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- Understand administrative structures and processes for managing water uses and supplies;
- Understand ground and surface water hydrology and connectivity;
- Understand the economic, social and environmental impacts of projects and policy decisions.
- Northwest Area Water Supply Information



Blended fertilizer pours into a waiting truck at the Buxton, N.D., fertilizer plant operated by Reynolds (N.D.) United Co-op. CHS has put its Spiritwood, N.D., plant on hold. (Agweek photo by John Brose)

Water permit challenge puts \$3 billion North Dakota fertilizer plant project 'on hold'

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JAMESTOWN, N.D. -- Alan and Genny Lindberg have a home in rural Stutsman County, N.D., that now stands at the center of a dispute that has stalled a planned \$3 billion fertilizer plant.

The Lindbergs' property includes a lake they have stocked with fish and use for recreation. It was created by a dam built in 1958 for industrial purposes, a gravel operation.

The couple has objected to a water permit seeking to pump water from the Spiritwood Aquifer for the proposed CHS plant, which would turn natural gas piped from western North Dakota into fertilizer for farmers.

They contend they would be "unduly affected" by the groundwater pumping permit and in late April asked for a hearing before an administrative law judge to hear their concerns. The request is still pending.

The Lindbergs say their lake along Stegman Coulee is at least partly fed by the aquifer, and are concerned that excessive pumping during dry periods could turn the lake into a muddy puddle.

"We're trying to find some middle ground," says Lynn Mesteth, a Fargo lawyer who represents the Lindbergs. "Everything's kind of still on hold while we're digging into what the options are."

The Stutsman Rural Water District, which is seeking the permit on behalf of the CHS project, says extensive analysis by consulting hydrologists and the State Water Commission determined the permit would not impair the aquifer.

State Water Commission hydrologists recommend approval of the permit, subject to certain conditions, after concluding the aquifer could sustain the withdrawals, even during dry periods.

Despite those findings, Alan Lindberg, a Jamestown businessman, thinks the lake by his home could be jeopardized.

"His concern is the aesthetic value of the property," Mesteth says. "He could potentially own a lake home on a mud hole. He's hoping to at least preserve a portion that his home sits on."

Geneva Kaiser, manager of the Stutsman Rural Water District, says the water district commissioned hydrological studies costing almost \$1 million -- paid by CHS -- that assumed maximum pumping rates by other aquifer users, even though users are not tapping the full capacity of their permits, and projected sustainable pumping with the additional demand to serve the fertilizer plant.

That would be the case even during a 1930s-style extended drought, Kaiser says. "I really feel it's been addressed in that study."

The fertilizer plant, which would be located on 640 acres near the Spiritwood Energy Park 10 miles northeast of Jamestown, would use an average of 3,800 gallons per minute of water, peaking at 4,200 gallons per minute, mostly for cooling. To meet that demand, CHS proposes to use water from the Jamestown Aquifer when the James River is high and, during drier periods, the Spiritwood Aquifer, as well as reused industrial 'gray water.'

A water permit to draw water from the Jamestown Aquifer allows up to 2,500 gallons per minute, or two-thirds of the fertilizer plant's average need.

The application for the Spiritwood Aquifer is for a pumping rate of 3,000 gallons per minute, with the expectation it would be needed for shorter periods, and would be operated in tandem with the permit for the Jamestown Aquifer.

Industrial water would come from the nearby Cargill malting plant, which would supply about a third of the water, with about two-thirds coming from groundwater, according to State Water Commission figures.

Gray water also would come from other plants at Spiritwood Energy Park: Dakota Spirit AgEnergy and Great River Energy's 99-megawatt power plant.

Still, the planned Spiritwood Regional Wastewater Reuse Facility would need 2,325 gallons per minute of groundwater, according to the State Water Commission.

