

Lanesboro:

*Coming Full Circle in Service
to the Community*



The town of Lanesboro, Minnesota, (population 858) was founded in 1868 by the Lanesboro Company of New York City, which envisioned building a resort in the sharp bluffs of southeastern Minnesota on the scenic Root River. The company built Lanesboro Power Dam above the town site, creating a boating and fishing lake, and erected a fine hotel, the Phoenix.

The tourists did not come. What showed up instead were three large flour mills, powered by water wheels turned by the current in a canal branching away from the dam. Those mills kept the town alive for the next 20 years until the company sold all of its holdings and moved out. A new era began—one of agriculture, business, and commerce; an era that required electric power.

In the early 1890s, a La Crosse, Wisconsin, company using the old flour mill restructured a 1,000-foot-long canal from the lake down to the lower Root River, and built the Lanesboro Electric Power Plant on the canal. Beginning in 1895, two units generated 240 kW each for a town that had changed a lot in 27 years.

Two of the three flour mills had been destroyed by fire, leaving little commercial demand for water power. At first, the Lanesboro power plant's electricity powered the town's street lights. Electric lights spread to stores, and by 1900 spread to residences. A flax mill operated for a few years.

But there was a problem: the power plant was administered from the developer's offices in La Crosse, Wisconsin, and no one in Lanesboro appreciated an absentee owner, particularly when the plant broke down. In 1903, the citizens of the village of Lanesboro in a special election approved the issuance of \$6,000 in municipal bonds: \$2,500 to buy the plant and water rights and \$3,500 to make repairs and improvements. The town remains the owner of the plant today.

In 1904, the first canning plant opened, powered by electricity from the Lanesboro facility. The plant processed peas, corn, string beans, and pumpkin, all from area farms. The produce was shipped throughout the U.S. by railroad. Because of poor management and changes in farming operations, the plant

closed about 1930.

Donald Ward, 75, was born in Lanesboro and retired there after a career with the U.S. Army Corps of Engineers. Beginning with his retirement in 1979, Ward and his wife ran an antique store downtown, and Ward became unofficial historian for the city and surrounding area.

"What happened in the early years was that small industry just pushed the resort and tourist industry aside," Ward said.

The Lanesboro hydro plant and two diesel generators added in the 1920s remained sufficient for the city's power needs for more than a decade. But, as Ward observes, street and residential lights were followed by toasters, refrigerators, and stoves. "The demand got bigger and bigger and it got to the place where the power plant couldn't handle it." In 1925, a second hydro unit, featuring a 180-horsepower Francis turbine with an 18-inch runner, was added to the plant.

But power demand continued. Because the hydro plant was at its maximum output, all new power demands in the town were met by the local Rural Electrification Administration (REA) outlet, Tri-County Electric Co-op in Rushford, Minnesota. During the 1940s and 1950s, the town's power demand grew rapidly, and all of it was met by new purchases from Tri-County.

In 1967, operational problems forced Unit 2 at the hydro plant to be taken out of service. A decade later, the reservoir behind Lanesboro Power Dam was drawn down for TKDA, Inc., of St. Paul, Minnesota, to make structural repairs. With Unit 1 off line anyway, the city decided to rehabilitate the unit, which was experiencing oil leakage from the bearing lubrication system.

By the early 1990s, Lanesboro hydro was adding only a few hundred megawatt-hours each year to the town's grid.

"It (Lanesboro hydro) is primarily used as a peaking plant, usually during the winter," said Bruce Meistad, general manager of Tri-County. "When we need it, we'll send them a signal at their powerhouse and they'll operate for three or four hours."

Jim Peterson, Lanesboro hydro's operator, said the plant generates as often as it can, but the Minnesota Department of Natural Resources limits the volume of water it can take from the Root River. In 1994, for example, the plant was able to operate about 125 days, generating a total of 240



This photograph (circa 1920) shows construction under way on the outlet flume at the Lanesboro, Minnesota, hydro plant. A second turbine-generator added at this time doubled capacity to 480 kW to meet rapidly increasing electrical demand.



The Power of Lanesboro

The semi-circular Lanesboro Power Dam is 190 feet long and 22 feet high. The structure is built of massive rocks and has a thick concrete apron protecting the bottom and a 2-foot concrete covering protecting the top.

megawatt-hours of electricity.

The fact that the power plant now plays a back-up role does not mean it is ignored, and there is irony in what is now happening. Lanesboro in the last decade has become a booming tourist town—125 years later than ex-

pected. Ward said four major celebrations, one per season, each pull 5,000 people into town for a weekend. It is typical for 1,000 people to crowd the downtown shops and restaurants on regular weekends.

And a century after its first role as an important contributor in the town's economic growth, the Lanesboro Electric Power Plant now helps attract the tourists. The plant is on the National Register of Historic Places and, more importantly, a part of the Lanesboro Historical District, an area of restored shops, office buildings, and residences.

While still doing its basic job of generating power, the plant also evokes for tourists and residents alike a memory of Lanesboro in its earliest days. As the Lanesboro Village Council stated in 1917 in *Weekly*, "Developing our water power, which is our big asset, to its full capacity will be the one big factor in old Lanesboro's welfare and its future development." How right they were!



Though the century-old Lanesboro, Minnesota, hydro plant now produces only a small fraction of the town's electrical needs, it is a proud reminder of the enormous role early hydro plants played in the area's development. The plant is on the National Register of Historic Places and a part of the Lanesboro Historic District. The plant still is fully functional and operates when water supplies are sufficient.

Reference:

Gulliver, John S., Loyal Gake, and Richard Renaud, "Feasibility of Hydropower Rehabilitation at the Lanesboro Dam," Prepared for State of Minnesota Department of Natural Resources, University of Minnesota St. Anthony Falls Hydraulic Laboratory, December 1982.

Technical Information Lanesboro Electric Power Plant

General Information

Location: In Lanesboro, Minnesota, on the South Branch of the Root River

Owner: City of Lanesboro, Minnesota

Capacity: 240 kW

Head: 26 feet

Expected Annual Generation: 249.6 megawatt-hours

On-Line Date: 1895

Cost: Plant purchased by city of Lanesboro in 1903 for \$2,500

Equipment

Turbine (1 unit in service)

Leffel turbine

Non-adjustable impeller

300 rpm

160 horsepower

Generator (1 unit in service)

Westinghouse

3 phase; 60 Hertz; 2400 volts

Governor

Woodward Mechanical Governor

Construction

Dam

Built of massive rock

Concrete apron protects bottom of structure

Protective covering of 2 feet of concrete

190 feet long

22 feet high

Reservoir

2.6 million cubic feet of reserve in storage area

Intake

6-inch-diameter steel pipe

Powerhouse

Two-story brick building

80 feet long; 40 feet wide

Draft tubes

Concrete pipe 6 feet in diameter

Transmission

2,400 volt Delta system connecting to city of Lanesboro grid