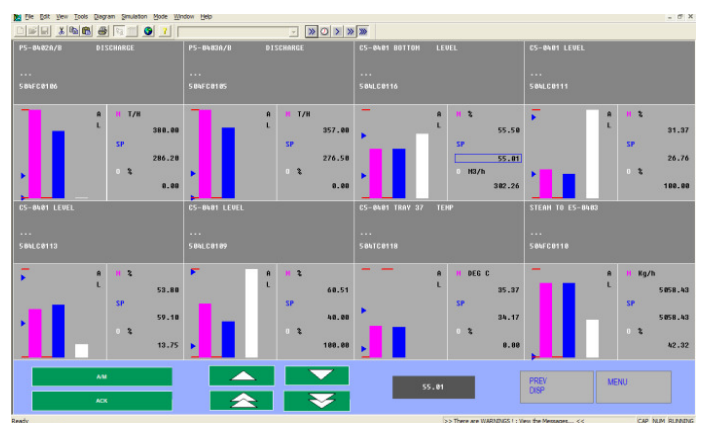
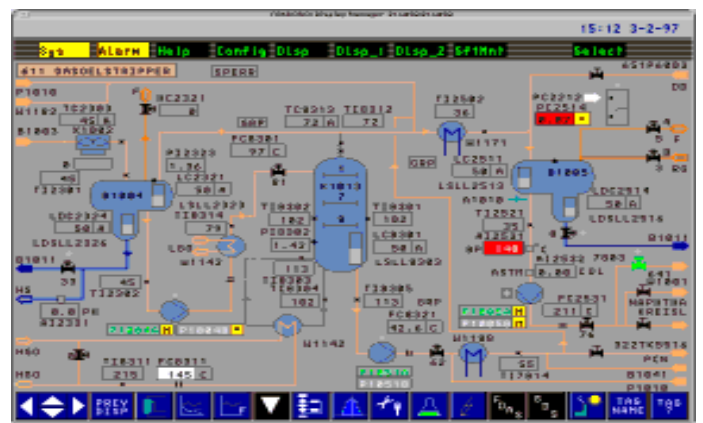
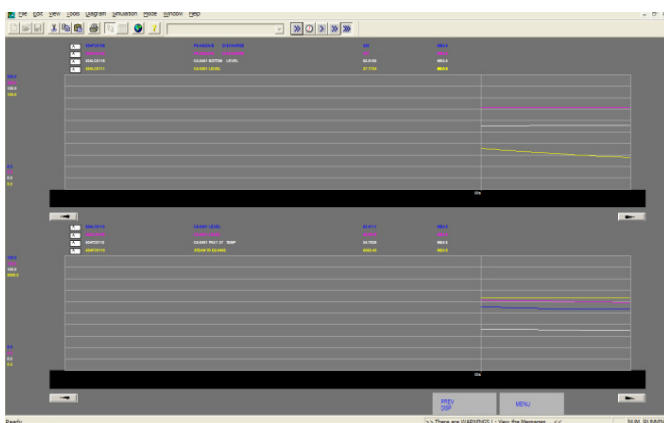
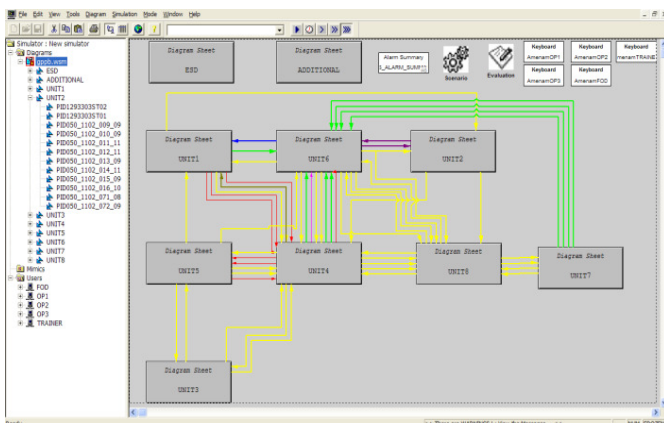


OTS Data Sheet

Operators Training Simulator (OTS) acts as repository of plant know-how.
OTS has the look and feel of the plant control room, and all major control / safety systems.

