One Step Closer To Clean Coal

GSE Systems

SYKESVILLE, Md.– Global energy services solutions provider GSE Systems, Inc. (NYSE MKT: GVP) is currently working on Phase II of a multi-phase project with Babcock & Wilcox Power Generation Group (B&W PGG) to supply an engineering simulator for the first-of-a-kind power plant design, FutureGen 2.0 project. The FutureGen 2.0 will be a near-zero emissions coal-fueled power plant using oxy-combustion technology.

FutureGen 2.0, funded by the American Revovery and Reinvestment Act overseen by the U.S. Department of Energy, will retrofit the decommissioned Meredosia coal-fueled power plant in Illinois with an innovative oxy-coal carbon capture technology developed by B&W PGG in collaboration with Air Liquide. The oxy-coal combustion process uses nearly pure oxygen and recycled flue gasses instead of air for combustion. The resulting flue gas is composed of concentrated CO2, which is purified, compressed and stored in a deep formation. By capturing and storing approximately 1.1 million tons of the greenhouse gas CO2 each year, the plant will reduce its CO2 emissions by at least 90 percent.[1]

The first phase engineering simulator models the plant’s boiler and Gas Quality Control System to validate specifications for equipment sizing and performance. Additionally, the models will be used to validate the process controls developed by B&W PGG and Air Liquide. By having the simulator during plant development, engineers and future operators will be able to test the performance of the models and controls.

In subsequent phases, the simulator will be used to verify and validate the new plant systems and controls prior to plant commissioning. An additional benefit of the project is that the resulting controls will be optimized prior to commissioning and tuned by plant operation. This will reduce the commissioning time and cost for the new plant.

GSE has completed many other first-of-a-kind simulation projects for new plant designs such as the B&W mPower Small Modular Reactor, Westinghouse AP1000, NuScale Power Small Modular Reactor, Chinese CPR1000, SINOPEC Integrated Gasification Combined Cycle, and a Korean-built ultra-supercritical control verification and validation simulator.

[1] http://www.futuregenalliance.org/futuregen-2-0-project/ [1]

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