

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426
OFFICE OF ENERGY PROJECTS

In Reply Refer To:

OEP/DG2E/Gas Branch 3
Northern Natural Gas Company
Northern Lights 2023 Expansion
Project Docket No. CP22-138-000
§ 375.308(x)

August 3, 2022

VIA Electronic Mail

Michael Loeffler, Senior Director
Certificates and External Affairs
Northern Natural Gas Company
mike.loeffler@nngco.com

Re: Environmental Information Request

Dear Mr. Loeffler:

The information described in the enclosure is required for our analysis of the above-referenced application. **Please file a complete response within 10 days of the date of this letter.**

If certain information cannot be provided within this time frame, please indicate which items would be delayed and provide a projected filing date. **You should be aware that filing complete responses to the information requests described in the enclosure within the time frame requested is necessary to maintain the schedule for issuance of the environmental document for this Project.**

File your response in accordance with the provisions of the Commission's Rules of Practice and Procedure. In particular, 18 CFR 385.2005 requires all responses to be filed under oath by an authorized Northern Natural Gas Company (Northern) representative, and 18 CFR 385.2010 (Rule 2010) requires service to each person whose name appears on the official service list for this proceeding.

Electronic filing is encouraged using the Commission's eFiling system (see <https://ferconline.ferc.gov/eFiling.aspx>). Be sure to prepare separate volumes, as outlined on the Commission's website at <https://www.ferc.gov/sites/default/files/2020-04/CEII-Filing-guidelines.pdf>, and label all controlled unclassified information (CUI) as described at <https://www.ferc.gov/cui>. Critical Energy Infrastructure Information (CEII) (e.g., plot plans showing equipment or piping details) and privileged information (PRIV) (e.g., cultural resources material containing location, character, or ownership information; trade secret information; proprietary information) should be filed as non-public and labeled as: "CUI//CEII" (18 CFR 388.113), "CUI//PRIV" (18 CFR 388.112), and as otherwise appropriate with other statutes for labeling CUI (e.g., "CUI//CEII/SSI" and in accordance with 49 CFR 15.13 marking requirements). All CUI should be filed separately from the remaining information, which should be marked "**Public.**" For assistance with the Commission's eFiling system, please contact FERC Online Support at FERCOnlineSupport@ferc.gov, (866) 208-3676 (toll free), or (202) 502-8659 (TTY).

In addition, effective July 1, 2020, hardcopy deliveries to the Commission's headquarters in Washington D.C. will only be accepted through the U.S. Postal Service. Hand-deliveries and submissions sent through carriers other than the U.S. Postal Service must be sent to 12225 Wilkins Avenue, Rockville, Maryland 20852 for processing (see Docket No. RM19-18-000; Order No. 862).

For all materials submitted, in addition to the copies filed with the Secretary of the Commission, please provide an electronic and hard copy directly to our third-party contractor Edge Engineering and Science, c/o Kimberly Sechrist, 6 Dunswell Dr., Middletown DE 19709.

If you have any questions, please contact me at (202) 502-8059; or email: paul.friedman@ferc.gov. Thank you for your cooperation.

Sincerely,



Paul Friedman
Environmental Project Manager
Office of Energy Projects

Enclosure

Enclosure

Northern Natural Gas Company (Northern)
Northern Lights 2023 Expansion Project
Docket No. CP22-138-000

