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May 23, 2014

via hand delivery

Mr. Darrell Nitschke
Executive Director
North Dakota Public Service Commission
600 E. Boulevard Ave., Dept. 408
Bismarck, ND 58505-0480

Dear Mr. Nitschke:

In re: North Dakota Pipeline Company LLC
Sandpiper Project
Case No. PU-13-848
Our File No. 31-411-010

Enclosed for filing are ten copies of NDPL's Sandpiper Pipeline Project Design Summary – Devils Lake Area, which is being filed as a supplement to Late Filed Exhibit No. 5 at the request of the Commission.

Please call should you have any questions.

Very truly yours,

Brian R. Bjella

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Enc.

Sandpiper Pipeline Project Design Summary – Devils Lake Area

Executive Summary

North Dakota Pipeline Company LLC d/b/a NDPL LLC (NDPC) is proposing the construction of new critical energy infrastructure in the states of North Dakota, Minnesota, and Wisconsin. The Sandpiper Pipeline Project (Project) will consist of a 24-inch outside diameter (OD) pipe extending from the Beaver Lodge Terminal to the new Clearbrook West Terminal (373 miles); and a 30-inch OD pipe extending from the new Clearbrook West Terminal to the Superior Terminal (242 miles).

A portion of the 615 mile Project will be installed in the Devils Lake Basin. Due to the potential increase in water elevation as a result of the expansion of Devils Lake, an evaluation of buoyancy control measures was performed for those portions of the Project anticipated to be installed below the Sheyenne Outlet elevation (1458 feet MSL[1]). The Sheyenne Outlet will overflow water to the Sheyenne River and, therefore, limits the overall expansion of Devils Lake to land lying below that elevation.

In total, approximately 8.1 miles of the Project will cross areas with an elevation below the 1458 foot Sheyenne Outlet elevation. This is illustrated on Exhibit A, which shows the proposed route, the lake's extent at current water elevations (1452 feet MSL), and anticipated ultimate lake levels at the 1458 foot Sheyenne Outlet elevation.

Despite the potential for water elevation increase (which may add an additional 8.1 miles of submerged pipe subsequently after installation), based on calculations of negative buoyancy and actual soil conditions, the weight of the soil placed over the pipeline as cover will prevent the pipeline from migrating towards the surface due to buoyant forces. However, additional buoyancy control is being added to upland areas that are below the Sheyenne Outlet elevation as a precautionary measure for an additional safety factor.

NDPC has also accounted for the potential expansion of Devils Lake in the development of its cathodic protection system, as well as its emergency response tactics.

Devil's Lake Project Design Summary was prepared by Barry Simonson, Senior Manager of Engineering and Construction for Sandpiper Mainline Execution, Major Projects and Dave Hodek, Supervisor of Engineering and Construction for Sandpiper Mainline Execution, Major Projects.

1 Pipeline Buoyancy

Based on the soils in the Devils Lake area, the installed pipeline will have the required negative buoyant force to prevent the pipe from migrating towards the surface, even with increased buoyancy due to the water level rising. This negative buoyant force is the combination of the weight of the pipe along with the weight of the soil over the pipe.

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[1] MSL: Mean Sea Level

Based on geotechnical data that has been collected for the Project, the pipeline will be buried under a combination of organic material (top soil) and lean clay (subsoil). Both materials have an approximate dry unit weight of 80 lb/ft^3. However, the soil may become saturated if water elevations at Devils Lake rise. To be conservative, a unit weight of 69.9 lb/ft^3 was used for the saturated situation (similar to mud). Even in a saturated condition, the soil over the pipe is likely to have a higher unit weight and, therefore, provide greater negative buoyancy and additional protection against upward movement of the pipe. For comparison, the unit weight of water is 62.4 lb/ft^3. The buoyancy evaluation also assumed an empty pipe. This is conservative, as once the pipeline is put in service it will rarely, if ever, be empty. The weight of the crude oil in the pipe increases the negative buoyancy and helps prevent any upward movement of the pipe.

As a precautionary measure and to provide an increased safety factor, additional buoyancy control measures are planned in specific areas to mitigate potential long-term buoyancy effects. Therefore, three installation scenarios are expected:

1.1 Scenario 1 – Upland installation above ultimate lake level elevation

In dry upland areas that are above the Sheyenne Outlet elevations, typical pipeline construction and installation methods will be employed. No additional buoyancy control is needed in these areas. The conventional installation methods will be as follows: the topsoil will be stripped from the Right-Of-Way (ROW), the subsoil will be excavated (and piled separately) to create the trench where the pipe will be installed (minimum depth-of-cover is 48 inches), the pipeline will be welded together and placed in the trench, and finally, the pipe will be backfilled with the soil and compacted to the allowable limit within the construction specification.

