

STATE OF NORTH DAKOTA  
PUBLIC SERVICE COMMISSION

Hess North Dakota Pipelines LLC  
Keen Oil Gathering System Conversion –McKenzie  
Siting Application

Case No. PU-18-24

**AFFIDAVIT OF SERVICE BY CERTIFIED MAIL**

STATE OF NORTH DAKOTA  
COUNTY OF BURLEIGH

**Geralyn R. Schmaltz** deposes and says that:

she is over the age of 18 years and not a party to this action and, on the **30th day of May 2018**, she deposited in the United States Mail, at Bismarck, North Dakota, **one** envelope with certified postage, return receipt requested, fully prepaid, securely sealed and containing a photocopy of:

- **Findings of Fact, Conclusions of Law and Order**

And Original Of:

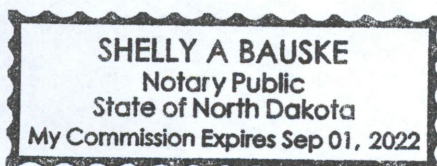
- **Certificate of Corridor Compatibility Number 204**
- **Route Permit Number 214**

The envelope was addressed as follows:

Wade C. Mann / Casey Furey  
Crowley Fleck PLLP  
PO Box 2798  
Bismarck, ND 58502-2798  
**Cert. No. 7017 2400 0001 0889 9147**

Each address shown is the respective addressee's last reasonably ascertainable post office address.

Subscribed and sworn to before me  
this **30th day of May 2018**.

  
Notary Public

SEAL

**STATE OF NORTH DAKOTA**  
**PUBLIC SERVICE COMMISSION**

**Hess North Dakota Pipelines LLC  
Keene Oil Gathering System Conversion - McKenzie  
Siting Application**

**Case No. PU-18-24**

**FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER**

**May 29, 2018**

**Appearances**

Commissioners Randy Christmann, Julie Fedorchak, and Brian Kroshus.

Wade C. Mann and Casey A. Furey, Attorneys at Law, Crowley Fleck, PLLP, 100 West Broadway, Suite 250, Bismarck, North Dakota 58502, on behalf of the Applicant, Hess North Dakota Pipelines LLC and Hess North Dakota Export Logistics LLC.

Mitchell D. Armstrong, Special Assistant Attorney General, 122 East Broadway Avenue, Bismarck, North Dakota 58502, as Counsel for the Public Service Commission.

Patrick J. Ward, Office of Administrative Hearings, 2911 North 14th Street, Suite 303, Bismarck, ND 58503, as Procedural Hearing Officer.

**Preliminary Statement**

On January 18, 2018, Hess North Dakota Pipelines LLC and Hess North Dakota Export Logistics LLC (collectively Hess) filed a consolidated application for a certificate of corridor compatibility and a route permit concerning the location of approximately 19 miles of 10-inch and 16-inch pipeline existing in McKenzie County, North Dakota (Project). Hess proposes to convert the existing pipeline from a crude oil gathering pipeline to a transmission pipeline capable of transporting 160,000 barrels per day of crude oil.

On January 26, 2018, February 5, 2018, and February 9, 2018, Hess filed supplemental information with respect to the consolidated application.

On January 29, 2018, the Commission provided notification of the application to the townships with retained zoning authority, cities, and counties in which any part of the proposed pipeline corridor is located.

On February 14, 2018, the Commission deemed complete the consolidated application of Hess.

Also on February 14, 2018, the Commission issued a Notice of Filing and Public Hearing (Notice) scheduling a hearing for April 10, 2018, 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 with respect to the consolidated application for a certificate of corridor compatibility and a route permit:

1. Will the location and operation of the proposed facility produce minimal adverse effects on the environment and upon the welfare of the citizens of North Dakota?
2. Is the proposed facility compatible with the environmental preservation and the efficient use of resources?
3. Will the proposed facility location 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 April 10, 2018, the hearing was held as scheduled.

On May 7, 2018, Hess filed Late-Filed Exhibits 13-19.

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:

### **Findings of Fact**

1. Hess North Dakota Pipelines LLC and Hess North Dakota Export Logistics LLC is a Delaware limited liability company authorized to do business in the State of North Dakota as evidenced by the corporate papers filed with the Commission on January 18, 2018, in Case No. PU-15-033 and PU-16-190.

