

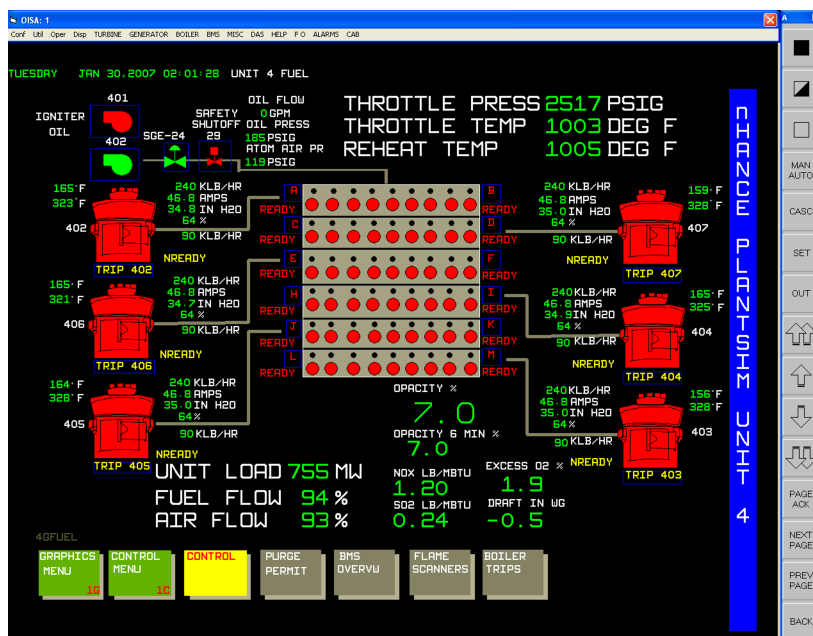
Introducing PlantSim by nHance Technologies

Affordable Simulation Technology Designed to Meet Your Training Needs



nHance Technologies is pleased to introduce a new capability in plant operator training. **PlantSim** is a suite of PC based Generic Operator Training Simulators that illustrate the performance characteristics of many of today's commercial power plants. These training simulators can be installed on your own PC or a network of PCs to simulate the control room environment. **All PlantSim simulators feature a complete Instructor Station** for simulator control such as start/stop, freeze, snapshot, backtrack, real-time variable trending, malfunctions, and trainee performance review.

The operator interface consists of emulated HMIs for a modern DCS with a variety of hard-panel controls.



PS4 Fuel Overview graphic with Control Menu & Toolbar

PlantSim offers the flexibility of training anytime, anywhere. This full-scope, high fidelity training simulator has been designed to match the process dynamics for a specific fossil plant design. There are many operational similarities among the vintage of plants for which a great deal of training value can be achieved without going to the expense of developing a plant-specific simulator.

Each PlantSim model is supplied with a full set of Initial Condition (IC) files, Human Machine Interface (HMI) graphics, and model specific startup and shutdown instructions.

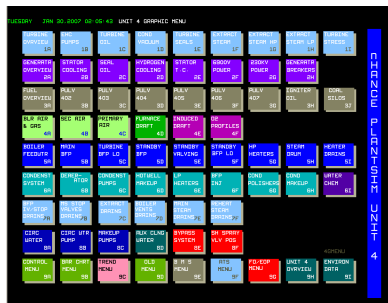
PlantSim Unit #4 Model Description

The PlantSim Unit #4 model includes first-principles based models of the following:

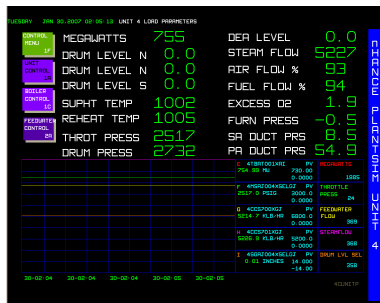
- Carolina type radiant once-through natural circulation boiler with 6 coal mills
- GE Steam turbine (1HP, 1 IP and 2 LP)
- 2 Forced Draft Fans, 4 Induced Draft Fans, 2 Primary Air Fans, 1 Gas Recirc Fan
- 3 Circ Water and 2 Condensate Pumps
- 1 Turbine Boiler Feed Pump, 1 Standby (electric) Boiler Feed Pump
- Electrical System and Generator
- Control System with Emulated DCS HMIs/Hard Panels and Alarms

PlantSim Human Machine Interface

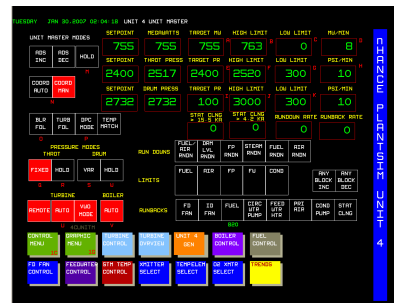
Each PlantSim model contains a fully functional replica of the control room Human Machine Interface graphics. Actual graphics with simulated data are displayed within this document. Operation of plant equipment is accomplished via point and click on the main graphic display, or by selecting components and clicking on the desired tool-bar action.



PS4 Graphic Menu Screen



PS4 Unit Overview Screen



PS4 Unit Control Screen

Customizing Options

To increase training value, the generic simulators can be customized to be more like your own plant. These options may include modifications to the operational parameters, process model scope (e.g. modify plant component numbers and characteristics), replace the emulated control graphics with a revised set of DCS HMIs and/or hard-panels. Many other alternatives are available and could be performed by either the end-user or nHance.

About nHance Technologies

nHance Technologies' simulation products were initially developed through the company's legacy as the Simulation Services Group of a major nuclear power plant vendor, whose efforts were later sponsored by the Electric Power Research Institute under the Modular Modeling System project. As a result of this legacy, the nHance technical staff achieved many "firsts":

- First power plant modular modeling system and dynamic modeling system for fossil plants (1984)
- First graphical modeler (1985); now in its third generation—the second generation using Microsoft Windows
- First dynamic simulation to use Windows NT (now 2000 and XP Pro)
- First Windows based training simulator
- First instructor station to use and exploit the features of Windows, such as cut and paste, directory structure, and OLE automation
- First fully automated DCS HMI translators to use computer industry standards (i.e. Windows, MS Visual Basic)

Since 1984, millions of dollars have been invested to further develop and continuously enhance our simulation products to provide industries worldwide with high-quality process simulation. nHance Technologies proudly celebrates this 20-year history and looks to the future by exploring opportunities to advance our products and services to ensure the continued success of our clients.