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PUBLIC SERVICE COMMISSION

June 30, 2011

North Dakota Public Service Commission
Darrell Nitschke
Executive Secretary
600 E. Boulevard Avenue Dept. 408
Bismarck, ND 58505-0489

Re: Case No. PU-08-812 Contract No. PU-599-10

Dear Mr. Nitschke,

The State of North Dakota, acting through its North Dakota Public Service Commission (NDPSC), Division of Public Utilities, has engaged Keitu Engineers & Consultants, Inc. to perform consulting services for post-construction siting inspections. A final report was sent to you electronically via email. Enclosed is an original and copy of the final report for the post-construction inspection of Case No. PU-08-812.

The Executive Summary identifies items that still need attention by the Commission staff and siting applicant to ensure that the facilities for the project have been constructed in compliance with items identified by the ND Public Service Commission. Once these items are addressed, the Commission can act on final closeout of the construction phase of the project.

Should Commission staff or the NDPSC have any questions, please contact me for assistance.

Sincerely,

Timothy Spilman
Project Manager

Enclosures



Enbridge Pipelines (North Dakota) LLC Stanley Station Injection Upgrade Project (Mountrail County)

Prepared by Timothy Spilman, Project Manager, Keitu Engineering & Consultants, Inc.
Final Report

Executive Summary

Enbridge Pipelines (North Dakota) LLC installed new pumping units, replacement of station piping, and other appurtenant facilities at the Stanley Pump Station. This project enabled Enbridge to increase its injection capacity into its existing Alexander to Clearbrook crude petroleum pipeline. This post construction report is to help the Commission with verification that Order's set for by them are completed by Enbridge. This post construction report addressed the Orders in File PU-08-812.

The last weekly construction progress report was filed on December 11, 2009. Ninety percent of cleanup was completed ending that week. That report noted that cleanup and a punch list was to be completed the following week. Station painting was to be completed in the spring. No construction progress report was found in the case file for the week of December 18, 2009 that final cleanup and the punch list was completed. No construction report in the spring of 2010 was provided that documented that station painting was completed. Final cleanup was completed based on a field PSC inspection on June 8, 2011. Enbridge should provide written documentation that final cleanup, the punch list, and 2010 spring painting occurred to complete Order #7 and #15 of the case file.

No records of tests to establish maximum operating pressure were found in the case file for the new station piping or new facilities constructed at a factory. Passing the pressure test insures that no irreparable damage occurred on the station piping during construction and operation of the stations are within design limits. Pressure testing of steel pipelines is required under Subpart E of 49 CFR 195 of the DOT regulations. A written record of each pressure test of the station should be provided from Enbridge to verify pipeline integrity and complete the case file to complete Order #8, #14, and #18.

Part of the Order granting the Certificate of Corridor Compatibility and Route Permit of December 5, 2008 (Docket # 20) included a Tree and Shrub Mitigation Specifications that were required as part of the Orders. In reviewing the site using Google Earth aerial photos of before and after construction, it appears no trees or shrubs were required to be inventoried, cleared, and replaced. Therefore, the Commission's Tree and Shrub Mitigation Specifications may not have been required for this project. Enbridge should provided written verification that no trees or shrubs were affected or comply with the Tree and Shrub Mitigation Specification to complete Order #19.



On March 4, 2010 Rooney Engineering, Inc. on behalf of Enbridge provided the Commission with a CD of the Stanley Station as-built drawings that were in electronic GIS format (Docket #76). No GIS CD was found in the PSC Commission files provided to Keitu Engineering & Consultants, Inc. No post construction review of GIS data could be completed. The Commission should check their files to find the GIS CD to verify that they can be imported into ESRI GIS mapping software. Enbridge did provide as-built design specification within 3 months of the completion of the construction. Based on the as built plot plan, drawing 609-P-05013, drawing 609-P-05012 and a Bill of Material-piping material drawing should also be provided by Enbridge. This additional information is required from Enbridge to complete Order # 20.

Enbridge Pipelines (North Dakota) LLC has complied with all other Order requests of the Commission.

Preliminary Statement

Enbridge Pipelines (North Dakota) LLC (Enbridge) owns and operates an existing crude petroleum pipeline extending from near Alexander, North Dakota, to Clearbrook, Minnesota. Part of the system, known as the 8-inch Beaver Lodge/Alexander segment in Williams and McKenzie Counties, was placed in service in the mid 1980s by Portal Pipeline Company under the North Dakota Public Service Commission's Order in Case No. 10,472. Enbridge acquired this pipeline from Portal Pipeline Company in 1996.

On December 5, 2008 the Commission issued Enbridge a Second Amended Certificate of Corridor Compatibility Number 93 and Amended Route Permit Number 103 granting authority to upgrade crude oil injection into the Stanley Station.

Enbridge Stanley Station Injection Upgrade Project optimized the injection capacity of its Stanley Pump Station through the installation of new pumping units, and other appurtenant facilities. No new pipeline was proposed except for the reconfiguration and replacement of certain minor station piping. This project enabled Enbridge to increase its injection capacity into its existing mainline system. No new land was required as all construction took place on land already owned in fee by Enbridge, with the majority of construction occurring within the existing Stanley Station fenced yard.