ENVIRONMENTAL INFORMATION REQUEST**General Comments**

1. Provide revised alignment sheets to address the following issues and/or discrepancies:
 - a. provide updated aerial photography;
 - b. finalize road approaches and remove the note on all maps that states that the road approaches are approximate locations and that the contractor “reserves the right” to relocate;
 - c. Ventura North E-Line S:
 - i. access road (AR) 02 is not labeled;
 - ii. AR3, AR4, and AR5 are inconsistently labeled between drawing VBL P3-4 and Figure 1-4 sheets VBL AR-01 and VBL AR-02;
 - d. Tomah Branch Line Loop:
 - i. ETWS04 is labeled as ETWS03;
 - ii. label horizontal directional drill (HDD) entry/exit sites (drill TBLP-4);
and
 - e. Willmar D Branch Line:
 - i. HDD WIL4-3 is depicted with two exit locations; revise the labeling to match the site-specific HDD construction diagrams or clarify the apparent discrepancy.
2. Provide copies of all applicable federal and state agency correspondence not yet filed, this may include:
 - a. correspondence with the state department of transportations (DOT) relative to road crossings and detours, and in particular with Minnesota DOT relative to its comments filed to the docket under accession no. 20220617-5112;
 - b. any further correspondence with County Soil Water Conservation District or U.S. Department of Agriculture – Natural Resources Conservation Service regarding seed mix recommendations;
 - c. comments from Minnesota Department of Agriculture regarding the agricultural impact mitigation plan (AIMP) or Noxious Weeds Control Plan, including an executed AIMP as applicable; and
 - d. any further correspondence with Local Government Units regarding wetland impacts of the Project. Identify any changes to the Project (including wetland

construction methods) that may have been implemented in response to comments from Local Government Units regarding the Project. Include updated impact tables and alignment sheets, if applicable.

3. Based on revisions reflected in the 6/21/22 supplemental filing for modifications of the Project, including: the area of milepost (MP) 0.0 and the Hugo Compressor Station of Elk River 3rd Branch Loop, between MPs 2.2 and 2.4 of the Willmar D Branch Line, between MPs 9.16 and MP 9.62 and new ETWS at MPs 10.77 and 10.94 on the Princeton Tie-over Loop, provide revised versions of the following tables, or confirm no revisions are required:
 - a. table 1.2-1 – Land Requirements for the Pipeline and Aboveground Facilities;
 - b. table 1.3-2 – Extra Temporary Workspaces within 50 Feet of Wetlands;
 - c. table 1.3-3 – Extra Temporary Workspaces within 50 Feet of Waterbodies;
 - d. table 1.3-4 – HDD Locations;
 - e. table 1.3-5 – Public Road Crossings;
 - f. table 1.3-6 – Residential Areas within 50 Feet of Workspace;
 - g. table 2.1-1 – Water Supply Wells Surrounding the Project;
 - h. table 3.3-2 – Estimated Disturbance of Vegetation Cover Types;
 - i. table 7.1-1 – Soil Limitations Affected by the Project and associated appendices (7A and 7B);
 - j. table 8.1-2 – Acreage Affected by Construction and Operation of the Project;
 - k. table 8.1-3 – Extra Temporary Workspace and Staging Areas;
 - l. table 8.1-4 – Existing Right-of-Way Paralleled by the Project;
 - m. table 8.1-5 – Locations Where Installation Would be More than 25 Feet from the Existing Pipelines;
 - n. table 8.1-6 – Access Roads and Permanent Driveways;
 - o. table 8.1-7 – Aboveground Appurtenant Facilities; and
 - p. table 10.3-4 – Comparison of Minor Route Deviation 4 for the Willmar D Branch Line.

Resource Report 1

1. Provide updates to table 1.1-1 and/or table 1.1-2 to include the following information:
 - a. any work that would be completed at the Hugo Compressor Station under Section 2.55(a) or under Northern's Blanket Certificate as indicated by the footnote in supplemental filing 20220621-5050;
 - b. acreage impacts associated with each project; and
 - c. resources that would be affected by each of the projects.
2. Clarify if permanent access roads and drives and existing drives are accounted for in the Project impact acreages presented in table 1.2-1. Update the table to include

