

K-Spice® Design

Design Verification System

Analyze and verify process, control and safety system design for optimization of your facility

K-Spice Design is a multipurpose dynamic simulator that allows the user to carry out process, control and safety analysis for the whole plant in realistic dynamic behavior. It is an excellent tool to enhance understanding of your process, identify bottlenecks and optimize your process facility while creating a safe and informative environment for expanding knowledge in an effective way.

K-Spice Design dynamic simulator consists of a large library of typical and unique process equipment and control logic features used to build a flow sheet replica of your process facility. The thermodynamics and models built in K-Spice Design are extremely robust and accurate over a wide-range of operating conditions and are able to run both in real time and faster than real time to facilitate quick dynamic studies.

Having a dynamic model such as K-Spice Design provides the possibility to study the effect of various disturbances on the operating conditions of a plant and apply improvements. It is also useful for implementing a control system for the plant and to perform optimization.

Features – process design verification

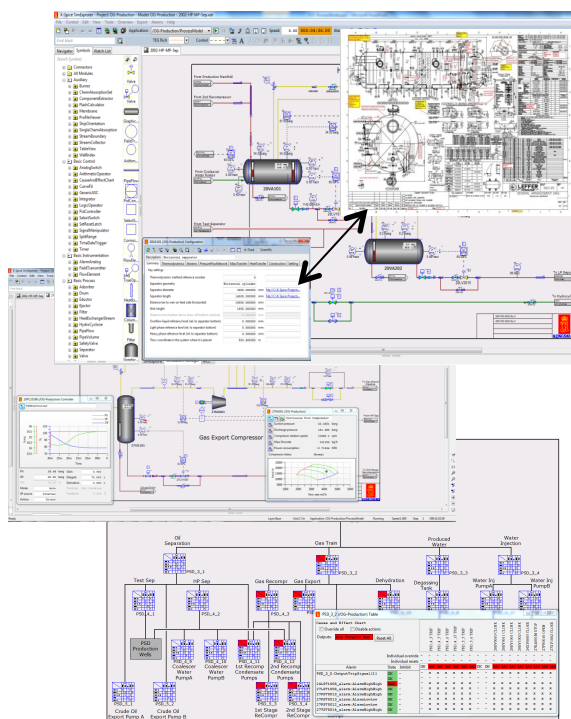
- Increase the understanding of process interactions and dynamics
- Development and verification of process design
- Ensure that design limits are not exceeded during transient operations
- Supports HAZOP studies, allowing teams to objectively assess the effect of each scenario
- Valve and actuator requirements

Features – control philosophy verification

- Development and verification of control strategies
- Increase the understanding of the interactions between process and control dynamics in the engineering team
- Load balancing
- Sensitivity to process disturbances
- Compressor studies – trips, start-up and shutdown sequences and antisurge control
- Development and verification of the operational procedures

Features – safety system analysis

- Test how the process will behave during a process shutdown
- Verify that the shutdown logic protects the process
- Test the ability to reset all active shutdowns and start up the process after complete process shutdown
- Detailed testing of all causes and effects including inter-trips and blowdown sequences
- Investigate integrity of safety systems



Benefits

- Early detection of design issues
- Increased multi-discipline knowledge in the engineering team
- Process familiarization
- Reuse of model for control system check-out, training and operational support

System platform

- K-Spice®
Dynamic process simulation tool developed by KONGSBERG
- LedaFlow®
Advanced transient multiphase flow simulator developed and owned by TOTAL, ConocoPhillips, SINTEF and KONGSBERG

Related data sheets

K-Spice® Solution Suite