#### **Size, Type, and Preferred Location of Facility**

2. The Project consists of the conversion of approximately 15.5 miles of existing 10-inch and 3.5 miles of existing 16-inch crude oil gathering pipelines located in McKenzie County, North Dakota. The Project originates at Hess's existing Hawkeye Oil Facility and extends in a southerly direction with connections to the existing Crestwood Arrow Facility and the Dakota Access Pipeline Terminal. Hess proposes to convert the existing crude oil gathering pipeline to a crude oil transmission pipeline and add three booster pumps along the Project route. The existing 16-inch diameter steel pipeline was constructed in 2016 and 2017 and extends between the Crestwood Arrow Facility and the Dakota Access Pipeline Terminal. The existing 10-inch pipeline was constructed in 2014 and 2015 and extends between the Hawkeye Oil Facility and the Crestwood Arrow Facility.

3. The 10-inch diameter steel pipeline segments have a 0.365-inch wall thickness, have a maximum operating pressure of 1,440 pounds per square inch and have an expected maximum flow rate ranging from 30,000 to 76,000 barrels of oil per day.
4. The 16-inch steel pipeline segment has a wall thickness ranging from 0.25-inch to 0.50-inch, has a maximum operating pressure of 740 pounds per square inch and the expected maximum flow rate is 160,000 barrels of oil per day.
5. The estimated cost of the Project, including the proposed conversion and the three booster pumps, is \$114 million. The estimated cost of the three booster pumps is \$20 million.
6. Hess anticipates construction will begin at the Midway Booster Pump location in late 2018. Hess anticipates a fourth quarter 2019 in service date for the Midway Booster Pump.

#### Study of Preferred Location

7. Hess conducted a Class I Cultural Resource Literature Search and a Class III Cultural Resource Inventory on a 250-foot-wide area centered on the Project route (Survey Area).
8. Hess conducted a natural resource desktop survey, as well as a field survey on Survey Area.
9. The following agencies provided comments regarding the Project: (i) McKenzie County Weed Control Board; (ii) North Dakota Department of Trust Lands; (iii) North Dakota Game and Fish Department; (iv) North Dakota Parks and Recreation; (v) North Dakota State Historic Preservation Office (SHPO); (vi) North Dakota State Water Commission; and (vii) Western Area Water Supply Authority.

#### Siting Criteria

10. The Commission has developed criteria pursuant to North Dakota Century Code section 49-22.1-03 to guide the corridor and route suitability evaluation and designation process. 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.
11. Hess evaluated the Survey Area and route regarding the Exclusion Areas, Avoidance Areas, Selection Criteria, and Policy Criteria.
12. An Exclusion Area is a geographic area that must be excluded in the consideration of a route for a transmission facility. Exclusion areas may be located within a corridor, but

at no given point may such an area or areas encompass more than fifty percent of the corridor unless there is no reasonable alternative. A transmission facility route must not be sited within an Exclusion Area.

13. State designated archeological sites are Exclusion Areas. Hess's Class I Cultural Resource Literature Search documented 6 previously recorded cultural resources within the Survey Area. Class I efforts were augmented with Class III pedestrian surveys. Survey efforts visited the 6 previously recorded resources and identified 10 new resources within the Survey Area. Of the 6 previously recorded sites, 3 are not eligible for the National Register of Historic Places (NRHP), and 3 have not been evaluated for NRHP eligibility. Of the 10 new resources, 8 are isolated finds and not eligible for the NRHP, and 2 have not been evaluated for NRHP eligibility. During construction, 50-foot avoidance buffers will be established around the outside boundaries of the 5 unevaluated resources.

14. On September 30, 2016, and November 9, 2017, the NDSHPO responded that it had reviewed Hess's Class I and Class III cultural resource reports and stated that "There has been a good faith effort to identify and avoid impacts to "Significant Sites," provided the project remains as described and mapped."

15. Hess's surveys did not record any other Exclusion Areas within the Survey Area.

16. An Avoidance Area is a geographical area that may not be considered in the routing of a transmission facility unless the applicant demonstrates that, under the circumstances there is no reasonable alternative. In determining whether an Avoidance Area should be designated for a 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 sites. Economic considerations alone are not sufficient to establish no reasonable alternative.

17. Areas within five hundred feet of a residence, school, or place of business are Avoidance Areas. Pursuant to North Dakota Century Code section 49-22-05.1, 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.

18. Hess obtained written waivers of the five hundred foot avoidance area criteria for the occupied structures identified in Late-Filed Exhibit 17, and has filed copies with the Commission.

