

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Targa Badlands LLC
8-Inch Crude Pipeline Project – McKenzie County
Siting Application

Case No. PU-16-695

FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

May 31, 2017

Appearances

Commissioners Randy Christmann, Julie Fedorchak, and Brian Kroshus.

Lawrence Bender and Danielle M. Krause, Attorneys at Law, Fredrikson & Byron, P.A., 1133 College Drive, Suite 1000, Bismarck, North Dakota 58501, on behalf of Targa Badlands LLC.

Zachary E. Pelham, Special Assistant Attorney General, Legal Counsel for Public Service Commission, 314 E. Thayer Avenue, Bismarck, North Dakota 58502.

Timothy Dawson, Administrative Law Judge, Office of Administrative Hearings, 2911 North 14th Street, Suite 303, Bismarck, North Dakota 58503.

Preliminary Statement

On November 15, 2016, Targa Badlands LLC (Targa), filed with the North Dakota Public Service Commission (Commission) a consolidated application for a Certificate of Corridor Compatibility and Route Permit concerning the conversion to a transmission line of an approximately 54.35-mile, 8-inch existing crude oil gathering pipeline, and associated facilities, with origin near Johnsons Corner, North Dakota, and a terminus near Alexander, North Dakota in McKenzie County (Project).

Also on November 15, 2016, Targa filed an application for waiver of procedures and time schedules established under North Dakota Century Code sections 49-22-07.2, 49-22-08, 49-22-08.1, 49-22-13, and North Dakota Administrative Code chapter 69-06-06 and section 69-06-01-02, requiring separate filings and applications for a certificate of corridor compatibility and a route permit, separate notice of such applications, separate hearings on such applications, and certain time schedules.

On January 30, 2017, Targa filed supplemental information with respect to the Applications.

On January 31, 2017, the Commission deemed Targa's applications complete and issued a Notice of Filings and Public Hearing ("Notice") scheduling a hearing for March

27, 2017, at 9:00 a.m. Central Time at Teddy's Residential Suites, 113 9th Ave SW, Watford City, North Dakota 58854.

The Notice identified the following issues to be considered with respect to the application for waiver of procedures and time schedules:

1. Are the proposed facilities of such length, design, location, or purpose that they will produce minimal adverse effects and that adherence to applicable procedures and time schedules may be waived?
2. Is it appropriate for the Commission to waive any procedures and time schedules as requested in the application?

The Notice identified the following issues to be considered with respect to the Application:

1. Will the location and operation of the proposed facilities produce minimal adverse effects on the environment and upon the welfare of the citizens of North Dakota?
2. Are the proposed facilities compatible with the environmental preservation and the efficient use of resources?
3. Will the proposed facility locations minimize adverse human and environmental impact while ensuring continuing system reliability and integrity and ensuring that energy needs are met and fulfilled in an orderly and timely fashion?

On March 27, 2017, the hearing was held as scheduled.

Having allowed all interested persons an opportunity to be heard, and having heard, reviewed and considered all testimony and evidence presented, the Commission makes the following:

Findings of Fact

1. Targa is a Delaware limited liability company. Targa has been authorized to do business in the State of North Dakota since January 11, 2013, as evidenced by the corporate papers filed with the Commission on September 10, 2014, in Case No. PU-14-711. A current Certificate of Good Standing from the North Dakota Secretary of State for Targa was filed with the Commission on November 15, 2016 in connection with the Application.

Size, Type, and Preferred Location of Facility

2. The Project consists of approximately 54.35 miles of existing gathering pipeline located in McKenzie County. The Project includes two tank facility locations and one valve station, specifically the Johnsons Corner tank facility near Johnsons Corner, North Dakota, the Alexander tank facility near Alexander, North Dakota, and the Midway valve

station. The Project was constructed as a gathering facility and was acquired by Targa in 2012.

3. The Project utilizes an 8-inch diameter steel pipeline capable of transporting a maximum of 50,000 barrels of oil per day with a 0.219-inch wall thickness. In certain areas, such as railway or roadway crossings, natural drainages, ponds, sloughs, or other wetlands, and on each side of aboveground valve stations, the pipe has a wall thickness of 0.322 inches.

4. The pipeline has a maximum operating pressure of 1,480 pounds per square inch and was designed and constructed in compliance with Code of Federal Regulations Title 49 Part 195 hazardous liquids pipeline safety standards.

