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## BLUE SPRUCE FARM, INC. / AUDET'S COW POWER – BRIDPORT, VT

### DAIRY FARM IN VERMONT – LOCAL ELECTRICITY GENERATION

#### SYSTEM DESIGN

Blue Spruce Farm was the first producer to join the Cow Power program run by Green Mountain Power (GMP) (formerly Central Vermont Public Service). The program is designed to help dairy farmers maximize their revenue potential by selling electricity to GMP customers who voluntarily pay a 4 cents per kilowatt hour premium—which is added to the wholesale price that GMP pays the farm for electricity generated by the digester. Total Cow Power enrollment will be approximately 1.2 million kilowatt-hours annually.

Manure from the farm is pumped into a sealed, underground concrete tank where it is retained for approximately 21 days. Biogas from the digester fuels the engine-generator set to produce electricity that is sold to GMP under a sell-all contract. Blue Spruce Farm began operations in 2005 with one generator set and later added a second generator set in 2011 to more fully utilize the biogas generated.

#### PROJECT BENEFITS

- Odor reduction
- Projected net revenue from electrical generation
- Salvage solids for bedding and seen improved health in the herds
- Profits from sale of excess solids

Solid manure is separated from digester effluent and transferred on a conveyor belt to a garage where it is stored for use as bedding, composting, or sale.

One Cow Power customer, Green Mountain College, has committed to designate 50 percent of its main campus electric usage as Cow Power. College officials liked the idea that Cow Power is a local program where students and employees can actually see the farms where the power is being generated and learn about the process.



*"This is a great step for us toward a sustainably-powered campus. We are very happy to be supporting not just renewable energy, but also the regional economy and the family farms that are so important to the Vermont way of life. It is a good fit with our mission. We want our students learning how to support sustainable communities right here in Vermont and this helps us lead by example."*

—Bill Throop  
Provost, Green Mountain College

- **Population Feeding Digester:** 2,100
- **Baseline System:** Storage Tank or Pond or Pit
- **Digester Type:** : Two-Stage Mixed Plug Flow™
- **Co-Digestion:** Whey (Two Loads per Week)
- **System Designer:** DVO, Inc.
- **Biogas Use:** Cogeneration
- **Generating Capacity:** 680 kW
- **Receiving Utility:** Green Mountain Power (GMP) (formerly Central Vermont Public Service (CVPS))