19. Other than archaeological sites and occupied structures within five hundred feet, Hess's surveys did not record any Avoidance Areas within the Survey Area.

20. The Commission's Selection Criteria is set forth in North Dakota Administrative Code section 69-06-08-02(3). A site shall be approved only if it is determined that any significant adverse effects resulting from the location, construction, and operation of the facility as they relate to the selection criteria will be at an acceptable minimum, or will be

managed and maintained at an acceptable minimum. Hess analyzed the effects that may result from the location, construction, and operation of Plant II to determine that no significant adverse effects will result.

21. The Commission's Policy Criteria is set forth in North Dakota Administrative Code section 69-06-08-02(4). The Commission may give preference to an application demonstrating certain benefits of the energy conversion facility. Hess has committed to maximizing benefits that result from implementing the policies and practices applicable to the Project.

#### Measures to Minimize Impact

22. Hess has made representations and covenants as indicated by the Certification Relating to Order Provisions – Transmission Facility Siting - Gathering Line Conversion to Transmission Line with attached Tree and Shrub Mitigation Specifications executed April 5, 2018.

23. The conversion of the gathering pipeline will minimize environmental disturbance by utilizing existing infrastructure, including access roads, utilities, gathering systems, and delivery and take away pipeline.

24. Hess will obtain any necessary permits prior to operating the pipeline as a transmission line.

25. The existing pipelines were designed and constructed in compliance with the applicable provisions of Code of Federal Regulations Title 49, Part 195, hazardous liquids pipeline safety standards.

26. Hess provided Late-Filed Exhibit 14A indicating that the depth or cover for the existing pipelines is a minimum of 5 feet (60 inches).

27. Hess provided Late-Filed Exhibit 15 indicating that, with two booster pumps at the Midway Booster Pump Station, the manufacture's specification state noise level is 88 dBA inside the building. The document indicates that outside noise levels 1.5 feet from the building are estimated to be 66 dBA. Noise levels 100 feet from the building are calculated at 30 dBA. Background noise levels would make the sound undetectable to a sound level meter at 200 feet from the building. The nearest residence is over 1 mile away.

28. Hess will employ multiple leak detection methods that are overlapping in nature and complimentary in their approach to allow identification of a potential leak. One of the leak detection methods are enumerated in Hess's Late-Filed Exhibit 18 is a sophisticated Supervisory Control and Data Acquisition (SCADA) system based in Tioga, North Dakota, that will provide pipeline monitoring 24 hours per day, 365 days per year (continuous, real-time monitoring).

29. Hess will comply with all applicable safety laws and standards in converting the pipeline.

30. Hess will utilize the North Dakota One Call system during construction.

From the foregoing Findings of Fact the Commission makes the following conclusions of law:

### **Conclusions of Law**

1. The Commission has jurisdiction over the applicants, Hess North Dakota Pipelines LLC and Hess North Dakota Export Logistics LLC, and over the subject matter of the consolidated application under North Dakota Century Code Chapter 49-22.1.

2. Hess North Dakota Pipelines LLC and Hess North Dakota Export Logistics LLC are utilities as defined in North Dakota Century Code Section 49-22.1-01(12).

3. Upon conversion, the Project is a transmission facility as defined in North Dakota Century Code Section 49-22.1-01(7).

4. 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.

5. The location, construction, and operation of the Project is compatible with the environmental preservation and the efficient use of resources.

6. 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.

From the Findings of Fact and Conclusions of Law, the Commission makes the following order:

### **Order**

The Commission orders:

1. Certificate of Corridor Compatibility No. 204 is issued to Hess North Dakota Pipelines LLC and Hess North Dakota Export Logistics LLC designating a corridor for the construction, operation, and maintenance of approximately 19 miles of 10-inch and 16-inch pipeline existing in McKenzie County, North Dakota. For purposes of this Certificate, the designated corridor consists of a 250-foot-wide area centered on the designated route.