Reliance on groundwater would greatly diminish if plans for a pipeline to carry water from the Missouri River to the area are met. The North Dakota Legislature appropriated \$70 million for the Central Dakota Water Supply Project to help build the water pipeline and water reuse facility.

The water pipeline would ensure a reliable, long-term source of water and CHS would only need to use groundwater during emergencies, according to the State Water Commission analysis.

The water reuse facility would cost from \$90 million to \$150 million, according to engineering estimates, with the likely cost coming in around \$140 million, Kaiser says.

Once fully treated, the water will be almost of distilled water standards because of the needs of the fertilizer plant equipment. "CHS needs a very refined quality of water," she says.

The Lindbergs, although apparently the only party to ask for a hearing, were not alone in expressing concerns about what the proposed pumping permit could do to the Spiritwood Aquifer.

The U.S. Fish and Wildlife Service raised the possibility of adverse impacts to tracts under wetland easement that are part of the national wildlife refuge system; aquifer recharge rates might be inadequate during dry periods at high pumping rates.

The Barnes Rural Water District, based in Valley City, expressed similar concerns. A pumping rate of 3,000 gallons per minute would "greatly exceed the recharge capability of the Spiritwood aquifer resulting in groundwater mining throughout the area," writes Perry Kapaun, the district's manager.

As a result, the permit sought for the CHS plant "will degrade Rural Water quality and quantity" for existing permit holders, and "greatly affect" operations as well as "overall costs of producing quality water" for rural Barnes County water customers, Kapaun writes.

In an interview, Kapaun says his concerns remain, but he will not challenge the permit in a hearing.

The State Water Commission concluded the proposed pumping of the Spiritwood Aquifer would have no "significant effect on fish and game resources and public recreational opportunities."

The economic activity resulting from the fertilizer plant -- which would employ 160 to 180 workers paid an average wage of \$85,000 a year -- would be beneficial, but its water-intensive demands would heavily tap resources, water officials concluded.

"There are limited additional water resources available in the Jamestown area," the state hydrologists writes in recommending issuance of the permit. "It is unlikely that additional water can be appropriated in the area."

As for the Lindbergs' concerns, hydrologists wrote that the source of water to the springs that feed the lake along Stegman Coulee on their property is unknown, though high sodium content of one spring suggests a Spiritwood Aquifer "influence" on the water quality.

'There is insufficient data to quantify the impact pumping (would have) on spring flows,' hydrologists writes, adding that no water permit is associated with the springs or lake.

Jon Patch, director of the State Water Commission's water appropriations division, declined to comment on the water permit dispute, and referred questions to the state attorney general's office.

Liz Bocker, a spokeswoman for the office, provided documents involving the disputed water permit, but would not answer questions. "We cannot further comment on or discuss this issue," she says in an email.

Alan Lindberg declined an interview request. He has been a trustee of Jamestown College and the Stutsman County Fair Board. His LinkedIn profile lists him as co-owner of Lindberg Brothers, which focuses on housing development. He has developed an assisted-living project and townhomes in Jamestown.

Similarly, a spokeswoman for CHS would not comment on the pending water permit, referring questions to the Stutsman Rural Water District.

Lani Jordan, CHI's director of corporate communications, says in a brief statement that the company, working with state and local officials, has "made progress on the critical water supply issue and have received viable plans and permits involving groundwater and water reuse."

She says she could provide no further information on "timing or next steps."

Meanwhile, she says, CHS continues to review a construction contract for the project.

Jeff Zent, a spokesman for Gov. Jack Dalrymple, who has been a staunch supporter of the fertilizer plant, expressed optimism that the dispute will be resolved.

"There's a process for these types of concerns to be heard and addressed," he says, adding that challenges aren't unusual for large projects. "We're confident that it will be worked out."

The Lindbergs are not trying to block the fertilizer plant project, but have understandable concerns about the lake, Mesteth says.

"He's a very reasonable man," she says of Alan Lindberg. "He's not trying to prevent them from doing what they want to do."