

Natural Gas Liquids Pipeline
Williams and Divide Counties
Vantage Pipeline US, LP
ND PSC Case No. PU-11-109
Keitu Project #569-211

Post-Construction Inspection Report

June 2015



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**Vantage Pipeline US, LP
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Executive Summary

The State of North Dakota, acting through its North Dakota Public Service Commission (PSC), Division of Public Utilities, has contracted Keitu Engineers & Consultants, Inc. (Keitu) to perform consulting services for post-construction siting inspections. This report addresses the Orders established by the PSC and issues established in File No. PU-11-109. The Natural Gas Liquids Pipeline (Project) is located in Williams and Divide Counties, ND. The pipeline is owned and operated by Vantage Pipeline US, LP (Vantage). Construction for the Project began in August of 2013 and was completed in June 2014. The purpose of the post-construction inspection was to ensure the Project was constructed in compliance with the siting laws, rules, and the applicable PSC Orders for the Project. Prior to the post-construction inspection, Keitu reviewed all Project documents to identify any and all aspects requiring site verification.

The site was visually inspected on May 12, 2015 and May 28, 2015 by Keitu staff. The site was inspected during construction phase on November 22, 2013 by Nathan Gaffrey of Keitu and a separate report to the Commission was issued at that time. Overall, the project was very well-maintained and in good condition. It appeared to be constructed as planned with numerous efforts to minimize impacts.

Introduction

The construction of the Natural Gas Liquids Pipeline (Project) was completed in the summer of 2014. The Project is operated by Vantage Pipeline US, LP (Vantage). The Project comprises approximately of 430 miles of new 10 inch diameter high vapor pressure steel pipeline that transports ethane from Hess Corporation's natural gas processing plant near Tioga, ND, to an existing pipeline system near Empress, Alberta, Canada. 79.8 miles of the pipeline is located in North Dakota. The Project is under the jurisdiction of the North Dakota Public Service Commission (PSC), which issued its Findings of Fact, Conclusions of Law, and Order on Case No. PU-11-109 on June 20, 2012, granting a Certificate of Corridor Compatibility No. 137 and Route Permit No. 148 for the Project.

Purpose and Scope of Inspection

The North Dakota Energy Conversion and Transmission Facility Act (North Dakota Century Code Chapter 49-22) authorizes the PSC to determine that the location, construction, and operation of jurisdictional energy conversion and transmission facilities will produce minimal adverse effects on the environment and welfare of the citizens of North Dakota. Construction inspections ensure the Project is constructed in compliance with siting laws, rules, and the applicable Commission Findings of Fact, Conclusions of Law, and Order Provisions (Order).

The North Dakota PSC retained Keitu Engineers & Consultants, Inc. (Keitu) to complete a post-construction inspection of the Project. The inspection process included a review of the Application for Corridor Compatibility and Route Permit, Order, and other applicable documents to determine Project-specific siting and construction requirements; a site visit and inspection of facilities; documentation of compliance; and a report summarizing findings. This report includes; but is not limited to, site visit observations, documentation of compliance deficiencies, and a summary of issues that should be addressed for the Project to be considered complete and in full compliance.

Methods

Keitu reviewed North Dakota siting laws and rules, the Application for Certificate of Corridor Compatibility and Route Permit (Application), and the Order for the Project to identify what Project-specific documentation was required for compliance. Keitu then reviewed Project documents in the PSC Online Case Search to identify those siting laws, rules, and Application and Order assertions that already had written verification, those that still required documentation, and those that required physical site verification.

Ryan King, Environmental Specialist, and Andrew Bates, Staff Consultant, of Keitu visited the Project area on May 12, 2015 and May 28, 2015. The site was visually inspected along portions of the transmission line route by accessing as many points as feasible where road access was

available. The inspection began at the North Dakota border in Section 25 of Township 164N, Range 103W in Divide County, ND and followed the line to its end at the Hess Corporation natural gas processing plant in Section 26 of Township 157N, Range 95W, in Williams County, ND. Digital photographs were taken showing typical Project infrastructure and documenting any problem areas (Appendix A). Geographic coordinates were recorded at observation points or potential problem areas using a handheld Global Positioning System (GPS) (Trimble GeoExplorer 6000 series). A map showing the location of the observation points is attached as Figure 1 in Appendix B.