5. The pipeline was completed in December 2011, and has been operating as a gathering pipeline since December 2011.

6. Construction of the Johnson Corner tank facility was completed in December 2012. The tank facility near Johnsons Corner is 31.84 acres and includes a pig receiver, sump tank, booster pump station, outlet meter station, two 20,000-barrel-capacity tanks, tank inlet and outlet manifolds, an inlet meter station, a mainline pump station, a pig launcher, and a control building.

7. Construction of the Alexander tank facility was completed in February 2012. The tank facility near Alexander is 16.10 acres and includes a pig receiver, sump tank, control valve manifold, leak detection equipment, 30,000-barrel-capacity tank, strainer station, transfer pump station, and an asset custody transfer station.

8. The Midway valve station is 39.19 acres, is presently largely undeveloped, and includes an aboveground valve station and pig launchers.

9. The Johnsons Corner and Alexander tank facilities are not currently being utilized for storage with the gathering pipeline. Targa desires to convert the system from gathering to transmission to allow for utilization of the storage tanks at Johnsons Corner and Alexander to store crude oil before the oil is transported. Additionally, Targa desires to flow crude oil in either direction, enabling delivery of crude oil to recipients at either the Alexander or Johnsons Corner Facilities.

10. The total cost of the project was approximately \$85 million.

11. Targa concluded there is a need to convert the Project to a transmission line to allow for ease of operation and to more safely operate the Project. Conversion of the current gathering line and utilization of the tanks would provide a reliable transportation method for up to 50,000 barrels per day. Utilization of the tanks would allow Targa to better manage operations and to safely shut down the flow of oil in the event of an unanticipated interruption of service or unavailability of the delivery point in Alexander. Finally, the use of the storage tanks will reduce overall pressure in the pipeline, further increasing safety of the Project.

Study of Preferred Location(s)

12. Targa conducted a Class I cultural resource literature review on a one-mile-wide study area centered on the route (Study Area). A Class III pedestrian cultural resource survey was conducted on the 200-foot-wide corridor, both tank facility sites, and the Midway valve station (Survey Area).

13. Field surveys were conducted to inventory potential resource issues such as wetlands, water bodies, protected species, critical habitats, and/or cultural resources. Additionally, environmental data collected included information on soils, land use, wetlands and waterbody crossings, noxious weeds, trees, saplings, and shrubs, and protected species and habitats.

14. The following agencies were contacted by Targa regarding the Project and provided comments: North Dakota State Historical Preservation Office ("SHPO"); North Dakota Department of Transportation (DOT); Department of the Army, Corps of Engineers; North Dakota State Water Commission (NDSWC); North Dakota Game and Fish Department (NDGFD); U.S. Department of Transportation, Federal Aviation Administration (FAA); North Dakota Department of Trust Lands; North Dakota Geological Survey; and North Dakota Department of Health (NDDOH). None of the agencies objected to the Project.

15. In a response dated February 28, 2017, the office for the North Dakota Geological Survey noted that landslides have been mapped in the vicinity of the existing pipeline route, and an enhanced level of monitoring and periodic inspection of the line may be warranted. Targa testified its inspections will monitor for the concerns of the North Dakota Geological Survey.

16. The SHPO has concurred with the determination that no historic properties or significant sites will be affected by the Project so long as the Project remains of the nature and in the location described in the Class III Cultural Resource Inventory Report and the addendum, and Targa follows any site avoidance measures set forth in the report.

17. Targa received a Conditional Use Permit from the McKenzie County Board of County Commissioners for the Project.

Siting Criteria

18. The Commission has established criteria pursuant to North Dakota Century Code Section 49-22-05.1 to guide the Commission in evaluating the suitability of granting a Certificate of Corridor Compatibility and Route Permit. The criteria, as set forth in North Dakota Administrative Code Section 69-06-08-02 are classified as Exclusion Areas, Avoidance Areas, Selection Criteria, and Policy Criteria.

19. Targa evaluated the Project for the Exclusion, Avoidance, Selection, and Policy criteria of the Commission.

20. An Exclusion Area may not encompass more than fifty percent of a corridor width unless there is no reasonable alternative. An Exclusion Area must be excluded in the consideration of a route for a transmission facility. A buffer zone of a reasonable width to protect the integrity of an Exclusion Area must be included in the siting of the transmission facility.

