

Bailey DCS Migration Projects (EPC)

Eielson Air Force Base (EAFB)

Eielson Air Force Base is located in Fairbanks, Alaska. Eielson AFB is a strategic defense facility, mission critical and its' remoteness and sub arctic conditions add to the criticality of this project. The CH&PP has six 120,000 lb/hr stoker coal fired steam boilers generating steam at 400 psi/650 deg F. Steam turbine generators (one 10mw, two 5 mw and two 2.5 mw) provide the electrical needs of the base. Steam for the base heating system is supplied at 100 psi (STG Extraction).

TCSI was selected for the project due to our extensive Boiler Controls/Power Plant background. The logistics of the project requires TCSI to change the Boiler Controls and Balance of Plant (BOP) Controls while the plant continues normal operation. The Boiler Controls will be changed out in pairs, Boilers 5 and 6 being first commencing April 1, 2007.



TCSI will maintain the existing Bailey Plant Loop in operation as the existing HMI (OpsCon) will be utilized to control the Plant that remains on Bailey DCS Control during the migration.

Currently, EAFB has a Bailey DCS with its BOP I/O being scattered throughout all six boiler PCUs. TCSI plans to replace this systems with AB Control Logix PLCs and have each boiler pair be controlled by a redundant PLC pair. The BOP I/O will be centralized and controlled by a redundant pair of processors; this will add to the system reliability.

Rockwell has teamed up with TCSI on this project and is concentrating on developing PLC logic from Bailey CADEWS drawings that were modified by TCSI. In addition, Rockwell is also assembling the hardware onto sub panels that will be installed into the existitng Bailey PCU cabinets.

EAFB has chosen to use GE Proficy – Cimplicity as their new HMI system and it is TCSI's responsibilty to develop this new system entirely. TCSI is also integrating the Fuel Air control to allow for a more standard Boiler control philosophy, in addition to supplying two Rack Mounted Servers, three Duel Monitor Clients, six Panel PC Clients (for Local Boiler Panel Control), and an EWS for PLC and HMI work.