

Tie-back Simulation

Your Requirements:

- *Basic operator training on specific plant processes*
- *Gain familiarity on standard operator and engineer functions*
- *Test and verify control system strategies*

The Best Solution:

Ovation™ tie-back simulation generically models your plant using control system algorithms designed specifically for the power generation industry. Tie-back simulation models key processes with simplistic accuracy to allow for fundamental power plant operator training and familiarization with workstation functions and control system navigation.

A subset of the process inputs and outputs from the control system used in factory testing are connected to the Ovation tie-back logic. Scenario simulation models drive the associated I/O and the control system's outputs to become the simulation model inputs and thereby closing the control loops. These inputs are fed to virtual controllers to create the tie-back simulation environment for training and control logic testing.



Simulation detail can vary depending upon the type and complexity of the systems that are modeled. Tie-back simulation can be used to verify analog controls and graphics, provide feedback on equipment such as motors, and simulate digital point feedback including on/off or open/closed status. Scenario tie-back typically includes the modulating and binary control loops as part of the standard simulation process.

Benefits

- Presents cost-saving alternative to higher-fidelity simulation
- Provides real-time basic operator training prior to plant startup
- Includes existing DCS graphics and control logic
- Uses simulated software logic that interacts with your control strategies
- Employs models based on algorithms designed specifically for the power generation industry
- Verifies logic prior to downloading to the "live" control system

(Continued)

Ovation Simulation Solutions

Function	Tie-back	High-fidelity
Models		
Built from Ovation control system algorithms developed specifically for the power generation industry	X	X*
Built using high-fidelity, thermodynamic, first-principle mathematical models		X
Functionality		
Control logic testing and verification	X	X
Operator training and qualification	X (limited)	X
Procedure development and validation	X (limited)	X
Engineering test bed for normal and abnormal operations		X
Engineering analysis for "what-if" scenarios		X
Full Instructor functionality with trainee evaluation tools		X

* High-fidelity simulation projects implemented by Emerson will use Ovation control system algorithms. Models provided by a third-party will use that vendor's modeling tools.

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