Jarecki Center, Aquinas College

Quick System Information

Installed Capacity:	12 kW, 9 arrays x 18 modules
PV Type:	UNI-SOLAR®, amorphous silicon
Manufacturer:	United Solar Ovonic
Application:	Building Integrated (BIPV)
Date Installed:	August 1999

The Jarecki Center for Advanced Learning at Aquinas College employs a unique 12 kW capacity photovoltaic array. The UNI-SOLAR® photovoltaic system, manufactured by United Solar Ovonic, was designed to seamlessly integrate into the building's architecture by complementing a durable metal roofing substrate, as shown in the photograph above. Annually, the building-integrated photovoltaic (BIPV) system produces approximately 14,400 kWh per year and is estimated to provide approximately 4% of the total annual electrical consumption of the building. This output avoids nearly 12 tons of carbon dioxide, 122 lbs. of sulfur dioxide, and 63 lbs. of nitrogen oxide if the power were to be produced by the combustion of fossil fuels.

Initial phases of construction for the Jarecki-Lacks-Hauenstein Library complex, designed by Progressive AE, began in 1998. The full system was operational in August of 1999. Through Mr. Peter Wege's initiative and support, the integrated system signaled the first commercial installation in West Michigan. Noteworthy features of the complex include the building's roof. The roof is pitched at a 42º angle (the approximate latitude of our Grand Rapids, Mi site) matching the average angle of the sun throughout the year. This design feature maximizes solar insolation and increases the system's ability to convert sunlight into electrical power. Output for the array is estimated at 10.4 kW based upon projected PV system operational data for this geographical location. Typical observed outputs range near 6-8.5 kW during summer months. The system itself is comprised of 9 individual arrays. Each array is composed of 18 individual modules. In total, 162 modules each generate 3.64 amps at 16.5 volts DC power. All of the PV-generated power is consumed within the building itself, offsetting the utility company's supplied energy.

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