2. Route Permit No. 214 is issued to Hess North Dakota Pipelines LLC and Hess North Dakota Export Logistics LLC designating a corridor for the construction, operation, and maintenance of approximately 19 miles of 10-inch and 16-inch pipeline existing in McKenzie County, North Dakota. For purposes of this Permit, the designated route is the route of the existing pipeline as depicted in Hearing Exhibit 12.
3. The Certification Relating to Order Provisions – Transmission Facility Siting - Gathering Line Conversion to Transmission Line with attached Tree and Shrub Mitigation Specifications executed April 5, 2018, is incorporated by reference and attached to this Order.
4. To the extent there are any conflicts or inconsistencies between Hess's application and the Certification, the Certification provisions control.
5. Prior to commencing construction of any portion of the proposed Project, Hess shall obtain all other necessary licenses and permits for construction of such portion, and shall provide copies to the Commission prior to construction of that portion of the project.
6. If a spill by Hess requires notification to any other state or federal agency, Hess will also inform the Commission of such spill within 24 hours of occurrence by leaving a message at the Commission's Toll Free Number, with a follow-up email to the Commission's Executive Secretary.
7. Hess is required to comply with all applicable laws, rules, and/or regulations in the event it desires to construct another or a different energy conversion facility than was specified in the application within the site designated in this proceeding.

**PUBLIC SERVICE COMMISSION**



**Brian Kroshus**  
Commissioner



**Randy Christmann**  
Chairman



**Julie Fedorchak**  
Commissioner

**PUBLIC SERVICE COMMISSION**  
**STATE OF NORTH DAKOTA**

**Certificate of Corridor Compatibility Number 204**

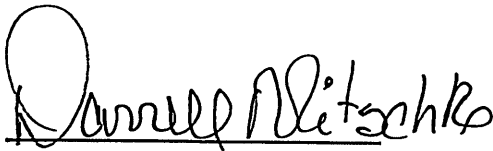
*This is to certify that the Commission has designated a transmission facility corridor for Hess North Dakota Pipelines LLC and Hess North Dakota Export Logistics LLC for the construction, operation, and maintenance of approximately 19 miles of 10-inch diameter pipeline and 16-inch diameter pipeline and associated facilities in McKenzie County, North Dakota, for the transportation of crude oil.*

*This certificate is issued in accordance with the Order of the Commission dated May 29, 2018 in Case No. PU-18-24 and is subject to the conditions and limitations noted in the Order.*

*Bismarck, North Dakota, May 29, 2018.*

**ATTEST:**

**PUBLIC SERVICE COMMISSION**



**Executive Secretary**



**Commissioner**

# **PUBLIC SERVICE COMMISSION**

## **STATE OF NORTH DAKOTA**

### **Route Permit Number 214**

*This is to certify that the Commission has designated a transmission facility route for Hess North Dakota Pipelines LLC and Hess North Dakota Export Logistics LLC for the construction, operation, and maintenance of approximately 19 miles of 10-inch diameter pipeline and 16-inch diameter pipeline and associated facilities in McKenzie County, North Dakota, for the transportation of crude oil.*

*This permit is issued in accordance with the Order of the Commission dated May 29, 2018 in Case No. PU-18-24 and is subject to the conditions and limitations noted in the Order.*

*Bismarck, North Dakota, May 29, 2018.*

**ATTEST:**

**PUBLIC SERVICE COMMISSION**

  
**Executive Secretary**

  
**Commissioner**

STATE OF NORTH DAKOTA  
PUBLIC SERVICE  
COMMISSION

Hess North Dakota Pipelines LLC &  
Hess North Dakota Export Logistics LLC  
Keene Oil Gathering System Conversion -  
McKenzie Siting Application

Case No. PU-18-24

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

I am Gerald A. Jamborski, a representative of Hess North Dakota Pipelines LLC and Hess North Dakota Export Logistics LLC (hereinafter collectively the "Company") with authority to bind 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.

Certification Relating to Order Provisions

Case No. PU-18-24



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

Certification Relating to Order Provisions

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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.

Certification Relating to Order Provisions

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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 UTM Zone 13N or 14N feet (NAD 83), or geographic coordinate system (WGS 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.

Certification Relating to Order Provisions

Case No. PU-18-24

Dated this 5<sup>th</sup> day of April, 2018.

HESS NORTH DAKOTA PIPELINES LLC

By Maull A. Tumbler

Its VP operation

HESS NORTH DAKOTA EXPORT LOGISTICS LLC

By Maull A. Tumbler

Its VP operations

**STATE OF NORTH DAKOTA**  
**PUBLIC SERVICE COMMISSION**

**Hess North Dakota Pipelines LLC  
Hess North Dakota Export Logistics LLC  
Keene Oil Gathering System Conversion - McKenzie  
Siting Application**

**Case No. PU-18-24**

**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 and approved by the Commission.
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).