

## TransAlta Operator Training Simulator

Sundance Power Station Training Center – Edmonton, Alberta

A full scope dynamic simulation within +/- 2% fidelity for a 450 megawatts (MW) pulverized coal and gas fired boiler with a maximum continuous rate (MCR) of 2800 klbs/hr (KPPH). The simulator provides dynamic simulation from start up of the plant cold conditions, auxiliary system, steam turbine rolling, enerator synchronization, fuel swapping, emission monitoring, load swing, and unit shutdown for training purposes.



The setup of the simulator includes THINK™ dynamic model and instructor station which are integrated seamlessly with Siemens T3000 DCS, Siemens S3000 emulator, and Invensys Wonderware HMI. The THINK™ dynamic model utilizes the law of thermodynamics to provide high fidelity simulation for the DCS controls. For field operated equipment, HMI graphics are designed using Invensys Wonderware. The THINK™ instructor station is the master of the simulator for the instructor to run and stop the simulation, speed up or slow down the simulation, save and load snapshots, save backtracks, and set malfunctions.



**Sundance Unit 6**  
Wabamun, Alberta