The State of North Dakota, acting through its North Dakota Public Service Commission (NDPSC), Division of Public Utilities, has engaged Keitu Engineers & Consultants, Inc. to perform consulting services for post-construction siting inspections. This report addresses the Orders established by the NDPSC and issues established in File No. PU-08-812.



The Commission orders:

- 1. Enbridge is issued Second Amended Certificate of Corridor Compatibility Number 93 and Second Amended Route Permit Number 103 granting authority to upgrade the Stanley Station.**

The transmission facility Corridor (# 93) and Route (#103) was designated by the Commission's August 23, 2006 Order in Case No. PU-06-317 for Beaver Lodge and Stanley station; and were again amended by the Commission's June 4, 2008 Order in Case No. PU-07-791 for Beaver Lodge and Stanley Station upgrades; and were amended for the 2nd time by the Commission's December 5, 2008 Order in Case No. PU-08-812 for Stanley Station upgrades (Mountrail County). Commission has completed Order #1.

- 2. Second Amended Certificate of Corridor Compatibility Number 93 and Second Amended Route Permit Number 103 are effective for the life of the pipeline, but are subject to modification by order of the Commission if deemed necessary to further protect the public or the environment.**

On December 5, 2008 the Commission granted a Second Amended Certificate of Site Compatibility for Transmission Facility Corridor Second Amended Corridor Certificate No. 93 and Route Permit for Construction of a Transmission Facility Second Amended Permit 103 (Docket #20) for construction and operation of the Stanley Station Injection Upgrade Project in Mountrail County, ND.

This order gives the Commission future ability to additional modification if deemed necessary to protect the public or the environment. Case file PU-08-812 does not contain any information that the Commission has deemed necessary to modify the Certificate of Corridor Compatibility (Number #93) and Route Permit (Number #103). Order # 2 is complete.

- 3. Enbridge must obtain approval from the Commission prior to any changes in the pipeline route or structural locations.**

The application (Docket #2) identified the equipment upgrades for the Stanley Station Injection upgrade project. Installation of 2 new 200 HP booster pumps, installation of two new 300 HP VFDs, replacing of existing 6" and 10" station piping with 12" and 16" diameter station piping, and SCADA upgrades were identified in the Application. Items were verified during a PSC field inspection on June 8, 2011. As-built drawing DWG. No. 609-P-05001 was compared to Exhibit B.1 drawing DRG. No. 609-Permit-A of the Exhibits to the Application to Amend Corridor Certificate and Route Permit. The equipment listed in the Permit-A drawing was in the same location of the as-built drawing. Equipment was installed as originally planned. Post construction inspection also verified the station upgrades. Compliance of Order #3 was completed.



- 4. Enbridge shall comply with all the rules and regulations of all other agencies having jurisdiction over any phase of the proposed project, and prior to construction of any particular pumping station, shall obtain all other necessary licenses and permits for construction of that station, and shall provide copies to the Commission prior to construction of the station.**

The application and response to the notice of hearing identified the following state and federal agencies with regulatory concerns: North Dakota State Historic Preservation Office (SHPO); North Dakota Department of Health; and North Dakota Game and Fish Department. The application, exhibits, and Docket items had copies of the responses from these agencies.

In the application (Docket #2 Part 2, page 61), a September 8, 2008 the North Dakota State Historic Preservation Office issued a review letter of the Class III Cultural Resource Inventory for the Stanley pump stations in Mountrail County in North Dakota. SHPO said it had received and reviewed correspondence and report documentation of September 5th for 08-1260. They found the report acceptable. They concurred with a "No Historic Properties Affected" determination with provisions. On November, 10, 2008 (Docket #15), the North Dakota State Historic Preservation Office issued another letter that it reviewed ND SHPO REF: 08-1260 PSC Case No. PU-08-812 Merjent/Enbridge Pipeline Enbridge Stanley Pumping Station [T156N R91W Section 27] Mountrail County, North Dakota and concur with the recommendation of "No Historic Properties Affected" and "No Significant Sites Affected", provided that the project is of the nature specified and the work takes place in the mapped location provided.

The cultural resource survey material demonstrated there would be minimal adverse effects by the proposed construction in the forty acre station site. About 2.5 acres of grasslands within Enbridge property was converted permanently to industrial use by expansion of the existing fenced station facility. No wetlands were affected by the station upgrade and a wetland assessment was part of the application. Due to the upgrade being within the existing Stanley Station land, disturbance of fish or wildlife resources were not a concern.

On November 14, 2008 (Docket # 14), the North Dakota Parks and Recreation Department reviewed the project proposal to upgrade the existing Stanley Station located in Section 27, T156N, R91W, Mountrail County. Their agency scope of authority and expertise covers recreation and biological resources (in particular rare species and ecological communities). The project as defined did not affect state park lands that they manage or Land and Water Conservation Fund recreation projects that they coordinate. The North Dakota Natural Heritage biological conservation database was reviewed to determine if any plant or animal species of concern or other significant ecological communities were known to occur within an approximate one-mile radius of the project area. Based on this review, there are no known occurrences within or adjacent to the project area.

