Who We Are

Genoa Station #3 and the shutdown La Crosse Boiling Water Reactor make up Dairyland Power Cooperative's Genoa Site. The Genoa Site is located on the bank of the Mississippi River, approximately 20 miles south of Dairyland's La Crosse, Wis., headquarters.

Dairyland Power Cooperative, formed in December 1941, is a generation and transmission cooperative, otherwise known as a G&T. A G&T does not market electricity directly to the consumer. Instead, it supplies electricity on a wholesale basis to locally owned cooperatives and municipal utilities.

There are 25 electric distribution cooperatives and 20 municipal utilities in the Dairyland system. These cooperatives and municipals, in turn, supply the energy needs of more than half a million people. Dairyland's service area reaches 62 counties in five states (Wisconsin, Minnesota, Iowa, Illinois and Michigan).

Dairyland operates five generating stations in Wisconsin: three coal-fired facilities, one natural gas/fuel oil and one hydroelectric. Dairyland also purchases energy for its members from two wind farms in Minnesota.

Contact Information:
Genoa Station #3
S4651 State Road 35
Genoa, Wisconsin 54632
Phone: (608) 689-2335

Genoa Site

Dairyland Power Cooperative
Genoa, Wisconsin

DAIRYLAND POWER COOPERATIVE

A Touchstone Energy® Cooperative

Genoa Station #3

Genoa Station #3 (G-3) was completed in 1969 at a cost of $56 million. G-3 was named simply because it was the third generating facility to be built in Genoa, Wis.

This single-unit coal-fired facility has a generating capacity of 378 megawatts of electricity. G-3 produces over 2 billion kilowatt-hours of electric energy each year. Dairyland's average residential energy use is 14,000 kilowatt-hours per year.

The efficiency of any coal-burning station is measured by the amount of electric energy derived from the amount of fuel consumed. G-3 is extremely efficient, due mainly to a unique double reheat of the steam and super critical steam pressures.

G-3 burns blended coal that travels by barge from Wyoming and Utah. The barge coal moves by train to St. Louis and then up the Mississippi River about 500 miles to Genoa.

After being crushed, the coal is fed into coal mills, called pulverizers, where spring-loaded steel rollers grind the fuel to fine powder. The pulverized coal is then burned in the boiler to generate steam.

The entire steam cycle operates to rotate the turbine shaft, which is connected to the shaft of the electric generator. The rotation of the generator by the turbine is the origin of electric energy.

A byproduct of coal pulverization is fly ash. Heavier particles, bottom ash or slag, fall to the bottom of the burning chamber and the lighter ash particles, fly ash, remain suspended in the exhaust gases. These fly ash particles are removed by the electrostatic precipitator.

Dairyland has taken proactive measures to recycle this ash residue. Nearly all of the bottom ash is recycled and used to help build rural township roads. The bottom ash acts as a strengthener for the road base and is then covered with a paved surface such as asphalt seal coat or concrete.

Likewise, nearly all of the fly ash is recycled for such uses as an additive for cement and concrete blends.

Great River Energy, Elk River, Minn., has a life-of-the-plant agreement with Dairyland to share the output of G-3. Dairyland owns and operates the facility.

LACBWR

The 50 megawatt La Crosse Boiling Water Reactor (LACBWR) was the second generating unit to be built at the Genoa Site. LACBWR ceased operation on April 30, 1987, after producing electricity since November 1969.

LACBWR was built in 1967 as part of a project with the federal government to demonstrate the peacetime use of nuclear power.

In 1973, Dairyland purchased the reactor from the U.S. Atomic Energy Commission for $1 and continued to operate the plant as part of its utility system. LACBWR produced about 5 percent of Dairyland's system power requirements at the time.

The decision to shut LACBWR down came after a cost analysis found the plant was not economically competitive with other Dairyland facilities.

After shutdown, LACBWR's reactor was defueled, transferring the fuel to an existing storage pool in the reactor containment building. This fuel will remain there, under stringent monitoring and surveillance, until an interim storage facility is developed or a permanent storage repository is opened by the U.S. Department of Energy at Yucca Mountain, Nev.

Currently, it costs Dairyland's members over $5 million each year for security, maintenance and monitoring of the site.

History: Genoa Station #1

The first coal-fired steam plant in Genoa, called G-1, was built in 1941 by Dairyland's predecessor, Tri-State Power Cooperative. On Dec. 16, 1941, Tri-State and Wisconsin Power Cooperative merged to form Dairyland Power Cooperative.

G-1, a 14 megawatt facility, was the largest rural electric cooperative generating plant in the nation and was also the first plant to transmit power across state lines.

The plant was converted to an oil-fired facility, was eventually shut down in 1985 and dismantled in 1989.