




Accelerating IPA Plant Start-Up Through Aspen HYSYS Dynamics™-Based OTS

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OVERVIEW

MOEVE Chemicals, with the aim of an efficient way to prepare for commissioning, start-up and operation for a new Isopropyl Alcohol (IPA) plant, counted on Inprocess to develop an Operator Training Simulator (OTS) using Aspen HYSYS Dynamics as the simulation platform.

- **Emulated OTS**
 - Test pre-defined operating procedures, setpoints, alarms.
- **Hybrid OTS**
 - DCS and SIS high fidelity replica, allowing testing real expected response under all operating conditions.

CHALLENGE

Commission, start-up and train operators to operate a new IPA plant in the most optimal way

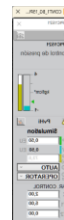
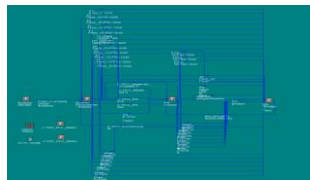
- **Modelling of proprietary technology**
 - Limited information accessibility
 - Customization of unit blocks required
- **Solution to be ready for a fixed training schedule**
- **Maturity of the DCS by the project execution time**
 - Emulated solution required as DCS and SIS databases were still under development by the time the training was supposed to be given to the operators.

Enhancement in operator competency, reduction of operational risks, improved safety performance, and optimized plant efficiency.

SOLUTION

OTS application including:

- **High-Fidelity dynamic simulation**
 - Aspen HYSYS Dynamics
 - Detailed design of real plant process units
 - Robust extrapolation from nominal operating conditions
- **Emulated OTS Solution**
 - SIS emulated within Aspen HYSYS Dynamics
- **Hybrid OTS Solution**
 - Inprocess ICONEX 300SM DCS Simulator
 - Translation of native files
 - Checkout of real DCS and SIS
 - Real Plant control, HMI and layout experience



BENEFITS

- **Smoother Start-Up**
 - Real DCS and SIS tested in detailed.
 - Identification of modifications requirement.
 - Specific Tuning Parameters Collection.
 - Step by step procedures documentation tested, modified and validated for both control room and field operators.
- **Reduced Operational Risks**
 - Safety Performance
- **Faster Decision-Making**
 - Operators self-confident on actions to take under abnormal situations
- **Ongoing use of the model**
 - Engineering Studies
 - Operational Support



PRODUCTS

Aspen HYSYS Dynamics™