

DEC Faults Jordanville Wind Project DEIS: Water Supply at Risk

VAN HORNEVILLE – In a letter dated September 8, the New York State Department of Environmental Conservation (DEC) wrote to Bernard C. Melewski, special counsel for the Town of Warren and the Town of Stark, of DEC concerns about the proposed Jordanville Wind Power Project. In the letter, DEC Project Manager Stephen Tomasik, warned that the karst topography of the region could suffer serious environmental impacts if the project's 75 wind turbines are constructed prior to further studies.

“Karst topography” is defined as an area of bedrock -- usually limestone or dolomite -- which is capable of being dissolved by surface water or ground water. Typical karst features include sinkholes, ravines and underground streams.

Jim Eckler of Wiltsie Hill Road has first-hand knowledge of sinkholes, which can be unpredictable.

In the fall of 2005, Gordon Van Alstine came to harvest Eckler's cornfield. Van Alstine was driving along, and he suddenly felt the tractor struggling. He looked back, and the loaded wagon he was pulling had all but disappeared, hanging by the hitch over a hole.

“He was just picking corn in the field and he drove over the dirt,” Eckler said. “The dirt gave way. And there was a hole about eight to 10 feet wide by five feet wide, and 30 to 40 feet deep. It just suddenly fell away. It was in the middle of a flat, 40-acre field, and it was just gone.”

Recorded geological research shows that karst formations occupy only 10 percent of the earth's surface, but account for nearly 25 percent of the world's water supply. Karst landscapes are dynamic and can change quickly and without warning. As the surface of a karst is very unstable, such changes can be catastrophic. Studies show that karst surface area collapse happens most often during floods, or soon afterward.

Limestone caves and sinkholes are familiar sights to residents of the Jordanville area. The caves collect groundwater. They form underground reservoirs and streams, also known as aquifers, which sometimes re-emerge on the earth's surface as springs. Many area residents rely upon these springs for their domestic water supply.

"There are limestone caves beneath the ground in the project area. The domes of karst caves are notoriously unstable. We don't know the weight-bearing capacity of these domes," said Sue Brander, spokesperson for Advocates for Stark. "Each turbine weighs 303 tons. The cement foundation weighs approximately 1,885 tons. Building these on ground that is hollow underneath is like putting a boulder on a carton of eggs," she continued. "Will the hollow ground beneath these wind-swept ridges support 75 turbines weighing about 2000 tons each?"

“The unstable karst geology is barely mentioned in passing, in an appendix of the DEIS. The document is totally inadequate,” Brander said.

How this local network of caves, ravines and sinkholes is interconnected remains largely unknown. In regard to the proposed wind project, DEC wrote, “The Draft Environmental Impact Statement (DEIS) does not provide information sufficient to characterize the karst topography in the region, or the potential adverse effects associated with a major construction project in the area.”

In October of 2005, according to the DEC letter, New York-based GZA GeoEnvironmental prepared a prelimi-

nary report for project developer Community Energy, Inc. The report stated that water was used during rock core drilling at two locations and that, after the drilling was completed, there was no standing water in the drill holes. DEC officials said this indicates that the water drained through existing fractures in the bedrock, and entered directly into the aquifer -- the implication being that, in this same way, leaking contaminants could quickly enter the underground water supply, potentially polluting the water.

The DEC's recommendation was that "a comprehensive survey of karst features be conducted in the project development area. The survey should identify bedrock fractures and sinkholes and show their location relative to proposed project activities."

Of special concern to the DEC is the New York State Fish Hatchery located on Chyle Road in Van Hornesville. According to the letter, the hatchery's water supply comes from two separate underground springs, flowing out of the earth at approximately 400 gallons per minute. This water supply is considered free of fish pathogens and invasive species such as zebra mussels because it comes from the underground aquifer, said DEC officials. Its disease-free water supply makes this fish hatchery uniquely suited for raising rainbow trout, as they are particularly susceptible to disease. The hatchery in Van Hornesville raises some 200,000 fingerlings and 100,000 yearling rainbow trout annually, which the DEC uses in its statewide fisheries management program.

"Contaminants that may be present in water runoff can quickly enter the springs as there is a direct flow through bedrock fractures without filtering through soil. Any short or long term degradation of water quality at the hatchery would have serious consequences to the fish rearing program, as alternate water supplies are not available at this time," Tomasik wrote.

DEC officials advised that Community Energy conduct dye tests to identify underground water flow, especially as it relates to the springs that supply the fish hatchery.

In addition, DEC urged "meticulous application and monitoring to ensure that surface runoff does not contaminate sub-surface water supplies" and recommended that Community Energy take special steps to prevent any accidental fuel or lubricant spills, as well as concrete slurry discharge. A covered parking area for construction vehicles ought to be planned, the letter said, so rainwater will not wash contaminants from the surface of vehicles into storm water runoff.

"Almost every well in the project area taps into that underground reservoir," Brander pointed out. "In test bores, they hit bedrock at four feet in some areas. They will have to blast or jackhammer to get down nine feet for the turbine foundations. When you blast or jackhammer in bedrock, you close old fractures and open new ones in unpredictable ways," she said.

Brander said this poses a serious threat to area wells, and to the fish hatchery.

"The pure, clean water resources under these ridges are far more valuable than the wind above them. Why not build a bottling plant and market our precious water?" she suggested. "It would cost far less and yield far more income to the towns."

The survey of karst features should be done before the Final Environmental Impact Statement is completed, DEC officials concluded.