On November 7, 2008 The North Dakota Department of Health authored a letter (Docket # 13) of review for the Stanley Station project. They believed that the environmental impacts from the proposed construction would be minor and could be controlled with proper construction methods.



The ND Department of Health issued the following comments and Keitu post construction discussion follows each comment as necessary:

- All necessary measures will be taken to minimize fugitive dust emissions during the construction process by wetting the project area or by other means. Enbridge's Environmental Guidelines for Construction manual (Docket #2, Part 2) discussed methods of dust control that contractors should use if necessary. In reviewing the weekly progress reports, the site had problems with wet weather conditions. No mention of dust control was found in the weekly progress reports. Only 2.5 acres of land was disturbed during construction. Due to the wet weather conditions watering for dust control was not necessary. Enbridge did have mitigation measures in place for dust emissions.
- Care is to be taken during construction activity near any water of the State to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance, and/or the handling of fuels on the site. The injection upgrade did not have construction activity near any water. The Knife River/Stanley Dam was over 1700 feet southeast of the site. Enbridge had mitigation measures in place in its Environmental Guidelines for Construction Manual (Docket #2, Part 2). Disturbed areas were fenced and graveled. Top soil was bermed along the edges of the sites to prevent erosion and spills of oil and grease from reaching waterways.
- The construction project overlies the Little Knife River Valley aquifer. Care should be taken to avoid spills of any materials that may have an adverse effect on groundwater. All spills must be immediately reported to the ND Health Department and appropriate remedial actions performed. The Little Knife River Valley aquifer was tested for depth in 1971. Two monitoring wells found the aquifer at depths of 92 feet and 80 feet below the ground surface. On June 24, 2009 the water level was determined to be 40 feet below the surface based on a well drilling report from just northeast of the station site. Dennis Water Well Drilling, Inc. filed a well report identified top soil for the first foot and brown clay with rocks from 1 feet to 30 feet below the surface. The brown clay is an impervious surface such that a spill would not pass oil through to the aquifer. No records of any spills were found in the weekly progress reports. Enbridge did have mitigation measures (Enbridge's Guidelines for Construction Manual-Docket #2, Part 2) in place should a spill have occurred. Enbridge also provided its SPCC plan as part of its application exhibits (Docket #2, Part 3).
- Noise from construction activities may have adverse effects on persons who live near the construction area. Noise levels can be minimized by ensuring that construction equipment is equipped with a recommended muffler in good working order. Noise effects can also be minimized by ensuring that construction activities are not conducted during early morning or late evening hours. On December 4, 2008 Enbridge (Docket 18) responded to issues from hearing discussions. Enbridge submitted a memorandum pertaining to the increase in noise due to Stanley injection pumps and motors. A desktop calculation was performed to determine the likely increase in noise over the current operation at Stanley, due to the implementation of the Stanley Injection project. The calculated aggregate noise increased was 0.05 db due to the two new Stanley Injection pumps at 3 feet. The noise at a distance of 300 feet increased from 57.02 dB with the



existing 3 pumps to 57.07 dB after the two new pumps were installed. No noise complaints were found in the case file. The increase in noise is not a problem.

The ND Health Department also issued a one page correspondence about Construction and Environmental Disturbance Requirements. In reviewing Enbridge's Environmental Guideline for Construction Manual for this project, the minimum requirements set by the Health Department were met for Soils, Surface Waters, and Fill Material.

The North Dakota Game and Fish Department reviewed this project for wildlife concerns. They responded on December 21, 2007 in a letter (Docket #2, Part 2, Exhibit E) stating that they do not believe that the Stanley Station Injection upgrade will have any significant adverse effects on wildlife or wildlife habitat, including endangered species, based on the information provided. No rules or regulations were identified by the ND Game and Fish department.

Other agencies had an opportunity to mandate any requirements to be followed by their agency but did not respond. None of the agencies had any objection to the Stanley Station Injection Upgrade Project. Order #4 was followed.

5. Enbridge shall obtain written waivers from affected landowners for location of the pipeline within 500 feet of a residence, school, or place of business prior to any construction in those areas.

Landowners with a premise within 500 feet were identified in the application (Docket #2).

On December 4, 2008 Enbridge (Docket #18) responded to the Commission about several issues identified during the public hearing. Item #3 addressed landowners with a residence, school, or place of business within 500 feet of the project site. Attached to the letter were waivers from owners of the four businesses located within 500 feet of the Stanley Station. Two of the waivers from Mountrail County authorities pertain to the same structure. Sign waivers were provided from:

1. True Oil # 1 & #2, dated November 23, 2008.
2. Ferlings Veterinary #5, dated November 14, 2008.
3. Mountrail County Extension #4, dated November 14, 2008.
4. Mountrail County Hwy Department #3, dated November 14, 2008
5. Dresser Oil Tools #4, Dresser Oil Tools, dated November 14, 2008

Waivers were provided by all residences, school, or place of business prior to construction starting the week of December 19, 2008. Order # 5 was completed



- 6. A preconstruction conference shall be held prior to the commencement of any construction. The conference shall include an Enbridge representative, Enbridge's construction supervisor, and Commission staff, to ensure that Enbridge fully understands the conditions set forth in this order.**

On December 16, 2008 a pre-construction conference (Docket #25) was held by conference call. In attendance were Trent Mattick (Supervisor, Construction Services, Enbridge); Edward Kelly (Supervising Project Manager, Rooney Engineering); Josh Whisenhunt (Lead Engineer, Rooney Engineering); Ty France (Project Manager, Rooney Engineering); and Pat Fahn with the Commission. Copies of the Commission's December 5, 2008 Order in Case No. PU-08-812 and the penalty provisions of North Dakota Century Code § 49-22-21 were provided to the participants prior to the conference.

