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ABOUT BROZELCO

BROZELCO was founded in 1993. We have well over 200 years of combined experience in engineering, construction, equipment application, systems integration, installation, and service. We have managed many electrical projects of varied types, and we have never yet, to our knowledge, had a customer who was left unhappy with the end result of our joint endeavor.

It may be of interest to you to know that Brozelco has done several jobs at AEDC in Tullahoma, TN for the U.S. Air Force including replacing vintage medium voltage switchgear on existing pads using existing bottom fed conduits. At first the job seemed like coordination impossibility, but after it was completed, the job was said to have been "the smoothest switchgear job that they had ever installed". We also did a protective relay coordination study to assign new relay settings to the new switchgear breakers and also the old breakers that remained as we integrated into the existing motor protection systems.

Also at AEDC, we designed and installed a new liquid rheostat control system to control the 2 smaller motors (33,000 hp each) speed and current as well as the low and medium voltage switchgear at the PWT Main Drive on the big wind tunnel. This system has a total combined horsepower of 233,000. At one time it was the most horsepower on a single shaft in the world. This job was very unusual because we had to install and start up the new system in between tests, as there could be no loss of run time on their test schedule. This new system also had to be installed in parallel with the existing 1950's vintage equipment so that it could be switched back and forth to insure proper functionality. And also, we had to remove the old system in between tests. The controls have operated flawlessly since we installed them almost a decade ago.

If you ride the incline up Lookout Mountain in Chattanooga, TN you will be enjoying another one of our accomplishments, as we also designed, built and installed a new control system for the incline railway system several years ago.

In the aggregate industry we are known for our turnkey electrical design, production and installation expertise to many rock quarries in the southeast. These are noteworthy because they employ SIEMENS MCC's with Simocode and Profibus technology for complete quarry automation and control. Our operator interface screen design application has been said to have the best functionality by all of our end users in comparison to what the competition has to offer. We also routinely fabricate our own E-houses and operator buildings to suit our customers' needs.

In the rubber and plastics industries we excel at motor, drive, melt pressure and temperature control for full extrusion line automation and control.

We have recently completed a \$ 4.5M contract as a subcontractor to Siemens ISD group doing a complete turnkey installation for utility power, power distribution, and \$.6M automation controls directly at the new StonePeak Ceramics plant just off of I-40 in Crossville, Tennessee. This plant has 1.2M square feet under roof with redundant primary switches and four substations. Brozelco installed all of the gear, turn-key. We have successfully completed complete nine section line control systems with intermingled various brands of PLC / drive system technology platforms to control a double wall tube forming mill for the automotive industry integrating and controlling equipment from a dozen different equipment OEM's.

We have recently secured an order from Alcoa Tennessee Operations for the Hot Mill Roll Table Drive revamp, including the engineering study; replacing existing drives and supplying a new control systems house, interfacing Siemens Sinamics AC Drives with regenerative active front ends and sine wave output filters to three brands of old roll table motors.

Also recently, Brozelco obtained integrator status for ABB robots, and we secured an order for four robot cells in two Japanese owned manufacturing plants in Tennessee and Texas. These complete cells featured ABB robots, custom designed end effectors with Parker Pneumatic Grippers and valves, Parker IPS extruded aluminum guarding for the safety fence, and integrated Siemens Energy and Automation safety controls.

These are just a few of our success stories with various projects and applications. Our larger project sizes are often close to \$5M dollars, our small ones under \$5K dollars. We do this work day in and day out, year after year at local industrial and government facilities. We would be happy to supply names and phone numbers for these and many other references upon request.

We look forward to working with you on your automation and / or integration project in the near future. BROZELCO would certainly be honored to serve you as our customer.

Dave Brozenick President Brozelco, Inc.