21. No Exclusion Areas are present within the Survey Area.

22. An Avoidance Area is a geographic area that may not be considered in the routing of a transmission facility unless the application shows that, under the circumstances, there is no reasonable alternative. In determining whether an Avoidance Area should be designated for a transmission facility, the Commission may consider, among other things, the proposed management of adverse impacts; the orderly siting of facilities; system reliability and integrity; the efficient use of resources; and alternative routes.

23. A transmission facility route may not be sited within an Avoidance Area unless the applicant demonstrates that under the circumstances there is no reasonable alternative. Economic considerations alone are not sufficient to establish no reasonable alternative.

24. Pursuant to North Dakota Century Code Section 49-22-05.1, areas within five hundred feet of an inhabited rural residence are designated as avoidance areas. In addition, North Dakota Administrative Code Section 69-06-08-02(2) designates areas within five hundred feet of a residence, school, or place of business as avoidance areas. The five hundred foot avoidance area criteria for an inhabited rural residence may be waived by the owner of the inhabited rural residence in writing.

25. The Project is within five hundred feet of fourteen rural residences and one business. Waivers have been obtained from the business and all but one residence. Prior to construction in 2011, the previous owner of that property executed an easement to allow construction of the pipeline. In the spring of 2013, and following construction of the pipeline, the present owner of the property located a rural residence within 500 feet of the Project with knowledge of the pipeline's existence. Under the circumstances, there is no reasonable alternative but to allow the Project to remain in its current location. Accordingly, a waiver is not required.

26. The Little Missouri National Grasslands, an Avoidance Area, are present within the Survey Area, but are not crossed by the route.

27. Land designated as State Private Land Open to Sportsmen is located within the Study Area, but no impacts were found.

28. Two previously recorded cultural sites fall within the Study Area. The two previously recorded sites are not eligible for the National Register of Historic Places. Twenty-one new resources were also identified within the Study Area. Of these twenty-one cultural resources, ten were recommended not eligible for the National Register of Historic Places, and two remain unevaluated for eligibility for the National Register of

Historic Places. No avoidance was recommended for the newly discovered sites or for the previously recorded sites.

29. No other Avoidance Areas are present within the Survey Area.

30. A wetlands and waterbodies inventory was completed along the Project route. Several wetlands or waterbodies are present along the route, but any indirect impacts from pipeline placement were temporary. The Project will have no significant impact on wetlands or waterbodies.

31. In accordance with the Commission's selection criteria, a transmission facility route shall be approved if it is demonstrated that any significant adverse effects that will result from the location, construction, and maintenance of the transmission facility will be at an acceptable minimum or managed and maintained at an acceptable minimum. Targa has analyzed the impacts of the Project in relation to all of the relevant selection criteria. The Project will have no significant adverse effects on the Commission's selection criteria.

32. In accordance with the Commission's policy criteria, preference may be given to an application demonstrating certain benefits of the transmission facility. Targa has analyzed the relevant policy criteria and has committed to: designing, constructing, and operating the pipeline in accordance with all applicable federal, state, and local laws and regulations; energy conservation through the facility's location, process, and design; training and utilizing available labor in the state; constructing the Project to take advantage of economies of scale; achieving capacity in the most minimally intrusive and most efficient way possible; and coordinating with state and local officials. Targa submitted evidence to demonstrate its commitment to maximize the benefits of the proposed transmission facility to the extent possible so as to meet the policy criteria.

Measures to Minimize Impact

33. Targa has agreed to a number of steps to mitigate the impact of the Project, as indicated by the executed Certification Relating to Order Provisions – Transmission Facility Siting, Gathering Line Conversion to Transmission Line, with accompanying Tree and Shrub Mitigation Specifications, which is incorporated by reference and attached to this Order.

34. The Project's permanent right-of-way ("ROW") is 50 feet wide, while its temporary construction ROW was 100 feet wide.

35. Targa testified that Targa is a member of the Sakakawea Area Spill Response Company LLC.

36. Targa testified that it will participate in the North Dakota One-Call notification system.

37. The design, construction, and operation of the pipeline must be in accordance with the United State Department of Transportation regulations governing the transportation

of crude oil, including U.S. Department of Transportation regulations as set forth in 49 C.F.R. Part 195.