The conference included a review of the order's findings of fact and ordering clauses, a review of penal provisions in the siting statute, and a question and answer period. Order # 6 was completed.

- 7. Enbridge shall inform the Commission of the date construction will start just prior to the commencement of construction; report to the Commission on the date construction is started; and, once construction has started, shall keep the Commission updated on construction activities on a weekly basis.**

The preconstruction conference was held on December 16th, 2008 which was the first day of construction. Pat Fahn with the Commission participated in the conference call. The Commission was notified of the start prior to the commencement of construction. On December 18th, 2008, Ed Kelly (Rooney Engineering, Inc. – Project Manager) emailed Pat Fahn with the Commission (Docket # 27) the 1st weekly construction progress report.

Weekly Construction Progress Reports (Docket # 27-72) were provided to the Commission on a regular weekly basis. The last weekly construction progress report was filed on December 11, 2009. This report noted that cleanup and a punch list was to be completed the following week. Station painting was to be completed in the spring. No construction progress report was found in the case file for the week of December 18, 2009 that final cleanup and the punch list was completed. No construction report in the spring of 2010 was found in the case file that documented that station painting was completed. Final cleanup was completed based on a field inspection conducted by Keitu Engineers & Consultants, Inc. on June 8, 2011. Enbridge should provide written documentation that final cleanup, the punch list, and 2010 spring painting occurred to complete Order #7 of the Commission's file.



8. Enbridge shall construct and operate the pipeline facilities in the manner described in its application, as revised at the hearing or in late filed exhibits and supplemental materials, and in accordance with all applicable safety requirements.

Design, construction and operation of the pipeline and related facilities were to be in accordance with U.S. Department of Transportation regulations governing the 195 of Title 49 of the Code of Federal Regulations, Transportation of Hazardous Liquids by Pipelines.

Size, type, and design information was identified in the amended corridor certificate/route permit application (Docket #2, Part 1). The application, weekly progress reports (Docket # 27-72), and as built drawings (Docket # 77) gave information to assist in the evaluation of Order # 8.

In the application (Docket # 1), size and design was spelled out in Section 1.3. The application identified that the station upgrade required:

- Installation of 2 new 200 HP booster pumps.
- Installation of two new 300 HP VFD's.
- SCADA upgrades.
- Replacement of existing 6" and 10" station piping with 12" and 16" station piping.

The piping that required replacement was identified on the Project Location Aerial Map (Docket #2 Exhibit B.2). The site locations of tie-ins, metering, new sump pump, booster pumps and manifolds were identified on the Plot Plan Map (Docket #2 Exhibit B.1). These items were verified as built using DWG. No. 609-P-05001 (Docket # 77.120).

The weekly progress reports identified the start date, and had minor construction information about the design. The weekly progress reports identified what and when things were completed on the project. The weekly report did mention the commissioning of the injection pumps the week of August 7, 2009.

No record of tests to establish maximum operating pressure were found in the case file for the new station piping or new facilities constructed at a factory. Passing the pressure test insures that no irreparable damage occurred on the station piping during construction and operation of the stations are within design limits. The application under B.9.b. spelled out that testing will be implemented in accordance with Enbridge's Environmental Guideline for Construction and permits issued by the North Dakota Department of Health. These requirements are for environmental purposes only. Pressure testing of steel pipelines is required under Subpart E of 49 CFR 195 of the DOT regulations. In 195.310 an operator must establish a record of each pressure test required by this subpart, and the record of the latest test must be retained as long as the facility is in use. A written record of each pressure test of the station should be requested from Enbridge by the Commission to verify pipeline integrity and complete the case file. A letter can be submitted with a summary of description what was tested, actual pressure, length of time tests occurred, final pressure, and dates. The letter should state that all new materials and equipment was tested and has proper pressure rating.

As part of the Amended Route Permit in October 2008 (Docket #02), a section "Other Matters" was provided in accordance with North Dakota Century Code 49-22-08.1, Sections 1.e, 1.f, and



I.g. This section gave an overview of the operation and maintenance that Enbridge performs to operate its pipeline system including pumping station. Enbridge operates its system by meeting or exceeding minimum pipeline safety standards.

Periodically, inspectors from the US Department of Transportation (DOT), Pipeline and Hazardous Materials Safety Administration inspect Enbridge's compliance with applicable government regulations. Inspections of the Enbridge written procedures, records, and facilities are also periodically conducted. The next few paragraphs address items the DOT inspects to assure Enbridge operates the pipeline facilities in accordance with applicable pipeline safety requirements.