- a separate line item for permanent drives to be installed and maintained during operation.
3. Provide an update to table 1.6-1 that identifies any authorizations received to-date, in addition to the following:
 - a. County Wetland Conservation Act and Stormwater and Erosion Control permits, floodplain alteration permits, and a Minnesota Department of Natural Resources (MDNR) utility crossing license, as identified in Northern's response to stakeholder comments in accession no. 20220720-5007; and
 - b. the status of responses by the U.S. Army Corps of Engineers regarding general permit applicability.
 4. Clarify the number of tie-over valve settings for the Project as section 1.1 and table 1.1-4 report a total of 11 new or removed tie-over valves and/or settings (removal of 3 existing valve settings, 4 new valve settings, and 4 new valves); however, the Winter Construction Plan (appendix 1F) and Traffic Control Plan (appendix 1G) report a total of 12 (removal of 3 existing valve settings and 9 new valve settings).
 5. Clarify the following information regarding work that will be conducted at the Hugo Compressor Station along the Elk River 3rd Branch Line;
 - a. section 1.1.2 of Resource Report 1 states that Northern will use the existing Hugo Compressor Station access road (depicted in the alignment sheet in dark gray). However, the existing drive identified on the alignment sheet appears to be an undisturbed area within and outside of the defined property boundary. Clarify if this area is previously disturbed; and
 - b. clarify if the entire drive would be used, including the area that is outside of the identified workspace.
 6. In addition to the Typical Right-of-Way Cross-Section Diagrams provided in the application and in appendix F of filing 20220420-5085; provide the following typical construction diagrams:
 - a. road crossings (all proposed crossing methods);
 - b. utility crossings;
 - c. areas of collocation with overhead transmission lines; and
 - d. push-pull wetland construction methods.
 7. Clarify the conditions under which the dam-and-pump and dam-and-flume crossing methods depicted in figure 1-10 would be implemented, given all waterbodies crossed by the Project are proposed as trenchless methods. Indicate the specific intended method for each waterbody crossing.

8. Section 1.3.1 states that there would be 6 separate construction spreads with an average workforce of 30 to 70 workers per spread. However, the overall Project average workforce is stated as between 150 (25 workers per spread) and 300 (50 workers per spread) workers. Clarify the number of spreads and average and peak workforces that would be used for construction of the Project.
9. Table 1.3-5 presented information on the public roads that would be crossed by the Project; however, Gemini Road, which would be crossed by the Tomah Branch Line Loop at MP 2.22 was not included in the table. Confirm that Gemini Road would be crossed and provide a revised table or all applicable detail presented in the table for this road crossing.
10. Provide a table identifying where the proposed pipelines would cross existing utilities by utility type (e.g., overhead electric power line), the owner of the utility, and the proposed crossing method.
11. Provide a revised table that reconciles discrepancies between tables 1.3-6 and 8.2-1, including:
 - a. location and distance from workspace for the residence in proximity to the Elk River 3rd Branch Line, reported as 36 feet south of MP 0.49 in table 1.3-6 and as 50 feet south of MP 0.50 in table 8.2-1; and
 - b. number of residences within 50 feet of workspace along the Wilmar D Branch Line, table 1.3-6 lists one residence, while table 8.2-1 lists two residences.
12. Revise table 1.9-3 to include the following information:
 - a. sponsor/proponent and city location, if known;
 - b. project type;
 - c. footprint/layout and quantitative impacts on specific resources, if available (acres of land/resource [wetlands, vegetation, habitat, etc.] affected);
 - d. a description of the permits or authorizations required for the Project and a description of any environmental review required to support those permits or authorizations; and
 - e. the current status and schedule of the project (e.g., proposed for October 2022, under construction, completed).

Also, include qualitative and quantitative descriptions of cumulative and/or overlapping impacts of the projects identified in the table and the Northern Lights 2023 Expansion Project would have on environmental justice communities based on the defined geographic scope of census block groups crossed by the pipelines or staging areas and within 1-mile of the aboveground facilities.

13. Clarify why the following projects identified during outreach with the local and county contacts in Minnesota provided in appendix 1E were not addressed in the cumulative analysis, including:

- a. a nursing home complex and an area slated for residential development in Monroe County;
 - b. an area of current residential develop in Washington County; and
 - c. a gravel pit in Stearns County.
14. Update the Winter Construction Plan to address the following:
- a. clarify that mulch would not be used in wetlands in accordance with Section IV.C.4 of FERC's Wetland and Waterbody Construction and Mitigation Procedures (Procedures); and
 - b. winter construction activities, e.g., snow removal and storage, windrowing soil stockpiles if backfilling is delayed due to winter conditions, in the event a delay in receipt of applicable authorizations affects the initiation of construction.
15. Clarify the following information provided in the Traffic Control Plan (appendix 1G) and update the plan as necessary:
- a. the plan states in section 3.1 that open-cut road crossings would be used if trenchless methods are not feasible. However, table 1.3-5 does not list open cut as a secondary crossing method for any of the roads currently identified with a trenchless crossing method. Clarify the timeline for determining the feasibility of each crossing. Additionally, update the Traffic Control Plan to state that any changes to road crossing methods would need to be approved by the FERC in addition to any state, county, or local agencies;
 - b. confirm that any excess material kept on-site during open-cut road crossings, as noted in section 3.1, will be certified as free of noxious weeds and soil pests in accordance with FERC's Upland Erosion Control, Revegetation, and Maintenance Plan; and
 - c. in addition to the road repairs identified during the spring 2024 windshield surveys, confirm that any damage to roads due to construction and/or construction traffic will be repaired immediately upon detection, where feasible, or immediately following construction at a given location.

Resource Report 2

Groundwater

1. Section 2.1.2 cites the Wisconsin Department of Natural Resources' Surface Water Data Viewer regarding the absence of water systems in the vicinity of the Tomah Branch Line Loop. However, community well data do not appear to be readily available in the data viewer. Therefore, provide documentation of consultation with the Wisconsin Department of Natural Resources or updated data sources to confirm the Project is outside source water protection areas (including wellhead protection areas) in Wisconsin.

2. Clarify whether it be would be possible to restore a water supply well damaged during construction of the Project, or if Northern would restore the landowner's permanent water supply by providing an alternative water source.

Surface Water and Wetlands

3. Revise table 1.3-2 to provide site-specific justification and the additional mitigation measures that would be implemented to ensure protection of wetlands and waterbodies where construction methods differ from those in FERC's Procedures, including:
 - a. where temporary workspace widths exceed 75 feet (including across wetlands VBL-W04 at MP 29.5 and VBL-W07 at MP 28.4 along the Ventura North E-Line in accordance with section II.A.2 of the Procedures);
 - b. where AR02 appears to be within the boundary of wetland VBL-W05 at MP 28.98 along the Ventura North E-Line per the Procedures section VI.B.1.d, as applicable; and
 - c. where additional mitigation measures are not identified in table 1.3-2 (for example, for Temporary AR03 along the Willmar Branch Line and ETWS within 50 feet of wetlands along the Paynesville 2nd Branch Line).
4. Section V.B.6.d of the Procedures requires justification that disturbance for HDDs across wetlands and waterbodies be limited to the minimum needed to conduct the crossing. Further, disturbance within the path of HDDs may be avoidable given the trenchless crossing method. Therefore:
 - a. provide site-specific justification for each ETWS and access road located between the entry and exist points of HDDs, including the measures that would be implemented to minimize impacts and provide equal or better protection to affected wetlands, as applicable (e.g., for ETWS04 along the Willmar Branch Line); and
 - b. provide additional justification for the use of temporary foot traffic bridges to facilitate HDD inspections. Discuss the feasibility of utilizing access from either side of the feature instead of the proposed bridges.
5. Revise table 2.3-1 to include wetlands that may be affected by hand-clearing during installation of the pipeline via HDD, including PRB-W05 near MP 10.0 of the Princeton Tie-over Loop. In addition, estimate the acreage of impacts associated with travel lanes to support HDD construction.

Resource Report 3

Vegetation

1. Provide a description of the types of vegetation crossed by the Project within residential land uses, similar to the descriptions provided in section 3.3 of Resource Report 3 for other types of land use categories.
2. Clarify whether HDD guide wire impacts are contained within the HDD travel lane impacts in table 3.3-2.
3. Update Northern's Noxious Weed Plan to address the following:
 - a. include the source and volume of water for use at wash stations, or confirm that it would be from municipal sources;
 - b. clarify that wash stations would be wholly within the temporary construction workspaces identified for the Project;
 - c. clarify the apparent discrepancy between the statement that water would be hauled off-site for disposal and the provisions for site drainage depicted on figure 2. Verify that water used in wash stations would not be discharged to the ground surface to avoid the spread of noxious weeds;
 - d. the notes provided on figure 2 state that soils contaminated by "undesirable materials" would be disposed of in accordance with applicable requirements. Define 'undesirable material' and describe how the presence of this material would be determined;
 - e. confirm that Northern's would request written review and approval from FERC in the event the construction contractor proposes an alternate noxious weed control measure not included in the plan, as described in section 4.1; and
 - f. in section 4.1 under soil handling, Northern states "In areas where full topsoil stripping does occur (e.g., wetlands, access roads, and ETWSs), Northern will install a layer of geotextile fabric, or a functional equivalent, at the boundaries of areas containing noxious weeds." Confirm that this statement should actually be "In areas where full topsoil stripping does **not** (*emphasis added*) occur. . ."