38. Targa's existing emergency response plan includes the Project.

From the foregoing Findings of Fact, the Commission now makes the following:

Conclusions of Law

1. The Commission has jurisdiction over Targa and the subject matter of the Application under Chapter 49-22 of the North Dakota Century Code.
2. Targa is a utility as defined in Section 49-22-03(13) of the North Dakota Century Code.
3. Upon conversion, the Project is a transmission facility as defined in Section 49-22-03(12) of the North Dakota Century Code.
4. No reasonable alternative exists for the residence that had been located within 500 feet of the existing pipeline.
5. The location, construction, and operation of the Project will produce minimal adverse effects on the environment and upon the welfare of the citizens of North Dakota.
6. The location, construction, and operation of the Project are compatible with environmental preservation and the efficient use of resources.
7. The Project will minimize adverse human and environmental impact while ensuring continuing system reliability and integrity and ensuring that energy needs are met and fulfilled in an orderly and timely fashion.
8. The Project is of such design and location that it will produce minimal adverse effects, in accordance with Section 49-22-07.2 of the North Dakota Century Code.
9. It is appropriate for the Commission to waive the certain procedures and time schedules as requested in the Application and provided under Section 49-22-07.2 of the North Dakota Century Code.

From the foregoing Findings of Fact and Conclusions of Law, the Commission now issues the following:

Order

1. That Targa's application for a waiver of procedures and time schedules is granted.
2. Certificate of Corridor Compatibility No. 198 is issued to Targa Badlands LLC designating a corridor for the conversion, operation, and maintenance of an

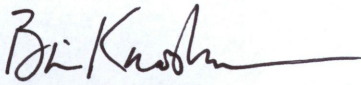
approximately 54.35-mile, 8-inch crude oil pipeline and associated tanks and facilities in McKenzie County, North Dakota. For purposes of the Certificate, the Corridor will consist of a 200-foot-wide corridor centered on the pipeline route, along with the Johnsons Corner, Alexander, and Midway Facility sites as surveyed.

3. Route Permit No. 209 is issued to Targa Badlands LLC granting authority to convert and operate an approximately 54.35-mile, 8-inch crude oil pipeline and associated tanks and facilities in McKenzie County, North Dakota. The designated route is shown on the map included as Figure 1 in the Consolidated Application for a Certificate of Corridor Compatibility and Route Permit.

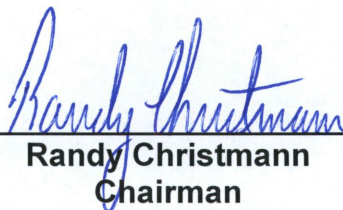
4. That the Certification Relating to Order Provisions – Transmission Facility Siting, Gathering Line Conversion to Transmission Line (Hearing Exhibit 3), be incorporated by reference and attached to this Order.

5. To the extent there are any conflicts or inconsistencies between Targa's Applications and the Certification, the Certification provisions control.

Public Service Commission



**Brian Kroshus
Commissioner**



**Randy Christmann
Chairman**



**Julie Fedorchak
Commissioner**

PUBLIC SERVICE COMMISSION
STATE OF NORTH DAKOTA

Certificate of Corridor Compatibility Number 198

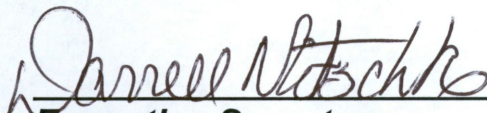
This is to certify that the Commission has designated a transmission facility corridor for Targa Badlands, LLC for the conversion to a transmission line of approximately 54.35-miles of existing 8-inch crude oil gathering pipeline and associated facilities with origin near Johnsons Corner and terminus near Alexander in McKenzie County, North Dakota.

This certificate is issued in accordance with the Findings of Fact, Conclusions of Law and Order of the Commission dated May 31, 2017 in Case No. PU-16-695 and is subject to the conditions and limitations noted in the Order.