Enbridge in its application spelled out that it uses a computerized pipeline control system that allows Enbridge to remotely monitor and control the pipeline and related facilities. Enbridge identified an upgrade to its SCADA system for this purpose.

Enbridge in its application spelled out it has an aggressive program in educating excavators and the public about the presence of the pipeline and preventing damage to the pipeline system from excavating equipment. Enbridge is a member and supports the North Dakota One-Call system. Line markers are installed along a pipeline as part of the Code for this reason.

The station piping was connected to the cathodic protection system of the existing pipeline. Enbridge conducts routine inspection of the pipeline and facilities to ensure that the system is operating properly, in compliance with Part 195 of CFR 49. During a calendar year (not to exceed a 15 month interval), the cathodic protection system is monitored by taking pipe/structure-to-soil and current readings where possible. Rectifier and anode ground bed are also inspected also. Corrective measures are taken if necessary.

Enbridge patrols its pipeline route by air at least 26 times per year to inspect the surface condition of land on or adjacent to the pipeline ROW. This inspection also assists in identifying unknown construction or other unsafe activity on the pipeline ROW. Enbridge also periodically inspects the transmission segments of its pipeline system, in accordance with standards under 49 CFR Part 195. These inspections are conducted with an electronic instrument pig inspection tool. The results are analyzed, the pipe is inspected to verify preliminary findings, as necessary, and repairs are then made, as required.

Isolating valves are checked at least twice per year to ensure proper operation. Tanks and pump stations are also routinely inspected. All overpressure safety devices capable of limiting, regulating, controlling, and/or relieving operating pressures are inspected and tested to ensure the device is in good mechanical condition and functioning properly.

Enbridge has a preventative maintenance program that meets the minimum federal safety standards set forth in 49 CFR Part 195. Enbridge has an established comprehensive orientation, technical, safety, emergency, and on-the-job training program that is in compliance with the Operator Qualification rules issued by the DOT under 49 CFR Part 195.



Based on the limited information in the case file and a post-construction inspection, Enbridge had constructed the pipeline in the manner identified in the application, late exhibits and supplemental material. Enbridge is currently operating the pipeline following minimum pipeline safety requirements with inspectors from the US Department of Transportation (DOT), Pipeline and Hazardous Materials Safety Administration inspecting Enbridge's compliance with applicable government regulations. Once the station pressure tests are provided to the Commission, Order # 8 is complete.

9. Enbridge shall promptly report to the Commission the presence in the permit area of any critical habitat of threatened or endangered species, or of bald or golden eagles which Enbridge becomes aware of and that were not previously reported to the Commission.

Wildlife generally located in the study area include animals such as: white-tailed deer, coyote, woodchuck, badger, cottontail, mink, mouse, vole, hawk, kestrel, partridge, owl, flycatcher, thrush, vireo, warbler, wren, sandpiper, heron, turkey, pheasant, snake, and a variety of other mammals, birds, reptiles, and amphibians. Impacts to these species included the temporary impacts associated with the construction of the project, and permanent impacts associated with the operation of the facility.

Impacts from construction included the displacement of wildlife near the project site and direct mortality of some individuals. Larger or more mobile wildlife, such as birds and large mammals, if in the area likely left the project area during construction and relocate to similar habitats nearby. Some smaller, less mobile wildlife, such as small mammals, reptiles, and amphibians could have been crushed by construction equipment or trapped in construction areas. These effects, however, would be minimal and wildlife could return to the adjacent, undisturbed habitats after construction is completed.

About 2.5 acres of grassland within Enbridge property was permanently converted to industrial use by expansion of the existing fenced station facility. Permanent and temporary loss of this habitat represents only a very small percent of available wildlife habitat in the area. Additionally, the wildlife that inhabits the project area is generally accustomed to the visual and operating impacts associated with the existing station facility. Therefore, impacts to wildlife were minimal.

Mountrail County has had occurrences of the Interior Least Tern, Whooping Crane, Pallid Sturgeon, Gray Wolf, Bald Eagle, and the Piping Plover based on the information in the County Occurrence of Endangered, Threatened and Candidate Species and Designated Critical Habitat in North Dakota, March 2006, Mountrail County. In addition, Piping Plover habitat within Mountrail County has been designated Critical Habitat. Enbridge environmental group determined that construction is not likely to jeopardize the continued existence of these species and is not likely to destroy or adversely modify critical habitat.

The North Dakota Game and Fish Department reviewed this project for wildlife concerns. They responded on December 21, 2007 in a letter (Docket #2, Part 2, Exhibit E) stating that they do not believe that the Stanley Station Injection upgrade will have any significant adverse effects on wildlife or wildlife habitat, including endangered species, based on the information provided.



At the pre-construction conference on December 16, 2008 with the Commission's staff (Docket # 25,26), Enbridge understood and agreed that it shall promptly report to the Commission the presence in the permit area of any critical habitat of threatened or endangered species, or of bald or golden eagles that Enbridge becomes aware of during construction. A review of the weekly construction progress reports (Docket #'s 27-72) did not note any critical habitat in the area during construction. No report of any critical habitat of threatened or endangered species, or of bald or golden eagle's notification to the Commission was found in case file PU-08-812. Therefore, Order # 9 is completed.

