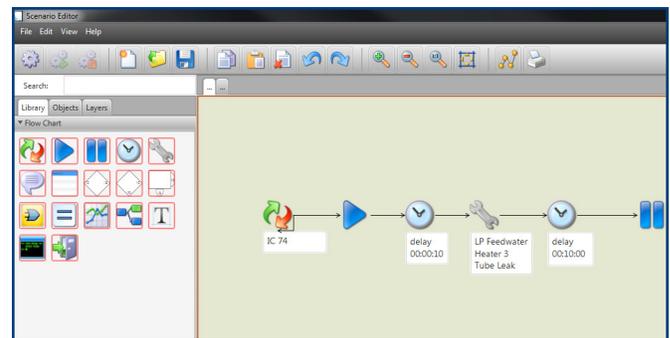# Simulator Implementation Efficiencies When Using Automated Testing

In support of our ISO 9001 and customer commitment, GSE continues to seek new ways to improve our simulator production processes. We have discovered that an increased use of automated testing on power plant simulator projects creates greater client value, additional efficiencies and lowers costs.

GSE's JADE Scenario Based Testing (SBT) loads a pre-defined set of plant parameters to record simulator performance. Throughout the course of scenario validation, plant parameters, alarms, and automatic actions are monitored for the expected response. At the completion of SBT, a report including an affirmation checklist, scenario procedures, various log files and parameter plots is generated.

SBT improves the consistency of testing by allowing a scenario to be developed once and used many times. The ability to run SBT overnight and compare results in the morning allows "day time" to be used more efficiently and can potentially shorten a project schedule.

The Scenario Editor GUI provides an easy way for the instructor/engineer to create an automatic procedure that incorporates malfunctions, remote functions, global components, and much more. The scenario is run and managed from the Scenario Manager GUI which can run multiple procedures and will generate a report at the conclusion of the procedure.

The use of SBT during the build cycle has numerous benefits.

- System Unit Testing proves that individual models are complete and reaching reasonable steady-state results

- Model Acceptance Testing proves the accuracy of the models prior to DCS integration

- Integration testing of the simulator models interfaced with DCS controls verifies model and DCS performance prior to plant commissioning

- Can be run for formal Factory Acceptance Testing (FAT) documentation

- Re-run start up and FAT SBT for faster local start of Ready for Training

GSE Systems, Inc.

About GSE Systems

GSE Systems, Inc. is a world leader in real-time high-fidelity simulation, providing a wide range of simulation, training and engineering solutions to the power and process industries. Its comprehensive and modular solutions help customers achieve performance excellence in design, training and operations. GSE's products and services are tailored to meet specific client requirements such as scope, budget and timeline. The Company has over four decades of experience, more than 1,100 installations, and hundreds of customers in over 50 countries spanning the globe.

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