Bismarck, North Dakota, May 31, 2017

ATTEST:

PUBLIC SERVICE COMMISSION


Executive Secretary


Commissioner

**PUBLIC SERVICE COMMISSION
STATE OF NORTH DAKOTA**

Route Permit Number 209

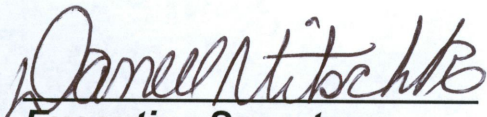
This is to certify that the Commission has designated a transmission facility route for Targa Badlands, LLC for the conversion to a transmission line of approximately 54.35-miles of existing 8-inch crude oil gathering pipeline and associated facilities with origin near Johnsons Corner and terminus near Alexander in McKenzie County, North Dakota.

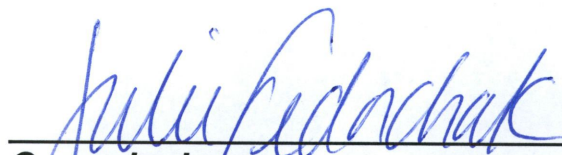
This certificate is issued in accordance with the Findings of Fact, Conclusions of Law and Order of the Commission dated May 31, 2017 in Case No. PU-16-695 and is subject to the conditions and limitations noted in the Order.

Bismarck, North Dakota, May 31, 2017

ATTEST:

PUBLIC SERVICE COMMISSION


Executive Secretary


Commissioner

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Targa Badlands LLC
8-Inch Crude Pipeline Project – McKenzie County
Siting Application

Case No. PU-16-695

CERTIFICATION RELATING TO ORDER PROVISIONS
TRANSMISSION FACILITY SITING
GATHERING LINE CONVERSION TO TRANSMISSION LINE

I am DAN C MIDDLEBROOKS, a representative of Targa Badlands LLC ("Company") with authority to bind the Company to requirements to be set forth by the Commission in its Order and I certify the following:

1. Company understands and agrees that any Certificate of Corridor Compatibility or Route Permit issued by the Commission will be subject to the conditions and criteria set forth in Chapter 49-22 of the North Dakota Century Code and Chapter 69-06-08 of the North Dakota Administrative Code, and that Company shall be responsible for compliance with this order and conditions and criteria set forth in the applicable laws and rules.
2. Company agrees to comply with the rules and regulations of all other agencies having jurisdiction over any phase of the transmission facility including all city, township, and county zoning regulations.
3. Company agrees that it shall obtain all necessary licenses and permits, and shall provide copies of all licenses and permits to the Commission prior to initiating operation of the transmission facility that requires said license or permit.
4. Company understands and agrees that any Certificate of Corridor Compatibility or Route Permit issued by the Commission is subject to suspension or revocation and may, in an appropriate and proper case, be suspended or revoked for failure to comply with the Commission's order, the conditions and criteria of the certificate or subsequent modification, or failure to comply with the applicable statutes, rules, regulations, standards, and permits of other state or federal agencies.
5. Company agrees to maintain records that will demonstrate that it has complied with the requirements of the Commission's order issuing a Certificate of Corridor Compatibility or Route Permit, and that it will preserve these records for Commission inspection at any reasonable time upon reasonable notice.
6. Company understands and agrees that the authorizations granted by any Certificate of Corridor Compatibility or Route Permit issued by the Commission for

the transmission facility are subject to modification by order of the Commission if deemed necessary to protect further the public or the environment.

Construction:

7. Company agrees to hold a construction conference prior to initiating operation of the facility as a transmission facility, which must include a Company representative, its construction supervisor, and a representative of Commission Staff, to ensure that Company fully understands the conditions set forth in the Commission's order.
8. Company understands and agrees that all cultural resource mitigation plans must be submitted to the North Dakota State Historic Preservation Office and approved prior initiating operation of the facility as a transmission facility.
9. Company agrees to inform the Commission and the Commission's third-party construction inspector immediately prior to the Company initiating operation of the facility as a transmission facility.
10. Company certifies that the pipeline has been buried to a minimum depth from the ground surface to the top of the pipe of 48 inches in range land, 48 inches for cultivated land, 48 inches at the bottom of the ditch for road crossings, and 72 inches across undeveloped section lines.
11. Company certifies that all topsoil, up to 12 inches, or topsoil to the depth of cultivation, whichever is greater, over and along trench areas where cuts were made, was stripped and segregated from the subsoil. Any area on which excavated subsoil was placed was also be stripped of topsoil. After backfilling was completed, any excess subsoil was placed over the excavation area, blending the grade into existing topography. Topsoil was replaced over areas from which it was stripped only after the subsoil was replaced.
12. Company certifies that all buried facility crossings of graded roads were bored unless the responsible governing agency permitted Company to open cut the road.
13. Company certifies that staging areas or equipment were not located on land owned by a person other than Company unless otherwise negotiated with landowners.
14. Company understands and agrees that if any cultural resource, paleontological site, archeological site, historical site, or grave site discovered during construction, was marked, preserved and protected from further disturbances until a professional examination could be made and a report of such examination was filed with the Commission and the State Historical Society and clearance to proceed was given by the North Dakota State Historic Preservation Office.