In addition, confirm if this plan was developed in coordination with appropriate agencies as stated in Section II.F.2 of the FERC Plan.

4. Clarify if areas that remain undisturbed for 30 days would be mulched prior to seeding in accordance with the Section IV F.4.c of the Plan. Additionally, clarify what materials would be used for mulching on the Project.
5. In counties where no response or recommendations have been received regarding seed mixes and seeding rates, clarify if Northern would adhere to statewide recommendations (including avoiding the use of smooth brome, as recommended

by MDNR in comments filed under accession no. 20220616-5107 and in consultation in appendix 7C of Northern's application).

6. Based on revisions reflected in the 6/21/22 supplemental filing for modifications of the Project, provide the following:
 - a. revised versions of the alignment sheets to include locations of noxious weeds within the Project workspaces or confirm no revisions are required; and
 - b. the locations and species of noxious weeds identified within the 6/21/22 supplemental filing which were not included in the original noxious weed survey report.

Threatened and Endangered Species

7. Verify that all current workspaces (including those identified in June 2022 filings) are covered by the Natural Heritage Information System correspondence for the Project in Minnesota (requested in January 2022 and received June 15, 2022 from MDNR). In addition, provide the Endangered Resources Review report assessed by Northern for Project components in Wisconsin.
8. Clarify at which facilities the pollinator-friendly seed mix would be used, as section 3.3.2 indicates that the seed mix would only be used at one facility on the Paynesville Line, in addition to being offered to landowners for use on privately-owned land.
9. Clarify if surveys were conducted for Northern to determine that no lupine is present within workspaces in Wisconsin. If no surveys were conducted, describe how the absence of lupine was determined.
10. Provide a copy of the email correspondence from the U.S. Department of the Interior Fish and Wildlife Service (FWS) on March 2, 2022 that approved the rusty patch bumblebee survey protocols.
11. Confirm the primary migratory bird nesting period in Minnesota and Wisconsin, which is noted as mid-April to mid-July in section 3.4.2, but as March 1 to August 31 in the FWS Information for Planning and Consultation (IPaC) reports. Clarify if pre-construction surveys for nesting birds would occur within the nesting window noted in IPaC, or if Northern plans to coordinate with the FWS on a shorter window.
12. Page 13 of the revised HDD Contingency Plan (provided in July 2022) indicates that there is no potentially suitable habitat for federal or state-listed threatened and endangered species; however, Northern has assumed presence of the Blanding's turtle in wetland habitats that would be crossed via HDD. Revise the HDD Contingency Plan to include a description of what would be done if an inadvertent

return were to occur in potentially suitable habitat for this species. Coordinate with the MDNR on these protocols (and any vegetation clearing conducted in potentially suitable wetlands for the HDD guide wire) since inadvertent returns are not reflected in the Blanding's turtle avoidance protocols.

Resource Report 5

1. Provide the estimated percent of local versus non-local workforce expected for construction of the Project.
2. Provide an estimate of the total number of average daily round trips generated by construction activities at each pipeline spread.
3. Provide traffic volumes for all major roads within the Project area, including those that would be used to access the Project right-of-way or access roads. Include the average annual daily traffic and capacity of each road.

