

EI- 22594

Belvidere Scoping Mtg
April 19, 2016

Tuesday, April 19, 2016

Meredith Williams, Member of Board of Health, Boone County, IL
4083 Blaine Rd
Poplar Grove, IL 61065

Addressing the Surface Transportation Board

Referring to: Docket No FD 35952 - Board Environmental Impact Analysis

#11 Energy Resources:

- a. Describe and analyze the potential impact of the proposed project on the distribution of energy resources in the project area resulting from each alternative.
- b. Propose mitigation measures to avoid minimize or eliminate potential project impacts on energy resources, as appropriate.

My concern: HOW WILL THE CLOSE PROXIMITY OF G.L.B. RAILROAD IMPACT THE ENBRIDGE PIPE LINE RUNNING TROUGH BOONE COUNTY, IL AND ROCK COUNTY, WI?

*Refer to the two maps provided by Enbridge Inc. and Great Lakes Basin Railroad – Page 2

Concern: Possible Leakage of crude oil/hydrocarbon liquid into the ground water and farmland.

- A. Stray ground current that can promote corrosion on metal conductors losing cathodic protection.
 - a. Refer to article, Boone County Shopper, Belvidere, Illinois, May 9 2013, "Boone County Can No Longer Claim Ignorance & Not Protect the Oil Pipeline" Note the yellow highlighted information that relates to the GLB Transportation, Inc proposed location. *Article is included on page 3
 - b. **Sunday 17, 2016 Janesville Gazette, "Questions and answers about proposed railroad line in eastern Rock County":** during questions and answers: G.L.B. President Jim Wilson was quoted when asked the question,
 1. "What will be in the utility easement? His answer, "Natural gas lines, fiber optic lines and electrical lines."
 2. A: "... there might be six lines there," Patton said. "Or there might be four lines there, or there might be two."

Concern: With the railroad easement so close to the pipeline, and Mr. Patton's answer so vague, how can the public be guaranteed that future train lines will not create unforeseen problems?

Boone County Can No Longer Claim Ignorance & Not Protect The Oil Pipeline

The professional engineers have submitted expert testimony and sworn documents regarding the oil pipeline.
Dr. Charles Rhodes: Professional Engineer, B.Sc., M.A.Sc., Ph.D., Chief Engineer of Xylene Power Ltd.

Recommended by the National Pipeline Safety Trust

Richard Kuprewicz: President of Accutrac, Pipeline safety engineer consultant. Testified before the House of Representatives on pipeline safety. Member of the U.S. Dept. of Transportation's Technical Hazardous Liquid Pipeline Safety Standards Comm., 37 years of experience in the energy industry. Recommended by the National Pipeline Safety Trust

David Clendenning: Registered Professional Engineer in Illinois, 40 years of experience in electrical engineering systems

Why is an Electrical Code needed in Boone County to protect the Oil Pipeline?

1. There are two major hydrocarbon liquid transmission pipelines in Boone County.
 - 42" pipeline carrying dilbit
 - 22" carrying diluent/north
2. More corrosive than oil
 - Contents: sulfur, acids, hydrocarbons such as benzene
 - Flammable
3. In 2011, the same line that feeds Boone County had a \$1 billion spill in Michigan. This spill was the result of the coating going bad and the pipeline losing its cathodic protection and therefore subject to corrosion.
 - 843,000 gallons of crude oil were spilled.
 - More than 56 km of wetlands & waterways were affected & about 320 people reported symptoms related to crude oil exposure.
4. In 2012, north of Boone County near Grand Marsh, Wisconsin the same line had a spill of about 1,200 barrels.
 - Stray currents can have an effect on pipelines.
 - 100,000 gallons of fuel spilled in California. The rupture was caused by pipeline corrosion from electrical transmission lines put in after the pipeline installation.



- Utility power and Wind Energy Conversion Systems (WECS) can both generate stray ground currents.
- Stray ground currents from multiple sources can collectively act together over a distance from their sources.
- Stray ground currents promote corrosion on metal conductors and can also threaten livestock and personnel.
- The pipeline is a low resistance conductor and therefore attracts ground current making it vulnerable to currents that may cause or accelerate corrosion.
- According to Dr. Rhodes, "Stray ground current may have a substantial DC component, which can aggressively attack a nearby long metal buried pipe at any scratch or defect in its surface coating..."
- Multiple generators can "cause accelerated pipe corrosion, unless specific isolation measures are taken at each generator to prevent stray ground current."
- Dr. Rhodes stated that, "Enbridge (oil pipeline owner) should stay very close to the Project's electrical design/layout and its potential to generate stray currents that could seriously and very rapidly impact the soundness of the pipelines."

Who protects the oil pipeline?

- Dr. Rhodes understood that present Illinois and US electrical and property law do not protect the pipeline from Wind Energy Conversion Systems pressure.
- Mr. Kuprewicz confirmed that the pipeline company is responsible according to federal law. (49CFR 195.110, 49CFR195.442, 49CFR 195.577)
- Pipeline was here first. The company may have used a different pipe, pipe coating or located elsewhere if wind turbines were here first.
- Pipeline can only protect their right of way.
- Dr. Rhodes said that, "It is essential that this issue be addressed immediately by Boone County."
- As a county, we cannot make the wind shopper fiscally responsible for any damage they cause on the pipeline, BUT we can put into place legislation that limits the potential damage the wind turbines may cause to the pipeline.

Oil Pipeline Recommendations

The GIBRAIL ROAD

1. County needs to write an Electrical Code specifically related to wind turbines and include the following:
 - a. Require baseline map of existing stray current in the proposed wind project footprint before any special use permit is approved.
 - b. Require each wind turbine to have a ground operated isolation transformer (delta type).
 - c. Require each wind turbine to be fitted with DC ground fault detection and alarm signaling.
 - d. Require all electrical underground connecting transmission lines to be run perpendicular to oil pipeline.
 - e. Prior to issuing building permits, the WECS electrical plans and specifications must be approved by a professional engineer of the pipeline company's choosing with expertise in distributed generator isolation and metal pipeline corrosion protection.
 - f. In addition, no permit should be granted for wind generator operation until the installed wind generation equipment has been independently checked for conformity with the isolation measures contained in the plans and specifications approved by the pipeline's professional engineer.
 - g. Require an independent engineer to confirm that all recommendations were carried out.
 2. Adopt an appropriate setback (3x turbine height from pipeline right of way) to protect against:
 - a. Tip over/collapse of wind turbine.
 - b. Heavy equipment usage during the construction phase of a wind development.
 - c. Possible blade throws and ground penetration as in Adair, Iowa when a 12 ton blade flew over 750 ft. and penetrated 4-6 ft. into the ground.
- The experts letters will be available online at boonecountyil.org once the April ZBA minutes are approved. These letters have also been sent to Enbridge (Oil Pipeline Company), Illinois Commerce Commission and Federal Pipeline and Hazardous Materials Safety Administration.
- Responsibility Matters! Based on the evidence, Boone County must ensure that there is an electrical code in place to absolutely reduce the possibility of a spill.