

Central High School in Duluth has a new wind turbine on site to use for physics studies



After two years of brainstorming, planning and collaboration—and with expertise provided by Minnesota Power (MP)—Physics teacher Kevin Michalichek of Duluth's Central High School and 70 students, fired up a brand-new wind generator that will power the school's entrance sign lights.

The generator sits atop a 64-foot tower and can produce one kilowatt—enough electricity to power two lights for the sign. The turbine's electrical system will also charge a battery bank that can keep the sign lit for a few days if no wind is blowing. Students will be able to track and record electricity data from a power inverter box at the windmill's base.



"The generator is really Kevin's vision," said Engineer Andy Remus of MP's Engineering Services. "He wanted to develop a project so his students could apply what they learned in class to the real world. And he wanted it to be built right on-site at the school."

Remus provided a presentation to Michalichek's students in mid-May to explain stand-alone generation concepts and how load drives generation. "I told them their wind generator basically is a small power plant." The project has also prompted lots of classroom discussion on generation sources—from wind, coal and hydro to



natural gas, bio-fuels and nuclear. "It made them think about something they usually take for granted. Now they're thinking, 'This is how much power it takes to use a hair dryer or to light up a city'."

The wind turbine will provide another benefit, said Dean Talbott of MP Customer Service Accounts, because it's MP's newest wind metering location. MP has provided wind data to the Minnesota Department of Commerce's (DOC) wind assessment program since 2003.