State partners with Basin Electric on CO2 capture demonstration project

The North Dakota Industrial Commission has agreed to invest $2.7 million in a $5.4 million “CO2 Capture Demonstration Project” project as part of its Lignite Research, Development and Marketing Program. The other partner in the six-month project is Basin Electric Power Cooperative.

The goal of the program is to complete a Front-End Engineering and Design (FEED) study to provide Basin Electric with engineering detail and cost estimates to evaluate the economic viability of a demonstration project at the Antelope Valley Station to capture carbon dioxide from approximately one-fourth of Unit One’s flue gas stream.

The FEED study is a collaborative effort between Basin Electric and Powerspan, the vendor Basin Electric has selected as it seeks to demonstrate an ammonia-based technology to capture carbon dioxide. Powerspan’s technology is currently being used on a 1 megawatt test facility in Ohio. The Powerspan technology is expected to capture 90 percent of the carbon dioxide – approximately 1 million tons annually -- from the flue gas.

On approving the NDIC investment, North Dakota Governor John Hoeven said, “The importance of finding a commercially viable technology to capture carbon dioxide from lignite-based power plants cannot be overstated,” Hoeven said. “North Dakota is leading the way, as regional and national efforts are made to reduce greenhouse gas emissions.”

“The state’s involvement in this FEED study with Basin Electric Power Cooperative is indicative of the government-industry partnership required as the electric industry finds ways to dramatically reduce carbon dioxide emissions from coal-based power plants,” said Attorney General Wayne Stenehjem.

“Basin Electric and other utilities with generation facilities in North Dakota have been leaders in addressing ways to reduce greenhouse gases,” said Agriculture Commissioner Roger Johnson. “This FEED study is an important step in demonstrating a new technology that has the potential to capture 90 percent of carbon dioxide by retrofitting an existing plant.”

Ron Harper, Basin Electric CEO and general manager, said it’s important to continue developing technologies that will ensure coal is the energy source of the future.

“We believe coal must remain a part of our energy future,” Harper said. “It is affordable, abundant and most importantly, domestic. Basin Electric’s core mission is to supply reliable and low-cost electricity to its member-consumers in the most environmentally friendly and economically feasible way. We appreciate the support from the Industrial Commission to help us achieve this goal.”

The North Dakota Industrial Commission receives about $3 million a year as part of the severance tax on coal, which is used for the Lignite Research, Development and Marketing Program projects. Potential R&D projects are screened by the Lignite Research Council and only those approved are forwarded to the Industrial Commission, which consists of Governor John Hoeven, Attorney General Wayne Stenehjem and Agriculture Commissioner Roger Johnson, for their consideration.

Basin Electric is a consumer-owned, regional cooperative headquartered in Bismarck. It generates and transmits electricity to 126 member rural electric systems in nine states: Colorado, Iowa, Minnesota, Montana, Nebraska, New Mexico, North Dakota, South Dakota, and Wyoming. These member systems distribute electricity to about 2.6 million consumers.

For more information: Jeff Burgess at (701) 258-7117