Resource Report 6

Geology

1. Confirm that if Northern determines during construction that blasting would be needed, Northern would coordinate with local authorities, conduct appropriate blasting surveys, develop a blasting program in accordance with local, state, and federal regulations, notify all appropriate entities, and obtain any required permits prior to blasting, and request FERC review and approval prior to blasting.
2. The HDD Feasibility Report provided in attachment 3 of appendix 1A and filed with Northern's application recommends HDD installation not be used for the of the Paynesville 2nd Branch Line due to poorly graded sand with some presence of gravel and some cobbles and boulders from depths between 7 and 20 feet. However, boring logs BH-01 and BH-02 do not identify cobbles or boulders and do not include sieve analysis. Additionally, cobbles were identified at other bore locations along the Project. Clarify the apparent discrepancy in the feasibility assessment for the Paynesville 2nd Branch Line. Indicate if the presence of cobbles at other locations reduces the feasibility of a successful HDD. If appropriate, revise the other HDD feasibility assessments to address potential impacts of cobbles along HDD alignments, or modify the feasibility determination for the Paynesville 2nd Branch Line HDD.
3. Clarify the following information provided in Northern's updated HDD Contingency Plan (Provided in July 2022), and file an updated plan as necessary:
 - a. given ETWS are proposed within the path of HDDs for "daylighting" (to expose foreign utility lines to confirm depth of cover), and the relatively

- shallow depth of some proposed HDDs, address the timing of “daylighting” relative to commencing HDD activities and the measures Northern would implement in the event that the location of a foreign utility requires changes to drill alignments;
- b. given Northern’s commitment to use a small motorboat to monitor the HDD centerline within ERT-OW8 (at MP 0.8 of the Elk River 3rd Branch Line as described in the HDD Plan), identify the access location for the boat or clarify that it would be launched via an existing public access point. If new ETWS is required for access, revise the alignment sheets and impact acreages, as applicable; and
 - c. revise table 2 of the HDD Plan (HDD summary table) to reflect the new alignment of HDD PRB P4-2, including the drill length, volume of drilling mud water needed, and estimated duration of drilling.

Resource Report 7

1. Revise table 7.2-1 to clarify apparent discrepancies in aboveground and appurtenant facility footprints when compared with tables 1.2-1, 8.1-6, and 8.1-7 (for example, the E-Line tie-over valve setting is represented as 0.05 acre in table 7.2-1 and 0.1 acre in table 1.2-1).
2. Clarify Northern’s intent to consult with the Wisconsin Department of Agricultural, Trade, and Consumer Protection regarding the applicability of an AIMP for work in that state and regarding the measures in the Noxious Weed Control Plan, and provide documentation of consultation, as applicable.
3. The AIMP states that access roads may be left in-place in accordance with landowner requests. Given AR03 is proposed within a wetland along the Willmar Branch D Branch Line, clearly state Northern’s intent to request FERC review and approval for any temporary access roads that would be left in-place following construction within wetlands.
4. Appendix 7B does not provide information on the soil compaction potential of soil units along the Paynesville 2nd Branch Line, as the data in the first few rows for this facility are numeric. Update appendix 7B to include the appropriate soil compaction potential information.

Resource Report 8

1. Provide the applicable sources to support the discussion in section 8.3.1 regarding the presence or absence of public, recreation, or conservation land affected by the Project. Additionally, provide documentation of correspondence with the U.S. Department of Agriculture regarding conservation easements in the vicinity of the Project, such as the Conservation Reserve Program or other, similar programs, and

in particular for private conservation easements that are reported in publicly available sources.

