

### **(13) Distributed Energy Resources – Expanding DER Applications in Target Markets**

This two-year project will develop and demonstrate a two-phase biofermentation system to produce methane from dairy manure and reuse resulting solids as a beneficial amendment to the soil while producing heat for internal use and electricity for sale. The process also involves a low water usage technology. Results will be documented and disseminated nationally.

Total project cost: \$749,431

Funding request: \$336,949

Project Lead: New Mexico Energy, Minerals, and Natural Resources Department

Project Participants: Texas State Energy Conservation Office; New Mexico State University;

Terra Verde; North American Development Bank; Burcham & Associates; New Mexico

Economic Development Department, Office of Science and Technology; Public Citizen; West

Texas A&M; Gonzalez Dairy, Inc.

#### Patents

#### Presentations/Publications

#### Progress in Past Quarter and Current Status

- Performed test runs using scale digesters to determine feasibility of using feed lot manure (whole manure)
- Developed a design checklist that incorporates assumptions and calculations used in this experimental design to demonstrate thought process for future development.
- Received and installed bioreactor. The bioreactor is not ready for operation.
- Completed final drawings for entire facility.
- Sent sample of manure for analysis to laboratory, awaiting test results.
- Issued RFPs for construction through NMSU's Office of Facility and Services (OFS). Formal bid request was issued to HB Construction. However, after two months of providing requested information on design to HB Construction, they withdrew decision to bid on project. This decision seriously impacts the schedule for successful start-up. We are still working with OFS to identify a reputable construction firm for the project. *See attached email from HB Construction.*
- Received notice from Tri-Fab Metals, Inc. (won the bid for construction of the four bio-digester containers) that due to lack of funds caused by several uncollectible accounts (hurricane related), the company is unable to continue work on the containers at the present time. However, Tri-Fab Metals plans to complete the job, but delivery is pushed back to the February-March timeframe at the earliest. *See attached faxed from Tri-Fab Metal, Inc.*
- Scheduled the quarterly Advisory Board Meeting for February 8.

#### Plans for Next Quarter

- Follow-up with National Automotive Center on status of generator set
- Reissue RFP for contractor for facility
- Start filling digester units
- Continue working with El Paso Electric on engineering study and interconnection issues
- Continue gathering data on biogas production and growing cultures in bioreactor
- Continue to affirm that all permitting requirements are being satisfied
- Finalize schedule for first set of experiments at the facility

- Design and construct a gas flame for facility