15. Company certifies that construction was suspended when weather conditions were such that construction activities would cause irreparable damage to roads or land, unless adequate protection measures were taken by Company.

Restoration and Maintenance:

16. Company certifies that upon completion of the construction of the facility, Company restored the area affected by the activities to as near as was practicable to the condition as it existed prior to the beginning of construction.
17. Company certifies that all pre-existing township and county roads and lanes used during construction were, or are being, repaired to a condition that is equal to or better than the condition prior to the construction of the transmission facility and accommodates their previous use, and that areas used as temporary roads or working areas during construction were, or are being, restored to their original condition.
18. Company certifies that reclamation, fertilization, and reseeding was, or is being done according to the Natural Resources Conservation Service recommendations, unless otherwise specified by the landowner and approved by the Commission.
19. Company understands and agrees that its obligation for reclamation and maintenance of the transmission facility right-of-way, transmission facility, associated facilities, fences and gates, drainage tile, and roadways will continue throughout the life of the transmission facility.
20. Company agrees to comply with the Tree and Shrub Mitigation Specifications, attached.
21. Company certifies that it has removed all waste that was a product of construction and has properly disposed of it. Company understands and agrees that it shall remove all waste that is a product of operation, restoration, and maintenance of the site, and properly dispose of it on a regular basis.
22. Company certifies that it provided any necessary safety measures for traffic control or to restrict public access to the transmission facility during construction.

Communication with Landowners and PSC:

23. Company understands and agrees that, prior to operating its facility as a transmission facility, it shall send a letter to each landowner with whom an easement was executed for that location specifying the name and phone number of the company representative who is responsible for receiving and resolving landowner issues for the life of the easement.

24. Company understands and agrees that it will file with the Commission the name and phone number of the current company representative who is responsible for receiving and resolving landowner issues for the transmission facility. The Company will update this information whenever there is a change to the current company representative for the life of all easements for the transmission facility.
25. Upon request, Company agrees to provide the Commission with engineering design drawings of the transmission facility prior initiating operation of the facility as a transmission facility.
26. Company understands and agrees that it shall advise the Commission as soon as reasonably possible of any extraordinary events which take place at the site of the transmission facility, including injuries to any person.
27. Company agrees to report to the Commission, as soon as reasonably possible, the presence in the permit area of any critical habitat or threatened or endangered species of which Company becomes aware and which were not previously reported to the Commission.
28. Company understands and agrees that it shall inform the Commission in writing of any plans to modify the transmission facility or of any plans to modify the site plan for the transmission facility.
29. Company agrees to provide the Commission with both an electronic and a paper copy of the corridor approved by the Commission and the facility design specifications for the construction of the transmission facility showing the location of the transmission facility as built, and will provide this information within 3 months of commencement of operation of the facility as a transmission facility. Company also agrees to provide an electronic version of the corridor approved by the Commission and the facility design specifications of the transmission facility showing the location of the transmission facility as built that can be imported into ESRI GIS mapping software within 3 months of commencement of operation of the facility as a transmission facility. This electronic map data must be referenced to the North Dakota coordinate system of 1983, North and/or South zones US Survey feet (NAD 83) UTM Zone 13N or 14N feet (NAD 83), or geographic coordinate system (WGS 84) feet. The vertical data must be in the appropriate vertical datum for the coordinate system used. All submissions must specify the datum in which the data was developed.
30. Company shall notify the Commission as soon as reasonably possible if any damage, as defined by North Dakota Century Code Chapter 49-23, occurs to underground facilities during activities conducted under the certificate or permit issued in this proceeding. In the event of any damage to underground facilities,

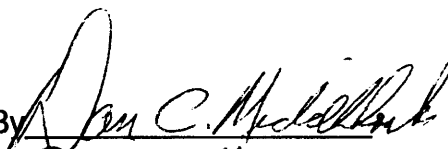
Company shall suspend activities in the vicinity of the damage until compliance with One-Call Excavation Notice System requirements under North Dakota Century Code Chapter 49-23 has been determined.

