

J-W POWER COMPANY MOTOR CONTROL CENTERS

Manteca, CA

Services Provided

Electrical Engineering

BLOC Contact

Chase Frazier, Principal-in-Charge /
Project Manager

Owner

Pacific Gas and Electric

Design

Start: September 2016
End: December 2016

Construction

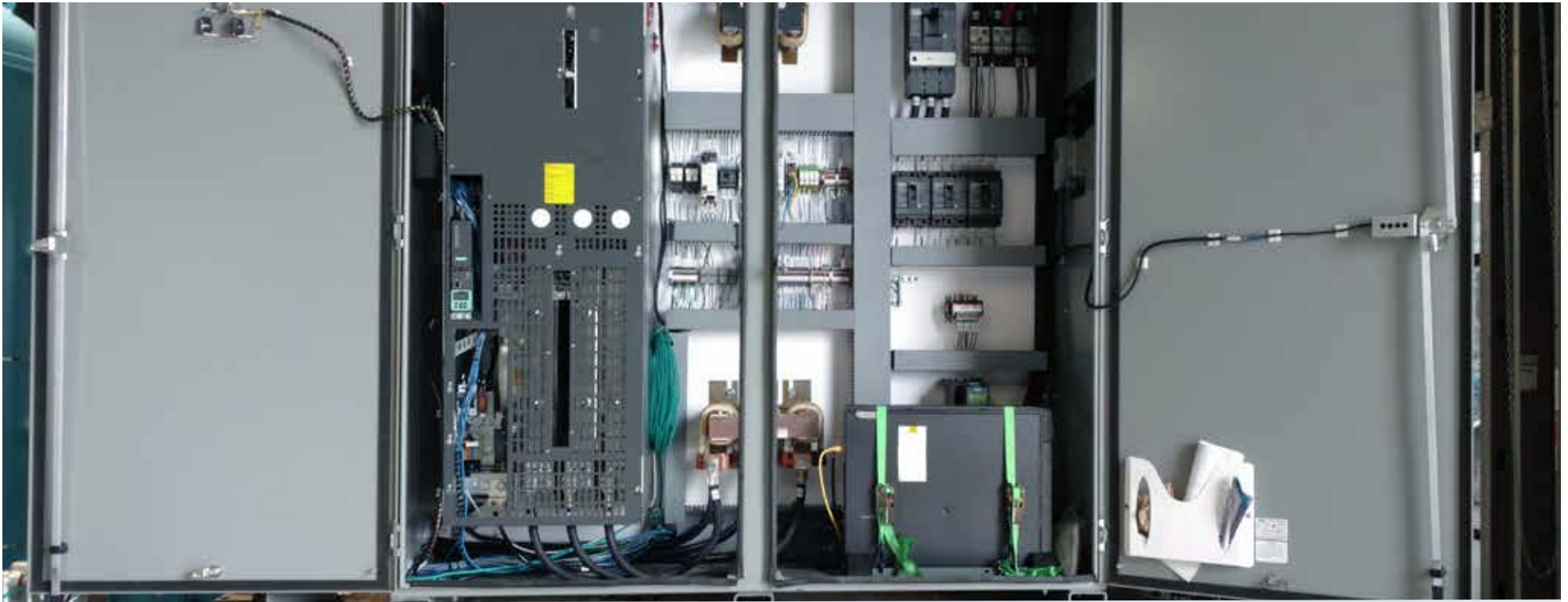
Start: January 2017
End: April 2017

Project Size

Two, Siemens 500 HP VFD / MCC panels



BLOC
DESIGN BUILD



With a reputation for providing innovative, custom, design-build panels, it's no wonder BLOC received an order to design two prototype motor control centers with a new criteria for a prominent, North American natural gas and electricity company.

Due to the success of the prototypes, BLOC was selected to design and build four, Siemens 500 horse power, variable frequency drive, motor control center panels (500 HP VFD/MCC). Similar to panels BLOC has built for this company in the past, these machines bring power in from generators, clean and stabilize that power, provide motor control and overcurrent protection, then deliver power to all the electrical components on the unit. Each unit required a 500 HP VFD to control the main compressor motor; a 20 HP VFD to control the compressor cooling fan; a 2 HP Smart Starter to control the pre-lube pump; and a contactor to control the oil immersion heater. Because all this equipment generates a lot of heat, we incorporated two, 20,000 BTU hazardous location air conditioners that will maintain an internal cabinet temperature of 85 degrees Fahrenheit even in direct sunlight. For this project, BLOC custom designed new custom enclosures with modifications that were revealed during prototype that are two times heavier than the ones

previously constructed. The panels alone were six-feet tall and eight-feet long assembled on the tongue of a, custom-built, 18-wheeler, low-deck trailer.

Before design began, multiple design meetings took place to go over every detail of the equipment that needed to be powered or controlled. The weight on the motor control centers was a major concern since the panels were 3,000-pounds each. With that in mind, the design team was careful to reduce the weight on the units however possible, while maintaining the necessary hazard rating.

Never created before, these completely original, custom-designed units are mobile, electronic, natural gas, cross compression stations. They allow evacuating sections of gas pipelines for maintenance, moving gas from one pipeline to another, or even pumping gas into custom tanker trucks. All BLOC panels are developed in strict compliance with the Underwriters Laboratories, Inc. (UL) standards. UL is a global independent safety science company that is the primary certification agency for electrical components used in industrial control panel equipment. It certifies, validates, tests, inspects, and audits products for ongoing compliance.