Observations/Findings of Commission Orders

The following section includes discussion of a list of components of the Project that were asserted in the Application and Orders which could be documented during the post-construction inspection to verify compliance with siting laws, rules and the Orders for the Project, via either written documentation or physical site verification. Included are detailed findings and observations from Keitu personnel involved in the post-construction inspection for the Vantage Pipeline US, LP Natural Gas Liquids Pipeline – Williams and Divide Counties.

1. Vantage Pipeline US LP's application for a waiver of procedures and time schedules is granted.

In a March 21, 2012 motion (Docket #10), Patrick J. Fahn moved the Commission to deem the applications complete and issue a Notice of Filing and Notice of Hearing in the request of Vantage for a waiver of procedures and time schedules, a corridor certificate and a route permit for the construction of approximately 79.8 miles of 10-inch liquid ethane pipeline from near Tioga to the Canada border in Williams and Divide counties, North Dakota, Case No. PU-11-109.

Order #1 is deemed complete.

2. Certificate of Corridor Compatibility No. 137 is issued to Vantage Pipeline US LP, designating a corridor for the construction, operation and maintenance of the Vantage Pipeline Project, being 300 feet in width, with the exception of an area east of Alamo, North Dakota, where Vantage is temporarily granted a corridor of approximately 2,000 feet in width because of the uncertainty in the location of the pipeline caused by flooding. Once Vantage has identified a final route for construction, it will notify the Commission, at which time the entire corridor shall be limited to 300 feet in width.

On June 20, 2012 the Commission designated a transmission facility corridor for Vantage Pipeline US LP's approximately 79.8 miles of 10-inch pipeline in Williams and Divide Counties, North Dakota for the transmission of ethane. The certificate (Docket #38), was issued in accordance with the Order of the Commission dated June 20, 2010 in Case No. PU-11-109 and was subject to the conditions and limitations noted in the Order.

Order #2 is deemed complete.

- 3. Route Permit No. 148 is issued to Vantage Pipeline US LP granting authority to construct and operate the Vantage Pipeline Project, being a pipeline for the transportation of ethane alone with associated facilities.**

On June 20, 2012, the Commission designated a transmission facility route for Vantage Pipeline US LP for the construction of approximately 79.8 miles of 10-inch pipeline in Williams and Divide Counties, North Dakota. The permit (Docket #38) was issued in accordance with the Order of the Commission dated June 20, 2012 in Case No. PU-11-109 and was subject to the conditions and limitations noted in the Order.

Order #3 is deemed complete.

- 4. The Certification Relating to Order Provisions-Transmission Facility Siting, dated April 23, 2012, with accompanying Tree and Shrub Mitigation Specifications, incorporated by reference and attached to this Order.**

On April 23, 2012, David Schmunk of Vantage Pipeline US LP signed the Certification Relating to Order Provisions-Transmission Facility Siting and accompanying Tree and Shrub Mitigation Specifications (Docket #34) , binding Vantage to requirements set forth by the Commission in its Order.

Order #4 is deemed complete.

Conclusions

Overall, the Project appeared to be constructed as designed with minimal impacts to the surrounding natural and human environment. The Project site was in good condition and well maintained. A portion of the pipeline has been paralleled by another pipeline. When these areas were unvegetated or had erosion issues, it was presumed that the paralleled pipeline construction project was the cause and Vantage was not at fault.

The project has been constructed in compliance with the siting laws and rules and applicable Commission orders. I declare that, I have the specific qualifications based on education, training, and experience to assess a project of this nature.