31. When applicable, Company may submit the field studies from the original application for the corridor and route provided they cover the adjustment area.

Dated this 26th day of March, 2017.

TARGA BADLANDS LLC



By 
DAN C. MIDDLEBROOKS

Its Executive Vice President

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Targa Badlands LLC
8-Inch Crude Pipeline Project – McKenzie County
Siting Application

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Tree and Shrub Mitigation Specifications

Inventory

1. Trees and shrubs anticipated to be cleared, including those that are considered invasive species or noxious weeds (e.g., *Caragana arborescens*, *Elaeagnus angustifolia*, *Rhamnus cathartica*, *Tamarix chinensis*, *T. parviflora*, *T. ramosissima*, *Ulmus pumila*), must be inventoried before cutting. The inventory must record the location, number, and species of trees and shrubs.
2. In windbreaks, shelterbelts and other planted areas, trees or shrubs anticipated to be cleared, regardless of size, must be inventoried for replacement.
3. In native growth areas, trees anticipated to be cleared that are 1 inch diameter at breast height (dbh) or greater must be inventoried for replacement.
4. In native growth areas, shrubs anticipated to be cleared in the permanent right-of-way must be inventoried for replacement.
5. In native growth areas outside the permanent right-of-way, shrubs must be cut flush with the surface of the ground, taking care to leave the naturally occurring seed bank and root stock intact. If soil disturbance is necessary, the native topsoil must be preserved and replaced after construction. Shrubs must be allowed to regenerate naturally where native topsoil is preserved and replaced. Where native topsoil is not preserved and replaced, shrubs anticipated to be cleared must be inventoried for replacement.
6. In native growth areas, trees and shrubs may be inventoried by actual count or by a sampling method that will properly represent the woody vegetation

population. A sampling plan developed by the company, filed with the North Dakota Public Service Commission (Commission) and approved prior to the start of construction must define the sampling method to be used for trees, for tall shrubs and for low shrubs. The data from the sample plots must be extrapolated to the total acreage of the wooded area to be cleared to determine the species and quantity of trees and shrubs to be replaced.

Clearing for Construction

7. Trees and shrubs must be selectively cleared, leaving mature trees and shrubs intact where practical.
8. The maximum width of clear cuts through windbreaks, shelterbelts and all other wooded areas is 50 feet, unless otherwise approved by the Commission.
9. If the area of trees or shrubs actually cleared differs from the area inventoried, the difference in number of trees and shrubs to be replaced must be noted on the inventory.

Replacement

10. Prior to tree and shrub replacement, documentation identifying the number and variety of trees and shrubs removed, as well as the mitigation plan for the proposed number, variety, type, location and date of replacement plantings, must be filed with the Commission for approval.
11. Two 2-year-old saplings must be planted for every one tree removed. Two shrubs (stem cuttings) must be planted for every one shrub removed.
12. Except in the case of invasive or noxious species, trees and shrubs must be replaced by the same species or similar species, suitable for North Dakota growing conditions as recommended by the North Dakota Forest Service. Invasive or noxious species must be replaced by similar non-invasive or non-

noxious species suitable for North Dakota growing conditions as recommended by the North Dakota Forest Service.

13. Tree and shrub replacement must not be conducted within a 20 to 30 foot wide path over the pipeline to facilitate visual inspections of the right-of-way in accordance with U.S. Department of Transportation safety regulations.
14. Landowners must be given the option of having replacement trees and shrubs planted on the landowner's property, either on or off the right-of-way. The landowner must also be given the opportunity to waive those options in writing in order to have replacement trees and shrubs planted off the landowner's property.
15. At the conclusion of the project, documentation identifying the actual number, variety, type, location and date of the replacement plantings must be filed with the Commission.
16. Tree and shrub replacements must be inspected annually, in September, for three years. The first annual inspection must be at least one year from the anniversary date of the original plantings. A report of each annual inspection must be submitted to the Commission by October 1 of each year, documenting the condition of plantings and any woodlands work completed as of September of each year. If after the third annual report the survival rate is less than 75%, the Commission may order additional planting(s).