The complicated operating conditions of IGCC plants make them a great candidate for using simulation to optimize plant equipment and control schemes.

SINOPEC’s IGCC plant integrates a wide variety of control systems including Emerson DeltaV DCS, GE Mark VI, TRICONEX and many other PLCs. These control systems contain thousands of interlock logical diagrams that were able to be validated and verified with the simulator prior to start-up, thereby avoiding costly downtime.

The unique set of challenges required expertise in both chemical process simulation and power simulation. GSE is one of the few companies in the world with expertise in both areas.

“By the development and testing of the simulation system, the plant has realized design optimization and the revision of start-up procedures, which plays a very important role in its successful start-up and stable running,” explains SNEC’s Project Manager, Han Zhenfei.

GSE’s SimSuite Pro™ simulation software and services were used to model the air separator units, gasifier reactors, CO shift, H2PSA, acid gas removal and other auxiliary systems.

IGCC Plant Optimizes Start-Up Using Simulation for V&V
GSE completes custom, full-scope, high-fidelity dynamic simulation solution for SINOPEC’s new IGCC (Integrated Gasification Combined Cycle) plant.

“This was a great and unique experience working with GSE on this important V&V project.

HAN ZHENFEI
Project Manager
SINOPEC Ningbo Engineering (SNEC)
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.

Information about GSE Systems is available at www.gses.com.

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