

CORN, LLC / GOLD-EAGLE COOPERATIVE – ETHANOL PLANT

Project Information

Year: 2005
Client: Electric Wholesale Co.
Contact: Mike Dempsey (515-232-1513)
Site Location: Goldfield, Iowa

General Description

Corn, LLC / Gold Eagle Cooperative ethanol plant site near Goldfield, Iowa, utilizes steam tube dryers and coal to fire the plant, two unique features in the ethanol industry.

Central Iowa Renewable Energy LLC, a 50-mmgy, \$90 million project, is the first U.S. plant to use steam tube dryers to dry its distillers grains. The facility could also be the first U.S. coal-fired plant to be built in more than 20 years.

The plant will take in 20 million bushels of corn and produce 160,000 tons of distillers grains. With the steam tube drying, the plant's distillers grains should have a higher protein content because of the lower drying temperatures compared to other typical drying methods. Both ethanol and distillers grains can quickly be shipped out via a nearby major highway or the Union Pacific Railroad. Central Iowa Renewable Energy will have one of the largest railroad settings in the country at nearly 7,000 feet.

The plant produces ethanol 24/7 and is going all over the country with most traveling by rail.

Not just any ethanol plant, but the first dry grind plant in the United States to be powered with clean coal technology. Coal is burned in the plant's fluid bed furnace to produce all of the facilities steam needs. The only gas used is LP gas to light the furnace and bring it up to 900 degrees F.

Shallbetter Inc.

Shallbetter Inc. designed and constructed the 15kV, 1200A outdoor hybrid switchgear line-up along with the walk-in, sheltered aisle for Electric Wholesale Co.

The 15kV hybrid switchgear is directly connected to MidAmerican Energy utility incoming substations and provides distribution electrical power to the facility as well as future provisions for a capacitor bank and a generator set.

Sheltered-Aisle / Switchgear Features:

The walk-in aisle / switchgear have many features provided for the comfort of the operator and overall performance.

These features include:

- NEMA 3R construction w/11-gauge galvanneal steel.
- Heavy duty 6" channel base for added support.
- Base undercoating for added protection.
- Interior / exterior paint finish meets or exceeds ANSI-C57.12.28 paint specifications.
- 120/240V CPT & panel board for aisle power.
- MidAmerican Energy utility metering.
- ABB 15kV, 600A loadbreak switches.
- ABB 15kV, 1200A vacuum circuit breakers.
- Schweitzer protective relaying for the main & feeders.