10. Crossings of graded roads shall be bored unless the responsible governing agency specifically permits Enbridge to open cut the road.

The new construction occurred on land that was owned by Enbridge. The Stanley Station injection upgrade did not require any road crossings. Therefore, no boring or trenching of roads occurred. Order # 10 was followed.

11. All pre-existing roads and lanes used during construction must be restored to a condition that will accommodate their previous use, and areas used as temporary roads or working areas during construction must be restored to their original condition.

Enbridge used existing public roads Hwy 2 east/west and Hwy 8 north/south to the construction site. The existing approach to the site was also used. Existing roads that were paved or graveled did not require modification. Original roads looked the same as prior to construction using Google Earth aerial images. Order # 11 is complete.

12. If any cultural resource, paleontological resource, archeological resource, historical resource, or gravesite is discovered during construction of the facility, earth disturbing activities in the immediate vicinity of the discovery must be halted. The resource must be marked, preserved and protected from any further disturbance until a professional examination can be made in consultation with the State Historic Preservation Office (SHPO). A report of such examination must be filed with the SHPO and the Commission. Clearance to proceed must be given by the SHPO and the Commission.

A Class I cultural resource investigation was performed by Merjent, Inc. on August 14, 2008 for the land section. In the application (Docket #2 Part 2, page 61), a September 8, 2008 the North Dakota State Historic Preservation Office issued a review letter of the Class III Cultural Resource Inventory for the Stanley pump stations in Mountrail County in North Dakota. SHPO said it had received and reviewed correspondence and report documentation of September 5th for 08-1260. They found the report acceptable. They concurred with a "No Historic Properties Affected" determination with provisions. On November, 10, 2008 (Docket #15), the North Dakota State Historic Preservation Office issued another letter that it reviewed ND SHPO REF: 08-1260 PSC Case No. PU-08-812 Merjent/Enbridge Pipeline Enbridge Stanley Pumping Station [T156N



R91W Section 27] Mountrail County, North Dakota and concur with the recommendation of "No Historic Properties Affected" and "No Significant Sites Affected", provided that the project is of the nature specified and the work takes place in the mapped location provided.

No cultural resource, paleontological site, archeological site, historical site, or grave site was discovered during construction. This is based on review of weekly construction progress reports and verification that no correspondence was identified in the case file. Order # 12 was followed.

13. During construction, at least 12 inches of topsoil, where available (or topsoil to the depth of cultivation, whichever is greater), over and along areas where facilities will be placed must be stripped and segregated from subsoil. Any area on which excavated subsoil will be placed must first be stripped of topsoil. After backfilling with subsoil is completed, any excess subsoil must be placed over the excavation area, blending the grade into existing topography. Topsoil must not be placed within the footprint of the pump station, and must be placed over areas containing topsoil.

Enbridge published an Environmental Guidelines for Construction Manual which was part of its application (Docket #2, Part 2). The manual spelled out topsoil stripping and segregation in its construction section and final restoration and backfilling in the restoration section. Top soil is one foot of depth in this area based on a well drilling report to the northeast of the site. Top soil was removed off the site area. The top soil was removed in this area because the site was graveled/soil (Class 5 gravel rock) and fenced. By removing the top soil permanently, it helps reduce vegetation growing within the area in the future. Site pictures in the weekly progress reports of January 9th (Docket # 29) and January 23 (Docket #30) did not show that the topsoil was removed. PSC inspector conducting a post construction site inspection in 2011 and verified the topsoil was removed and not placed back within the footprint of the pump station. Order #13 was followed.

14. Construction must be suspended during periods when weather conditions are such that construction activities would cause irreparable harm to the environment, unless adequate measures approved by the Commission are taken.

Enbridge started construction the week of December 19, 2008 (Docket # 27) with the last weekly progress report being filed for December 11, 2009. The weekly reports for December 19, 2008 through March 27, 2009 mentioned construction being slowed up due to weather with weather delaying some of the construction timeline. Poor weather conditions did cause delays at the Stanley upgrade pumping station construction site. Final cleanup and painting was suspended from December 2009 to spring 2010 due to weather.

Enbridge acted responsible based on review of the construction progress reports. No record of a test to establish Maximum Operating Pressure was found for station piping in the case file. Passing the pressure test insures that no irreparable damage occurred on the station piping during construction. A written record of the pressure test should be requested from Enbridge by the Commission to complete the case file. A letter can be submitted with a summary of description



what was tested, actual pressure, length of time tests occurred, final pressure, and dates. The letter should state that all new materials and equipment was tested and has proper pressure rating.

Based on review of the progress reports, construction was suspended or delayed when weather conditions were such that construction should not occur. Order # 14 was followed.

15. Reclamation and clean-up along the right-of-way must be continuous and coordinated with ongoing construction.

Restoration is the clean up, restoring and maintaining the project site to a condition that is acceptable to the landowner (Enbridge) and regulatory agencies. Some grassland area was converted permanently to industrial use by expansion of the existing fenced station facility.

