

Legislative Energy Commission Facilities Tour Invites

Sherburne County (Sherco) Generating Station (Xcel Energy)

Located in Becker Minnesota, Sherco is the largest coal fired power plant in Minnesota with production capacity of 2,400 Megawatts. The three unit Sherco facility uses low-sulfur Western coal from mines in Montana and Wyoming. The plant burns 30,000 tons of coal every day (three trainloads) and more than nine million tons a year. A rotary car dumper unloads one rail car every three minutes and an entire train in just over six hours.

Sherco's Units 1 and 2 were built in the 1970's on a 4,500-acre site to accommodate future expansion. A Third unit was built in the 1980's at a cost of \$1 billion. The third unit is 41% owned and by Southern Minnesota Municipal Power Agency.

Sherco is equipped with modern and efficient air quality control systems. Unit 3's dry scrubber system is the world's largest air quality system for a single unit. Units 1 and 2 use wet scrubbers that spray alkaline to capture sulfur dioxide and ash. The plant is also equipped with new wet electrostatic precipitator technology on the two older units to reduce particulate emissions.

Allen S. King Generating Station (Excel Energy)

Located on the banks of the St. Croix River in Oak Park Heights Minnesota, the King plant is a single-unit coal fired plant with a cyclone boiler and a production capability of 588 MW. The plant burns 300 tons of Wyoming coal per hour and generates 4 million tons of steam flow for neighboring Anderson Windows winter heating season.

The King plant has a history of reducing emissions as technology has improved and was completely rehabilitated from 2004-2007 as part of Xcel's Metro Emissions Reduction Project. Upgrades included replacing the steam turbine, steam generator repairs, coal handling upgrades, flue gas scrubbers to capture sulfur dioxide, selective catalytic reduction for nitrogen oxide, and fabric filters for control of particulate matter.

Black Dog Generation Station (Excel Energy)

Located in Burnsville along the banks of the Minnesota River, the Black Dog plant is a coal and gas fired generation station. This five unit facility has the capacity to produce 538 MW. The first two units were built in the 1950's and were recently replaced with a natural gas combined-cycle unit (5), which includes a natural gas fired turbine generator combined with a heat recovery steam generator.

In 2010, Black Dog was shut down due to an explosion at the unit 3 burner. Xcel currently has a proposal pending with the PUC to retire the two remaining coal-fired units (3 and 4), and convert them to natural gas combined cycle units by 2016.

Prairie Rose Wind Farm - This is not yet operating - no wind assets to observe

The Prairie Rose Wind Farm is located in northern Rock County and southern Pipestone County, between the cities of Jasper and Hardwick. Starting in 2011, the Prairie Rose Wind Farm will produce 101 megawatts of clean, renewable energy each year, enough to repower 19,000 American homes and energize the local economy in the process. The Prairie Rose Wind Farm is a development of Geronimo Wind Energy, LLC., an experienced, full-service wind energy development company in Minnesota.

Operational Capacity (Phase 1): 101 megawatts

Annual Power Production: Approximately 19,000 homes

Carbon Dioxide Displaced: Roughly 171,000 tons

Turbines: Up to 67

Participating Land: More than 35,000 acres

Project Investment: \$200 million

Jobs: 8 to 10 full time workers needed during the project's operation; over 90 short term construction jobs created during development; plus the countless workers needed to manufacture and supply the wind turbines.

Marshall Wind Farm - This is an operating C-BED wind farm.

The Marshall Wind Farm is the first utility-scale farm developed in Lyon County, MN, and is certified as a Minnesota Community-based Energy Development Project (C-BED). The project's nine Suzlon S88 wind turbines can generate 18.7 MW of clean renewable energy, and contribute thousands of dollars to the state and local tax bases. The power generated by the Marshall Wind Farm will be able to power approximately 6,500 homes each year. It has been operational since May of 2009.

Operational Capacity: 18.7 MW

Location: Sodus Township, Lyon County, MN.

Project Developer: Geronimo Wind Energy (Edina, MN)

Financer/Owner: John Deere Renewables (Johnston, IA)

Construction: John Deere Renewables and its subcontractors— Truck Crane (Minneapolis, MN); RMT (Madison, WI); Electric Construction (Sioux Falls, SD); and Rogge Construction (Marshall, MN).

Odin Wind Farm - This is an operating C-BED wind farm

The Odin Wind Farm is located in Watonwan and Cottonwood Counties in southwestern Minnesota. The project is certified as a Community Based Energy Development (CBED) project. The ten turbines at the site will generate 20 megawatts (MW) of clean, renewable energy for the member utilities of Missouri River Energy Services (MRES) and their customers. It also will contribute thousands of dollars to the state and local tax bases. The energy produced from the

Odin Wind Farm is able to power roughly 7,000 homes. The Odin Wind Farm has been operational since June of 2008.

Operational Capacity: 20 MW

Location: Watonwan and Cottonwood Counties, MN.

Project Developer/Owner: Geronimo Wind Energy (Edina, MN)

Financer/Owner: Edison Mission Energy (Irving, CA)

Construction: The facility was constructed by Edison Mission Energy and its subcontractors—Carstensen Contracting (Pipestone, MN); EMS (Gary, SD); Muth Electric (Mitchell, SD) and Truck Crane (Minneapolis, MN).

Lower Saint Anthony Falls Hydroelectric Facility

The 10 megawatt Lower Saint Anthony Falls Hydroelectric Facility is located in Minneapolis, Hennepin County, on the banks of the Mississippi River at the U.S. Army Corp of Engineers' Lower Saint Anthony Falls Lock and Dam. Civil work and equipment installation was completed in 2010 and the facility is scheduled to become fully operational mid 2011.

Operational Capacity: 10MN

Location: Minneapolis, MN

Project Developer/Owner: SAF Hydroelectric LLC, Brookfield Renewable Power and Nelson Energy

Twin Cities Hydroelectric (aka Ford Hydro)

Located on the Mississippi River on Lock and Dam #1 in St. Paul, this run-of-river facility has four 5,800 horsepower Francis turbines and a total installed capacity of 18 megawatts (MW) - enough to power 15,600 households. FERC issued a license to the facility in 1923. It was purchased in 2008 by Brookfield Renewable Power.

Operational Capacity: 18MN

Location: St. Paul, MN

Project Developer/Owner: Brookfield Renewable Power