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HUCKABAY RIDGE – STEPHENVILLE, TX

DAIRY FARM IN TEXAS MAKES SYSTEM CHANGES TO PRODUCE APPROXIMATELY 650,000 MMBTU OF GAS PER YEAR, HELPING COLORADO AND CALIFORNIA'S ENERGY NEEDS

SYSTEM DESIGN

In January 2008, a centralized digester developed by Environmental Power Corporation reached full-capacity production levels of pipeline-quality natural gas. The large-scale facility receives manure from multiple farms in the region, digests the manure in controlled and monitored complete mix digesters, and purifies the resulting gas to pipeline quality. Manure solids are separated and composted on site.

Each day, farmers unload about 10 trucks of manure, paying only for transportation. The facility adds water to achieve a solids content of 8-10 percent before the manure enters one of eight 900,000 gallon digesters. Computer controls monitor the digester's chemistry and temperature (120°F to 150°F). Fats, oils, and grease collected from restaurants are added to enhance biogas production.

Huckabay Ridge is expected to produce approximately 650,000 MMBtu of gas per year—the energy equivalent of over 4.6 million gallons of heating oil. The Lower Colorado River Authority agreed to buy up to 2,000 MMBtu per day through September 2008. Environmental Power then has a 10-year contract to sell up to 8,000 MMBtu per day to PG&E in California.

Project Update: In 2010, the facility was purchased by EM Biogas, a subsidiary of Elemental Markets. The digesters operated throughout the ownership transition and now process about 12,500 tons of manure and 14,600,000 gallons of substrate annually.

PROJECT BENEFITS

- Helps farmers manage manure off site
- Reduces odor
- Generates solids for compost and liquids for fertilizer
- Reduces impacts to the Bosque River Watershed
- Creates marketable carbon offset credits



Photo: Environmental Power Corporation

"Not only have we validated our technology, we have developed many innovative best practices and have gained valuable operating experience. We are applying this enhanced operating knowledge to the other large-scale biogas projects we have under development"

—Rich Kessel

President and Chief Executive Officer of Environmental Power, quoted in an Environmental Power press release

- **Population Feeding Digester:** 10,000
- **Baseline System:** Storage Stack
- **Digester Type:** Complete Mix
- **Co-Digestion:** Grease and Other Restaurant Waste
- **System Designer:** Micrology (Environmental Power Corp.) (Original Developer/Owner); EM Biogas (Current Developer/Owner)
- **Biogas Generation:** 2,739,726 ft³/day
- **Biogas Use:** Pipeline Gas
- **Receiving Utility:** Lower Colorado River Authority (through Sept 2008); PG&E (Beginning Oct 2008); Alcor Energy is getting the thermal energy