- **OTS is a stand alone system that allows panel operators to:**
 - Learn to manipulate process variables in an effective and safe manner.
 - Develop anticipation skills through practical knowledge of process and interlocks behaviour.
 - Familiarize with plant operating procedures and emergency shut-down procedures.
 - Learn to identify and react efficiently to deviations, breakdowns and major process upsets.
 - Develop diagnosis and tuning skills.
 - Build up confidence.
- **OTS is built from:**
 - P&ID, heat & material balances.
 - Equipment datasheets.
 - Process operating and control philosophy.
 - ESD philosophy and ESD logic diagrams.



Current Alarms				New Alarms	
0020111	18:58:45	0	Thr	AMME CIRCULATION PUMP	LLABS
0020105	18:58:45	0	Thr	AMME CIRCULATION PUMP	LLABS
0019109	18:58:45	0	Thr	AMME CIRCULATION PUMP	LLABS
0020105	18:58:45	0	Thr	AMME CIRCULATION PUMP	LLABS
0019109	18:58:45	0	Thr	AMME CIRCULATION PUMP	LLABS
00080111	15:59:58	0	BAR	14.28	LLABS
00080115	15:59:58	0.000358089	BAR	14.28	LLABS
0020112	12:28:54	17.6746	mmH2O	30	LLABS
0019109	12:19:06	0	%	REGEN OFF GAS K.O. DRUM LEVEL	LLABS
00080109	11:31:36	41.7883	mmH2O	60	LLABS
0020114	14:56:42	100.311	DEG C	VS-0202 TO VS-0209	LLABS
00080109	14:56:42	6.51704	BAR G	VS-0201 PRESSURE	LLABS
0020103	14:53:02	23.4341	DEG C	ES-0201 TO CS-0201A	LLABS
00080106	14:52:51	6.93149	BAR	4	LLABS
0020105	19:44:49	37.1674	DEG C	CS-0201B TOP OUTLET	LLABS
0019109	19:44:33	4.90573	MOL %	VS-0401 GAS OUTLET	LLABS
0020101	19:01:04	31.6411	DEG C	CS-0201A TOP OUTLET	LLABS
0019109	18:59:44	2.20483	BAR G	VS-0207 OUTLET	LLABS

Ack Alarm	Ack Compound	Ack
Alarm Detail	Top Priority	User
Match Active	Alarm State	PA



Operators Training Simulators (OTS)

- **Components:**
 - Pure components: from data bank.
 - User components: defined extensively by the properties.
 - Petroleum fractions: property constant estimation system.
 - Petroleum assay data analysis.
- **Phase equilibrium:**
 - Vapor-Liquid equilibrium.
 - Vapor-Liquid-Liquid equilibrium.
 - Vapor-Organic Liquid-Aqueous Liquid equilibrium.
- **Thermodynamic Models:**
 - Antoine.
 - Peng-Robinson.
 - Redlich-Kwong modified by Soave.
 - Chao-Seader; Hildebrand-Flory improvement of Chao-Seader.
 - Grayson-Streed; Hildebrand-Flory improvement of Grayson-Streed.
 - Special Package.
- **Phase Properties:**
 - Density.
 - Viscosity.
 - Thermal conductivity.
 - Surface tension.
 - Enthalpy and entropy.
- **Unit operations library:**
 - Vessels / Separation /Distillation.
 - Heat Exchange and Thermal Power Plant.
 - Vacuum related Models.
 - Rotating Machines.
 - Valves and Piping.
 - Analyzers.
- **Control blocks library:**
 - Control.
 - Logic.
 - Algebraic.
- **Instructor functionalities:**
 - Run time functionalities.
 - Field Operated Devices (FOD) mode.
 - Failures / Malfunctions mode.
 - Battery Limits mode.

