Given that CFBs have a certain degree of uniqueness and complexity in design and operation, it is also true that simulating them requires very effective modeling software.

The extensive plant systems and sophisticated equipment puts pressure on plant operators to run the unit safely to protect personnel and equipment, but also to efficiently maintain targeted performance and availability. Designing the process control strategies and implementing the DCS control and protection logics is also a challenge for engineers and commissioning teams.

GSE’s JADE real-time, dynamic simulation system has been effectively applied to CFB applications. In particular, JTopmeret’s thermodynamics and furnace model provide the most robust solution for:

- The combustion of a wide variety of fuels including varying quality coal and biomass with limestone feed
- Nodalizing, in “high definition”, tube volumes in all parts of the boiler
- Critical feedwater systems including startups and off normal pump situations
- Ash heat exchanger components
- Extensive main steam systems especially as seen in multi-boiler applications

New CFB plants will be supercritical and even ultra supercritical dual boiler 1000MW units. There is no better model performance available than that developed in JTopmeret—proven in many supercritical and ultra supercritical applications.
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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