Sincerely,

Nathan J. Gaffrey, PE
Project Engineer

Appendix A: Site Photos



Photo 1 – 011: Hess Corporation’s Natural Gas processing plant



Photo 2 – 011: Typical mainline block valve station



Photo 3 – 012: Shows revegetated field and typical pipeline markers

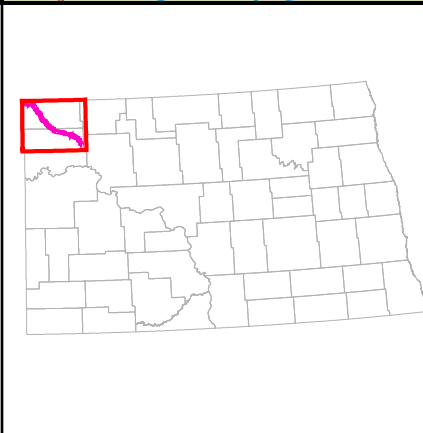
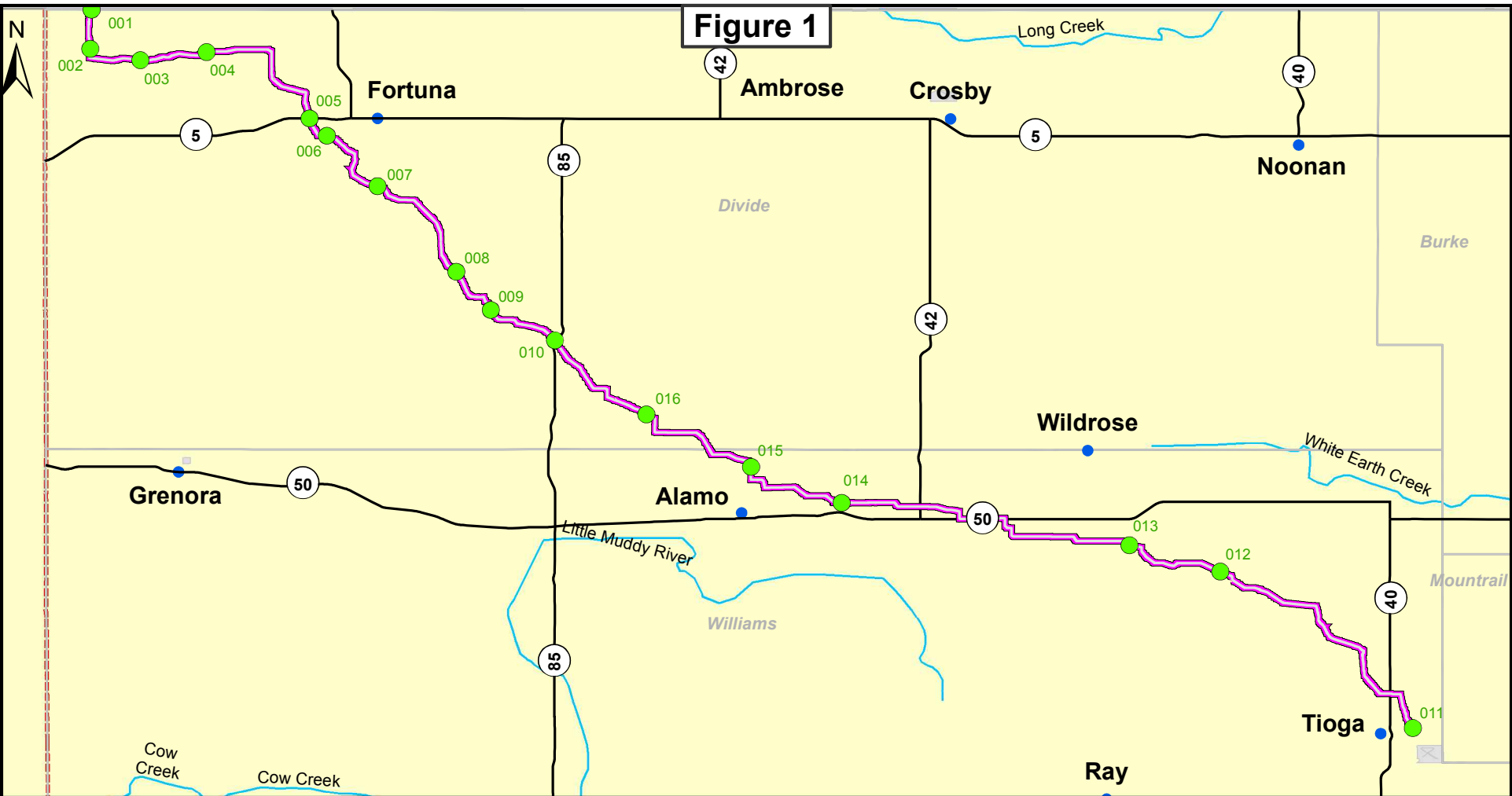


Photo 4 – 015: Typical pipeline markers at road crossing



Photo 5 – 014: Shows the portion of the pipeline paralleled by another pipeline.

Appendix B: Figures



ND PSC Case Number PU-11-109
Vantage Pipeline US LP
Natural Gas Liquid Pipeline

May 2015

Legend

- Observation Points
- Pipeline Route
- As-Built Pipeline
- Rivers (Regional)
- - - State Border

