Enero Solutions™ Process Simulators

Energy System Applications

In today's market, tight margins, limited budget and plant upsets adversely affect plant profitability. In order to address these issues, it is more important than ever to optimize performance control processes and to ensure that all plant operators fully understand the process dynamics, process controls and equipment startup procedures. **Enero Solutions** is a results-oriented company dedicated to the implementation of advanced engineering simulators that optimize cost efficiency and profitability.

Enero Simulators

First-Principle Dynamic Simulations emulate real process units and can thus predict their dynamic response under both under normal and transient conditions. Financial benefits of a simulation can be attributed to:

- **Reduced training costs** With greater understanding of the process dynamics and characteristics, plant operators will be proficient at responding to plant upsets and/or will gain confidence in startup procedures.
- **Improved long-term plant profitability and agility** through better process design – process can be simulated during the preliminary engineering phase of a project so that unnecessary bottleneck and constraints can be identified and the design of the process modified accordingly.
- **Reduce the commissioning time and eliminate downtime** during the implementation of new advanced control technologies. (New Advanced Control Technologies are fully tested using a simulator prior to its implementation on the real process)

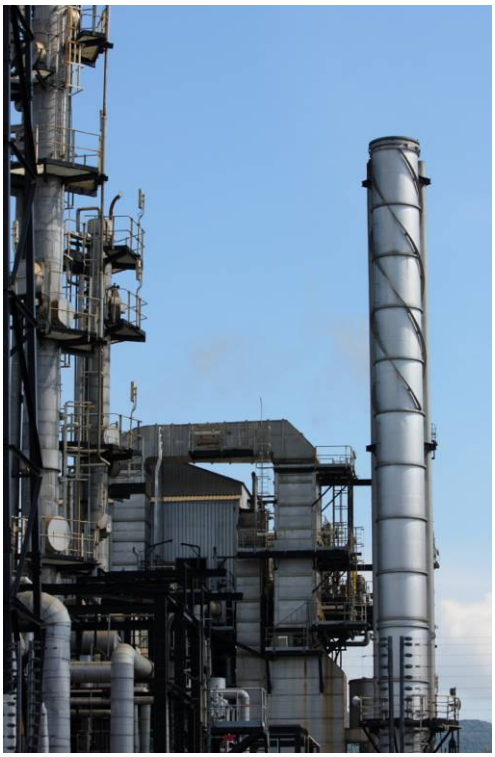
Enero Solutions offers a wide range of engineering expertise and advanced technologies that enable our customers to operate their process units cost effectively, efficiently and profitably

Enero Energy Simulators

In recent years, steam systems have been modified to improve their energy efficiency making these processes (steam systems) increasingly complex, integrated and interactive. While such design provide for optimal steady-state operation, they tend to limit the transient capability of a plant and have a negative impact on system startup.

Using the steam tables together with local mass and energy balances Enero will design a process simulation that accurately models the true process. Enero Solutions has modeled the dynamics of the following equipment and plant layout:

- Boilers (superheaters, drum level dynamics, thermal inertia)
- Heat Recovery Steam Generators (HRSG)
- Combustion Processes
- Valves and regulators
- Air Fans
- Furnace Draft
- Feedwater systems
- Steam accumulators
- Multi-header steam systems
- Pressure reducing valves
- Desuperheating stations
- Steam Turbine Bypass Systems
- Condensing Steam Turbines
- Non-Condensing Steam Turbines
- Multiple Extraction Steam Turbine
- Dynamic steam demand from users.



Enero Solutions™ - Process Performance Solutions

Enero Solutions is a leading provider of advanced engineering Process & Automation Control solutions that help increase operational control and improve the profitability of Manufacturing, Pulp & Paper and Utility companies through the implementation of advanced engineering technologies.

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