2. Explain why Northern concluded that hand-clearing of vegetation between the HDD entry and exit points within the Natural Area Corridor at MP 2.9 of the Wilmar D Line described in section 8.3.1 would not result in a change in status as described in the Scott County 2030 Comprehensive Plan. Describe any post-construction restoration that would occur within the Natural Area Corridor such as seeding or planting, as applicable.
3. Section 8.1 defines open land as including, among other upland land, non-forested rangeland; however, no discussion of potential impacts on these types of land are included in the resource report. Clarify whether any rangeland would be crossed by the Project, and if so, provide a discussion of the Project's potential impacts on these lands, identify the locations and specific use (e.g., grazing for domestic livestock) and discuss applicable mitigation measures. Be sure to consider the need for relocation of water or feed stands and access routes to ensure landowner access to these areas during construction.
4. Table 8.1-3 presents the ETWS and staging areas that are proposed for the Project. Provide a revised table that includes justification for each ETWS and staging area. Also consider and address the following:
 - a. the ability to reconfigure Ventura North E-Line ETWS24 to avoid clearing of forest/woodland;
 - b. the ability to reduce the size of Willmar D Branch Line ETWS06 to minimize tree clearing;
 - c. the ability to relocate Willmar D Branch Line ETWS07 (and the associated access road AR4) to increase the offset to the residence; and
 - d. Paynesville 2nd Branch Line ETWS07 appears to be wholly within forest land.
5. Table 8.1-6 presents the access roads that are proposed for the Project. Provide a revised table that addresses the following:
 - a. classify each feature as new, existing, or partial existing to be expanded;
 - b. specify the required modifications (e.g., gravel, grading) for all access roads (new or existing), and for any road that requires widening specify to what width the road would be widened;
 - c. update the description for the Elk River 3rd Branch Line PD1 (listed as PD01 in the alignment sheet) and Tomah Branch Line Loop PD1, as they appear to connect from the public roads versus the private access roads or drives as reported in the table;
 - d. update to address the road approach near Elk River 3rd Branch Line MP 0.5 that provides access to the right-of-way from a private driveway; however, the private drive is not included as an access road;

- e. update to reflect the modification to Willmar D Branch Line AR2 to increase the offset from the septic system;
 - f. neckdown Willmar D Branch Line AR3 within the wetland or provide justification as to why that is not feasible and describe the mitigation measures to be implemented to reduce impacts on the wetland. Clarify if this is a requested modification to FERC's Procedures;
 - g. update the land use type for the Willmar D Branch Line AR5 as it appears to be partially forest/woodland; and
 - h. Princeton Tie-over Loop AR6 and Paynesville 2nd Branch Line AR5 appear to be within existing driveways; however, neither were classified as residential in the table.
6. Provide justification for the following access roads and permanent drives:
 - a. the need for two permanent drives to access the proposed valve at MP 3.334 of the Willmar D Branch Line;
 - b. the need for two separate entrances from Vernon Avenue for the Willmar D Branch Line AR06; and
 - c. the need for Elk River 3rd Branch Line AR01.
 7. Provide site-specific justification for each temporary access road that is proposed to be 50 feet wide or greater, in part or whole. Also provide site-specific justification for the Elk River 3rd Branch Line PD1, Ventura Northern E-Line PD1, and Tomah Branch Line Loop PD1, which seem excessively large relative to the facility being accessed. Finally, reconcile the reported dimensions for Ventura Northern E-Line AR3, AR4, and AR5..
 8. Based on a review of filed aerial photography, the Elk River 3rd Branch Line appears to cross a private driveway near MP 0.2 and could be within 50 feet of a residence. If the Project would cross the private drive, provide a discussion regarding how Northern would ensure the landowner would maintain access to their residence. Update any tables, including residences within 50 feet, as necessary.
 9. Section 8.4.2 of Resource Report 8 states that visual effects due to work at the Hugo Compressor Station are expected to be minimal. However, based on review of the alignment sheets, construction would result in removal of the majority of vegetative screening surrounding the facility. Clarify if Northern plans to reinstall any visual screening that was removed during construction and provide a discussion of visual impacts associated with any loss of vegetative screening. Additionally, clarify if the fenceline would be relocated and provide a description of the type of fence that would be installed, and any visual impacts associated with the update.

