



## **Professional Electrical Apparatus Recyclers League (PEARL)**

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## **Reconditioned Electric Puts Biodiesel Plant Online**

February 18, 2010 – By the fall of 2007, Red River Biodiesel, Ltd. was ready to take advantage of the rush to renewable fuels. The biodiesel plant had installed animal fat liquefaction vats and associated equipment to turn poultry fat, soy and other natural oils from the surrounding New Boston, Texas farmlands into high-grade biodiesel fuel -- except for one problem: they didn't have any electrical juice to make the go juice.

### **Need It Now Electrical**

Red River Biodiesel, Ltd. was in an enviable position if they could get the plant online and avoid costly overruns. New U.S. Federal Mandate 13149, EPACKT, requires that at least 20% of the fuel used by federal fleets come from renewable sources, such as biodiesel. New Boston, TX is just a few hours from several military installations. Several states in the region also offer biodiesel credits for using the fuel in farm equipment, school buses, and commercial vehicles. Biodiesel is an ecological and economic alternative to regular petroleum that is biodegradable, non-toxic, and basically free of sulfur and aromatic pollutants found in traditional 'diesel' fuel.

Red River had been waiting for months on 26, F2100 Cutler-Hammer motor control centers (MCCs) until management became concerned that further delays on top of long lead times at the original equipment manufacturer (OEM) could delay the plant's opening. Red River engineer Oliver Rodz decided to look for a secondary electrical supplier. He called several electrical distributors and suppliers, including Southland Electrical Supply's (Burlington, NC) General Manager, Don West.

"The project was behind schedule and the electrical could not be delivered to accommodate their completion date," remembers Southland's West. "Given that Southland specializes in short lead time projects, we considered the rigid specifications and tight schedule workable. After several engineering discussions we provided a quote and a purchase order followed."

Red River's original electrical specifications called for a NEMA-1, 1600-amp, 480-volt, DSII-type main breaker with metering (IQ Data Plus 4130); and more than 100 MCCs, including 26 Cutler Hammer F2100 motor controls containing a variety of cubicle

configurations. The majority of the motors were full voltage, non-reversing, smaller horsepower MCC cubicles (buckets). Red River also required a dozen Variable Frequency Drives (VFDs), ranging from 1 to 30 horsepower and a 2 speed 2 winding 50 horsepower controller. The combination controls incorporated the HMCP motor circuit protector, Westinghouse A200 series motor starters, control power transformers, red and green pilot lights, HOA selector switches, and a DC relay for programmable logic controller (PLC) input. Several feeder buckets were also required, ranging from 60 to 400 amps.

### **Better Than New**

As a fully accredited member of the Professional Electrical Apparatus Recyclers League (PEARL), Southland Electrical Supply was able to deliver thoroughly tested and documented reconditioned electrical equipment to meet Red River's short delivery schedule while guaranteeing the equipment operates safely and effectively. "Every piece of equipment was reconditioned according to PEARL Standard 1510 for MCC buckets, Standard 1520 for all the enclosed starters, Standard 1530 for all combination starters, Standards 1211 and 1212 for all circuit breakers, and Standard 1420 for all control power transformers," explains Southland's West. "We strictly followed PEARL Standard 1330 with regard to the motor control centers. Everything was pre-inspected, tested, cleaned, reassembled and wired to Red River's engineered drawings. We interacted with their engineers several times to ensure accuracy of their drawings, and the final project was delivered to their specifications."

Southland Electrical tracked the job with daily photos (see photos) and job summary progress meetings with Red River officials, including management, salesmen, shop supervisors, and quality control and engineering. To meet Red River's tight schedule, Southland dedicated 42 men in 2 shifts working 20 hours per day through the 2007 Holiday Season.

"As one of the USA's largest stocking distributors of motor control gear, parts and accessories, we nearly had enough equipment to complete this order out of stock," explains Southland's West. "With the PEARL standards, we were able to quickly evaluate, test, recondition, and retest reconditioned MCCs and components, enabling us to deliver a finished project on time and without a single day's penalty, which would have cost us \$10,000 per day on the contract. From the customer's point of view, our equipment is even better than new because we test every single component. We don't batch test like the OEMs."

#### **About PEARL:**

Founded in 1997, the Professional Electrical Apparatus Recyclers League (**PEARL**) creates, collects, and disseminates information, policies, procedures, and standards to ensure the proper recycling and reuse of electrical power equipment. Its 70+ corporate members must meet strict technical, safety, and operational requirements.

**Captions:**

3243 – Assembling lug kit for main breaker section prior to installation of buckets.

3256 – Technician wiring pilot devices.

3265 – Verifying wire terminations from customer specifications.