Cleanup usually involves removing extra construction materials and debris from the facilities, restoring the disturbed areas to final contouring with proper surface materials and fencing if necessary. According to the weekly progress report of August 7, 2009 (Docket #56) the injection pumps were commissioned that week. Civil cleanup occurred in weekly progress reports (Docket # 58-72) from August 21 through December 11, 2009. Ninety percent of cleanup was completed ending the week of December 11, 2009. The remaining cleanup was to be completed the week of December 19, 2009. No record that final cleanup was completed was found in the case file. Restoration and clean up was continuous and coordinated with ongoing construction. Final painting occurred in spring of 2010 due to weather. Final clean up occurred and was verified during a PSC field inspection on June 8, 2011. Enbridge should provide a written record that one hundred percent of cleanup occurred and on what date to complete Order #15.

16. Reclamation, fertilization and reseeded must be done by Enbridge according to the Natural Resource Conservation Service unless otherwise specified by the landowner and approved by the Commission.

No correspondence about reclamation, fertilization, and reseeded measures were found in the case file. The property used for the Stanley injection upgrade site was owned by Enbridge. The area used for the injection upgrade became industrial use by expansion of the fenced station facility. The upgrade area became a gravel/class 5 rock surface area. Therefore, no reclamation, fertilization and reseeded was required as specified by the landowner Enbridge. Order # 16 is completed.

17. Enbridge's obligation for reclamation and maintenance of the right-of-way shall continue throughout the life of the pipeline.

The Stanley station injection upgrade project booster pumps occurred on the north portion of the station. The site development for the station required the facilities to be fenced and graveled. The site was graded such that runoff should occur from west to east off the site. The reclamation and maintenance required at this station site is annual weed control. The post construction field



inspection was held on June 8th, 2011 and weeds were maintained. Enbridge has a weed sprayer contractor come once a year. Based on the inspection and viewing Google Earth 2011 images of the site (8/31/09), proper weed maintenance occurs at this facility. Reclamation and maintenance has occurred at this station site. Compliance of Order # 17 has occurred since construction.

18. Enbridge shall construct and operate the pipeline in the manner described in its application, and in accordance with all applicable safety requirements.

Design, construction and operation of the pipeline and related facilities were to be in accordance with U.S. Department of Transportation regulations governing the 195 of Title 49 of the Code of Federal Regulations, Transportation of Hazardous Liquids by Pipelines.

The Stanley Station upgrade involved installation of two new 200 horsepower booster pumps, two new 300 horsepower variable frequency drives, Supervisory Control and Data Acquisition system upgrades, and replacement of 6 inch and 10 inch station piping with 12 inch and 16 inch station piping.

The piping that required replacement was identified on the Project Location Aerial Map (Docket #2 Exhibit B.2 map). The site locations of tie-ins, metering, new sump pump, booster pumps and manifolds were identified on the Plot Plan Map (Docket #2 Exhibit B.1 Map). These items were verified as built using DWG. No. 609-P-05001 (Docket # 77.120) and a field inspection.

The weekly progress reports identified the start date, and had minor construction information about the design. The weekly progress reports identified what and when things were completed on the project. The weekly report did mention the commissioning of the injection pumps the week of August 7, 2009.

No records of tests to establish maximum operating pressure were found in the case file for the new station piping or new facilities constructed at a factory. Passing the pressure test insures that no irreparable damage occurred on the station piping during construction and operation of the stations are within design limits. The application under B.9.b. spelled out that testing will be implemented in accordance with Enbridge's Environmental Guideline for Construction and permits issued by the North Dakota Department of Health. These requirements are for environmental purposes only. Pressure testing of steel pipelines is required under Subpart E of 49 CFR 195 of the DOT regulations. In 195.310 an operator must establish a record of each pressure test required by this subpart, and the record of the latest test must be retained as long as the facility is in use. A written record of each pressure test of the station should be requested from Enbridge by the Commission to verify pipeline integrity and complete the case file. A letter can be submitted with a summary of description what was tested, actual pressure beginning and ending, length of time tests occurred, and dates. The letter should state that all new materials and equipment was tested and has proper pressure rating.

As part of the Amended Route Permit in October 2008 (Docket #02), a section "Other Matters" was provided in accordance with North Dakota Century Code 49-22-08.1, Sections 1.e, 1.f, and 1.g. This section gave an overview of the operation and maintenance that Enbridge performs to



operate its pipeline system including pumping station. Enbridge operates its system by meeting or exceeding minimum pipeline safety standards.

Periodically, inspectors from the US Department of Transportation (DOT), Pipeline and Hazardous Materials Safety Administration inspect Enbridge's compliance with applicable government regulations. Inspections of the Enbridge written procedures, records, and facilities are also periodically conducted. The next few paragraphs address items the DOT inspects to assure Enbridge operates the pipeline facilities in accordance with applicable safety requirements.

Enbridge in its application spelled out that it uses a computerized pipeline control system that allows Enbridge to remotely monitor and control the pipeline and related facilities. Enbridge identified an upgrade to its SCADA system for this purpose. A demonstration of the computerized control system was conducted by Enbridge during the 2011 PSC field inspection.