Resource Report 9

Air

1. The response to EIR#3, question 22 states that there will be a speed limit on-site of 15 miles per hour; however, the construction emission calculations for fugitive dust emissions from unpaved roads during pipeline installation shown in Resource Report 9 appendix 9A are calculated based upon average vehicle speeds that range between 2 and 10 miles per hour, with pickup trucks and all-terrain vehicles, which would be expected to be among the faster vehicles on-site, travelling at 8 and 10 miles per hour, respectively. Please confirm if any vehicles would be expected to travel at the posted speed limit of 15 miles per hour, and update the emission calculations in appendix 9A and summary emissions shown in table 9.1-3 to be consistent with expected vehicle speeds, if necessary.
2. As previously requested in EIR#3, question 25, provide emission estimates from Project-related on-road vehicle use. Emission estimates provided in appendix 9A include nonroad engine emissions, but do not include emissions from on-road vehicle use, including worker commuting, deliveries, and waste removal. These emission estimates are typically based upon an estimated number of commuter or delivery vehicles, estimated number of trips based upon the work or delivery schedule, estimated average commute or trip distance, road type, and based upon the types of vehicles expected to be used for workers to commute to the work site (e.g. gasoline passenger trucks or diesel heavy duty vehicles). Use emission factors produced from the latest USEPA MOVES model for the expected construction year(s) and the counties involved in the Project. Update the emissions shown in table 9.1-3 to include on-road emissions from worker commutes and other on-road vehicular use.
3. HDD construction is proposed for three of the proposed pipelines; however, in appendix 9A an HDD Rig is only included in construction equipment for the Elk River 3rd Branch Line. Therefore, revise construction emissions estimates to include the equipment that would be used to install the pipeline via HDD at each lateral.
4. Emission estimates shown in appendix 9A for pipeline interconnect purging assume that the natural gas contains 8 percent volatile organic compounds (VOC) by weight; while emission estimates in appendix 9B for fugitive emissions estimate that the natural gas contains 1.05 percent VOC by weight based upon a gas analysis for a similar site. Clarify the apparent discrepancy and update the VOC emission calculations, if applicable.

Noise

5. Provide the following information regarding the HDD noise analysis provided in appendices 9H and 9I and subsequent filings to clarify apparent discrepancies in the commitments regarding noise impacts and mitigation for HDD installation of the Project:
 - a. a summary of noise impacts using the table format provided. Ensure that the location information for noise sensitive areas (NSA) reflects the current design of each HDD proposed for the Project; and
 - b. the source of ambient sound levels used to assess impacts along HDD TBD-P4-1, which appear inconsistent with the values provided in Northern’s Pre-Construction Sound Report provided in appendix 9D.

In addition, state whether concurrent HDD construction is proposed where HDD entry and exit locations are within 0.5 mile of nearby drills (e.g., WIL P4-2 and WIL P4-3). If so, estimate impacts from concurrent HDD activities.

Finally, with Northern’s proposed mitigation measures, sound levels at multiple NSAs are projected to exceed FERC’s guideline levels if 24-hour construction methods are implemented. Therefore, at each location, estimate the duration of 24-hour construction activities (e.g., 2 days for pull-back), see example table below.

24-Hour HDD Operations									
Location	Latitude of (NSA)	Longitude of (NSA)	Distance and Direction to NSA	Existing Ambient L _{dn} (dBA)	Estimated L _{dn} due to Project Construction without Mitigation (dBA)	Estimated L _{dn} due to Project Construction with Proposed Mitigation (dBA)	Specific Mitigation Measures Proposed	L _{dn} of Construction plus Ambient L _{dn} (dBA)	Potential Increase Above Ambient (dB)
Elk River									
HDD ERT – P4-2 (Entry Location at MP XX.X)									
NSA001 (type of NSA)			X,XXX feet northeast						
NSA002 (type of NSA)			X,XXX feet northeast						

Resource Report 10

1. Provide a revised discussion for the Comparison of Minor Route Deviation 4 for the Willmar D Branch Line given the Project changes reflected in the 6/21/22 supplemental filing.

2. For each deviation presented in Resource Report 10, and taking into account the revised discussion requested above, clarify if the corresponding landowners were consulted on the route adjustments and/or are generally agreeable with the deviation route.

Resource Report 11

3. Address, as applicable, what actions would be taken relative to the Project's proximity to the area identified by the City of Sparta Director of Community Development as "slated for residential development within the Comprehensive future plan." and the (half of the area is circled) area in Scandia that was identified as having residential building activity going on this summer (appendix 1E).
4. Section 11.6.1 discusses the open-cut road crossings associated with the Ventura North E-Line. Provide a similar discussion for the open-cut crossing of Gemini Road by the Tomah Branch Line Loop at MP 2.22, as depicted in the alignment sheets.

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