



Livestock Project Submittal Form

Instructions: Please complete all fields as thoroughly as possible. If the project in question is still in the planning/ development phase, all fields must be completed using best available data and estimates based on the proposed system design. This is an interactive Word form. Upon completion, please save this form as a PDF prior to uploading it to the Reserve software. This will lock your answers and protect the document from any further changes. All fields must be completed, even if the answer is also provided elsewhere; if a field is not applicable insert N/A in the space provided. Upon approval, this form will become public.

Reserve project ID (numerical, as it appears in the Reserve software): **CAR944**

Project crediting period (select only one):

First crediting period Second crediting period

Section 1: Project Contact Information

Project name (as it appears in the Reserve software): **VanDerHyde Dairy**

Account holder (as it appears in the Reserve software): **Camco International Group, Inc.**

Is the account holder authorized to sign the "Attestation of Title" form? Yes No

Biogas control system owner: **Vanderhyde Dairy**

Technical consultants: **Camco International Group, Inc.**

Other parties with a material interest:

Date of form completion: **11/23/11**

Form completed by (name, organization): **David Belcher, Camco International Group, Inc.**

Section 2: Project Site Information

1. Name of livestock operation: **Vanderhyde Dairy**
2. Project description (please provide one to two paragraphs): **VanDerHyde Dairy, located in Chatham, VA is replacing the current manure management system (uncovered anaerobic lagoons with no biogas capture or destruction) with a plug flow digester which will capture the biogas produced from the manure. Biogas will be destroyed in a flare and a gen-set unit that produces renewable electricity.**

3. Project site address (including county and country):**290 Vanderhyde Dairy Farm Road, Chatham, VA**
4. Owner of livestock operation (name and organization):**VanDerHyde Dairy, Inc.**
5. Description of the type of operation (e.g., dairy, swine, etc.):**Dairy**
6. If dairy,
 - a. Average number of total animals: **2000**
 - b. Type(s) of manure collection system (e.g., scrape, flush, etc.) and frequency of manure collection: **cable scrape continuously throughout the day to gravity pipe**
 - c. Description of pre-project (baseline) manure management system : **Scrape and gravity flow daily to three (3) uncovered anaerobic lagoons with 180-day storage capacity. Drain of liquid content and field application in Spring, complete drain of lagoons (with solids removal) and field application once per year (fall).**
 - d. Respective fraction of the manure from the milking herd, dry cows, and heifers that was sent to an anaerobic storage system pre-project: **100%, 100%, 100%**
7. If swine,
 - a. Type of swine operation (e.g., farrow-to-wean, farrow plus nursery, farrow-to-finish, etc.):
 - b. Average number of total animals:
 - c. Type(s) of manure collection systems (e.g., flush, pull-plug pit, etc.) and frequency of manure collection:
 - d. Description of pre-project (baseline) manure management system:
 - e. Respective fraction of the manure from the breeding, nursery, and/or grow/finish swine sent to an anaerobic storage system pre-project?

Section 3: Project Eligibility and Monitoring

8. Please select the project protocol under which this project is being submitted:
 - U.S. Livestock Project Protocol, Version **3.0**
 - Mexico Livestock Project Protocol, Version
9. Project start date (format MM/DD/YYYY):**08/01/2011**
10. First reporting period (MM/DD/YYYY):**08/01/2011 to 7/30/2012**

11. Has this project been submitted to another registry or program? If so, has the project been accepted (listed, approved, pre-approved, etc.) by the other registry or program? **No**

12. Have any vintage reduction tonnes from the project ever been registered with or claimed by another registry or program prior to registering with the Reserve?

Yes No

If the answer is yes, you must complete and return a "Project Transfer" form.

13. Have any GHG reductions from the project ever been sold directly to a third party (i.e. sold without being registered with or claimed by another registry or program) prior to submitting to the Reserve? (If yes, please describe.): **No**

14. Does/Did the baseline anaerobic waste handling system(s) comply with the specifications provided in the Natural Resources Conservation Service Conservation Practice Standard Waste Treatment Lagoon, No. 359, and/or Conservation Practice Standard, Waste Storage Facility, No. 313?

Yes No

Comments (if any):

15. Description and citation of local and state air and water quality regulations pertinent to the project: **Commonwealth of VA DEQ Air Permit (9VAC5 Chapter 80), Commonwealth of VA DEQ Water Permit (9 VAC 25-191 (VAG 01)), Dept of Conservation Resource Manure Nutrient Management Plan**

16. Provide a summary of the permits obtained to build and operate the biodigester waste handling system: **a variance in the A1 agriculture zoning was required from Pittsylvania County to build/operate the digester system**

17. Is this project being implemented and maintained as the result of any law, statute, regulation, court order, or other preexisting legally binding mandate?

Yes No

If yes, please explain.

18. Has a detailed monitoring plan been developed for this project? If not, what date will a monitoring plan be in place? **1/1/12**

Section 4: Digester Information

19. Type of digester (e.g., mixed, plug-flow, attached film, or covered lagoon): **Plug Flow**

20. Name of system designer, address, and other contact information : **GHD Inc. P.O. Box 69, Chilton, WI 53014 Phone: 920-840-9797**

21. Digester design assumptions:

- a. Number and type of animals: **2000 holsteins**
- b. Pretreatment before digestion (e.g., none, gravity settling, stationary screen, screw press, etc.): **None**
- c. Manure volume, ft³/day (m³/day): **9400 ft³/day**
- d. Wastewater volume, ft³/day (m³/day) (e.g., none, milking center wastewater, confinement facility wash-down, etc.): **4100 ft³/day**
- e. Other waste volume(s), ft³/day (m³/day) (e.g., none, food processing wastes, etc.): **none**
- f. Treatment of digester effluent (e.g., none, solids separation by screening, etc. with details including use or method of disposal): **Solids separation by screw press. Separated solids are used for bedding or are land applied; separated liquids are stored in lagoon before being land applied**
- g. Method of digester effluent storage (e.g., none, earthen pond, etc.): **lined lagoons**

22. Fraction of manure being sent to the digester for each animal type **100%**

23. Physical description

- a. General description including types of construction materials (e.g., partially below grade, concrete channel plug-flow with flexible cover, etc.): **Digester is a sealed concrete channel plug flow vessel that is partially below grade with concrete cover.**
- b. Dimensions (length and width or diameter and height or depth): **200' x 70' x 16'**
- c. Design hydraulic retention time: **21 days**
- d. Design operating temperature: **102oF**
- e. Does the biodigester waste handling system comply with the applicable Natural Resources Conservation Service Conservation Practice Standard (No. 365: Anaerobic Digester—Ambient Temperature or No. 366: Anaerobic Digester—Controlled Temperature):

Yes No

Comments (if any):

24. Provide a description of the biogas destruction system, including number and type of destruction devices, as well as the metering and data collection systems (one to two paragraphs): **One 450kw generator set equipped with a thermal mass flowmeter and one flare equipped with a thermal mass meter and thermocouples. A datalogger records and stores biogas flow data, flare temperature and engine output.**

25. Additional information:

End of form