Enbridge in its application spelled out it has an aggressive program in educating excavators and the public about the presence of the pipeline and preventing damage to the pipeline system from excavating equipment. Enbridge is a member and supports the North Dakota One-Call system. Line markers are installed along a pipeline and stations as part of the Code for this reason.

The station piping was connected to the cathodic protection system of the existing pipeline. Enbridge conducts routine inspection of the pipeline and facilities to ensure that the system is operating properly, in compliance with Part 195 of CFR 49. During a calendar year (not to exceed a 15 month interval), the cathodic protection system is monitored by taking pipe/structure-to-soil and current readings where possible. Rectifier and anode ground bed are also inspected also. Corrective measures are taken if necessary.

Enbridge patrols its pipeline route by air at least 26 times per year to inspect the surface condition of land on or adjacent to the pipeline ROW. This inspection also assists in identifying unknown construction or other unsafe activity on the pipeline ROW. Enbridge also periodically inspects the transmission segments of its pipeline system, in accordance with standards under 49 CFR Part 195. These inspections are conducted with an electronic instrument pig inspection tool. The results are analyzed, the pipe is inspected to verify preliminary findings, as necessary, and repairs are then made, as required.

Isolating valves are checked at least twice per year to ensure proper operation. Tanks and the Stanley pump station are also routinely inspected. All overpressure safety devices capable of limiting, regulating, controlling, and/or relieving operating pressures are inspected and tested to ensure the device is in good mechanical condition and functioning properly.

Enbridge has a preventative maintenance program that meets the minimum federal safety standards set forth in 49 CFR Part 195. Enbridge has an established comprehensive orientation, technical, safety, emergency, and on-the-job training program that is in compliance with the Operator Qualification rules issued by the DOT under 49 CFR Part 195.

Based on the limited information in the Commission's file and a post-construction inspection, Enbridge had constructed the pipeline in the manner identified in the application, late exhibits and



supplemental material. Enbridge is currently operating the pipeline following minimum pipeline safety requirements with inspectors from the US Department of Transportation (DOT), Pipeline and Hazardous Materials Safety Administration inspecting Enbridge's compliance with applicable government regulations. Once the station pressure tests are provided to the Commission, Order # 18 is complete.

19. Enbridge shall comply with the Commission's Tree and Shrub Mitigation Specifications attached to this order.

Part of the Order granting the Certificate of Corridor Compatibility and Route Permit of December 5, 2008 (Docket # 20) included a Tree and Shrub Mitigation Specifications that were required as part of the Orders. About 2.5 acres of grasslands within Enbridge's property was converted to industrial use by expansion of the fenced station facility and about 1.5 acres of grassland was used temporary as a staging area for the Stanley Station Injection Upgrade Project. In reviewing the site using Google Earth aerial photos of before and after construction, it appears no trees or shrubs were required to be inventoried, cleared, and replaced. Therefore, the Commission's Tree and Shrub Mitigation Specifications may not have been required for this project. Enbridge should provided written verification that no trees or shrubs were affected or comply with the Tree and Shrub Mitigation Specification to complete Order #19.

20. Enbridge shall provide the Commission with a hard copy and electronic copy of the design specifications for the construction of the Stanley Station showing the location of the project facilities as built, and an electronic version of the as-built design specifications that can be imported into ESRI GIS mapping software, and shall provide this information within 3 months of the completion of the construction.

According to the weekly progress report of August 7, 2009 (Docket #56) the injection pumps were commissioned that week. Cleanup occurred in weekly progress reports (Docket # 58-72) from August 21 through December 11, 2009. Final construction painting occurred in spring 2010.

On March 4, 2010 Rooney Engineering, Inc. on behalf of Enbridge provided the Commission with a CD of the Stanley Station as-built drawings that were in electronic GIS format (Docket #76). No GIS CD was found in the PSC Commission files provided to Keitu Engineering & Consultants, Inc. No post construction review of GIS data could be completed. The Commission should check their files to find the GIS CD to verify that they can be imported into ESRI GIS mapping software. Using Google Earth, the Enbridge Stanley Station Injection Upgrade Project is located at 48° 18' 16.61" N latitude and 102° 22' 26.25" W longitude.

On March 18, 2010 Rooney Engineering, Inc. on behalf of Enbridge provided the Commission with a CD of the Stanley Station as-built drawings that were in PDF electronic version. Only a station plot plan was provided (DWG. No. 609-P-05001) for the Stanley Station. Based on this as built plot plan; drawing 609-P-05013, drawing 609-P-05012 and a Bill of Material-piping material drawing should also be provided by Enbridge. As-built drawing DWG. No. 609-P-05001 was compared to Exhibit B.1 drawing DRG. No. 609-Permit-A of the "Exhibits to the



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Application to Amend Corridor Certificate and Route Permit". The equipment listed in the Permit-A drawing was in the same location of the as-built drawing. Equipment was installed as originally planned. Post construction field inspection also verified the station upgrades.

Enbridge did provide as-built design specification within 3 months of the completion of the construction. Based on this as built plot plan; drawing 609-P-05013, drawing 609-P-05012 and a Bill of Material-piping material drawing should also be provided by Enbridge. This additional information is required from Enbridge to complete Order # 20.