Fewer air emissions at Boswell Energy Center this Earth Day

Cohasset, Minn. -- Cleaner air in the skies above Minnesota Power's second-largest generating unit was cause for an Earth Day observance at the Boswell Energy Center today as Boswell Unit 3, with its $240 million environmental retrofit, was rededicated to public service.

A ribbon cutting ceremony marked completion of the massive retrofit at Boswell Unit 3, and officials from Minnesota Power, ALLETE, Itasca County and Iron Range Resources spoke at the Earth Day event.

“Although the improvements at Boswell 3 make it almost as clean as a brand new generating unit, the environmental retrofits were far less costly than building a new generating station,” said ALLETE President Alan R. Hodnik. “Today, on Earth Day, we’re proud to say that with the help of our various stakeholders, we did our part to preserve the environment we all cherish. Boswell 3 now returns to serving our communities and businesses even better and well into the future.”

Begun in 2006, work on the Boswell 3 retrofit was essentially completed in November of 2009. Fine tuning of the new pollution control equipment and testing of its emission performance has continued into this year. Final commissioning of the 350-megawatt generating unit by the Minnesota Pollution Control Agency is expected to be completed this week.

Tests have shown that new equipment installed at Boswell 3 is exceeding the 90 percent reduction in mercury, sulfur dioxide and particulate emissions expected to be accomplished by the retrofit. Emissions of nitrogen oxide have fallen more than the 80 percent expected when construction work began.

NOX was reduced by replacing the burners in the Unit 3 boiler with low-NOX burners and installing a computer system to govern combustion. A selective catalytic reduction unit was installed that utilizes a mesh made of catalytic metals that convert NOX compounds to harmless nitrogen gas and water vapor.

To hoist this SCR unit and the truss that supports it into place, one of the world’s largest cranes was shipped in pieces from a Texas port to Cohasset on a fleet of 78 trucks. The crane was reassembled in tight quarters next to the Boswell construction site near the Mississippi River.

Sulfur dioxide is removed through the use of a wet flue gas desulphurization system. A wet particulate matter scrubber was replaced with a fabric filter consisting of some 12,000 bags more than 20 feet long. To reduce mercury at Boswell 3, powdered activated carbon is injected into cooled flue gases, so that the carbon absorbs mercury. Additional carbon is captured along with coal fly ash in the fabric filter.

The Boswell Unit 3 project included many tons of new ductwork and concrete, two 13,000-horsepower induced draft fans and untold miles of pipes and wiring. Construction personnel numbered more than 2,800 different workers over the course of construction, with 1,000 at the peak, making Boswell 3 a major job creation project in the depth of the recession.
The project also achieved a significant safety milestone, logging more than a million man-hours worked with only one lost time incident.

Boswell’s Unit 3 powered down from Aug. 15 to mid-October, when retrofits to the boiler were completed. During that scheduled outage, other maintenance modifications were made to the generating unit, including a turbine upgrade that improved unit efficiency.

Minnesota Power provides retail electric service within a 26,000-square-mile area in northeastern Minnesota to 144,000 customers and wholesale electric service to 16 municipalities. More information can be found at: www.mnpower.com.

The statements contained in this release and statements that ALLETE may make orally in connection with this release that are not historical facts, are forward-looking statements. Actual results may differ materially from those projected in the forward-looking statements. These forward-looking statements involve risks and uncertainties and investors are directed to the risks discussed in documents filed by ALLETE with the Securities and Exchange Commission.

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