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City of Grand Forks
c/o City Administrator Todd Feland
PO Box 5200
Grand Forks, ND 58206-5200

Dear Mr. Feland:

Thank you for taking the time to allow us to provide information regarding the Enbridge Sandpiper Pipeline Project. We believe that we have properly factored in concerns raised locally and have included a few notes below on each of those areas for your reference, as well as a status update on the project.

Sandpiper Pipeline Project Update:

The Enbridge Sandpiper Pipeline Project is a 616-mile interstate crude oil pipeline which will originate south of Tioga, North Dakota as a 24" line into Clearbrook, Minn. and continue as a 30" pipeline into Superior, Wisc. North Dakota regulatory filings have been submitted to the North Dakota Public Service Commission (NDPSC). The first NDPSC public hearing on this project will be held in Grand Forks, North Dakota on February 19, 2014. A second public hearing will be held on February 20, 2014 in Devils Lake. More information on the ND PSC hearings and the Sandpiper application can be found at www.psc.nd.gov.

Red River Routing and Water Resources:

Prior to filing the Sandpiper route with the Public Service Commission, Enbridge personnel met with City of Grand Forks personnel and Water Utilities to understand the local perspective. Those in attendance requested that Enbridge review an alternative route option to the north of Grand Forks. A second route alternative to the south of the city was also reviewed. It was determined that the southern route was a mutually agreeable option. This new route moved the line 2 miles south of the existing Red River crossing. The north option was not favored due to the following issues: no existing facilities; prairie chicken habitat wildlife management areas; waterfowl production areas; conservation plots; migratory bird impacts; poorly maintained roads; and limited road access to potential route.

Additionally, Enbridge's North Dakota operations and Sandpiper Project team have been in communications with Public Works and Water Utilities, as well as local emergency responders, to safeguard the Red River Valley's water resources. All parties involved have been briefed on what their roles would be within the first 24-hours of an unlikely incident in the Red River Valley.

Line 81 Details:

- Enbridge's Line 81 delivers light Bakken crude from western North Dakota through Grand Forks and into Clearbrook, Minn. From the Clearbrook Terminal volumes can continue along Enbridge's system to refineries and markets in the Midwest and along the East Coast.
- Line 81 is a 16" steel pipeline constructed in 1962.
- Line 81 has the capacity to transport 210,000 barrels per day.

Pipeline Built-In Safety:

- All Enbridge pipelines are monitored 24-hours a day via a computerized pressure monitoring system. This system also remotely controls valves placed approximately every 20-30 miles along the pipeline route.
- Per federal regulation, petroleum pipeline routes are patrolled at least 26 times a year. This is done routinely by either aerial or foot patrols.
- The system is also equipped with cathodic protection which assists in preventing corrosion.

Line 81 Existing Red River Crossing:

- Line 81 currently crosses under the Red River approximately 1 mile south and 2.5 miles east of the Kings Walk Golf Course in Grand Forks.
- Block valves are located .25 miles to the west and .90 miles to the east of the river crossing. Enbridge has the capability to manually and remotely control these valves if the need arises to isolate this section of the pipeline.
- The section of the pipeline running under the river is 16" in diameter and buried approximately 10-20 feet beneath the base of the river bottom depending on the bend in the river bottom.
- Line 81's Red River Crossing was: 1. constructed using thick walled pipe; 2. double coated; and 3. encased in cement to prevent buoyancy.
- Enbridge visually inspects its river crossing by deploying divers every 3 to 4 years. The Red River Crossing was last inspected in 2012 and is in good, stable condition.
- Inline inspection tools are run through pipelines to detect for features. Approximately four tool runs are expected to take place on Line 81 in 2014 alone.

Future Red River Crossing:

HDD Crossings (More information can be found in the attached drawings):

- Under appropriate circumstances, Enbridge will complete a horizontal directional drill ("HDD") in order to install a pipeline under a sensitive area such as frequently traveled road crossings, wetland areas, or navigable rivers.
- An HDD is completed after a 3rd party engineering firm designs the drill based on topography, river depth, review of flood plains, and other geotechnical reports. The drill is also designed based on the pipe specifications, such as wall thickness, radial tolerances, strength of pipe, and other engineering considerations.

- Typical materials used for a HDD include: heavier wall pipe (24" HDD would likely require 0.500" wall thickness); Standard pipe coating (1-16 mil) plus an additional abrasion resistant coating (30-40 mil).
- For longer HDD's like the Red River Crossing, the entire pipe section is hydrotested for 1 hour prior to installation.
- During construction, trained inspector(s) and potentially a 3rd party consultant oversee the installation to ensure that the design parameters are followed. A visual inspection to confirm coating integrity is immediately performed once the pipe section is installed and the front of the installed section is visible.
- Lastly, an 8.5-hour hydrotest is conducted after the HDD section is welded onto the main pipe sections. This exercise is followed by a caliper tool run. The caliper tool is deployed in the pipe to confirm that no geometric defects are present based on internal specifications and industry code requirements.

Is a pipeline bridge a recommended crossing over the Red River:

- No. Aerial pipeline crossings are seldom used for any pipeline carrying oil, natural gas, products, etc. Although it varies by state and local jurisdiction, aerial crossing may be allowed by code, but are not recommended unless all other design and planning have reached the conclusion that all installation methods (open cut, HDD, etc.) cannot be met. For the Sandpiper Pipeline Project, federal and state authorities will require the pipeline to be buried to a minimum depth of 48 inches.
- Aerial pipeline crossings make the pipeline susceptible to many integrity issues, including but not limited to:
    - Ultra violet rays: Pipeline coating may degrade over time and become more susceptible to developing anomalies because of its susceptibility to the sun's rays ;
    - Weather/Elements: Expansion and contraction during seasonal weather changes (mechanical expansion joints would be needed);
    - Public Safety: An above-ground facility will increase its visibility to the public and may cause logistical and response issues;
    - Third-Party Concerns: Susceptibility to 3rd party damage, external manipulation, vandalism or even terrorism.

Emergency Response:

As noted by the Department of Transportation, the federal regulatory agency, underground pipelines are the safest way to transport petroleum. There are risks associated with energy transportation, just as there are risks with operating a City or County. However, Enbridge is ready to respond and those risks are being mitigated through:

- Diligent emergency response exercise;
- Stockpiling necessary equipment including Personal Protective Equipment and air quality monitors, containment and absorbent boom, skimmers, vacuum trucks and heavy equipment;
- Using the latest technology in pipeline materials and construction;
- Public education; and
- Coordinating a collective response to an incident with local first responders, Enbridge's contract emergency response staff and its own local and regularly trained Operations personnel.

Again, thank you for your time and the thoughtful contributions in making Enbridge and the Sandpiper Pipeline Project a neighbor and stakeholder in your community. Should you have any questions or comments, please feel free to contact me directly.

Sincerely,

Barry Simonson,

Manager, Engineering & Construction

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