1.2 Scenario 2 – Wetland/waterbody installation

In upland areas with high water table (water in trench) and wetland areas, it is recommended that standard wetland buoyancy control measures be used, either set-on weight bags spaced as defined in the detail design report (15' center-to-center) or pipe with 4" of concrete coating. This would apply to wetlands and high water table areas both above and below the Sheyenne Outlet elevation. These additional set-on weights will maintain the pipe as negatively buoyant and are part of the typical installation method for all wetlands across the Project.

1.3 Scenario 3 – Upland installation below ultimate lake level elevation

In uplands below the Sheyenne Outlet elevation that have no evidence of water during construction, it is recommended that the pipe be installed using typical installation methods (as described in Section 1.1), but with the additional installation of set-on weights at a center-to-center spacing of 160'.. The compacted soil above the pipe, in combination with the weight of the pipe itself, will have enough weight to keep the pipeline at the specified depth of cover; however, as mentioned above, the set-on weights will be added as an additional measure..

2 Pipeline Crossing Summary

2.1 HDD Crossings

There are 2 HDD crossings in the vicinity of Devils Lake Basin. One HDD crosses Highway 281, a Burlington Northern Santa Fe railroad line, and an unnamed stream. The second HDD crosses the Mauvais Coulee. The HDDs will be installed with 24-inch, 0.500" wall thickness (w.t.) pipe. The pipe will be Fusion Bonded Epoxy (FBE) coated with an additional Abrasion Resistant Overcoat (ARO) applied over the FBE corrosion coating. The designs for the individual HDD crossings will be completed by a Third-Party Contractor. Each design will consider the feature being crossed, as well as the sub-surface soil conditions that will be encountered during the drilling process. Due to the depth of installation, typically 50-60 feet below the feature to be crossed, additional buoyancy control is not necessary when considering submergence at the ultimate lake level.

2.2 Road Crossings

Approximately 12 roads will be crossed in the vicinity of the Devils Lake Basin. Crossings will be traversed with 24-inch, 0.438" w.t. pipe as dictated by the Project's detailed design calculations. The 0.438" w.t. pipe will be FBE-coated with an additional ARO coating. Major roads will be bored and minor gravel roads in the Devils Lake area will be open cut in locations where they can be permitted as such, and where traffic can be safely diverted. Road crossings will have a minimum of 5' of cover compared to a minimum of 4' elsewhere on the line. Open cut crossings will be backfilled and compacted to meet the Department of Transportation (DOT) requirements. The additional depth of cover and the compaction requirements both serve to enhance buoyancy control and no additional buoyancy control measures, beyond those discussed in Section 1, will be required.

2.3 Railroad Crossings

The only railroad crossing in the vicinity of the Devils Lake Basin will be crossed by an HDD, as described in Section 2.1.

3 Pipeline Protection

3.1 Cathodic Protection

Cathodic protection systems are used to minimize corrosion of the pipe. The Project will be cathodically protected by an impressed current rectifier system. A third-party cathodic protection service provider will be on-site to install the test stations and perform the installation and commissioning of the test leads and ground beds. The ground bed locations in the Devils Lake area will be above the ultimate lake level elevation.

4 Emergency Response

4.1 Underwater Release Response

NDPC's Integrated Response Plan and Inland Tactical Response Guide specifically address preparation for, response to, and mitigation of underwater releases. Response tactics will be the same as those currently used for the Line 81 Pipeline, the majority of which is underwater in the Devils Lake area. Specific response tactics have been developed for releases in lakes, including techniques for using circular booms or J booms, which are floating barriers used to surround, contain, and direct releases in water towards a recovery point.

NDPC will identify and designate appropriate locations to be utilized for deployment of emergency response containment and recovery equipment (a/k/a control points) in the Devils Lake area. NDPC also plans to locate an additional response trailer at the Lakota Station, and currently has 7000 feet of boom stored in Bartlett, North Dakota, as well as access to an airboat that will enable access to all areas of Devils Lake.

NDPC has conducted all-season response drills with the Devils Lake first responders. Additional response drills will be conducted with first responders in the Cando area, as well as first responders in other communities along the Project route.

