



• Turnkey Overhaul & Modernization Program

Fairbanks Morse tailored a cross-functional approach that included engine maintenance, installation of all-new engine controls to optimize engine performance, and specification and installation of “combo” catalyst/silencer units

The polar vortex of 2014 enveloped much of North America in bone-chilling cold and strained power generation facilities. It also gave Bay City (Mich.) municipal Electric Light & Power (BCEL&P) the opportunity to use its Fairbanks Morse gensets to assist in meeting regional power needs and purchase power savings for its customers.

If the BCEL&P team had not engaged in some thoughtful, long-range planning and made some wise decisions, the story could have been quite different.

Like other utilities, Bay City maintains a diverse portfolio of power generation facilities. Two of its power plants are each equipped with two Colt Pielstick

dual-fuel (diesel fuel and natural gas) gensets from Fairbanks Morse. The four gensets are rated at 27 MW in total; they are normally used for peak shaving in summer when electrical demand spikes and it is most cost effective to operate the units.

Not too many years ago, Bay City seriously considered shutting down the plants, both of which had been in service for more than two decades. An Environmental Protection Agency ruling (RICE-NESHAP) in 2010 called for reduction of toxic air pollutant emissions and imposed strict operating limits on existing stationary compression ignition and spark ignition engines.

To meet the new emissions standards, both Bay City plants required modernization. In addition, the gensets were scheduled for a periodic top-end overhaul. The utility's managers had to make a choice – make a substantial investment to bring the plants into compliance and complete the necessary maintenance, or shut them down.

The utility decided to modernize the plants after assessing the power generation market. The anticipated shutdown of coal plants would remove generating capacity from the market, making the generating capacity of the Bay City units – and other plants like them – more valuable. Also, power needs were expected to increase as the economy improved and factories ramped up production.

Bay City selected Fairbanks Morse for a turnkey overhaul and modernization program. Fairbanks Morse tailored a cross-functional approach that included engine maintenance, installation of all-new engine controls to optimize engine performance, and specification and installation of “combo” catalyst/silencer units.

When the winter of 2013-2014 arrived, the BCEL&P team was prepared, although no one anticipated the extent to which utilities would be tested. A common practice, taking advantage of lower electrical demand in winter to take plants offline for routine maintenance, would compound the challenge.

As the winter wore on, utilities began to feel the strain. The carrier ships that supply coal to power plants around the Great Lakes had to wait for ice breakers to clear a path, delaying deliveries and causing utilities to shift loads to alternate power generation facilities – many of them fueled by natural gas, such as BCEL&P's engine-driven power plants.

Because Bay City had bought storage natural gas early at under \$5 per mcf, it was able to operate the gensets at a considerably lower cost than if it had bought gas on the spot market during the prolonged cold snap, when prices shot up to as much as \$50 per mcf.

“There were no outright power emergencies in Michigan that winter,” said Lee Techlin, Bay City's generation and maintenance supervisor. “But our

units were cleared to run for more hours in January, February and March of 2014 than they run for peak shaving in a typical summer. We were able to maintain stable power costs for our customers and we helped ensure that the lights stayed on through one of the toughest winters in recent memory.”

For more information, please visit www.fairbanksmorsedefense.com or email us at FM.Marketing@FMDefense.com.



FAIRBANKS MORSE
DEFENSE

701 White Avenue
Beloit, Wisconsin 53511 USA
1-800-356-6955

FM.Marketing@fmdefense.com

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