Introduction
The Xcel Energy High Bridge Generating Plant, located at 155 Randolph Road in St. Paul, is part of the Minnesota Metro Emissions Reduction Project (MERP) consisting of a package of proposals to reduce air emissions in the Twin Cities while increasing electrical output. MERP originated out of an emissions reduction bill passed by the Minnesota Legislature in 2001. Legislative leaders, state agencies, the Izaak Walton League and others crafted a bill that encouraged utilities to make voluntary emission reductions; the cost of which could be recovered from energy users. The bill allowed the conversion of coal-burning power plants to natural gas. Xcel Energy experts evaluated emissions-reduction alternatives and system needs in the Twin Cities and determined specific projects that could provide significant environmental benefits, increase power production, and yet be cost effective to customers. Among the projects identified were the rehabilitation of the Allen S. King Plant in Oak Park Heights, the Riverside Plant in Minneapolis, and the High Bridge Plant in St. Paul. All were existing, permitted, Xcel Energy electrical generating plants.

History
The Levee Station gas holder and filtering facility was built in 1918 by St Paul Gas Light Company. Gas from the Koppers Coke Plant with oven facility in St Paul was piped to the site to be filtered and stored in a large gas holder. Northern States Power Company, now an Xcel Energy Company, purchased St Paul Gas Light Company in the 1920s. The coke oven gas stored at the site was used to provide gas to St. Paul from 1918 to the 1950s. With the conversion of the gas system to natural gas in the 1950s the gas holder and filtering facility was demolished. The site was converted to coal storage for the adjacent High Bridge Generating Plant. The original High Bridge coal-fired power plant, located near where the old High Bridge crossed the Mississippi River, was built in 1923 by Northern States Power Company. In 2007, the plant generated 270-MW and employed approximately 160 people.
Environmental issues and the cleanup process

- In 2005 buried structures and contaminated soil and debris were removed from the site of the old Levee Station manufactured gas holder and filtering facility.
- Approximately 30,088 tons of coal was transported off site to SKB Landfill.
- Approximately 3,662 tons of cyanide-contaminated soil was excavated and taken to SKB Landfill.
- The old 570-foot-tall concrete stack was brought down with a closely controlled implosion and the plant was demolished.
- At total of 13,000 cubic yards of clean fill was brought onto the site to raise the grade.
- Impacted groundwater was collected, treated and discharged to a sanitary sewer.

Redevelopment of the site

In place of the old coal burning plant Xcel Energy constructed a new state-of-the-art combined cycle generating facility. Natural gas fuel is used to run two M501F Mitsubishi combustion turbines that are very similar to large jet engines. The hot exhaust from these engines is directed into two Nooter/Eriksen heat-recovery steam generators that feed a Mitsubishi Model TC2F steam turbine-generator to produce electricity. The new plant is capable of producing as much as 600 MW of power. High Bridge provides the flexibility needed to add power to the grid on an “on demand” basis as the electrical power market changes on an hourly basis. The plant can be added to the grid in much less time than the previous coal plant and can be run with one or both turbines, depending on demand. After construction started on the new plant, the old coal-burning plant was demolished.

Environmental and economic benefits

- The High Bridge Plant significantly reduces air pollution while having the capability to generate more than twice the power of the old plant.
- Particulates were reduced by 91.5%, SO2 by 99.7%, NOx by 96.9%, and mercury by 100%.
- The former Levee Station facility was fully remediated and, except for the gas holder foundation, completely removed.
- Since coal ash is no longer produced at the High Bridge Generating Facility, disposal of ash is no longer required.
- Thirty six skilled professional workers operate a plant that formerly required 160 employees.
- Xcel Energy contributes $2,189,960 annually in Ramsey County property taxes.

Assurances received

A No Further Action letter was issued on March 12, 2013.

Institutional controls

A contaminated property affidavit completed on December 12, 2012, will notify any future owner of the soil and groundwater conditions at the site. The site will remain the property of Xcel Energy.

Project Partners

- Xcel Energy
- ProSource Technologies, Inc. (now Carlson Professional Services)
- Retec, Incorporated
- Minnesota Pollution Control Agency Voluntary Investigation and Cleanup Program staff John Betcher, Hydrologist, and Ed Olson, Project Manager

The stack of the old Northern States Power coal-burning plant in St. Paul coming down.