4.2 Mainline Isolation Valves

Two Mainline isolation valves (MLV's) will be placed along the proposed Project route in the vicinity of the Devils Lake Basin. Both valves will be above the ultimate lake level elevation. The proposed MLV's are designed to be automated, which will require power, communications, and associated facilities at each valve site. In the unlikely event of a release, these valves will automatically close.

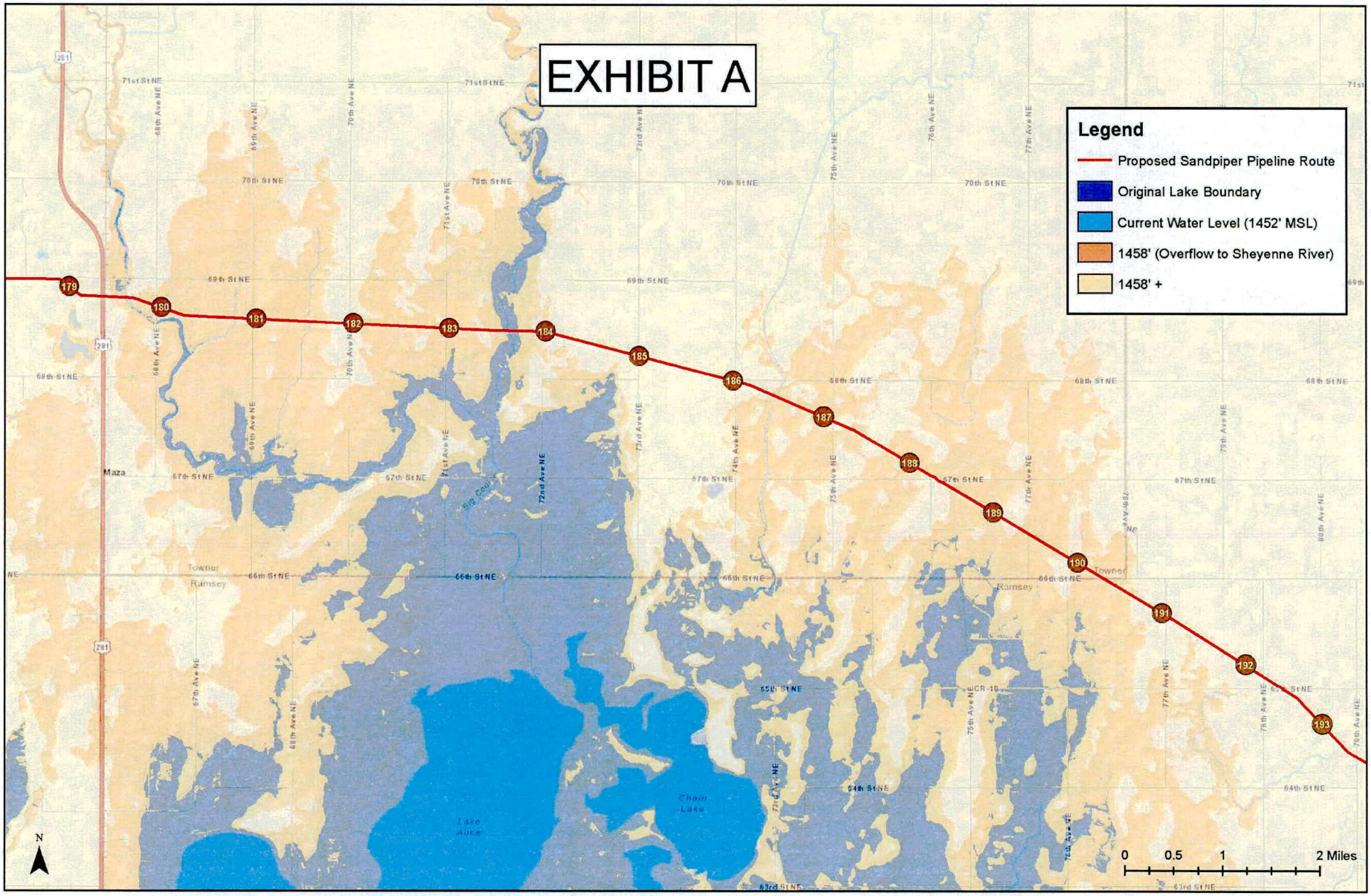
EXHIBIT A
Legend
Proposed Sandpiper Pipeline Route
Original Lake Boundary
Current Water Level (1452' MSL)
1458' (Overflow to Sheyenne River)
1458' +
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
Maza
Towner
Ramsey
Big Coulee
Lake Alice
Chain Lake
N
0
0.5
1
2 Miles