Saint John’s Solar Farm

Best Power Int’l, LLC

Renewable Development Fund Project: EP3-3

5/11/10
Project Objectives

- Familiarize Minnesotans with solar PV and educated the public on Minnesota’s excellent solar resource.

- Provide a full-scale demonstration of utility solar power in Minnesota.

- Create a foundation of project management experience and knowledge regarding installations of this size.

- Generate renewable energy during peak periods and serve as a test case to analyze the effects of solar energy generation on load management.
Government Approvals

- **Landuse Approvals/Permits:**
  - Zoning Code text change (to allow solar): Stearns County
  - Rezoning to District that allowed solar: Stearns County
  - Conditional Use Permit: Avon Township
  - Site Permit: Stearns County
  - NPDES (Stormwater): State of Minnesota
  - State Building Permit (Electrical): State of Minnesota
  - Decommission Plan: Avon Township

- **Legal Agreements:**
  - Interconnection Agreement: Xcel Energy
  - Land & Solar Lease: Saint John’s Abbey
  - Construction Agreements: Mortenson, etc.
  - Vendor Supply Agreements: Modules, Tracker, etc.
Site Selection
Installation – Foundation

- **Driven Pole Foundation**
  - No concrete
  - Cost reduction
  - Minimal Site Disturbance
Installation – Wire & Trench
Installation – Tracker Frame & Motor

- Two 1.5 HP motors
Installation - Modules

- 1820 Modules
- 4 Containers
Installation – Commissioning

- Calibrate Systems
- Baseline System Performance
- Anti-Island Verification
- Meter Installation
Project Timeline (2009)

1. Sign Agreement w/ Host  
   **May**
2. Design  
   **June**
3. Zoning/Permitting  
   **June-August**
4. Equipment Procurement  
   **Aug-Sept**
5. Site Work  
   **September**
6. Foundations  
   **Sept-Oct**
7. Tracker Assembly  
   **October**
8. Module Installation  
   **November**
9. Commissioning  
   **December**

*Best Power Int’l, LLC*
Project Objectives – Results

• **Familiarize Minnesotans with solar PV and educated the public on Minnesota’s excellent solar resource:**
  - Site Tours (Over 500 visitors to date)
  - Media Coverage (Print & Television Coverage)
  - Award (MRES Commercial Project of the Year)
  - Educational Seminars
  - Live Project Website

• **Provide a full-scale demonstration of utility solar power in Minnesota:**
  - Industry Groups
  - Project Investors & Developers
  - Elected Officials, Government Staff and Utility Representatives
Create a foundation of project management experience and knowledge regarding installations of this size.

- Contractors, Electricians, Metal Works etc.
- Engineers, (Electrical, Structural and Civil)
- Program Managers & Integrators

Generate renewable energy during peak periods and serve as a test case to analyze the effects of solar energy generation on load management.

- Data Acquisition System (Actively Monitors System Performance)
- Ion – Internet Connected Utility Meter
- 195MWh of Renewable Energy Generated to Date
- Exceeding Energy Production Estimates