concept of Hydrocyclone
- Commission Produced Water Degassing Drum
- Commission Water injection Pumps

Session 3

Pre-commission Gas Dehydration

- Gas Dehydration methods
- Reset Safety bars of Gas Compression
- Line-up Gas Dehydration System

Session 4

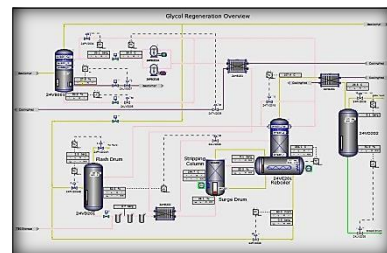
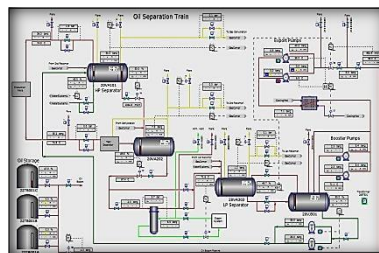
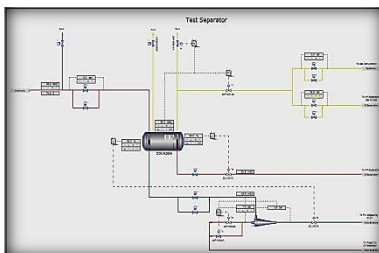
Pre-commissioning of Glycol Regeneration

- Line-up Glycol Regeneration System (Reboiler, Stripping Column, Flash Drum and Pumps)
- Fill and Established Cold Glycol circulation
- Start heating of Glycol
- Establish Hot Glycol circulation

Session 5

Commissioning of Glycol Regeneration

- Commission Glycol to Gas dehydration Column
- Ensure Dehydrated Gas meet the Moisture Specification
- Line-up Export Gas Compressor & Gas Export header



Day Four

Session 1

Quick Revision of Learning Commissioning of Export Gas Compressor

- Commission Compressor and Cooling system
- Anti-surge Control

Session 2

Pre-Commissioning of strip-off Gas

- Line-up LP & MP Compressor
- Commission LP & MP Compressor
- Commission LP & MP Gas Compression to Export Compression
- Commission Additional Production Wells

Session 3

Continue Commissioning of Gas Compression

- Stabilise Gas Compression

Session 4

Step-up the facility Production

- Bring Facility to Design load
- Stabilise the overall facility at Design Production

Session 5

Conclusion of Course

- Question & Answer
- Feed back
- Award of Certification

